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THE NATIONAL GEOGRAPHIC MAGAZINE

REVIVING A LOST ART

IN NO other field of endeavor have German efficiency and German science been so eminently successful as in the conservation of that country's limited resources to such a remarkable degree that even after three years of isolation from world markets, on which formerly it depended so largely for sustenance, the nation is not yet faced with the alternatives of surrender or starvation.

The United States can profit by this economic success of its enemy.

One of the most important features of the food conservation movement in Germany since the outbreak of the war, and one which has been of material aid in maintaining the physical fitness of the German industrial worker and his family, has been the practice of drying fruits and vegetables.

In the great cities all over the empire the government, following the establishment of an effectual blockade of food supplies, put into operation the scheme of collecting from the markets all unsold vegetables and fruits at the end of each day. Those foods which would have spoiled if "held over" were taken to large municipal drying plants, where they were made fit for future use at a negligible cost. These drying plants thus became great national food reservoirs, saving immense quantities of food which otherwise would have gone to waste.

But the activities of the German Government did not end here. Community driers were established in the smaller towns and villages, and the inhabitants were instructed to see that all surplus vegetables were brought in and subjected to the drying process, which insured against the great extravagance of non-use.

A third method of conservation by drying was inaugurated with the itinerant drying machines. These vegetable dry-kilns on wheels were sent through all the rural communities, and the farmer was admonished to allow no fruit to grow over-ripe in his orchard, no vegetable to spoil ungathered in his garden. It was an intensive campaign for the saving of little things, in so far as each individual household was concerned; but it has totaled large in the story of the nation's economic endurance.

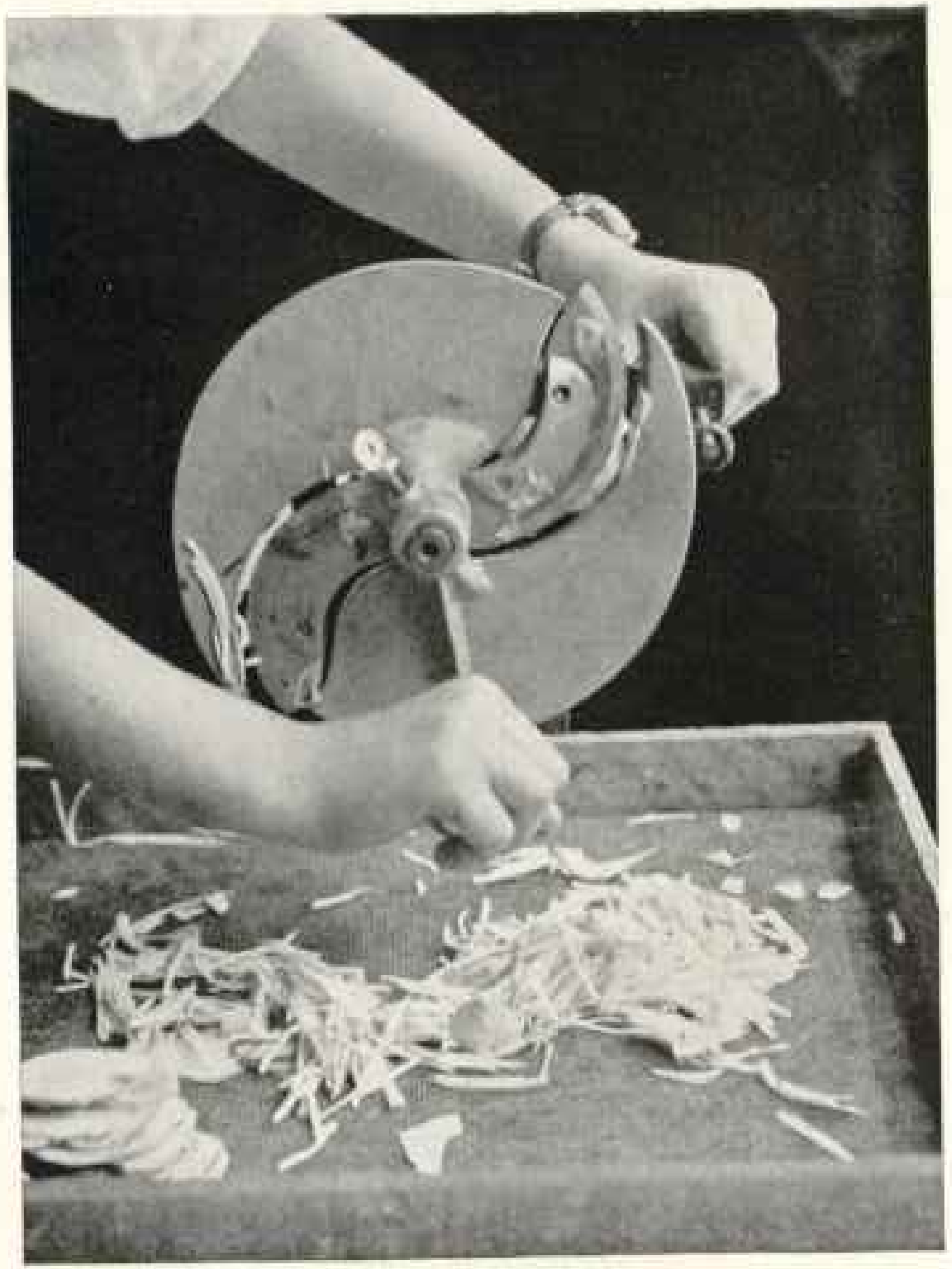
Not only does the drying of fruits and vegetables increase the supply in the winter larder of the people at home, but much of the dried product can be included with the wheat, which must be sent in a constant stream across the seas to feed our own soldiers in France and our Allies on the battle fronts of the world.

The practicability of sending dried garden and orchard products to the fighting men has been demonstrated already in Canada, where fruits have been preserved in this manner and shipped to Europe.

While the process of saving surplus summer vegetables for winter consump-

A CHILD SLICING SWISS-CHARD LEAVES PREPARATORY TO DRYING THEM ON THE STOVE OR SUN DRIER

Great caution must be exercised in the use of any form of slicer, for it will cut fingers as mercilessly as it does vegetables



Photographs by Charles Martin and David Fairchild

THE SLICING MACHINE AT WORK

Showing how it cuts potatoes into thin slices and, by putting these slices through again, cuts them into narrow strips, or "shoestrings"

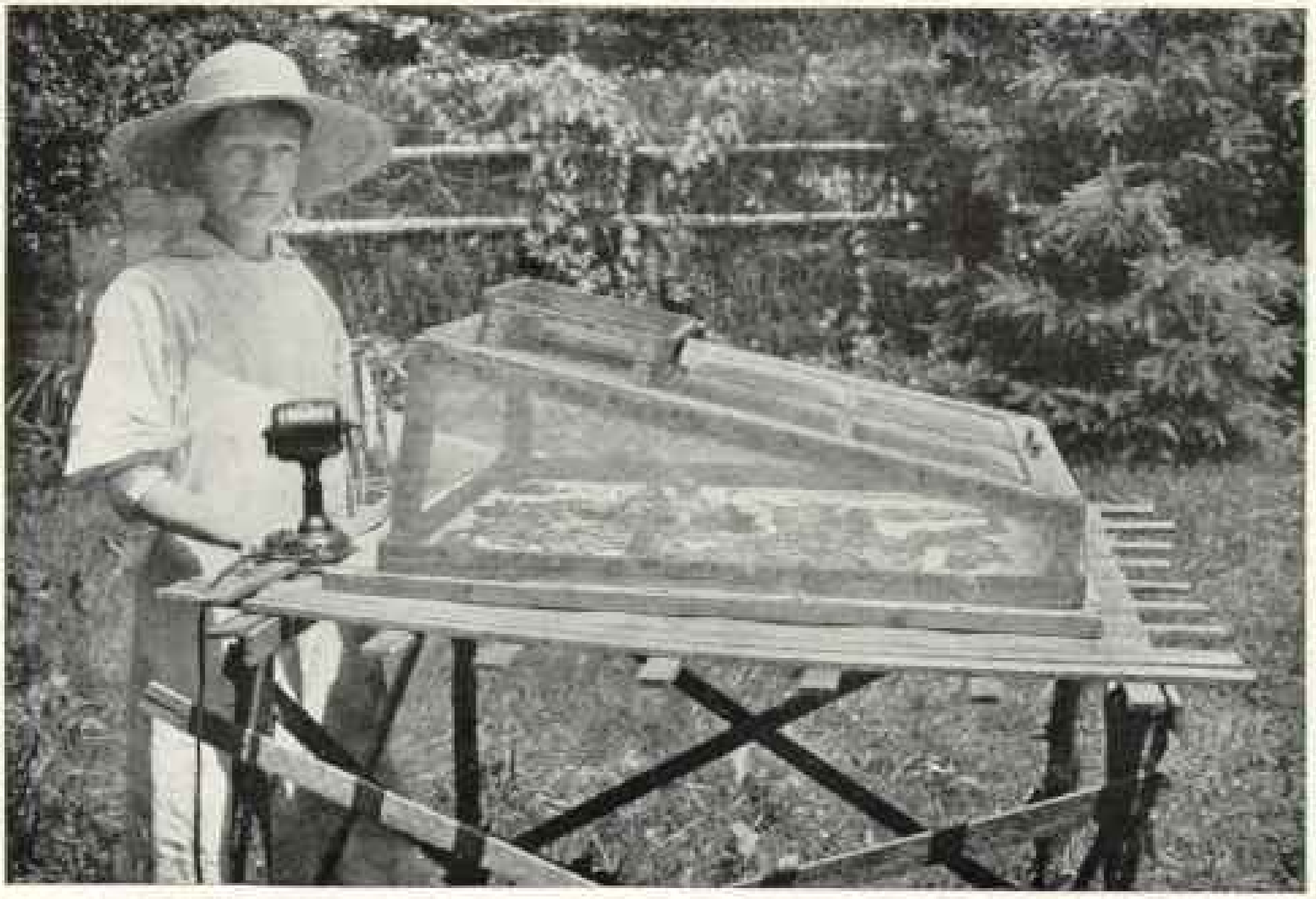
THREE LONG, NARROW TRAYS MADE OF FLY SCREEN AND LATHS AND HUNG UP IN A CHEAP SLING OF LATHS AND FENCE WIRE TO THE HOOD OF A KITCHEN STOVE

It is out of the way of the cook's head and utilizes waste heat, and the vegetables put this distance from the top of the stove do not get too hot.

Photographs by Charles Martin

A TRAY OF DRIED SWISS CHARD TAKEN FROM THE HANGING STOVE DRIER

These, when soaked in water, swell and make excellent greens for soups and stews many months after drying



AN INEXPENSIVE SUN DRIER MADE OF ONE WINDOW SASH, A FEW LATHS, AND SOME METAL FLY SCREEN

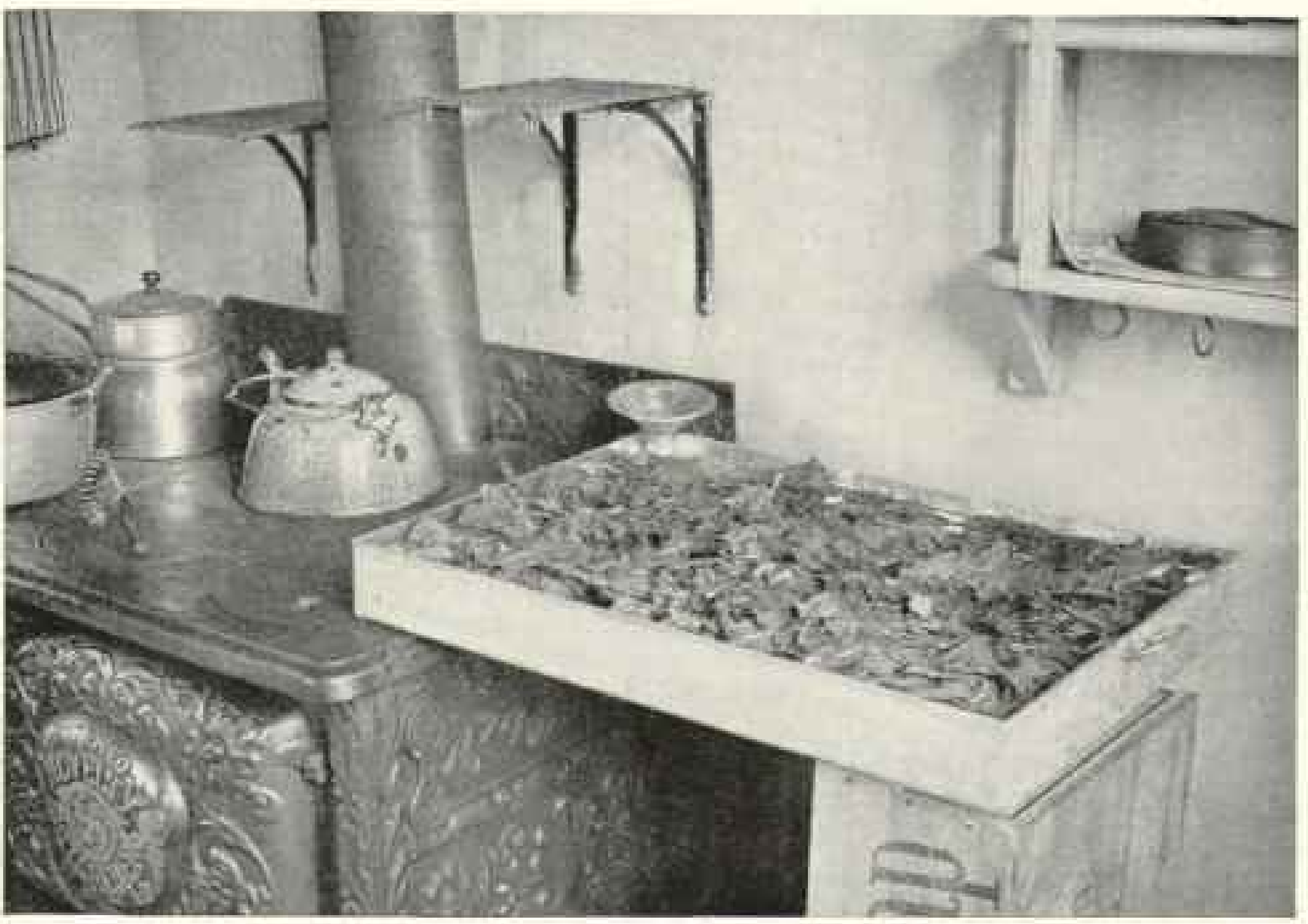
By removing one pane of glass a simple ventilator can be made of lath and screen and fitted into place, or, if electricity is available, the drying can be accelerated by keeping a gentle current of air blowing over the fruits or vegetables. Protection from showers is obtained by such a drier and especially delicate fruits can be handled in small quantities under it; larger amounts require more space.

SLICING BEETS

The trays are filled with Swiss chard and sliced beets. Both trays and drier itself are made of lath and wire netting.

THE HANGING STOVE DRIER SWUNG OVER THE KITCHEN STOVE AFTER THE MEAL HAS BEEN PREPARED

It utilizes heat which otherwise would be wasted. When the stove is required for cooking purposes, the drier can be swung back out of the way by means of the wooden bracket made of lath and attached to the wall by a bent nail and piece of fence wire. An electric fan can be trained on the drier to hasten the drying process. It can be kept running at night when the kitchen stove is cold.



Photographs by Charles Martin and David Fairchild

THE WATER-TANK DRIER

This has a false bottom and under it water, which is kept hot by the contact of the drier with the back of the stove. In it are leaves of the Chinese cabbage, which are easily and quickly dried on this type of drier. Unless watched, delicate leaves will scorch.

tion by merely drying may seem novel to the housewife of today, it was not unknown to the thrifty mistress of the home two generations ago. Our grandmothers knew the secret of drying many garden and farm products, and so successful were they in putting aside for the winter day those vegetables which could not be consumed in season that they came to prefer dried sweet corn over the canned product, while the dried pumpkin and squash were pie-plants par excellence.

In certain communities today snap-beans are strung on threads and dried above the stove, while festoons of red and green peppers decorate the space between the kitchen rafters. Thrifty housewives dry cherries and raspberries on bits of bark for winter use in place of raisins. In fact, a survey of our fruit products shows that drying is by no means an unusual method of preservation. Prunes, figs, dates, raisins, apples, and apricots are staples in the food markets of the world.

Turning to the vegetables, we find that dried beans of many varieties, peas, and other legumes, tea, coffee, and cocoa are familiar articles of food, while various manufactured products, like starch, tapioca, and macaroni, are dried either in the sun or wind, or in specially constructed driers.

While the modern methods of canning on a vast commercial scale caused the drying processes of two generations ago to become one of the "lost arts" of the home, the present food situation seems destined to revive it with splendid economic results. The country is producing at the present time larger quantities of perishable foodstuffs than at any other period in its history, owing to the effective educational campaign which has stimulated the cultivation of individual gardens in waste places.

Drying will help to conserve the surplus yield of these gardens. But canning and preserving should not under any circumstances be abandoned. All processes have their place in the economy of food conservation.

One of the chief advantages of drying vegetables and fruits lies in the practicability of the process for the city housewife. The farmer's wife has her root cellars and other places for storing vegetables; but in the city home, where space is a primary consideration, the drying method furnishes a practical solution of an important problem.

For the farmer's wife the new methods of canning are commended in preference to the longer process of sun-drying. But new and shorter methods of drying are now available, and the dried product has several advantages over the canned product, particularly in the saving of the expense of cans, glass jars, and other containers. Dried vegetables can be stored in receptacles which cannot be used for canning, and the bulk of the product is usually less.

Another consideration should be taken into account: the canned fruits and vegetables are subject to freezing, a danger entirely obviated in the drying process. Dried foodstuffs can be shipped in the most compact form, with a minimum of weight and a minimum of risk.

One of the most important considerations commending the drying process is that the city or town housewife can employ this method of preservation with the simplest and most inexpensive facilities, and the process can be employed continuously, whether the food to be saved is in large or small quantities. A few sweet potatoes, peas, or beans can be dried at a time. Even a single turnip or an apple is worth drying. Bit by bit vegetables may be saved until a whole meal is conserved. Small lots of dried carrots, cabbage, turnips, potatoes, and onions are combined to advantage for vegetable soup.

As to the tastiness of such dried products as spinach, beet-tops, and kale there is no question. In other cases, while the flavor of the fresh vegetable is not preserved in its entirety, the use of these ingredients in soups and stews meets successfully the problem of any loss of palatability, while the food value of the dried product remains unimpaired.

Photograph by Charles Martin

ONCE DRIED, THE VEGETABLES CAN BE STORED IN PAPER BAGS OR CARTONS

One form of these cartons made of paraffin paper is closed by means of a special instrument, which is heated and spreads the cap into place, thus hermetically sealing the carton.

OUR STATE FLOWERS

The Floral Emblems Chosen by the Commonwealths

By the Editor

THE NATIONAL GEOGRAPHIC MAGAZINE in this number prints as its annual tribute to the "children of summer" pictures of the blossoms which have been chosen as the floral favorites of the various States.

Realizing that an emblem of natural beauty is as significant and essential as a State seal, motto, or flag, twenty-six States, more than one-half of the nation's commonwealths, have formally, by legislative action and gubernatorial approval, selected State flowers.

Six other States have accepted the verdict of the school children as the voice of the people, while six others have adopted floral emblems by common consent, mainly under the leadership of the club women of the respective commonwealths. The ten remaining States and the District of Columbia have either taken no action at all or else action possessing so little weight of authority that the several Secretaries of State do not recognize it (see index, page 486).

Although thirty-eight of the States have in one way or another expressed their preferences and chosen their flower queens, this is the first attempt that has been made to assemble in a single publication color paintings and descriptions of all the State flowers.

These pictures, like those of previous flower series appearing in the GEOGRAPHIC, are very costly reproductions of the exquisitely beautiful paintings from

life made especially for this Magazine by Mary E. Eaton, of the New York Botanical Garden.

In making their choices the legislatures, women's clubs, and school children of the several States were confronted in every instance by a plethora rather than a paucity of floral treasures from which to select a favorite, for the United States contains a much greater number of species of wild flowers than any equal area on the globe.

Nations have long honored particular flowers with heartiness and devotion—Ireland, the shamrock, that beautiful bit of green with which it is alleged St. Patrick demonstrated the doctrine of the Trinity; Scotland, the thistle, which pricked the foot of the Dane and awakened all Scotland with his cry of pain, saving her from the heel of the invader; and France, the lily, which Ruskin called the flower of chivalry (the iris, or blue flag).

Our series pictures every flower that has been chosen by legislative action or is regarded by common consent as the State flower. But in cases where different species of the same flower have been selected by several States, only one specimen is pictured (as the goldenrod, violet, rose, and rhododendron).

SOME OF THE DIFFICULTIES OF MAKING THIS COLLECTION

Some difficulty, however, has been experienced in the selection of the exact species to be portrayed. For instance, in the case of Minnesota, although the act of the legislature gives the name of the flower chosen as *Cypripedium calceolus*, the extract from the official year book of the State, furnished the National Geographic Society by the Secretary of State, gives six different species as representative of the State flower, among which is *Cypripedium acaule*, but among which *Cypripedium calceolus* does not appear.

Again, in the case of Nebraska, the act of the legislature choosing the goldenrod as the official flower designates *Solidago serotina* as the particular species. On the other hand, this species is not the most widely distributed in other States which have a preference for the goldenrod. It is believed that *Solidago nemoralis* (page 511) is one of the most representative goldenrods, and one which would be probably the composite of preferences of all of the States having that flower, either officially or unofficially.

Colorado's legislature expressly names the "white and lavender columbine," with no Latin name attached, as the State flower; yet today, through a later vote of the school children, the blue and white columbine is everywhere in Colorado recognized as the State flower.

The acts of the Arkansas and Michigan legislatures simply call for "the apple blossom." The Illinois law refers to its preference only as "the native violet," of which there are numerous species, while the Louisiana law names no species, but simply says "magnolia." The Delaware law gives no scientific designation, but speaks only of "the peach blossom."

The resolution of the Ohio legislature names the "scarlet carnation," while in the Indiana law the only designation is "the carnation." Remembering how many colors of carnation there are in existence today, the one chosen was left, in the case of Indiana, to the discretion of the artist.

The reader should note that the carnation pictured on page 507 is really too deep a red for the State flower of Ohio, which has a brighter tone.

When the State of Kansas came to adopt the sunflower, the resolution of the legislature used the term "*helianthus*, or wild native sunflower."

The resolution of the legislature of Texas sets forth that the State flower is "*Lupinus subcarnosus*, commonly known as the buffalo clover, or bluebonnet." There appears to be so little difference between *Lupinus subcarnosus* and *Lupinus texensis* that no distinction whatever is made between them by the average Texan in plucking the State flower.

In the case of the South Dakota flower, while the artist portrays the species of pasque flower known as *Pulsatilla patens*, the South Dakota law designates the *Anemone patens*. The main difference between the two seems to be the matter of a name, since the pasque flower is the

name of several plants of the genus *anemone*, section *pulsatilla*.

OKLAHOMA AND MINNESOTA ACTED OFFICIALLY FIRST

Oklahoma was the first of our States to take legislative action in the adoption of a State flower. In January, 1893, the Territorial government was considering the question of exhibits for the Chicago World's Fair and a Territorial seal. The ladies of Oklahoma had presented a petition asking that the mistletoe be made the Territory's emblematic flower. A bill to that end was accordingly introduced and passed by a large majority.

Minnesota had a bill pending to make the moccasin flower the State's official blossom at the same time that Oklahoma was debating the issue of the mistletoe. In February, 1893, the Gopher State was preparing its exhibits for the Chicago Fair. The Ladies' Auxiliary of the State World's Fair Commission found only an official flower lacking—which they thought ought to be used in the scheme of decorations. So they prepared a bill making the moccasin flower the emblematic representative of the Commonwealth and presented a widely signed petition in favor of its enactment. The legislature promptly passed the bill.

The next State to take action was Vermont. A concurrent resolution to adopt a flower was introduced in the House of the Vermont legislature, October 19, 1894. It was considered by a special committee consisting of one member from each county—fourteen in all. The name of the flower was not specified until November 8. On that date an agreement was reached which led to the amendment of the bill by the insertion of "red clover."

The next State to act was Nebraska. On the 29th of January, 1895, the delegate from Boone County introduced a bill to designate a floral emblem for the State. It provided that the goldenrod should be the emblematic flower. On the 23d of March the bill was taken up in committee of the whole. One of the delegates, having in mind that Nebraska was a free silver State moved to substitute the word "silver" for "golden." His motion was not considered, and the bill was promptly passed by the House and Senate.

Delaware was the fifth State in the Union legislatively to adopt a State flower, when by an act of the legislature, approved May 5, 1895, that State chose the peach blossom as its representative. There was very little debate and the sentiment in its favor was practically unanimous.

Montana also chose a State flower in 1895, its legislature adopting the bitter root almost unanimously.

Michigan followed the example of Delaware in awarding its floral honors to the blossom of its favorite fruit. In the preamble of its resolution, approved April 28, 1897, adopting the apple blossom, the legislature declared that a refined sentiment seemed to call for the adoption of a State flower; that the blossoming apple trees add much to the beauty of Michigan landscapes; that Michigan apples have gained a world-wide reputation, and that at least one of the most fragrant and beautiful flowered species of apple, the *Pyrus coronaria*, is native to the State.

The year 1899 witnessed the accession of two States to the ranks of those enjoying legislatively created floral emblems. On January 30, 1899, a petition was introduced in the Oregon Senate reciting the fact that the women's clubs of Portland, in regular session assembled, had declared in favor of the Oregon grape as a State flower, and asking the legislature to enact their recommendation into law. What little debate there was indicated a practical unanimity of sentiment, and the measure was ready for the Governor's signature on February 2 of that year.

IN COLORADO THE SCHOOL CHILDREN OVERRULE THE LEGISLATORS

Colorado holds a unique position in the matter of flower legislation. The lawmakers of the Centennial State passed an act, approved April 4, 1899, designating the white and lavender columbine as the State flower of Colorado. This, however, did not please the school children. Accordingly, on Arbor Day of 1911 they submitted the question to a referendum in which they were the only qualified

voters. Out of 22,316 votes cast, 14,472 were in favor of the blue and white columbine (*Aquilegia caerulea*). No other flower received over 1,200 votes. The governor and the legislature seem to have concluded that the children are the court of last resort in such a matter and have apparently acquiesced in their decision.

Louisiana was the next State to act. June 20, 1900, a bill making the magnolia the State flower was read in the House. July 6 it passed that body by a vote of 62 to 2. Six days later it passed the Senate by the unanimous vote of 32 to 0.

Arkansas, by legislative action, January, 1901, chose the apple blossom.

The very next month Texas took up the question. On February 28, 1901, a Senate concurrent resolution was introduced, the preamble of which recited the fact that the National Society of Colonial Dames of America, Texas branch, had requested of the legislature that it adopt "*Lupinus subcarnosus*, generally known as the buffalo clover, or bluebonnet," as the State flower. Sentiment in favor of the bluebonnet was so general that there was little debate, and the measure was passed and finally approved by the Governor on March 7.

IN WEST VIRGINIA ALSO THE CHILDREN LEAD THE WAY

In West Virginia the subject of an official State flower had long been a theme of discussion among teachers and others interested in school work. It did not take form, however, until 1901, when the Governor in his message to the legislature recommended the adoption of a State flower and suggested the rhododendron, or big laurel, as the most appropriate.

Under the direction of the State Superintendent of Free Schools, the school children of the State, on the 25th of November, 1902, voted upon the question of a selection. Out of 33,854 votes cast, 19,131 were for the laurel, 3,663 for the honeysuckle, 3,387 for the wild rose, and 3,162 for the goldenrod. On the 8th day of January, 1903, the legislature adopted a joint resolution designating the rhododendron, or big laurel, as the official State flower.

California had long been advocating the enactment of a law making the golden poppy the Golden Gate State's official flower. More than fifteen years ago a bill was introduced in the Senate and had passed both houses, recognizing the yellow-hued beauty; but the Governor vetoed the measure. The House then passed it over his veto, but the Senate permitted it to die. The bill was reintroduced in the next legislature, January 21, 1903. It passed the Senate on February 2 by a vote of 28 to 1. It received practically a unanimous vote also in the House. On March 2 the new Governor advised the legislature that he had approved the bill, and the golden poppy became the State flower of California.

The bill to make the sunflower the floral emblem of Kansas was introduced on February 10, 1903. The Senate passed it by a vote of 30 to 0, and the House by 31 to 0.

South Dakota's resolution selecting the pasque flower as her floral emblem was enacted March 4, 1903, and provided that on and after the passage of the act the State floral emblem of South Dakota should be the pasque flower (*Anemone patens*), with the accompanying motto: "I lead."

OHIO CHOOSES MCKINLEY'S FAVORITE FLOWER

The State of Ohio officially adopted the scarlet carnation as its emblematic flower on the 29th day of January, 1904. Both houses unanimously voted for the measure. The law is as follows: "The scarlet carnation is hereby adopted as the State flower of Ohio, as a token of love and reverence for the memory of William McKinley."

Connecticut chose the mountain laurel as its State flower after a report of the Committee on Agriculture in the Senate favoring such action. One senator opposed the bill, saying that he regarded it as unnecessary legislation, but that if the clover had been recommended he would have been inclined to favor it as the nearest approach in this country to the shamrock he loved. He doubted, however, if there was any necessity for the legislation. Another senator declared that he

was bound to favor anything three thousand women could agree on. In the House the choice was advocatel in enthusiastic terms. Upon each desk sprigs of mountain laurel were distributed by persons in favor of the bill. After a short discussion it passed. When the measure was pending in the Senate the botanical name of the laurel was inserted by a senator, who complained that the request was out of order when some one asked him to spell it.

North Dakota adopted the wild prairie rose by legislative action in 1907, the same year that Florida's legislature selected the orange blossom. By act of the General Assembly the violet has been the State flower of Illinois since the 1st of July, 1908.

Utah officially recognized the sego lily as its choice by act of its legislature in 1911. Indiana selected the carnation by legislative act in 1903, but did not specify the color of the carnation, which in our illustration was left to the artist.

THE STATE FLOWER MOVEMENT WAS STARTED BY NEW YORK

The State flower movement in the United States was started by New York, although its legislature has never yet officially sanctioned a flower. In 1890 a school vote was taken in the entire State, with the result that the goldenrod was adopted by a vote of 81,308 as against 79,666 for other candidates. A year later the case was reopened, and this time the rose led, receiving 294,816 votes as against 206,402 for all the other entries. From that time the rose has been considered New York's official flower, though the vote did not specify any particular rose.

Rhode Island also chose its official emblem by the vote of the school children. In May, 1897, there was a plebiscite of the children, with the result that the violet was overwhelmingly favored and was declared the representative flower of the State.

The school children in Mississippi made the choice for that State. In 1900 the matter was submitted to a referendum, with the result that the magnolia was their nearly unanimous favorite.

The violet is also the unhesitating choice of the school children of Wisconsin. In 1900 the matter was submitted to a vote, with the result that the violet got 67,178 preferences, the rose 31,024, the arbutus 27,068, and the white water lily 22,648.

Maine's adherence to the pine cone and tassel was given by the vote of the public schools of the State, the same being true of New Mexico's support of the cactus.

According to reports furnished the National Geographic Society by the Secretaries of State and other officials of the several States, Idaho favors the syringa by common consent; the wild rose was chosen by common consent in Iowa; the Kentucky Historical Society and citizens of Kentucky prefer the trumpet vine, and the sagebrush is generally accepted in Nevada. The people of North Carolina favor the daisy generally, while through the work of the women's clubs the State of Washington held a contest which resulted in the choice of the rhododendron as that Commonwealth's flower (see pages 500 and 517).

TEN STATES HAVE SELECTED NO STATE FLOWER

In the case of Alabama it is reported that no action has ever been taken toward the adoption of a State flower, though several authorities put down the goldenrod as its emblematic blossom.

The people of Maryland are said to favor the black-eyed susan, with the sunflower second; but no formal decision has yet been made.

In Massachusetts, although the mayflower, because of its good cheer to the Pilgrims, has met with great favor, no formal selection has been made. Missouri officials say that no State flower has ever been adopted, yet several authorities publicly declare that the goldenrod has been accepted by a school vote.

New Hampshire, Pennsylvania, South Carolina, and Virginia are without State flowers, either officially or unofficially. Popular opinion seems never to have

crystalized about any one flower in these States, or in the District of Columbia, which also has no floral emblem.

Although the State authorities in Tennessee advise that no State flower has ever been chosen, one outside list gives the goldenrod and another the daisy. The same is true in the case of New Jersey. The Commissioner of Education of that State writes that, so far as he is aware, New Jersey has never chosen a State flower.

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* Legislature previously had chosen the lavender and white columbine.
† Indiana's legislature designated the carnation, but did not specify the color.
‡ The vote did not specify the species of rose selected.
§ The scarlet carnation of Ohio's choice is of brighter color than the illustration.

THE APPLE BLOSSOM

(Malus sylvestris Mill)

The apple blossom shares with the carnation the distinction of being the only two flowers in Nature's garden that have won two legislatures to their standards in the "battle of the buds" for popular affection. While Ohio and Indiana have pledged legislative fealty to the carnation, Arkansas and Michigan have cast their fortunes with the apple blossom (see page 501).

There are a few commonwealths which, while agreeing that a thing of beauty is a joy forever, are yet utilitarian enough to hold that when a delight to the eye ripens into a joy to the palate it is to be prized above all other forms of loveliness. Florida and Delaware share this view with Arkansas and Michigan.

Certainly, whoever has seen an apple orchard in full bloom, with its whole acres of pink and white petals set in a framework of green, will not need to wonder why two legislatures should prize especially the beauty of the apple blossom.

The apple blossom is one of the progressives of the floral world. It wants a hardy, strong, resistant posterity; so it takes careful precaution to insure cross-fertilization. The stigmas reach maturity before the anthers begin to shed their pollen, and in this way the insects have every opportunity to bring pollen from another blossom. But if the bees and the butterflies chance to overlook one, it retains its petals until its own anthers are developed and can enable it to produce an apple.

Perhaps nowhere else do we get a more striking picture of what selection may accomplish than in the case of the apple tree and its fruit. Contrast the stately and spreading winesap tree in a well-cultivated orchard with the small, knotty-limbed, scaly-wooded wild crab tree. Isn't it almost like contrasting a stately elm with a dwarfed hawthorn? And yet, is there as much difference between the ancestral crab and the descendant winesap trees as there is between their fruits?

The wild crab-apple, though a gnarled, knotty, thorny, acrid-fruited tree, is the Adam of a wonderful race. An orchardist recently counted more than three hundred varieties of apples, all of them direct descendants of this sturdy pioneer.

What could bear better testimony to the value of apples than the poetical proverbs which have crept into our language celebrating their qualities! "To eat an apple before going to bed will make the doctor beg his bread," says one of these; and another declares, "An apple eaten every day will send one's doctor far away." An old Saxon coronation ceremony carried with it a benediction after this fashion: "May this land be filled with apples."

Any one who looks at a modern apple orchard finds it hard to realize how close is the relationship of the apple to the rose, and yet they belong to the same order, Rosiacæ, the apple's thorns having passed under the softening influences of a kindly civilization. Now the only thorn the apple possesses is the figurative one that is hidden in the green fruit, which small boys often discover to their anguish.

In history, tradition, and mysticism the apple has played a distinguished role. Through it, we are told, "came man's first disobedience, which brought death into the world and all our woe." Juno gave Jupiter an apple on their wedding day, and a poorly thrown one was the immediate cause of the ruin of Troy. Paris gave a golden apple to Venus; Atalanta lost her race by stopping to pick up one, and the fair fruits of the Hesperides were the apples of gold.

In the west of England the village girls used to gather crab-apples and mark them with the initials of their beaux. The ones that were most nearly perfect on old St. Michaelmas Day were supposed to represent the lovers who would make the best husbands. In our own land to this day girls tell their fortunes on Hallowe'en by naming the apples and counting the seeds. An apple paring thrown over the shoulder on that fateful night will form the initial of the future mate.

THE GOLDEN POPPY

(Eschscholtzia californica Cham.)

No State has chosen its representative flower more appropriately than California. The golden poppy, the very essence of California's sunshine, has woven its brightness into the history of the Pacific coast. During the spring months, when it covers valley, field, and mountain side with a cloth of gold, men, women, and children make a festival of poppy-gathering like the Japanese at cherry-blossom time (see p. 502).

Tradition alleges that a tilted mesa north of Pasadena when aglow with poppies in the spring used to serve as a beacon to coasting ships more than twenty-five miles away, a tale which is not wisely questioned by one who has never seen the glory of a golden-poppy field. Certain it is that early Spanish explorers saw some of the hillsides covered with these flowers and named the coast "The Land of Fire." It was "sacred to San Pascual," they said, "since his altar-cloth is spread upon all its hills."

No State flower had more lovely rivals—Baby Blue Eyes, the butterfly or Mariposa tulips, the gilias, the lupines, and the California peony have a firm hold on the affections of nature lovers in a Commonwealth from whose floral treasures the finest cultivated gardens in the world have been enriched. But the golden poppy safely outdistanced all competitors and is now the crowned queen of the land of the setting sun.

The scientific name of this poppy was acquired when a Russian scientific expedition under Kotzebue, in 1815, explored what is now California. Chamisso, the naturalist of the expedition, named it for Dr. Eschscholtz, a companion naturalist, the *Eschscholtzia californica*. It is an unfortunate name; and the extra "t" must have been inserted amid that array of consonants with deliberate intent to appall the English eye and paralyze the English-speaking tongue. Though *copa de oro*, the Spanish "cup of gold," has a poetic attractiveness, yet it is not much used, even by the Spanish Americans.

THE MOCCASIN FLOWER

(Cypripedium acaule Ait.)

When Minnesota officially decreed, in 1893, that the moccasin flower should be its favorite, it led all the States in enacting such legislation, and it is the only Commonwealth which has selected a member of the orchid family (see page 502).

This orchid loves the deep wood and seeks a rocky, sandy place, usually as remote as possible from human habitation. Once the commonest of orchids, now it is one of the rarest. The friend of the moccasin flower who said that it "is generally and destructively appreciated" accurately sized up the situation.

We have heard much about prize-fighters being overtrained and extinct mammals being overspecialized, and now it has been said that the moccasin flower is overorganized. It is preëminently a flower that believes in the doctrine of cross-fertilization, and therefore has developed so complex a system of protecting its stigmas and anthers from self-fertilization that it often defeats its own ends and must rely on root propagation.

In order to insure itself the cross-fertilization it demands, the stamens are placed back of the pistil in such a position that the pollen cannot be transferred except by outside agencies. The open end of the pouch is nearly closed with a singular, broad, scoop-shaped, sterile anther which shields the fertile anthers and stigma. The flower is so arranged that the bee which applies for a cup of nectar must come inside and do a little crowding to get room enough to stand. When the delightful draught is quaffed and the winged beggar turns to leave, it is confronted with a straight and narrow way out, and before the open can be reached our bee must squeeze under a receptive stigma covered with sticky hairs which comb the pollen grains from the furry back of the visitor. But still the guest has not satisfied the flower's bill. It must carry pollen to some other flower. And so, working its way out, the bee has to creep under an anther that is placed almost across its path, getting a coating of pollen as it passes to take the place of that combed out by the pistil.

It is a short stay that the blossoms of the moccasin flower make in their annual visit to the woods. They come in May and say farewell in June. It gladdens some of the Canadian woods, reaches as far south as North Carolina, and makes Minnesota its westernmost home.

THE SAGEBRUSH

(Artemisia tridentata Nutt.)

Nevada's floral queen is not famed for its retiring disposition; neither is it known for its beauty; nor yet is it distinguished for its aggressiveness or the usefulness of its product. Rather, it is content to soften the sternness of the unoccupied, semi-arid lands of the Southwest until the farmer comes along. Into his ear it whispers the information that where it grows alfalfa will flourish. After imparting this information, it is content to endure the woes of surrendering its home. The farmer, using a railroad rail or a plank-drag, clears his ground of it and puts in its stead a field of alfalfa (see page 505).

The sagebrush belongs to the composite family, and its immediate cousins are widely distributed. They are known as the *artemisias*, and there are a host of them, many with important uses in the economy of civilization. *Artemisia absinthium* is popularly known as wormwood; from it comes the bitter, aromatic liquor known as ean or crème d'absinthe. Many of its cousins grow in Asia and Europe, including the mugwort, used by the Germans as a seasoning in cookery; southernwood, used by the British to drive away moths from linen and woolens and to force newly swarmed bees, which have a peculiar antipathy for it, into the hive; and tarragon, used by the Russians as an ingredient for pickling and in the preparation of fish sauce.

Sagebrush itself is found as far east as Colorado and is one of the dominating shrubs of the great basin which lies between the Rockies and the Sierra Nevada Mountains.

The *artemisias* derived their name from Artemisia, the beautiful wife of King Mausolus. The magnificent tomb she erected to his memory at Halicarnassus has given the name mausoleum to every elaborate tomb from that day to this. Americans thought so highly of this wonderful structure that they duplicated it in the national capital. The Southern Jurisdiction of the Scottish Rite Masons of America copied it for their great American temple, and today Artemisia's architectural conception is one of the show places of one of the most beautiful cities of the earth.

THE MOUNTAIN LAUREL

(Kalmis latifolia L.)

When Connecticut's legislature adopted the mountain laurel as the Nutmeg State's representative flower, it chose one that is a patrician in its history, a blue-blood in its family relationships, and an Adonis or a Venus in its beauty.

In its floral relationships the mountain laurel is identified with the heath family, some of its kinsfolk being the trailing arbutus, the wintergreen, the rhododendron, the white swamp and wild honeysuckles, the flaming azalea, and the Lapland rose bay (see page 503).

Because it grows in places where the bees and butterflies are not so numerous as they are in the fields, the mountain laurel has taken care that no visitor shall escape without rendering it the service of messenger. When the flower opens its stigma is erect, but the anthers are fastened down with a trigger-like arrangement, one in each of ten little pockets in the flower. The bee that creeps down into the flower for a sip of nectar releases a tiny spring, like a mouse entering a trap. The released anther flies up and dusts its pollen on the hairy body of the insect. Now, if you take this pollen and put it under a good microscope,

you will see that each grain is in reality a cluster of four tiny balls resembling oranges. Indeed, in passing it may be observed that each species of plant seems to possess some special whim in the shape of its pollen, with its own peculiar devices of exterior decoration and structural form. The laurel's clusters of tiny balls ride safely on the bee as he flies to the next flower, and as he stoops for a sip of that blossom's honey they are brushed off by the ready pistil and the flower is fertilized.

Since ants can never render it any pollen-bearing service, the mountain laurel has set traps to protect its nectar from their ravages. It mounts its flowers on hairy stems and covers the hairs with a sticky substance, so that if Mr. Ant does not heed the warnings of the bristles that no trespassing will be allowed he promptly finds himself wading through a field of glue that pinions his feet until he dies an ignominious death as a would-be thief.

No friend of the stock-raiser is the mountain laurel. In the springtime, when the cattle-growers in the valleys of the East drive their herds to the grazing farms on the mountains, the laurel is the greenest thing in sight. A winter on dry fodder has made every animal hungry for a change of diet; so that, although the herd is urged on, one nip after another is taken of the laurel bushes along the roadside, until, the first thing the drover knows, two or three members of his herd have an overdose of laurel, with "blind staggers" as a result. Usually a day or two brings the affected cattle around, and once on the range, they seldom or never touch the laurel. Only when there is nothing else green in reach will they leave the straight and narrow way of abstinence to indulge in "sheep kill," as it is sometimes called.

There are many plants that are poisonous, a quality developed as a weapon of defense. And what would we do without our plant poisons? Opium, which in spite of its abuses is a boon to humanity, is merely the self-defense of the poppy turned to the service of man. The laurel, too, belongs to the class of poison-producers. If let alone it drapes the mountainside with lacy bloom, and never hurts any creature that treats it with respect; but woe betide the one that dares to eat it.

The mountain laurel is distinctly an Eastern plant. It flourishes from New Brunswick to the Gulf of Mexico, but, unlike so many flowers that have kept pace with man as he has followed the star of empire westward, it has never crossed the Mississippi Valley. Once there came to the United States a Swedish naturalist, Peter Kalm. After making the acquaintance of our American flowers, he decided that the laurel was his preference. He gathered some young plants, took them to Europe, and introduced them on many a fine estate. He also contributed to the plant its scientific name, "kalmia."

THE COLORADO COLUMBINE

(Aquilegia coerulea James)

The school children and the legislature of Colorado do not agree upon the issue of a State flower. Both have voted the honor to the columbine, but the legislature nineteen years ago awarded the wreath of fame to the white-and-lavender, while six years ago the school children chose the blue-and-white. An outsider may declare his neutrality and admiration for both (see page 503).

It is reputed that in no other region does the columbine grow more beautiful or so large as in Colorado. The people of the Centennial State have no hesitancy in declaring that their flower is four times as large as the "Down East" species.

A native of the lower mountain regions, blooming from April to July and ranging from Montana to Mexico, the columbine cheers every pathway that leads up toward the realm of summer snows.

The name "columbine" comes from the Latin for dove, and was applied because the flower has a fancied resemblance to a group of dainty little doves. Its other name, "aquilegia," was given it because the spurs of the flower possess a resemblance—somewhat indistinct in the Colorado blossom—to the talons of the eagle. Thus the columbine may with equal claim play the rôle of dove of peace or eagle of war.

It has many exquisite relatives, among them the clematis, the anemones, the hepaticas, the rues, the spearworts, the buttercups, the marigolds, the larkspurs, and the monkshoods.

The various species of columbine have a wide range. The flower possesses all Europe and occupies that part of Asia between northern Siberia and the Himalayas.

In the northern half of the world there are about fifty varieties of columbine, of which some twenty occur in North America.

THE BITTER ROOT

(Lewisia rediviva Pursh)

The bitter root played a part, though a small and inconspicuous one, in that epic of American exploration, the Lewis and Clark Expedition. It was the specimen taken from the herbarium of Meriwether Lewis that was first described by the botanist Pursh and named *Lewisia rediviva* (see page 504).

The acquisition of a dignified Latin name seems to have been the first forward step in its career; from the simple ornament of the primeval wilderness and friend of the Indian, this blushing beauty has risen to the magnificent position of chosen flower of Montana, the Treasure State, and has given its English name—bitter root—to a mountain range, a river, and to the famous Bitter Root Valley.

Bitter Root Valley, the depression which separates the Bitter Root Mountains from the Rockies for a distance of about 105 miles, long before the white man penetrated the great West, was a favored spot. The snow melted earliest within its sheltered heart; the storms blew less fiercely over its mountain walls; spring smiled there soonest, and answering smiles seemed to brighten the meadows when

the bitter root held up its colored bowls to catch the sunbeams.

The Indians took a practical interest in the plant, for they knew that its thick, starchy roots could furnish food. When their brown covering is removed and the fleshy part dried, these roots will dissolve in water almost like pure starch, and when heated become a nutritious paste. This value was sufficient to give the plant great importance in the eyes of the savages, and they named the near-by mountains and river after it.

What stirring incidents of pioneer days the bitter root may have witnessed we do not know. Gradually its old friends, the Selish Indians, were replaced by white settlers, and the lovable flower seems to have had no difficulty in winning the hearts of the newcomers. Meantime mining strikes, boom towns, cowpunchers, Vigilantes, built the generous, romantic, picturesque structure of Montana's early history, which was crowned in 1889 with statehood. It was not until 1895 that the citizens of the Commonwealth found time from developing the abundant resources of the Treasure State to choose a State flower; when they did so, by legislative resolution they voiced their affection for this eager-faced, native blossom—the bitter root.

Of course, the habitat of *Lewisia rediviva* is not confined to the valley it has named, nor to the State of Montana. The visitor to Yellowstone may find an occasional specimen, although it is rare within the limits of the park. It is naturally most plentiful in dry, sandy, or gravelly soil, such as may be found along the Lewis and Bitter Root rivers.

Nuttall, in 1834, said of it: "This curious plant constitutes a very distinct natural order," and decided that it was most nearly related to the cactus family. The flower he describes as "very large, wholly like that of the cactus, rose red." Since, however, botanists have classified the bitter root as allied to the purslane family, *Portulacaceae*. Its resemblance to the gay garden portulaca, a native of the hot plains of southern Brazil, is apparent; but it is not so easy to connect it with that persistent weed, the common purslane, which the farmer has condemned by his forceful comparison, "As mean as pusley!"

The bitter root's relations, poor or otherwise, are of no importance in the eyes of the Montanan, who cares only that it was found rooted in the soil and has made itself inseparable from the history of his wonderful country.

THE ORANGE BLOSSOM

(Citrus sinensis Osbeck)

Who that has seen loved ones given in marriage, with the orange blossoms lending the touch of their beauty to the bride, can help but sympathize with the sentiments of Florida's legislators when they enacted into law the State's affection for the flower of its favorite fruit? And while the orange blossom is admired and honored by its association with the bridal hour, the fruit is known wherever men and women who love good things to eat foregather (see page 504).

While the orange is not native to America, being in reality a comparatively recent immigrant, there are more orange trees in the United States than in any other part of the world. Fourteen million trees were growing in this country in 1903, two for every thirteen people. Of these, Florida had nearly three million, while most of the others were in California.

The orange appears to have originated in China and the Burmese Peninsula. Thence it was carried to India and Hindustan. There the Arabs met it, fancied it, and gave it a footing in Mesopotamia at the beginning of the tenth century. From Asia it was introduced into northern Africa and Spain, traveling with the conquering armies of Islam. It journeyed with the Spaniards from Europe to South America, where it was found by missionaries from this country, who sent some small trees to Florida and California. These took root, thrived, and straightway the American orange became one of our chief blessings.

In favorable seasons and in well-kept groves, trees bear from 400 to 1,000 oranges each. Being slow in reaching maturity, they are slow also in giving up their privilege of producing their golden fruit. Carefully tended trees usually yield for fifty years, and some are productive for eighty years. Occasionally a sturdy centenarian is found bearing fruit in abundance; but so great has been the improvement of the orange under modern methods of plant-breeding that the product of these hardy old trees seems bitter and unpalatable, although it may have delighted ten thousand feasters in its day.

Those who have not been privileged to visit an orangery and there taste the nature-ripened fruit in all its golden lusciousness cannot know fully how delicious an orange may be. The orange that goes to market and must wait weeks before it can get out of the hands of the retailer and into those of the consumer is packed before it is ripe, and few fruits gathered unripe can ever be as delicious as those which have hung on the spit of the twig and toasted to a proper flavor before the sun.

The orange tree is an evergreen, and cultivated varieties seldom exceed 30 feet in height. Blossoms, green oranges, and ripe fruit are often seen on the same tree, but usually the trees bloom in the spring and ripen their fruit in the fall. The oily, acrid peel of the orange is an effective means which Nature employs to seal up her packages of fruit. The germ or the insect that could break through a healthy orange skin would be a brave and persistent creature.

THE SYRINGA

(Philadelphus lewisii Pursh)

The queen of Idaho's wild flower garden is by unanimous acclaim the modest syringa, *Philadelphus lewisii*, which is limited in its

territory to the western group of States, from Montana and Wyoming to Washington and California. Its flowers matching the orange blossom in beauty, its bursting buds appearing to be fairly pin-cushions, its fragrance as delightful as the odors that sweep over Elysian fields, its leaves a delicate, soft, shimmering green, the Idaho syringa is a shrub well equipped to awaken enthusiasm in every lover of flowers (see page 505).

The syringa belongs to the saxifrage family, which has some 250 species scattered throughout the North Temperate world. It has many close relatives—various species of Philadelphus, which is the botanical name for all the species we in our common garden variety of nomenclature call the syringas. There is *Philadelphus grandiflorus*, which grows in the South Atlantic States and is famous for its rich and fragrant flowers; *Philadelphus inodorus*, with the same range, but without the same fragrance; *Philadelphus hirsutus*, dwelling in the North Carolina-Alabama mountains and arraying itself in hairy leaves; *Philadelphus coronarius*, the mock orange of the Eastern States and everywhere loved for its beautiful and wonderfully fragrant blossoms.

The syringas are unfortunate in their popular name. Ptolemy Philadelphus loved them and they became *Philadelphus* this or *Philadelphus* that. But the world at large wanted a name more to popular liking and by common consent they became syringas. Now that would be all right if it did not happen that syringa is the botanical name of the lilac, to which family the popularly named syringas bear no relation.

THE VIOLET
(Viola)

One does not often meet two flowers so different in appearance, so dissimilar in disposition, so unlike in their tastes, as the modest blue violet and the gorgeous goldenrod, the one content to be seen only by the eyes that search for it, the other seeking the spotlight of every landscape, so that no eye may overlook it (see page 505).

And yet the little violet blossom and the big yellow flower are rivals for the highest honors in flowerland. Three States have adopted the violet and a fourth is not yet sure on which side of the issue between them it will finally line up. Illinois has cast its lot with the violet by legislative action. Nebraska has come out for the goldenrod by the same route. Rhode Island and Wisconsin have by the votes of their school children declared themselves champions of the violet. On the other hand, Missouri and Alabama are reputed to favor the goldenrod, although no action recognized by either State government has been taken. New Jersey is agreed that her flower shall be one or the other, and there is a rumor that she wishes it could be both. Yet no one can blame this indecision on the lack of grounds for choice between them, for there is certainly little else than choice. Habit, color, haunt, disposition, almost every point, is different in them.

There are many violets scattered over the country, among them the "bird-foot," the "common," the "arrow-leaved," the "marsh," the "sweet white," the "lance-leaved," the "downy yellow," and even the "dog." But, whatever their distinctions, they are all good to look upon, interesting to study, and modest to a fault. Best of all, they manage in their several species to gladden all communities from the Arctic to the Gulf and from the Atlantic Ocean to the Pacific.

Perhaps first among all the species is the common or purple hooded. Its royal color, its gentle dignity, its rich profusion, its wide range of territory, have given it a deep hold on popular affection. The different species are distinguished as stemmed and stemless, bearded and beardless, by the character of the spur, the color of the flower, and the shape of the leaf. In most of them the lower petal is prolonged backward so as to form a spur and a nectar jar, which is usually protected by little tufts of hair at the throat of the flower.

Some violets have put away the ordinary processes of inbreeding and now strive, by producing liberal supplies of nectar, to attract the bees and butterflies and to enlist their services as carriers. But, knowing how readily their insect friends are wooed away by the more showy, more thickly clustered flowers of other families, they have not abandoned entirely the old idea of self-fertilization. If they fail to set seed by the cross-fertilization method, they promptly develop small, inconspicuous blossoms that fertilize themselves, and therefore enable the plant to produce sufficient seeds to prevent its extinction by the race-suicide route.

One writer who knows the poetry of flowerland tells us that the witch-hazel is not the only sharpshooter of the autumn wood. Down among the dry leaves, he declares, it has a tiny rival, the blue violet, with which it occasionally exchanges a salute. The latter closes its reign as a debutante among the blossoms in May. Then it settles down to the stern realities of life and the production of seeds. As the late autumn comes, its pods begin to force out their tiny seeds just as the small boy shoots a cherry stone by pressing it between his thumb and finger. Each pod in its turn fires away, hurling the seed babies as far as 10 feet, with an admonition that they creep down into the soil, there to dwell in darkness, silence, and inactivity until the winds whisper to the pines the glad news that spring is coming, and that message is passed along to the seeds under the snow.

Violets have figured in many of the romances of civilization. An old tradition has it that the flower was raised from the body of Io by the agency of Diana. Homer and Virgil knew its delicate beauty, and the Athenians were never so much complimented as when they were said to be violet-crowned.

The pansy that we love so well and for which our English cousins have so many nicknames is, after all, only a violet that has had a chance. Some call it "Heart's-ease," others "Meet-her-in-the-entry," others "Kiss-her-in-the-buttery," and still others "Jump-up-and-kiss-me" and "Tickle-my-fancy."

THE ROSE

Four States consider the rose, in one form or another, their emblematic flower. New York school children adopted the rose without any adjective limiting the selection. Georgia, by legislative resolution, considers the Cherokee rose as her flower. Iowa, by the same method of choice, made the wild rose hers. North Dakota's legislature selected the wild prairie rose for that State.

The Cherokee rose, which has white petals and yellow stamens, was imported from China and is believed by botanists to be the one from which the Chinese developed the fragrant double Banksian roses.

Certain it is that from the standpoint of the florist, if not from the standpoint of general sentiment, the rose is our national flower. And yet the florist's rose, which delights milady's boudoir with its fragrance as well as with its beauty, is one of the most imperfect of flowers. To the wild flowers it is deformed, a freak, unable to fight its own way in the war of blossoms for place and position.

That busybody, man, who is always making flower and insect, plant and animal, all serve his purposes, went out and gathered some natural roses and started to make them over to meet his own ideals of beauty and fragrance. But how he did interfere with their perfection when he tried to magnify their beauty! He, in very fact, made them unfit for survival in the garden of Nature. No natural rose was ever such a poor seed-bearer as the American Beauty or Jacqueminot. Set these out to fight for themselves and they would disappear forever—for the more perfect the rose, from the flower-show standpoint, the more imperfect from a natural standpoint. And why? When the florist took this rose in hand he concluded it had too many stamens and not enough petals, so one by one he converted the stamens into petals, step by step he bred out of the flower the ability to set seed and bred into it the quality of looking handsome, until it is what we have today.

Other flowers, like the lotus of Egypt, the chrysanthemum of Japan, come and go, but still the rose is queen of the flower world. That maiden of ancient civilization who sang of it as being full of love, the servant of Aphrodite, cradling itself on its nodding stalk and playing with the smiling zephyrs which kiss it as they pass, beautifully expressed what many a modern admirer of the rose has felt.

Again, the rose is as famous in legend and history as for its beauty and fragrance.

For three hundred years the youngest peer of France, on the first day of May, brought to the court in an elaborate silver bowl the annual tribute of roses. In Egypt mattresses for the wealthy were made from the flowers' sun-dried petals. The Romans placed them at the entrance of the banquet hall when the things which transpired within were not to be mentioned without; hence our "*sub rosa*." In China roses play an important part in funeral rites, and in some parts of Europe girls prick their fingers, extract a drop of blood, and bury it under a rose bush to insure the color in their cheeks.

Then there is the commercial side of rose culture. It is said that there are more than 100,000,000 of the cut blossoms sold annually in the United States. Many new varieties are propagated each year. One European collector, trying to keep pace with the constant additions to the list, has gathered 4,200 different kinds and still finds his collection incomplete.

How long it has been since man first learned to develop new qualities in the rose is not known. That the Romans knew the secret of flower breeding is certain. And it appears that perhaps in even more remote time the Japanese and Chinese gardeners were crossing varieties and producing hybrid species. The trade in attar of roses has been hard hit by the war, and many are the hands that once labored to delight the world with the bottled fragrance of the rose, but which now work to produce the death-dealing thunderbolts. It requires ten tons of rose petals to make a pound of the attar—20,000 pounds concentrated into one! A pound of this luxurious perfume is worth $200.

THE WILD ROSE

(Rosa carolina L.; Rosa humilis Marsh)

There is nothing about the simple loveliness of the wild rose to suggest that she is a queen who has never come into her own; yet, as the original from which all the reigning beauties of the rose-fancier's garden and the florist's window have been developed, royal honors are her due. She resembles rather a little flower princess too fragile to brave the dangers of rocky hillsides or meadows close to busy highways. However, Nature has provided this seeming innocent with arms for protection and wiles for perpetuation (see page 506).

Sharp downward-turning prickles discourage cattle from eating the foliage and prevent the field mice from climbing the stems to steal the fruit in the autumn, when the hips, or berries, are ripe. These prickles also help the plant to hold its position when it grows on the side of a bank.

The delicate fragrance of the usually solitary pink blossoms, and the solid center of bright yellow stamens, rich with pollen, attract a variety of insects. Bumblebees, requiring a firmer support than the petals would give, alight directly on the center of the flower, so that pollen from other flowers is likely to reach the pistil. Occasionally self-fertilization takes place in a simply constructed blossom which yields abundant pollen.

"The wild rose never outstays St. Mary Magdalen," is a fairly true English saying, for her day, July 22d, generally ends its season. Each delicate flower has about two days of life. During rainy weather the petals fold over the green stigmas and the yellow stamens to protect them from moisture. The blossom closes with the last rays of daylight and reopens as the sun dispels the darkness, so that only the careful observer and the early riser realize that it "draws the drapery of its couch

about it and lies down to pleasant dreams." It is true that some wild roses may be found open at night, but these are the ones whose seeds are fertilized and whose pollen is carried off, so that rain and dew are no longer to be feared.

The bright red "hips" have a pleasant flavor, but their outer covering irritates the throat, and today they are left for wild things to eat. Old writers refer to them as highly esteemed delicacies. "Children with great delight eat the berries thereof when they are ripe, and make chaines and other pretty geegaws of the fruit; cookes and gentlewomen make tarts and suchlike dishes for pleasure," testifies one. We are rich enough in more luscious fruit today to forego this doubtful dainty. The "hip" is designed to tempt the birds, which sometimes drop the seeds it contains miles away from the mother plant.

Large swellings or galls are frequently found on the rose bush. "Robin's Cushions," the country people call them, although they have nothing to relate them to the robin except a somewhat reddish color. Their origin is found in a kind of wasp—the rose-gall—which punctures a bud and lays its eggs inside. Numerous larvæ are hatched and later creep into the leaf tissue, while the bud swells into a gall. The taste of these objects is sufficiently unpleasant to have gained for them a reputation for medicinal virtue in earlier days.

The choice of the wild rose, by common consent, as the State flower of Iowa is only one of many tributes to it. English poetry breathes its fragrance in many pretty verses. The scenes of Scott's "Lady of the Lake" are profuse with "wild rose, eglantine, and broom." Yet so elusive is the charm of this blossom's simplicity that it remained for a great American composer to express it most truly in the wistful sweetness of music.

THE WILD PRAIRIE ROSE

(Rosa blanda)

North Dakota's floral queen is the species known to botanists as *rosa blanda;* to others by various names in different localities. Ranging from Newfoundland to New Jersey and westward to where the Rocky Mountains cut off its march toward the land of the setting sun, it is known here as the "smooth," there as the "early," and elsewhere as the "meadow." It is indeed a bland rose, for usually it is entirely unarmed, with neither true thorn nor bark-attached prickle to defend itself. Now and then it may possess a few weak prickles as a sort of family crest or to show its friendliness with its thorny relatives. Its flowers are a trifle larger than those of the climbing rose and change from pink to pure white.

The wild rose has many relatives. Among these are the strawberry, with its tufted stem, the cinquefoils, with their creeping traits, the spikelike burnett and agrimony, the scrambling blackberries and raspberries, the blackthorn and the hawthorn, the cherry, the mountain ash, the apple and the pear—every variety of size and shape and style, from the lowly creeper to the big spreading tree, within the limits of a single flower family.

THE MAGNOLIA

(Magnolia grandiflora L.)

When Louisiana's legislature and Mississippi's school children awarded the magnolia the high praise of rating it first among the flowers of their respective States and declaring that it best typifies their ideals and expresses their aspirations, they selected a floral emblem widely known and universally admired, not less for its exquisite beauty than for its delightful fragrance. The Chinese regard the magnolia as symbolical of candor and beauty, and whoever has known the sweetness of its perfume and the charm of its blossom can appreciate the tribute (see page 506).

There are many kinds of magnolias, each with its own peculiar attractions. But queen of them all is the *grandiflora*, which has borrowed all the beauties of the laurel and the rhododendron. It has a straight trunk, two feet in diameter, which often rises to a height of 70 feet. It is an evergreen, with leaves not unlike those of the laurel, glossy green on top, rusty brown beneath, and oval-oblong in shape. It bears a profusion of large, creamy white, lemon-scented flowers. As these latter reach their final stages before the petals fall, they turn a pale apricot hue. When fruiting time comes it is a cone of dangling scarlet seeds that we see.

There are numerous other varieties indigenous to America, among them the *glauca*, a beautiful evergreen species found in low situations near the sea, from Massachusetts to Louisiana. Another is the "cucumber tree," well known for its small fruits resembling cucumbers. Its range is from Pennsylvania to the Carolinas, mostly in the mountains. Its wood is much prized by farmers for making hay ladders, bowls, and other implements and utensils where a hard, non-warping material is needed. Still another species is the umbrella tree. The tulip tree, also a member of the family, is of American origin.

The Chinese have a species of magnolia which gives them a medicine for healing and a flavor for improving the gustatory qualities of boiled rice. It is said that India has a species that surpasses all others in size, having a trunk which sometimes attains a girth of 12 feet and reaches a height of 150 feet. Western Europe has gathered species from China, Japan, India, and America, and although all of them are imported, they seldom reach the magnificence in their native habitat that they attain under the careful attentions of the landscape gardeners in the climes of their adoption.

The beetle is the special insect patron of the magnolia. Abundant pollen and nectar in profusion suit it so well that instead of making a fleeting visit to a flower it shelters itself in the soft petals and stays and stays until dispos-

sessed by the fading of the blossom. Then only does it go to another field to pasture; but as it goes it carries liberal quantities of pollen grains with which to reward its new host for the food and drink and shelter it seeks and secures.

THE PEACH BLOSSOM

(Amygdalus persica L.)

Who that has wandered through a full-blown peach orchard, inhaling the fragrance of a million buds and feasting the eye upon acres of heavenly pink, can fail to applaud Delaware's choice of the peach blossom as her State flower (see page 507).

A deep claim has the peach upon national admiration as well as upon local affection, for it ranks second among all the inhabitants of the American orchard in the money value of its annual crop of fruit. It yields about two bushels for every family in the land, and the product ranges from the delicious Elberta to the small, neglected cling-stone of the wayside volunteer tree.

Of ancient lineage is the peach. Indeed, so far back can it be traced that its origin is lost in the mazes of Chinese tradition. Travelers from Persia saw it in China, loved it, and carried it home with them. Here they gave it firm root and endowed it with the name it bears. Thence it traveled westward, a sort of pacemaker for the Star of Empire. The Romans in the days of Claudius brought it to Italy's shores and thence carried it to Britain. By the time of the discovery of America it had made all Europe its friend and was ready to join the pioneers in shipping for America.

Before the War of 1812 it had crossed the Mississippi and was found as far west as Arkansas. In those days there were many hardy varieties, and where they once gained a foothold they maintained it without human aid. To this day one may journey through the Blue Ridge and Allegheny Mountains and see gnarled and knotty old trees, which must have outlived several generations of men, still bearing their small but delicious cling-stone fruit.

THE CARNATION

(Dianthus caryophyllus L.)

This beautiful blossom belongs to the pink family. When man first looked upon it and conceived the intention of leading it captive to grace the flower garden and to add to the shekels in the florist's purse, it was the modest little clove pink, such as may still be seen on the slopes of turf that succeed the great chalk cliffs of the Cheddar Gorge, in Somerset County, England. The Briton considers it the rarest wild flower in Nature's garden (see pp. 507 and 510).

How long it is since the carnation joined the ranks of domesticated flowers no one can say with certainty, but that it was a favorite flower in Queen Elizabeth's day is certain. The "Winter's Tale" was published in 1623. In that play Shakespeare tells us that "the fairest flowers of the season are our carnations."

Many honors have been paid the carnation by man, and in its turn it has helped honor the memories of those who have counted for something in our lives. The scarlet carnation was William McKinley's flower, and to this day Americans who pause to honor his memory wear it on his birthday. When the movement for an annual "Mothers' Day" reached important proportions, it was a white carnation that was set aside as the badge of her purity, her goodness, and the nobility and self-sacrifice of her soul.

Horticulturists have vied with one another in producing carnations of rare beauty, some of which have won nation-wide reputations and names. Men have given many thousands of dollars for control of a new variety.

Two States have by legislative action adopted the carnation as their favorite flower—Ohio and Indiana. Ohio has taken the scarlet carnation (of a brighter color than that pictured on page 507) as emblematic of its spirit, and Indiana has chosen the carnation, without defining the color.

THE SUNFLOWER

(Helianthus annuus L.)

It is fitting that such a genuinely American Commonwealth as Kansas should choose a genuinely American flower to represent it at home and abroad. And the sunflower is such, for the Old World's eyes never fell upon it until the days when the exploration of the New World began. The Incas of Peru and the Hurons of our own country alike were enjoying it as a cultivated crop when the white man first visited them. They used it much as the bamboo growers use the bamboo—as a Jack of all Services. Its seeds they found useful alike as food and as the raw material of a home-made hair oil; its petals were utilized in the manufacture of a yellow dye; its leaves served them as fodder and from its stalk they secured their thread (see page 308).

The sunflower, along with the goldenrod, the black-eyed susan, the asters, and many others, is a member of the composite family, the Napoleons of finance and industry in the flower world. If there were politics and politicians among the flowers, there would be a lively campaign against the "trusts," for the composites seem bent upon a monopoly of the nectar business. They are efficiency experts, knowing how to crowd hundreds of blossoms into a single head, with brilliant ray flowers at the edge to attract their insect customers. It has been estimated that one-ninth of all the flowering plants of the earth have joined the composite group, and that it includes in the United States and Canada alone more than 1,600 species.

The wild sunflower is the one that gave Kansas the title of "The Sunflower State." Its range extends from the Atlantic seaboard, through Kansas, and from the Northwestern Territory to the Gulf of Mexico.

Like the potato, which is the world's most productive food crop, like maize, which has marched to the ends of the earth, and like the tomato, which has come to enjoy a place all its own in the culinary establishments of civili-

ration, the sunflower is a native American gone forth to render rich recompense to other nations and other continents for the plants they have given us. In China its fiber is used as an adulterant of silk; in southern Russia the seeds are widely employed both in making oil and as a substitute for our peanut. The pocketful of sunflower seed plays the same rôle in some parts of Russia as the bag of peanuts here. Much of the sunflower oil produced in Russia is used in making soaps and candles. Europe, Asia, and Africa all cultivate this plant.

When the Spaniards first visited Peru they found the sunflower as much the national flower of the Incas as it today is the State flower of Kansas. The Incas gave it a deeper reverence because of its resemblance to the radiant sun. In their temples the priestesses wore sunflowers on their bosoms, carried them in lieu of tapers, and otherwise used them in their services. The Spanish invaders found many images of sunflowers wrought with exquisite workmanship in pure virgin gold. These wonderful images, among many others, helped to excite the cupidity of the conquistadors and thus to bring about the downfall of the Incas.

In North America there are about 40 known species of sunflower. South America has about 20 species that do not exist on our own continent.

THE TRUMPET VINE

(Bignonia radicans L.)

Who that has studied the enthusiasm with which that frail and filmy creature, the ruby-throated humming-bird, flits from flower to flower of the trumpet vine, burying its head and shoulders deep in the enveloping petals as it strives to drain the last drop from the floral honey cup, or who that has observed closely the constant effort of the trumpet flower to captivate this capricious, swift-winged beauty can doubt the community of interest between them. When Audubon came to paint his plate showing the ruby-throats in life colors, he portrayed them hovering about a cluster of the trumpet vine's flowers (see page 509).

Kentucky has made the trumpet vine her State flower, and few States can boast of such a brilliant member of the sisterhood of emblematic blossoms. Growing on a vine that has as much vitality as a Lexington thoroughbred and as much resourcefulness in holding its own in the gruelling free-for-all race for existence as any star of the turf, the trumpet flower is well beloved by those who live within the Blue Grass State and by a host who enjoy no such fortune.

Except in the West, the vine is no blatant intruder in places where it is not wanted and never drives the careful farmer distracted by a disposition to preëmpt land which he dedicates to grass. Rather it seeks the moist rich wood and thicket, desiring only to have its chance to survive in this habitat without intruding upon every kind of landscape. Invited to do so by the lover of flowers, it willingly comes out of the woods and forms a delightful arbor for any porch. Sometimes, in parts of the country where it did not originally grow wild, it lives as an "escape" from the portico arbor of the well-kept home. It begins to flower in August and seeds in September. From Jersey's shores to the Mississippi's banks, from the Lakes to the Gulf, it finds hospitable soil and genial weather.

Were it human, the trumpet vine would perhaps not be loved so well. Its instincts of survival are so strong that it does not hesitate to trample upon the rights of weaker neighbors in its efforts to reach the top. Sometimes its aërial rootlets carry it upward or onward until it has stalks as much as 40 feet long. Ever reaching up and striving for a place with the elect of the plant world, it would be in danger of being called a "social climber"; but as a flower we can admire its determination to win its place in the unhampered room at the top.

THE PINE CONE AND TASSEL

(Pinus strobus L.)

When the school children of Maine elected the pine cone and tassel as the floral standard bearer for their State, they not only followed the precedent that made theirs the "Pine Tree State," but they honored the first-born of the flowering plants; for science tells us that in the long process of evolution, when some of the members of the fern family began to strive for higher things, their first success on the road to perfection was to become cone-bearers. And so today the cone-bearers remain the great middle class in the flower world between the plebeian fern on the one hand and the patrician rose and the noble lily on the other (see page 510).

How wonderful and how charming is the story of the pine's household economy! It is so equipped that it can make its home down in the lands of tropic warmth or up in the regions of polar snow. The last tree one meets, almost, on a climb to the high summits of snow-capped mountains is the pine. The gales may blow so hard and so persistently that not a limb is able to grow on the windward side; but, twisted and misshapen, the pine still lives on.

Though the winds seem harsh to the pine, they are none the less its good friends. It employs them as the messengers in the spreading of its pollen. The pistils and stamens grow in separate flowers, and the breezes transport the pollen from tassel to cone and from tree to tree. Each grain is provided with two tiny bladders which give it buoyancy and enable it to take a balloon ride. In the region where the winds blow the hardest they serve the conifers best, for there insects are scarce and the trees would be exterminated if they had to depend on such pollen-bearers. This is only another evidence of the natural ability of the pine to adjust itself to its surroundings. The tree that could go on and on through numberless generations evolving a conifer out of a fern naturally would have adaptability enough to meet the wind both as foe and friend.

As a messenger the wind is wasteful, and so the pines, to perpetuate their species on earth, must produce vast quantities of pollen.

In the flowering season of the pines the air is filled with tiny grains of yellow dust, the ponds are covered with a golden scum, and one sees evidences of pine pollen everywhere. This pollen is shed from small tassels which occur at the base of the green shoots that form the current year's growth. Upon the under side of each scale of every cone is a tiny bag of jelly. When a pollen grain flies that way and gets stuck in this little bed of jelly, the scale closes up so as to be water—and even air—tight. Some of the pine species even varnish the openings so as to make them safe. Within this cozy chamber the miracle of life is consummated, and ere long there is a small seed, with its wing attached, mature and awaiting the day when the friendly wind will carry it to where it can plant itself and grow up into a big tree.

When the cone dies, the seeds it harbors live on. During the winter months the squirrels improve every fair day to gather pine seeds for their present needs and their future wants. If you have ever watched a squirrel open up a pine cone, you have wondered how he learned so well the art of getting the seeds out easily. He handles the cone as adeptly as a trained athlete might handle a weight. He takes it in his fore feet, hurls it bottom upward, as if he were a professional juggler, and then begins to gnaw at the base of the lowest row of cells. Presently an opening reveals a seed or two. Thus he goes around and around the cone, taking each scale in its order, and before you could do it by hand he has unlocked every one of them.

The cones the squirrels do not get hang on as if they were the "pimmerly plums" of Uncle Remus' story. But when the first faint evidences appear that the balmy warmth of spring is to succeed the icy breath of winter, there comes a popping and a cracking in the pine forest, and the seasoned woodsman knows that it is the cones firing salutes of welcome to the approaching spring. As the months pass on, one by one the cones dry out, the bended bows of their many scales are released as the drying-out process pulls the hair-trigger that holds them, and ten thousand thousand winged seeds fly out into the world with the ambition to transform themselves into trees.

It is interesting to gather a number of different species of pine cones before they have begun to open and watch them do so. Some of them jump around like things possessed as the scales on which they rest open up; others roll this way and turn that. When the last scale is open and the last seed is out, the cone may be three times as large as it was formerly and a hundred or more seeds have been set free. Alas, how few of these ever become trees. We are told, for instance, that a big tree in California produces from 100 to 200 seeds to a cone and as many as 1,000,000 cones to the tree—that is, 100,000,000 seeds in a single season.

There are 42 native species of pines in the United States. They make the woods of Maine and other northern States largely evergreen. Countless generations of warring with the elements led them to adopt the needle instead of the leaf, for needles do not oppose the free passage of the wind or afford snow a platform which could crush them. Hence it is that the pines "bind the tottering edge of cleft and chasm and fringe with sudden tints of unhoped-for spring the Arctic edges of retreating desolation."

THE GOLDENROD

(Solidago nemoralis Ait.)

By legislative action the State flower of Nebraska, in high favor, though not yet adopted, in Missouri and Alabama, and considered with the violet for the honor in New Jersey, the goldenrod disputes with the violet first place in State preferences (see page 491).

Not only is the goldenrod a member of one of the most widely known and versatile flower families of the world, but its own household is made up of a large number of brothers and sisters. We are told that there are 85 species of goldenrod in the United States. A few of them have crossed the border into Mexico and some have even invaded South America, thus indicating that there is such a doctrine as "manifest destiny" in flower land as well as in international politics. Over in Europe there are people who like our goldenrod so well that they grow them in their gardens, as we ourselves would surely do were it not for their wonderful ability to shift for themselves.

All of these species are grouped as members of the genus *Solidago*, a name which comes to us from ancient Rome, where they thought the goldenrod a possessor of healing powers strong enough to entitle it to be called the "makes whole" plant. The species range from the stout goldenrod, otherwise *Solidago squarrosa*, which lives up to its name, and the showy goldenrod, which does likewise, to the sweet-scented goldenrod, from which a delightful drink may be brewed, and the slender goldenrod, otherwise *Solidago tenuifolia*. There is one species which an Irishman must have named, for it is called the white goldenrod. It is just about as logical to speak of a white blackbird, and the botanists get around the inconsistency of its color by calling it *Solidago bicolor*.

There is also a species for every locality—the "alpine" for the mountains, the "seaside" for the brackish beach, the "bog" for the deep, soft wood, the "swamp" for the waste places.

The goldenrod is one of the merchant princes of the plant world. "Quick sales and short profits" is its motto, and it has arranged its wares so that the insects may find whatever they want and in any quantity. The result is that the field covered with goldenrod is an American entomologist's paradise.

In the days of Queen Elizabeth the goldenrod had a great reputation for healing wounds and was imported in considerable quantities and sold in the London markets in powder form at half a crown a pound. In range the goldenrod covers the continent with its cloth of gold. North, south, east, west, on moun-

tain and by sea, in dry field and in wet swamp, it flourishes in its season and warms every landscape with its rich color.

THE TEXAS BLUEBONNET

(Lupinus texensis Hook)

When the legislature of Texas came to consider the issue raised by the flowers in their respective bids for Lone Star fame, it had a wide range of candidates, active and receptive, from which to choose. There were primroses and phloxes, euphorbiæ, salvias, Texas plumes, Texas fire-wheels, rain lilies, and Indian paintbrushes, but the Texas bluebonnet—a different flower, by the way, from the bluebonnets of Europe—won the day, and is crowned queen of Texas' floral empire. It blooms in the spring and has a range rather more limited than most of the State flowers. One authority tells us that it is a great home body and never crosses the Texas line or the Mexican border. But when it is recalled that Texas is approximately as large as all the Atlantic Seaboard States down to and including South Carolina, it will be seen that it has a rather extensive habitat at that.

To the botanist the Texas bluebonnet is known as *Lupinus* because of its reputedly insatiable appetite. For generations it was believed that flowers of this genus were wolfish in the amount of plant food consumed, and that they virtually exhaust the soil on which they grow. Hence their name of wolf flowers. Happily, this charge has been proved an unjust one. The lupines are, it is true, found in sterile, waste lands, gravelly banks, exposed hills, and like places; but they do not impoverish the land. Rather they choose poor soil for their home, adding to the landscape's beauty and fertility.

There are about seventy species of lupines in America, mostly in the West. They can justly lay claim to being among the most brilliant of all the denizens of Nature's garden. Many a sandy waste they transform into an oasis of color. The blossom has five petals, the upper one an advertising banner announcing to the passing bee that the table within is laden with choicest viands, and that no daintier food was ever served in flower land. There are two side petals which serve as landing stages for the aëronauts of insectdom and two others which touch at the bottom and resemble the keel of a boat. When the bee alights on the landing stage the keel opens up, and the table, all set and garnished, greets the hungry visitor's eye.

The lupines sleep at night. Some species transform their horizontal stars of day to vertical stars at night; others shut them down around the stem like an umbrella around the ferrule.

THE DAISY

(Chrysanthemum cucanthemum L.)

So popular is the white ox-eye daisy in North Carolina that neither a legislature nor the school children had to express formally the State's choice. The unanimous tribute of a "common consent" award was paid it by the people of the Tar Heel State; and if the whole catalogue of Nature's blossoming children had been ransacked there could not have been found a hardier flower, a more persistent warrior in behalf of its right to exist, or a better loved or worse hated plant, than the ox-eye daisy. Flowering from May to November, it has adjusted its economy to the necessities of its perpetuation in a way admirable to the student of flower resources and baffling to the good farmer who so heartily dislikes to have his field dressed in the full regalia of poor farming (see page 512).

To the daisy a home in the woods is like an East Side tenement to one who has lived on Fifth avenue. It can never content itself in the shade and the solitude of the forest. The meadow, the pasture, the hay field, the roadside—these are places where it likes to grow; and if it is to grow there it must be well prepared to fight a battle with the farmer. It must be able to set some seed before haying time, else how could it continue its hold in the hay field? Then, too, it must vary its period of blooming, for what farmer who prides himself on well-kept pastures would permit daisies to crowd out his clover if they could be overcome in a single mowing?

Prolific beyond words is this enterprising blossom. It multiplies by wholesale and covers the green turf of April with a flowery snow in June. Ten thousand thousand city folk go out and gather and admire, but ten thousand thousand farmer folk, knowing that it means poor quality and less quantity in hay and pasture, cannot understand the urban enthusiasm for a blossom that lowers production and increases the cost of living.

But with all its "weedy rôle" in the eyes of the farmer, there is beauty in the field daisy and as much sentiment. What maiden has not on its "petals" told her fortune with the formula, "He loves me, he loves me not," or has failed to find a blossom that would declare to her that her Prince Charming's heart was at her feet?

But whether it be with the eyes of the farmer that you see the daisy, beholding only its persistent invasion of his domains, or whether with the eye of the beauty lover who is called by admiration and not to battle, or whether with the eye of the sentimental who love it for the fortunes it has told, the daisy is by all awarded the honor of being an alien that has no hyphen in its disposition. It is an immigrant, unlike its closest relative, the black-eyed susan; but it has all the enterprise, all the spirit of winning its way in the world, all the Yankee resourcefulness of a flower to the manner born. It long ago found Europe too crowded for comfort and discovered that it could come to America as a stowaway. Over here it traveled on the wind, in wagons, by river steamboats, on railroad trains, any way that offered it the chance to find a new field in which to lay the foundations of a new colony.

The daisy's prosperity is due no less to the form of its bloom than to the tactics it employs in fighting for its position in the field. The

white "petals" are not petals at all; they are sterile florets, gaily bedecked in white, waving a welcome to the passing bees and butterflies, whom they invite to the feast which the yellow florets have prepared for them. Like all other progressive flowers, the daisy has designed ways to insure itself the boon of cross-fertilization. The two arms of the pistil are kept tightly closed until the pollen is gone; then they open up and become sticky, so that the bee which comes their way from another blossom must leave with them some of the grains of pollen it has gathered elsewhere.

THE SEGO LILY

(Calochortus nuttallii Torr. and Gr.)

Utah's floral queen belongs to the tulip branch of the lily family. It has a remarkable list of relatives, good, bad, and indifferent, close and distant. These kinsfolk range from the evil-smelling carrion flower to the delightfully fragrant lily-of-the-valley; from the gorgeous and assertive butterfly tulip to the timid, unassuming fairy bell; from the poisonous sego and the hog potato to the edible comass and the soap-like amole (see page 512).

The sego lily is a variety of the mariposa tulip. Its flower is about two inches across, and its white petals are tinged sometimes with yellowish green and sometimes with lilac. The flowers usually follow individual taste in colorings and wear a wide range of the prettiest gowns imaginable.

Mariposa in Spanish means butterfly, and the members of the mariposa group of flowers, to which the sego lily belongs, are marvelous in their hues and delightful in their imitation of the decorative patterns and color combinations of their insect friends.

A visitor to the big trees of the Mariposa Grove relates how she found a bed of sego lilies in which, upon close examination, she discovered fourteen distinct markings, the flowers resembling so many butterflies with wings outspread for flight, their rich color glistening in the sun.

The sego lily was even more to the early Mormon church in Utah than was the mayflower to the Pilgrims at Plymouth. The mayflower was the springtime's first harbinger and a blossom of hope; the sego lily was not only early on the scene to gladden a somewhat dreary landscape, but its roots proved edible. The followers of Brigham Young looked upon it in somewhat the same light as the Jews looked upon the manna that saved them during their wanderings in the wilderness. Therefore the sego lily has figured largely in the history of the Mormon Church in Utah and has been accorded the distinction of State flower as a proof of the early settlers' gratitude.

THE SAHUARO

(Carnegiea gigantea [formerly known as **Cereus giganteus**] (Engelm.) Britton and Rose)

When the legislature of Arizona selected the column cactus, known to laymen as the sahuaro, as the State flower, it chose a representative which for tenacity and ability to live under stressful conditions is unsurpassed. The sahuaro grows so as sometimes to resemble an upstanding Brobdingnagian cucumber and at others to look like a huge green candelabra. It thrives on the mountain slopes where other plants cannot survive the shortage of moisture, rearing its thick, cylindrical branches straight up into the air as high as 40 feet. These are armed with rows of spines arranged in star shapes, and in May and June bear exquisite whitish, waxlike flowers, perfect in form and opening in the daytime (see page 513).

We always think it wise to save for a "rainy" day; but paradoxical as it may sound, the "rainy" day of the cactus is the day when it fails to rain for a long time. So it has arranged its household economy for "making hay" while the rain falls. In wet weather it converts itself into a sort of green-hued sponge, drinking up great stores of water. It long ago suppressed the last vestige of a leaf, and in lieu thereof has covered itself with a thick, hard, impervious coating which sometimes has a grayish bloom on the surface. In other species the coating is covered by a mass of thick hairs. In this way it is able to prevent evaporation of its moisture under the fiercest sun and calmly to await new supplies. It is indeed the vegetable counterpart of the camel.

We think of the cacti as unfriendly, yet the birds often find them a refuge. Woodpeckers make holes in the sahuaro for their nesting places. Other small birds of the arid regions move in when the woodpeckers move out. One of these is a small owl, said to be the tiniest of all members of the owl tribe. Another feathered friend of the cacti is the cactus wren, a little songster with a grayish brown back, a darker head, a spotted breast, and a white line over the eye. It builds a large, flask-shaped nest of grasses and twigs which it lines with feathers. The nest is entered by a covered way or neck several inches long.

The column cactus, like most of its relatives, is a prolific producer of seeds. Millions reach the ground, thousands may germinate, but only now and then does one escape the perils of childhood and become a full-grown cactus. In their youthful days the sahuaros are odd, round plants only a few inches high and with the spines, which protect them from animal depredations, undeveloped. The fruits of this species have a crimson flesh and black seeds, reminding one in those respects of the Georgia watermelon. The Papago Indians eat both the meat and the seeds.

THE CACTUS

(Echinocereus fendleri (Engelm.) Ruempl.)

In choosing the cactus as New Mexico's flower favorite the school children of that State honored a family of plants which are almost exclusively Americans. If a few species that originated in Africa be excepted, the cacti are limited to America.

The *Echinocereus fendleri* is but one of many of the types of cacti to be found on New Mexico's broad mesas and desert valleys. Looking like a cross between a pineapple, a cucumber, and a green pepper, and crowned with a brilliant flower whose red petals, yellowish stamens, and green pistil make a color symphony, this species is always a favorite. It is a sort of vegetable porcupine, ready to give every comer a reception that will not soon be forgotten. Many an admirer, seeing it for the first time, has plucked a blossom to his sorrow, for the tiny hairy thorns stick to the fingers in a most irritating fashion.

The cacti are one of the most interesting family of plants, containing many remarkable species. There is the barrel cactus, or visnaga, which often comes to the traveler's rescue in the desert. The barrel cactus acts as a cistern, collecting within itself reservoirs of water, which the traveler in the desert may tap. Then there is the coccus cacti, which is cultivated in Mexico and Central America as food for the cochineal insect, from which dyes for making carmine and scarlet are derived. The spines of another cactus are used as tooth-picks by the American Indians. Then there are the opuntias, which include the prickly pear or Indian fig cactus. Several species are cultivated in southern Europe and northern Africa for their sweet, juicy fruit.

THE MISTLETOE

(Phoradendron flavescens, Pursh, Nutt)

The mistletoe is the only one of the State flowers so far adopted that is parasitic in its habits. And yet, parasite or no parasite, there is no blossom in the catalogue that has more of romance clinging to it than this, Oklahoma's representative in the galaxy of emblematic flowers (see page 514).

Mistletoe figured in the superstitious rites of the British Druids and in the Nature myths of the Scandinavians. Balder, son of Odin, husband of Nanna, and the darling of all the gods, was so fair that light streamed from him and the whitest flower that blew was likened to him. Once he had a dream of an impending disaster, which caused his mother to put all things, animate and inanimate, under a vow not to harm him. But she omitted one object—the mistletoe. Loki, his enemy, discovers this omission and induces Balder's brother to shoot at him in play with an arrow of mistletoe. It hits the mark and Balder, god of light, dies, becoming thereafter the emblem of purity and innocence.

The mistletoe was then presented to the goddess of love, and it was ordained that whoever passed beneath it should receive a kiss as a token that it was an emblem of love and not of vengeance. The modern Yuletide custom—perhaps more talked about than observed—of kissing the pretty girl under the mistletoe is a survival of those days.

There are more than 400 species of mistletoe, most of them tropical and most of them parasitic. In the United States there are many varieties and they range far and wide, from the New Jersey coast west and south.

If you ask the Oklahoman about the mistletoe as a parasite, he is likely to answer that if man, tapping the maple for sugar, extracting the sap of the rubber tree for automobile tires, and taking the pine tree's turpentine, is a parasite, then the mistletoe may be called one, too; but that otherwise it deserves to be absolved. It has as much right to get its food from trees, he maintains, as we have to eat beef and mutton or wear woolen clothes or silks and satins.

Of all plants the mistletoe has fewest breathing pores in its leaves—only 200 to the square inch, while the lilac has 200,000. The leaves are almost nerveless, thick, and fleshy. When the seeds put out roots, they always turn toward the branch, no matter whether on the upper or the lower side of it.

Traveling through the South, one may see thousands of trees literally festooned with mistletoe, now growing like witches' brooms, now in graceful array, but always calmly appropriating for its own development the life blood of the tree upon which it feeds.

THE PASQUE FLOWER

(Pulsatilla patens, L., Mill)

Inhabiting dry soil and prairie lands, blossoming through March and April, ranging from Illinois to the Rocky Mountains and from Canada to Texas, the pasque flower, elected queen of flowerland by the legislature of South Dakota, need never fear to stand in any flower company, however distinguished, however beautiful, however charming (see page 514).

As a member of the crowfoot family, the pasque flower has some lovely cousins. For instance, there is the Virgin's bower or clematis, the wood anemone, the buttercup, the larkspur, the monkshood, the columbine, the goldthread, and the baneberries. Its immediate relatives are the anemones, among which it is one of the prettiest.

With the first warm sunshine of spring the pasque flower begins to lend its soft purplish hues to the landscape. Its leaves are so furry, the result of its unconscious efforts to protect itself from pilfering ants and other creeping insects, that the children of South Dakota have come to call it the "gosling plant." If its lovely flowers gladden the hills while ungenial winter wanes, its fruiting period also has beauty to offer. A head of silky seedlets with their dainty plumes leads many people to call it the ground clematis.

The stalk of the anemone lengthens considerably after the plant flowers. Those familiar with the garden varieties have noticed how it grows longer even after it has been cut. If the stems be put in water, they readily double their length. This power of cell-making, with only air, light, and water out of which to manufacture tissue, seems a wonderful gift. Devoid of roots and possessed only of local energy, it is hard to understand how the stalk continues to grow. It has been suggested that the duty of raising the seed capsule to the required height may be one that the roots have delegated to another part, just as the brain of man has delegated to the nerve ganglions the duty of shutting the eyes when they are threat-

ened, or of causing the body to jump at a sudden noise.

The pasque flower of South Dakota is a speaking likeness of an English variety, if indeed it is not the direct descendant of that flower. There is a tradition that the plant first arose out of the blood of the Danes who were killed on the field of battle in the stormy days of Britain's early history, and many people call it the "Danesblood." Opinions differ as to how it came by its name of pasque flower. Some say that before the Gregorian revision of the calendar it was the most abundant flower at Eastertide; hence its name. Others declare that a dye for coloring Easter eggs was obtained from it. Be that as it may, the pasque flower itself brings delight to the prairies even before the last winter winds have roared their farewell.

THE OREGON GRAPE

(Berberis aquifolium Pursh)

The Oregon grape is one of the State flowers which has the prestige of legal status behind its queenship. It belongs to the barberry family, other members of which are the twin-leaf, the blue cohosh, and the May apple. Between its dainty blossoms of early summer and its bright purple berries of late fall, it wins admiration wherever it grows. It lives close to the ground and is not a climber like the ordinary American wild grape. But no fruit of field or forest ever made a more delicious jelly than that of this handsome shrub of the West. Though the berries resemble the huckleberry, the foliage looks like that of the holly, and the wood inclines to a yellow-cast red. Its range is wide, extending as far east as Nebraska, as far south as Arizona, and as far north as British Columbia (see page 515).

It is one of the strange things about nature that so many of its creatures are unable to perpetuate their species without a periodic change of environment. For instance, the germ of yellow fever dies and disappears where it cannot spend part of its time in the human body and part in the stomach of a stegomyia mosquito. Likewise, cedar rust becomes extinct if it cannot live one year on an apple tree and the next on a cedar tree. In the case of one species of wheat rust the barberry is necessary to its continued hold on life. This rust cannot live without changing hosts periodically.

But the Oregon grape is wiser than some of its immediate kinsfolk. It has a preference for situations where the communication of rust spores to it from wheat and from it to wheat is not quite so readily accomplished. It is found most abundant and beautiful on the foothills and mountain slopes deep in Oregon's lumber lands.

THE INDIAN PAINTBRUSH

(Castilleja linariaefolia Benth.)

Some years ago the school children of Wyoming, feeling that their State ought to have a duly chosen queen of the flowers, undertook to elect one. They chose the dainty and universally admired fringed gentian. But while no flower is more beautiful, many people in Wyoming thought there were others more representative and typical of their State. This feeling culminated in legislative action in 1917, with the result that beautiful Queen Gentian had to abandon her throne to the narrow-leaved Indian paintbrush (see page 515).

The paintbrush belongs to the figwort family, which includes a great host of beauties. Some of its cousins are the mullens, the toadflaxes, the snap-dragons, the turtle-heads, the beard-tongues, the monkey flowers, the speedwells, the foxgloves, and the eye-brights. Closest of kin are the painted cups, an attractive group of posies.

Most of the Castilleja tribe are inclined to be parasitic in their habits. Instead of sending out rootlets themselves in order to absorb the plant food and moisture that Nature provides, some of them send their roots down into those of other plants and feast all summer long. Like the lily, they toil not, neither do they spin; but if Solomon was ever in all his glory arrayed as they are, that fact was overlooked by the historians of his day.

Wyoming's flower, while not possessed of the deep hue characteristic of the Castilleja tribe—declared by one of our leading botanists to be "the brightest spot of red the wild palette can show"—makes up in delicacy what it lacks in intensity. The blossom is light red, with touches of soft yellow and hints of salmon pink.

No traveler in the Rocky Mountains, the High Sierras, or the sagebrush regions of the Great Basin can forget the paintbrushes. Where they dwell among the blue lupines, the yellow mimulus, and other bright blossoms, they perfect a combination of hues that transforms the veriest riot of color into an orderly aggregation of polychromatic beauty.

RHODODENDRON

(Rhododendron maximum Michx.)

The superb beauty of the rhododendron has won for it universal admiration and the distinction of being the flower of two States. The legislature of West Virginia and the State organization of women's clubs in Washington have elevated it above all other floral rivals in their communities. The chosen variety of West Virginia is *Rhododendron maximum*, while that of Washington is *Rhododendron californicum*, also called the California rose bay. The latter is the most splendid of western shrubs. Both kinds are of the heath family, cousins of the mountain laurel, and have delicate, waxen blossoms tinted like the "rosy-fingered dawn," with upper petals flecked with golden and greenish spots (see page 516).

A true artist in selecting its background, the rhododendron not only surrounds its exquisite blossoms with smooth, rich green leaves which set them off effectively, but also makes its home commonly on moist, forested mountainsides, where the gloomy greens and browns of dark rocks and lofty trees contrast with its dainty pink and white ruffles.

ARKANSAS AND MICHIGAN

APPLE and BLOSSOM
Malus sylvestris Mill.

MINNESOTA

PINK MOCCASIN FLOWER
Cypripedium acaule Ait.

CALIFORNIA

GOLDEN POPPY
Eschscholtzia californica Cham.

COLORADO

BLUE COLUMBINE
Aquilegia caerulea James

CONNECTICUT

MOUNTAIN LAUREL
Kalmia latifolia L.

NEVADA

SAGEBRUSH
Artemisia tridentata Nutt.

FLORIDA

ORANGE BLOSSOM
Citrus sinensis Osbeck

MONTANA

BITTER-ROOT
Lewisia rediviva Pursh

ILLINOIS, RHODE ISLAND AND WISCONSIN

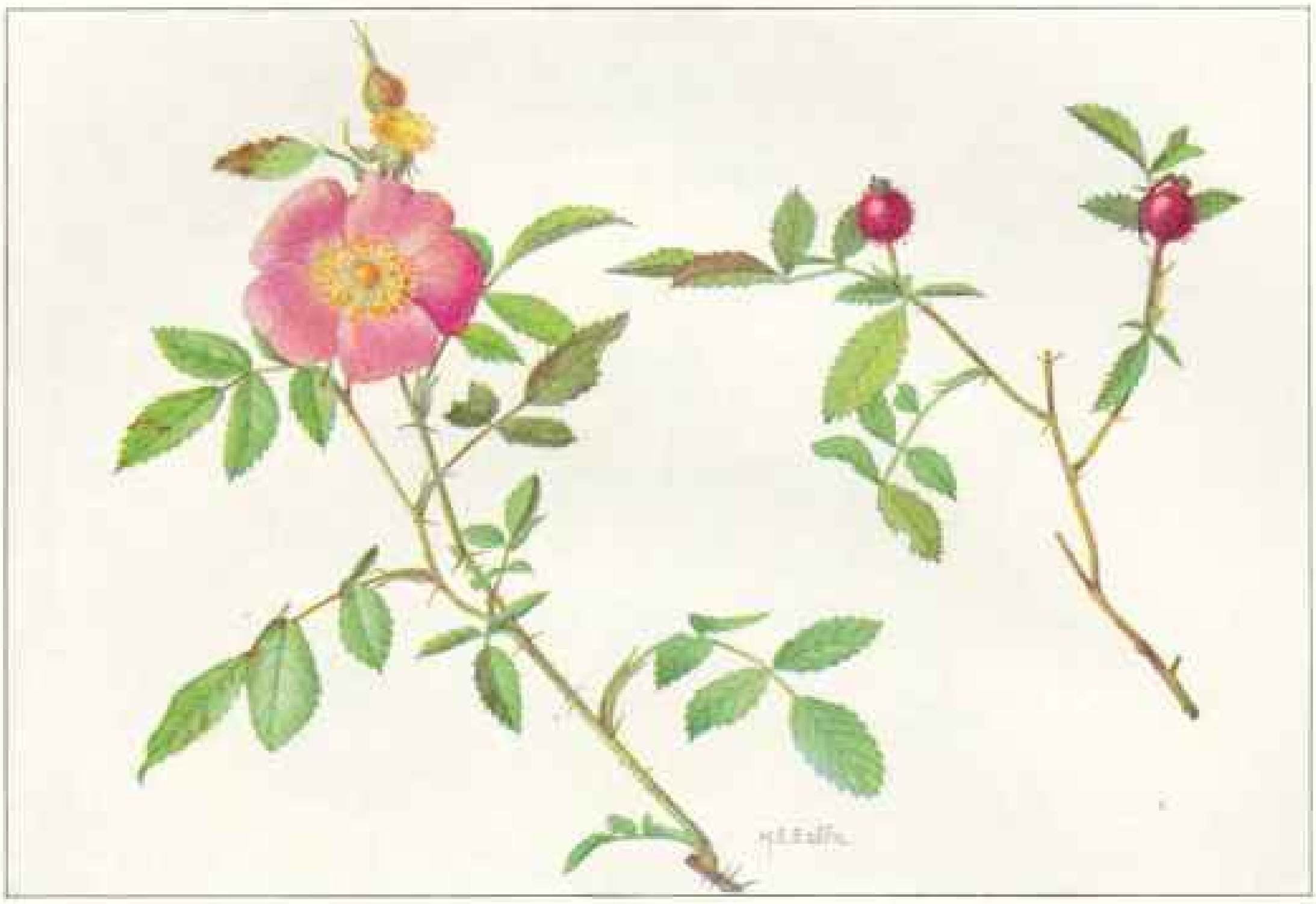
THE VIOLET

Viola

IDAHO

LEWIS' SYRINGA

Philadelphus lewisii Pursh



Iowa.

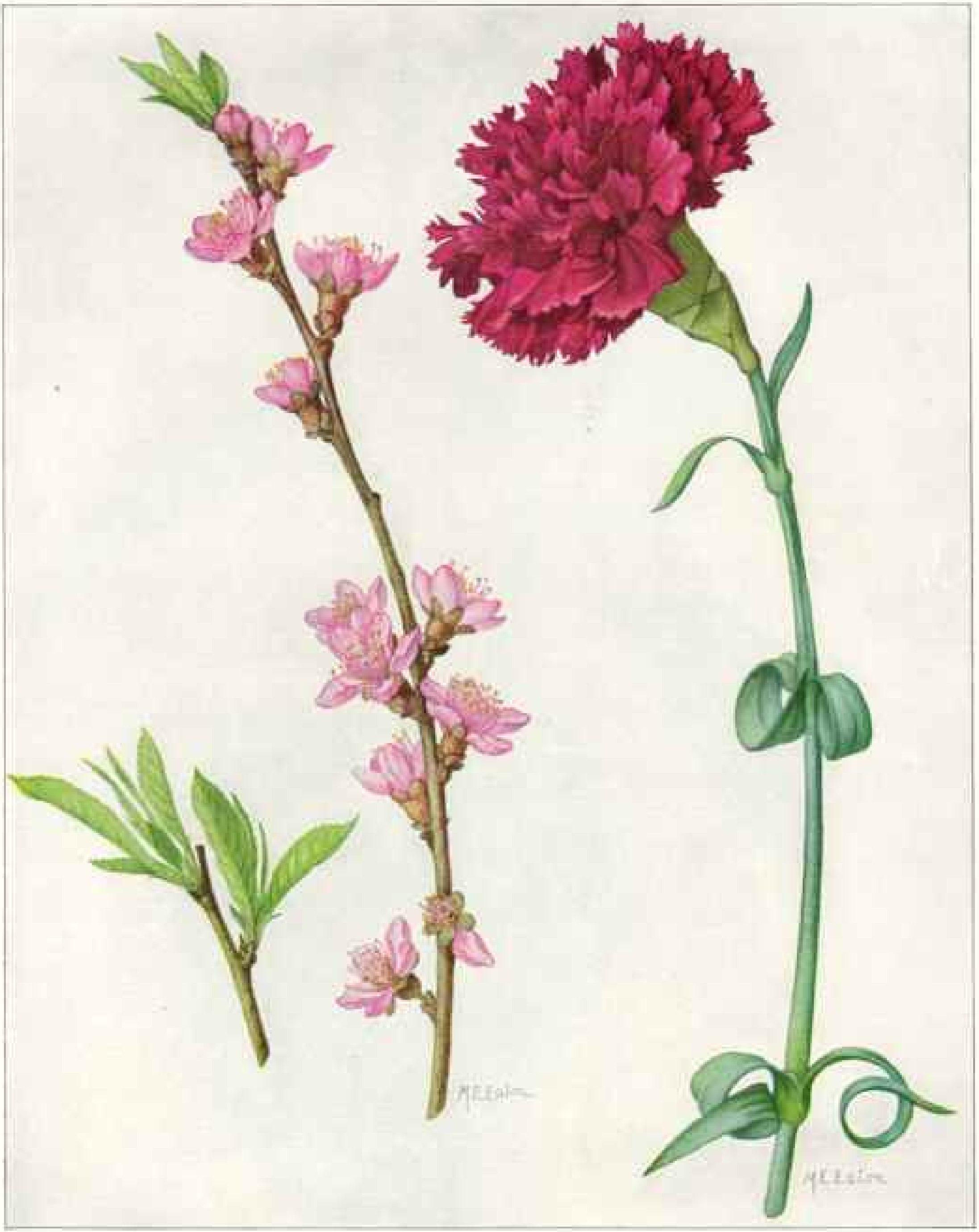
LOW or PASTURE ROSE

Rosa carolina L. (*Rosa humilis* Marsh.)

Louisiana and Mississippi

MAGNOLIA

Magnolia grandiflora L.



DELAWARE

PEACH BLOSSOM
Amygdalus persica L.

OHIO

RED CARNATION
Dianthus caryophyllus L.

KANSAS

COMMON SUNFLOWER
Helianthus annuus L.

KENTUCKY

TRUMPET VINE
Bignonia radicans L.

INDIANA

PINK CARNATION
Dianthus caryophyllus L.

MAINE

WHITE PINE
Pinus strobus L.

NEBRASKA

FIELD GOLDENROD
Solidago nemoralis Ait.

UTAH

SEGO or MARIPOSA LILY
Calochortus nuttallii TORR. & GR.

NORTH CAROLINA

COMMON OR OX-EYE DAISY
Chrysanthemum leucanthemum L.

TEXAS

BLUEBONNET
Lupinus texensis HOOK.

ARIZONA

SAHUARO or GIANT CACTUS
Carnegiea gigantea (Engelm.) Britton & Rose

NEW MEXICO

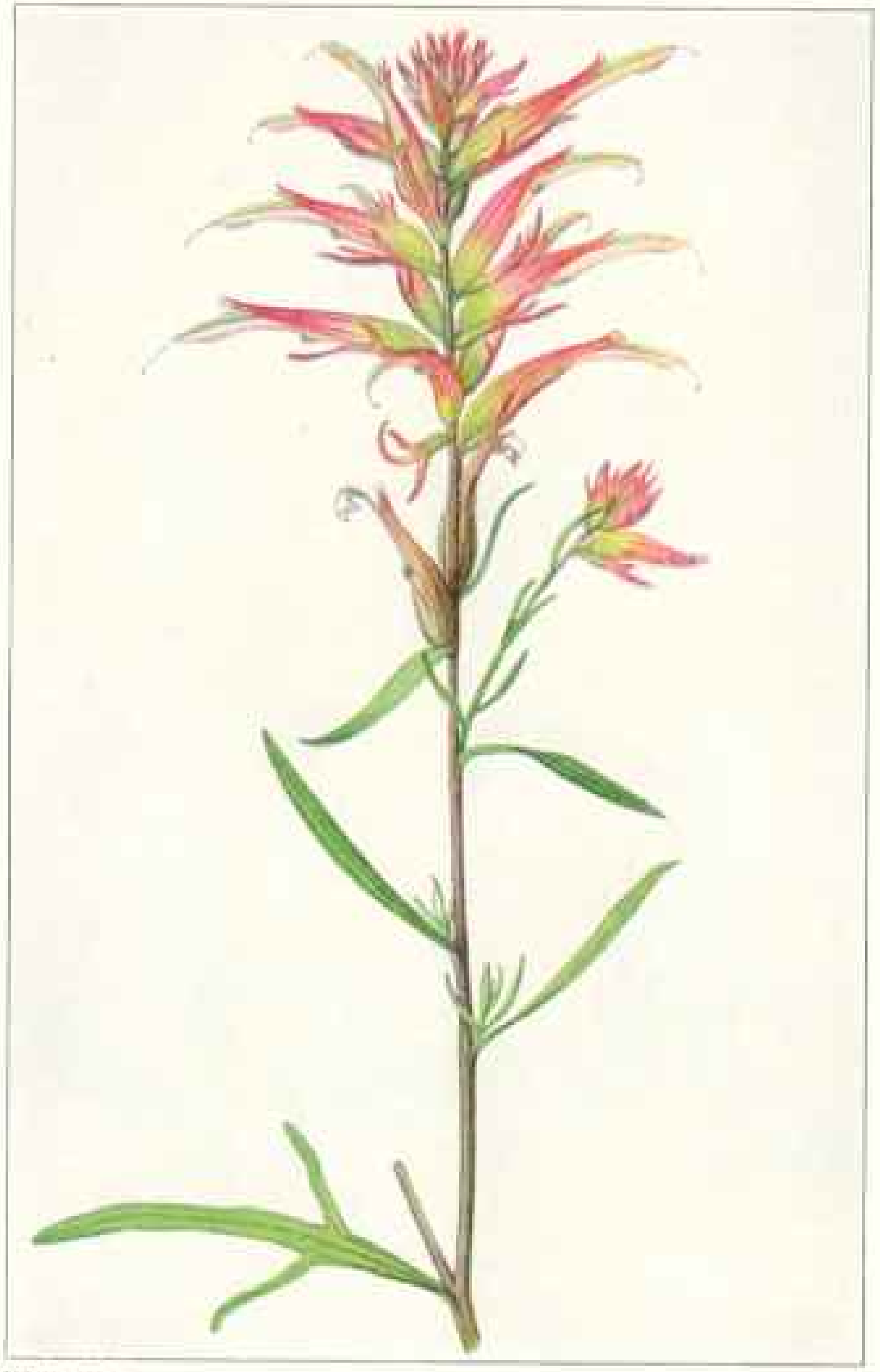
CACTUS
Echinocereus fendleri (Engelm.) Ruempl.

SOUTH DAKOTA

PASQUE FLOWER
Pulsatilla patens (L.) Mill.

OKLAHOMA

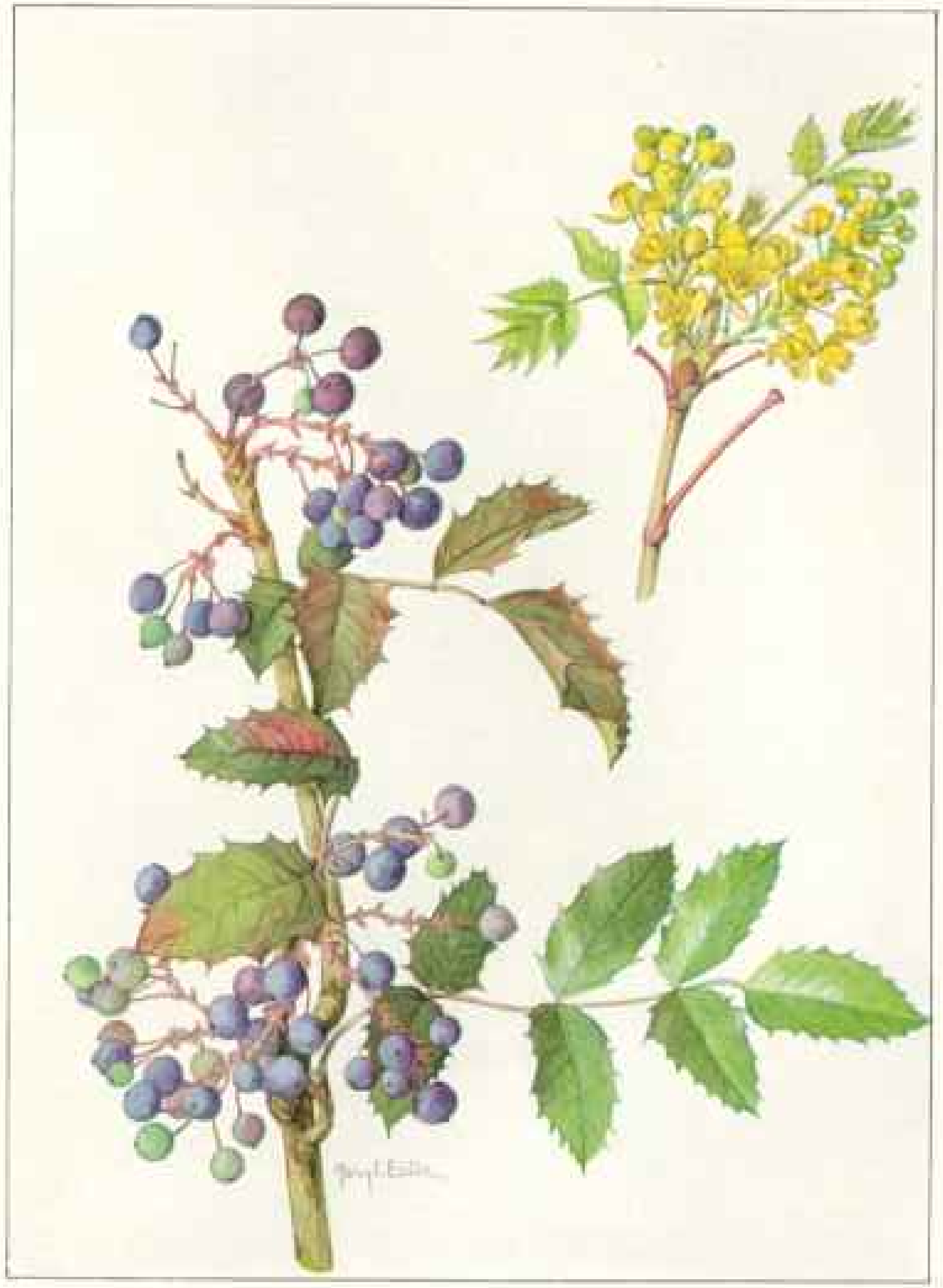
AMERICAN MISTLETOE
Phoradendron flavescens (Pursh) Nutt.



WYOMING

NARROW-LEAVED INDIAN PAINTBRUSH

Castilleja linariaefolia Benth.



OREGON

OREGON GRAPE

Berberis aquifolium Pursh

VERMONT

RED CLOVER
Trifolium pratense L.

WEST VIRGINIA

MOUNTAIN AMERICAN RHODODENDRON
Rhododendron maximum Michx.

The rhododendrons growing in Washington, or among the redwoods of California, or clothing the slopes of the Alleghenies with impenetrable thickets and in early summer glorifying them with bloom, are worth going far to see.

At its best, and rarely, the shrub attains a height of 35 feet. Its form, with spreading branches, twisting and interlocking, calls to mind the Greek meaning of its name, "rose tree." In less favorable locations the plant is sometimes less than five feet high. The wood is one of the strongest and hardest that grows and weighs 39 pounds to the cubic foot.

The rhododendron has no such clever trick of showering its pollen upon insect visitors as the mountain laurel, but, like the laurel, it protects itself by a sticky substance below the flower from ants and crawling insects which do not transfer pollen. The bee and other insect friends of the rhododendron find its nectar very gratifying, but the honey they make from it is said to be poisonous.

To the deeper pink, rather purplish rhododendron of the Carolinas, European gardeners pay the homage of careful cultivation, as they do also to some varieties native to Asia.

Americans might fittingly revive England's "Maying" custom and set aside an early summer day for pilgrimages to our mountains where the laurel and rhododendron bloom, in order properly to appreciate these perfect gifts of Nature.

RED CLOVER

(Trifolium pratense L.)

Member of the Pulse family, with the wild sensitive plant, the partridge pea, the wild peanut, the vetches, the tick trefoil, and the blue lupine as its cousins, the red clover, which the legislature of the Green Mountain State has decreed shall be accorded the honor of standing at the head of the Vermont floral procession, finds itself at home in all temperate America (see page 516).

The clover is an extraordinary seed-bearer. Darwin counted those of a large number of heads and found an average of 27 seeds per blossom. But when he kept the insects away not a single seed was set.

The clover blossom is preëminently the bumblebee's flower. When Australia first undertook to add this legume to her list of forage crops, as fine-looking fields of clover as one could imagine appeared in due time. But somehow the heads did not set seed and it seemed that failure was to follow the experiment. On looking around for a possible cause of this failure, it was found that the clover's best friend, the bumblebee, had not been imported along with the seed. As soon as this faithful servant was brought in and given time to establish itself, there were lively, hopeful days in the antipodean clover fields and no more failures of the crop to provide for future sowings.

The butterfly, too, long of tongue, can sip the nectar of these blossoms; but the lightweight insects with short tongues need not apply. The clover hides its sweets beneath a reddish lock that can be opened only by long tongues or heavy weights.

The child who has not plucked the tiny florets of the clover blossom and tasted their nectar is to be placed in the same category as the girl who has not taken a daisy and plucked the petals to the tune of "He loves me, he loves me not," for neither has known the simple joys of the field.

When James Whitcomb Riley asked what the lily and all the rest of the flowers were to a man who in babyhood knew the sweet clover blossom, it was not that he loved the lily less, but that he loved the clover more.

Who that has seen a herd of fine cows, sleek and fat and trim, in a field of red clover fails to understand the force of the phrase "Living in clover" as a description of worldly affluence? But even the cows have no advantage of the bumblebee and the butterfly when it comes to the joy the clover field gives, for neither ox-eye daisies, black-eyed susans, goldenrods, nor iron-weeds can afford such rich pastures for these insects as the well-cultivated meadows of clover offer them.

For ages the clover has figured in the mysticism of the Caucasian races. The four-leaved clover is regarded as a harbinger of good luck when one finds it growing, although it is probably more an evidence of the finder's powers of observation and, therefore, of ability to get on in the world. In Europe the peasants declare that a dream about clover foretells a happy marriage, long life, and prosperity. There is another superstition to the effect that if one carries a four-leaved clover at Christmas time it will bring the ability to see witches and sprites. Still another fancy is expressed in the old couplet to the effect that finding an even ash leaf or a four-leaved clover is sure to bring a sight of the finder's sweetheart before the day is over.

Clover is thought by the herb doctor to have some medicinal properties. For instance, it is claimed that a syrup made from its blossoms is a cure for whooping-cough; and many a country child knows the joy of red clover tea at impromptu parties.

The clover is not a native American plant. It was brought here from Europe, where it is widely cultivated; and, again, it is only a settler in Europe, for it originally migrated there, like so many other plants of economic value, from Asia. However, it has a right to be called a blue-stocking among our flowers, for it is one of those favored individuals of the plant world that enrich the soil as they grow. Man has been long ages learning how to extract nitrogen, the most expensive of all fertilizing elements, from the air; but the clover learned that secret untold centuries ago, and instead of levying heavy tribute on the nitrogen supply of the ground, it draws its supplies from the air, uses what it can, and presents the remainder to the land with its compliments.

It joins the cow-pea, the soy-bean, the locust tree, and other legumes in being a great supporter of soil fertility. Compare the sod under the next locust tree you see with that under an oak, and you will realize why the clover and its cousins are allies of the progressive farmer.

OUR FIRST ALLIANCE

By J. J. Jusserand
Ambassador of France to the United States

At this time, when we are all reading the story of our expeditionary army to France, it is profitable to review the voyage of the French expedition of 137 years ago to America—an expedition undertaken with the same unselfish object as ours of today, but under conditions of travel and life so different. The following contribution by Ambassador Jusserand is abridged from his notable volume, entitled "With Americans of Past and Present Days," by courtesy of the publishers, Messrs. Charles Scribner's Sons.—Editor.

THE American war had been for five years in progress; for two years a treaty of alliance, having as sole object "to maintain effectually the liberty, sovereignty, and independence, absolute and unlimited, of the United States," bound us French to the "insurgents"; successes and reverses followed each other in turn: Brooklyn, Trenton, Brandywine, Saratoga.

Quite recently the news had come of the double victory at sea and on land of d'Estaing at Grenada, and Paris had been illuminated. The lights were scarcely out when news arrived of the disaster of the same d'Estaing at Savannah. All France felt anxious concerning the issue of a war which had lasted so long and whose end continued to be doubtful.

When, in the first months of 1780, the report went about that a great definitive effort was to be attempted; that it was not this time a question of sending ships to the Americans, but of sending an army, and that the termination of the great drama was near; the enthusiasm was unbounded. All wanted to take part. There was a prospect of crossing the seas, of succoring a people fighting for a sacred cause—a people of whom all our volunteers praised the virtues; the people led by Washington, and represented in Paris by Franklin.

An ardor as of Crusaders inflamed the hearts of French youths, and the intended expedition was, in fact, the most important that France had launched beyond the seas since the distant time of the Crusades. The cause was a truly sacred one — the cause of liberty — a magical word which then stirred the hearts of the many. "Why is liberty so rare?" Voltaire had said, "Because the most valuable of possessions."

All those who were so lucky as to be allowed to take part in the expedition were convinced that they would witness memorable, perhaps unique, events, and it turned out, indeed, that they were to witness a campaign which, with the battle of Hastings, where the fate of England was decided in 1066, and that of Bouvines, which made of France in 1214 a great nation, was to be one of the three military actions with greatest consequences in which for the last thousand years the French had participated.

French Faith in America

A striking result of this state of mind is that an extraordinary number of those who went noted down their impressions, kept journals, drew sketches. Never perhaps during a military campaign was so much writing done, nor were so many albums filled with drawings.

Notes, letters, journals, sketches have come down to us in large quantities, and from all manner of men, for the passion of observing and narrating was common to all kinds of people: journals and memoirs of army chiefs like Rochambeau, or chiefs of staff like Chastellux, a member of the French Academy, adapter of Shakespeare, and author of a *Félicité Publique*, which, Franklin said,

showed him to be "a real friend of humanity"; narratives of a regimental chaplain, like Abbé Robin, of a skeptical rake like the Duke de Lauzun; journals of officers of various ranks, like Count de Deux-Ponts, Prince de Broglie, Count de Ségur, son of the marshal, himself afterward an Academician and an ambassador; Mathieu-Dumas, future minister of war of a future king of Naples, who bore the then unknown name of Joseph Bonaparte; the Swedish Count Axel de Fersen, one of Rochambeau's aides, who was to organize the French royal family's flight to Varennes and to die massacred by the mob in his own country; journal, too, among many others, of a modest quartermaster like Blanchard, who gives a note quite apart, observes what others do not, and whose tone, as that of a subordinate, is in contrast with the superb ways of the "seigneurs," his companions.

From page to page, turning the leaves, one sees appear, without speaking of Lafayette, Kosciusko, and the first enthusiasts, many names just emerging from obscurity, never to sink into it again: Berthier, La Pérouse, La Touche-Tréville, the Lameth brothers, Bougainville, Custine, the Bouillé of the flight to Varennes, the La Clocheterie of the fight of *La Belle Poule*, the Duportail who was to be minister of war under the Constituent Assembly; young Talleyrand, brother of the future statesman; young Mirabeau, brother of the orator, himself usually known for his portly dimensions as *Mirabeau-tonneau*, ever ready with the cup or the sword; young Saint-Simon, not yet a pacifist and not yet a Saint-Simonian; Suffren, in whose squadron had embarked the future Director Barras, an officer then in the regiment of Pondichéry.

ALL FRANCE BEHIND AMERICA THEN

All France was really represented—to some extent that of the past, to a larger one that of the future.

A juvenile note, in contrast with the quiet dignity of the official reports by the heads of the army, is given by the unprinted journal, a copy of which is preserved in the Library of Congress, kept by one more of Rochambeau's aides, Louis Baron de Closen, an excellent observer, gay, warm-hearted, who took seriously all that pertained to duty, and merrily all the rest, especially mishaps.

Useful information is also given by some unprinted letters of George Washington, some with the superscription still preserved: "On public service—to his Excellency Count de Rochambeau, Williamsburg, Virginia," the whole text often in the great chief's characteristic handwriting, clear and steady, neither slow nor hasty, with nothing blurred and nothing omitted, with no trepidation, no abbreviation, the writing of a man with a clear conscience and clear views, superior to fortune, and the convinced partisan, in every circumstance throughout life, of the straight line.

The British Government has, moreover, most liberally opened its archives, so that, both through the recriminatory pamphlets printed in London after the disaster and the dispatches now accessible, one can know what was said day by day in New York and out of New York, in the redoubts at Yorktown, and in the French and American trenches around the place.

AN EXTRAORDINARY TASK

Lieut. Gen. Jean-Baptiste Donatien de Vimeur, Comte de Rochambeau, aged then fifty-five, and Washington's senior by seven years, was in his house, still in existence, Rue du Cherche-Midi, Paris, at the beginning of March, 1780; he was ill and about to leave for his castle of Rochambeau in Vendomois; post-horses were in readiness when, in the middle of the night, he received, he says in his memoirs, a "courier bringing him the order to go to Versailles and receive the instructions of his Majesty."

For some time rumors had been afloat that the great attempt would soon be made. He was informed that the news was true, and that he would be placed at the head of the army sent to the assistance of the Americans.

The task was an extraordinary one. He would have to reach the New World with a body of troops packed on slow transports, to avoid the English fleets, to

GENERAL ROCHAMBEAU

A distinguished veteran of three wars in Europe, Rochambeau came to America at the head of 5,000 French regulars to succor the Thirteen Colonies in their struggle for liberty. A more experienced soldier and an older man than Washington, the French general, with admirable spirit and magnanimity, placed himself and his troops unreservedly under the American commander-in-chief, serving as an integral part of the colonial forces.

fight in a country practically unknown, by the side of men not less so, and whom we had been accustomed to fight rather than befriend, and for a cause which had never before elicited enthusiasm at Versailles—the cause of republican liberty.

This last point was the strangest of all, so strange that even Indians, friends of the French in former days, asked Rochambeau, when they saw him in America, how it was that his king could think fit to help other people against "their own father," their king.

Rochambeau replied that the latter had been too hard on his subjects; that they were right, therefore, in shaking off the yoke, and we in helping them to secure "that natural liberty which God has conferred on man."

AN ALLIANCE WHICH FORBADE CONQUEST

This answer to "Messieurs les Sauvages" is an enlightening one; it shows what was the latent force that surmounted all obstacles and caused the French nation to stand as a whole, from beginning to end, in favor of the Americans, to applaud a treaty of alliance which, while entailing the gravest risks, forbade us all conquest, and to rejoice enthusiastically at a peace which after a victorious war added nothing to our possessions. This force was the increasing passion among the French for precisely "that natural liberty which God has conferred on man."

Hatred of England, quickened though it had been by the harsh conditions of the Treaty of Paris bereaving us of Canada, in 1763, had much less to do with it than is sometimes alleged. Such a feeling existed, it is true, in the hearts of some of the leaders, but not of all; it did in the minds also of some of the officers, but again not of all.

What predominated in the mass of the nation, irrespective of any other consideration, was sympathy for men who wanted to fight injustice and to be free. The cause of the insurgents was popular because it was associated with the notion of liberty; people did not look beyond.

It is often forgotten that this time was not in France a period of Anglophobia, but of Anglomania. Necker, so influential, and who then held the purse-strings, was an Anglophile; so was Prince de Montbarey, minister of war; so was that Duke de Lauzun who put an end for a time to his love affairs and came to America at the head of his famous legion.

All that was English was admired and, when possible, imitated: manners, philosophy, sports, clothes, parliamentary institutions. Shakespeare, just translated by Le Tourneur, with the King and Queen as patrons of the undertaking; but, above all, wrote Count de Ségur, "we were all dreaming of the liberty, at once calm and lofty, enjoyed by the entire body of citizens of Great Britain."

THE MAGIC WORDS TO CONJURE WITH

Such is the ever-recurring word. Liberty, philanthropy, natural rights—these were the magic syllables to conjure with. "All France," we read in Grimm and Diderot's correspondence, "was filled with an unbounded love for humanity," and felt a passion for "those exaggerated general maxims which raise the enthusiasm of young men and which would cause them to run to the world's end to help a Laplander or a Hottentot."

The ideas of Montesquieu, whose *Esprit des Lois* had had 22 editions in one year, of Voltaire, of d'Alembert, were in the ascendant, and liberal thinkers saw in the Americans propagandists for their doctrine. General Howe having occupied New York in 1776, Voltaire wrote to d'Alembert: "The troops of Doctor Franklin have been beaten by those of the King of England. Alas! philosophers are being beaten everywhere. Reason and liberty are unwelcome in this world."

AN ALLIANCE WITH NO HATRED FOR THE COMMON ENEMY

Another of the master minds of the day, the economist, thinker, and reformer Turgot, the one whose advice, if followed, would have possibly secured for us a bloodless revolution, was of the same opinion. In the famous letter written by him on the 22d of March, 1778, to his English friend, Doctor Price, Turgot showed himself, just as the French nation was, ardently pro-American, but not anti-English.

He deplored the impending war, which ought to have been avoided by England's acknowledging in time "the folly of its absurd project to subjugate the Americans. . . . It is a strange thing that it be not yet a commonplace truth to say that no nation can ever have the right to govern another nation; that such a government has no other foundation than force, which is also the foundation of brigandage and tyranny; that a people's tyranny is, of all tyrannies, the most cruel, the most intolerable, and the one which leaves the least resources to the oppressed; . . . for a multitude does not calculate, does not feel remorse, and it bestows on itself glory when all that it deserves is shame."

The Americans, according to Turgot, must be free, not only for their own sake, but for the sake of humanity; an experiment of the utmost import is about to begin, and should succeed. He added this, the worthy forecast of a generous mind:

"It is impossible not to form wishes for that people to reach the utmost prosperity it is capable of. That people is the hope of mankind. It must show to the world by its example that men can be free and tranquil, and can do without the chains that tyrants and cheats of all garb have tried to lay on them under pretense of public good. It must give the example of political liberty, religious liberty, commercial and industrial liberty.

"The shelter which it is going to offer to the oppressed of all nations will console the earth. The ease with which men will be able to avail themselves of it and escape the effects of a bad government will oblige governments to open their eyes and to be just. The rest of the world will perceive by degrees the emptiness of the illusions on which politicians have festered."

Toward England Turgot has a feeling of regret on account of its policies, but no trace of animosity; and, on the contrary, the belief that, in spite of what some people of note were alleging, the absolutely certain loss of her American colonies would not result in a diminution of her power. "This revolution will prove, maybe, as profitable to you as to America."

THE HONORABLE RULES OF WAR RIGOROUSLY OBSERVED

Not less characteristic of the times and of the same thinker's turn of mind is a brief memorial written by him for the King shortly after, when Captain Cook was making his third voyage of discovery, the one from which he never returned. "Captain Cook," Turgot said, "is probably on his way back to Europe. His expedition having no other object than the progress of human knowledge, and interesting, therefore, to all nations, it would be worthy of the King's magnanimity not to allow that the result be jeopardized by the chances of war."

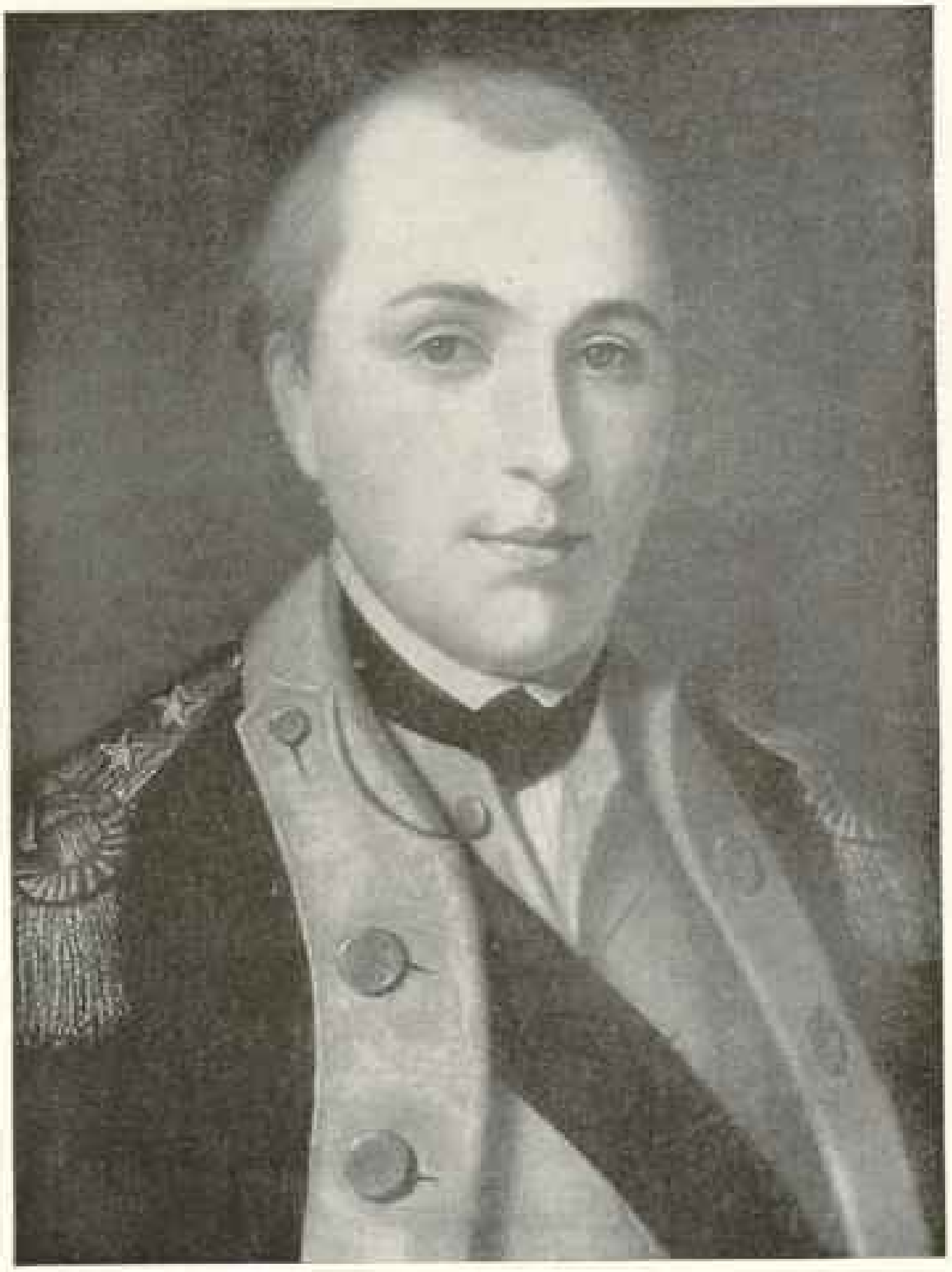
Orders should be given to all French naval officers "to abstain from any hostile act against him or his ship, and allow him to freely continue his navigation, and to treat him in every respect as the custom is to treat the officers and ships of neutral and friendly countries."

The King assented and had our cruisers notified of the sort of sacred character which they would have to recognize in that ship of the enemy—a small fact in itself, but showing the difference between the wars in those days and in ours, when we have had to witness the wanton destruction of the Louvain library, the shelling of the Rheims cathedral, and the Arras town hall.

A FIGHT NOT FOR RECOMPENSE, BUT FOR LIBERTY

An immense aspiration was growing in France for more equality, fewer privileges, simpler lives among the great, less hard ones among the lowly, more accessible knowledge, the free discussion by all of the common interests of all. A fact of deepest import struck the least attentive: French masses were becoming more and more thinking masses. One should not forget that between the end of the American Revolution and the beginning of the French one only six years elapsed; between the American and the French Constitutions but four years.

It was not, therefore, a statement of small import that Franklin had conveyed to Congress when he wrote from France: "The united bent of the nation is mani-



MARQUIS DE LAFAYETTE

His passion for liberty enkindled by the heroic struggle of the American colonies, Marie Jean Paul Yves Roch Gilbert du Mother Lafayette, a youth of 19, determined to cast his fortunes with the followers of Washington. Arrested by order of his sovereign when he attempted to sail from Bordeaux, the dauntless boy escaped from France in disguise and embarked with eleven companions from a port in Spain. Landing in America in April, 1779, he went at once to Philadelphia, where Congress hesitated to give him a commission as major general, which had been promised by the American agent in Paris.

Immediately Lafayette waived all claim to military rank and asked to be allowed to serve in the Continental Army "as a volunteer and without pay." Happily, Congress proved no less magnanimous; his commission was issued at once. The day following he met Washington, and there began a lifelong friendship between the two great patriots and lovers of liberty, epitomizing the mutual devotion and admiration which the people of France and of the United States were henceforth to entertain toward each other for all time. It was largely through Lafayette's influence that Rochambeau came to America with a division of French soldiers which turned the tide of defeat into victory for the colonies.

Returning to his native France, Lafayette played a distinguished rôle in the events of the French Revolution, his devotion to the cause of liberty ever remaining unsullied by wanton deeds of bloodshed or vainglorious striving for power. Having been made commander-in-chief of the National Guard of Paris on the day following the storming of the Bastille, he sent the key of that grim stronghold to General Washington as a symbol of the overthrow of despotism and the triumph of free government in France. That symbol is today one of America's most treasured mementos, carefully guarded in the nation's shrine—Mt. Vernon.

festly in our favor." And he deplored elsewhere that some could think that an appeal to France's own interest was good policy:

"Telling them their commerce will be advantaged by our success, and that it is their *interest* to help us, seems as much as to say: 'Help us and we shall not be obliged to you.' Such indiscreet and improper language has been sometimes held here by some of our people and produced no good effect. The truth is," he said also, that "this nation is fond of glory, particularly that of protecting the oppressed."

The treaty of commerce, accompanying the treaty of alliance of 1778, had been in itself a justification of this judgment. Help from abroad was so pressingly needed in America that almost any advantages requested by France as a condition would have been granted; but that strange sight was seen: advantages being offered, unasked, by one party and declined by the other.

France decided at once not to accept anything as a recompense, not even Canada, if that were wrested from the English, in spite of Canada's having been French from the first and having but recently ceased to be such. The fight was not for recompense, but for liberty, and Franklin could write to Congress that the treaty of commerce was one to which all the rest of the world, in accordance with France's own wishes, was free to accede, when it chose, on the same footing as herself, England included.

This was so peculiar that many had doubts; John Adams never lost his; even Washington himself had some, and when plans were submitted to him for an action in Canada he wondered, as he wrote, whether there was not in them "more than the disinterested zeal of allies." What would take place at the peace if the allies were victorious? Would not France require, in one form or another, some advantages for herself? But she did not; her peace was to be like her war, pro-American rather than anti-English.

THE IDEAL LEADER—ROCHAMBEAU

Aware of the importance and difficulty of the move it had decided upon, the French Government had looked for a trained soldier, a man of decision and of sense, one who would understand Washington and be understood by him, would keep in hand the enthusiasts under his orders, and would avoid ill-prepared, risky ventures. The government considered it could do no better than to select Rochambeau. It could, indeed, do no better.

Rochambeau was appointed an officer and served on his first campaign in Germany at sixteen; fought under Marshal de Saxe; was a colonel at twenty-two (Washington was to become one also at twenty-two); received at Laufeldt his two first wounds, of which he nearly died. At the head of the famous Auvergne regiment, "Auvergne sans tache" (Auvergne the spotless), as it was called, he took part in the chief battles of the Seven Years' War, notably in the victory of Klostercamp, where spotless Auvergne had 58 officers and 800 soldiers killed or wounded, the battle made memorable by the episode of the Chevalier d'Assas, who went to his heroic death in the fulfillment of an order given by Rochambeau. The latter was again severely wounded, but, leaning on two soldiers, he could remain at his post till the day was won.

On the opposite side of the same battlefields were fighting many destined, like Rochambeau himself, to take part in the American war; it was like a preliminary rehearsal of the drama that was to be. At the second battle of Minden, in 1759, where the father of Lafayette was killed, Rochambeau covered the retreat, while in the English ranks Lord Cornwallis was learning his trade, as was, too, but less brilliantly, Lord George Germain, the future colonial secretary of the Yorktown period.

A HAPPY MARRIAGE WITH ANNALS BRIEF

When still very young, Rochambeau had contracted one of those marriages so numerous in the eighteenth, as in every other, century, of which nothing is said in the memoirs and letters of the period, because they were what they should be—happy ones. Every right-minded and right-hearted man will find less pleasure in the sauciest anecdote told by Lauzun

than in the simple and brief lines written in his old age by Rochambeau: "My good star gave me such a wife as I could desire; she has been for me a cause of constant happiness throughout life, and I hope, on my side, to have made her happy by the tenderest amity, which has never varied an instant during nearly sixty years."

Informed at Versailles of the task he would have to perform, Rochambeau set to work to get everything in readiness, collecting information, talking with those who knew America, and noting down in his green-garbed registers, which were to accompany him in his campaign, the chief data thus secured.

He also addressed to himself, as a reminder, a number of useful recommendations, such as these: "To take with us a quantity of flints, . . . much flour and biscuit; have bricks as ballast for the ships, to be used for ovens; to try to bring with us all we want and not to have to ask from the Americans, who are themselves in want; . . . to have a copy of the atlas brought from Philadelphia by Mr. de Lafayette: . . . to have a portable printing-press, like that of Mr. d'Estaing, handy for proclamations . . . siege artillery is indispensable."

Some of the notes are of grave import and were not lost sight of throughout the campaign: "Nothing without naval supremacy."

NOTHING WITHOUT NAVAL SUPREMACY

To those intrusted with the care of loading the vessels he recommends that all articles of the same kind be not placed on the same ship, "so that in case of mishap to any ship the whole supply of any kind of provisions be not totally lost."

When all were there, however, forming a total of 5,000 men, the maximum was so truly reached that a number of young men, some belonging to the best-known French families, who were arriving at Brest from day to day, in the hope of being added to the expedition, had to be sent back.

The departure, which it was necessary to hasten while the English were not yet ready, was beset with difficulties. Tempests, contrary winds, and other mishaps had caused vexatious delay; the *Comtesse de Noailles* and the *Conquérant* had come into collision and had had to be repaired. "Luckily," wrote Rochambeau to Montbarey, with his usual good humor, "it rains also on Portsmouth." At last, on the 2d of May, 1780, the fleet of seven ships of the line and two frigates, conveying thirty-six transports, weighed anchor for good. "We shall have the start of Graves," the general wrote again, "for he will have to use the same wind to leave Portsmouth."

At sea now for a long voyage, two or three months perhaps, with the prospect of calms, of storms, of untoward encounters, of scurvy for the troops. On board the big *Duc de Bourgogne*, of eighty guns, with Admiral de Ternay, Rochambeau adds now and then paragraphs to a long report which is a kind of journal, assuring the minister, after the first fortnight, that all is well on board: "We have no men sick other than those which the sea makes so, among whom the Marquis de Laval and my son play the most conspicuous part." He prepares his general instructions to the troops.

On board the smaller craft life was harder, and numerous unflattering descriptions have come down to us in the journals kept by so many officers of the army, especially in that of the aforementioned young captain, Louis Baron de Closen, later one of the aides of Rochambeau.

A FIRST-HAND PICTURE OF LIFE IN THE FRENCH FLEET

He confesses, but with no undue sentimentalism, that he was saddened at first to some extent at the prospect of an absence that might be a long one, particularly when thinking "of a charming young fiancée, full of wit and grace. . . . My profession, however, does not allow me to yield too much to sensibility; so I am now perfectly resigned."

It is hard at first to get accustomed, so tight-packed is the ship, but one gets inured to it, in spite of the "buzzing of so numerous a company," of the lack of breathing space, and of what people

breathe being made unpleasant by all sorts of "exhalations" from the ship, the masses of humanity on board, "and a few dogs."

Closen has the good luck not to be inconvenienced by the sea, settles in his corner, and from that moment till the end takes pleasure in watching life around him. He learns how to make nautical observations, describes his companions in his journal, and especially the captain, a typical old tar who has an equal faith in the efficacy of hymns and of oaths.

"Prayer is said twice a day on the deck, which does not prevent there being much irreligion among seamen. I have often heard our captain swear and curse and freely use the worst sailors' language while he was praying and chanting:

"'Je mets ma confiance,
Vierge, en votre secours,
Et quand ma dernière heure
Viendra, guidez mon sort;
Obtenez que je meure
De la plus sainte mort.'

Various incidents break the monotony of the journey. On the 18th of June the *Surveillante* captures an English corsair, which is a joy; but they learn from her the fall of Charleston and the surrender of Lincoln, which gives food for thought.

A TRAP THAT WAS AVOIDED

Nothing better shows the difference between old-time and present-time navigation than the small fact that while on the way they indulge in fishing. On board the *Comtesse de Noailles* they capture flying-fishes, which are "very tender and delicious to eat, fried in fresh butter, like gudgeons."

An occasion offers to open fight, with the advantage of numerical superiority, on six English vessels; some shots are exchanged, but with great wisdom, and, in spite of the grumblings of all his people, Ternay refuses to really engage them, and continues his voyage.

"He had his convoy too much at heart," says Closen, "and he knew too well the importance of our expedition, his positive orders being that he must make our army arrive *as quickly as possible*, for him not to set aside all the entreaties of the young naval officers, who, I was told, were very outspoken on that score, as well as most of the land officers, who know nothing of naval matters."

The event fully justified Ternay, for Graves, whose mission it had been to intercept him and his slow and heavy convoy, missed his opportunity by twenty-four hours only, reaching New York, where he joined forces with Arbuthnot, just as our own ships were safe at Newport. The slightest delay on Ternay's part might have been fatal.

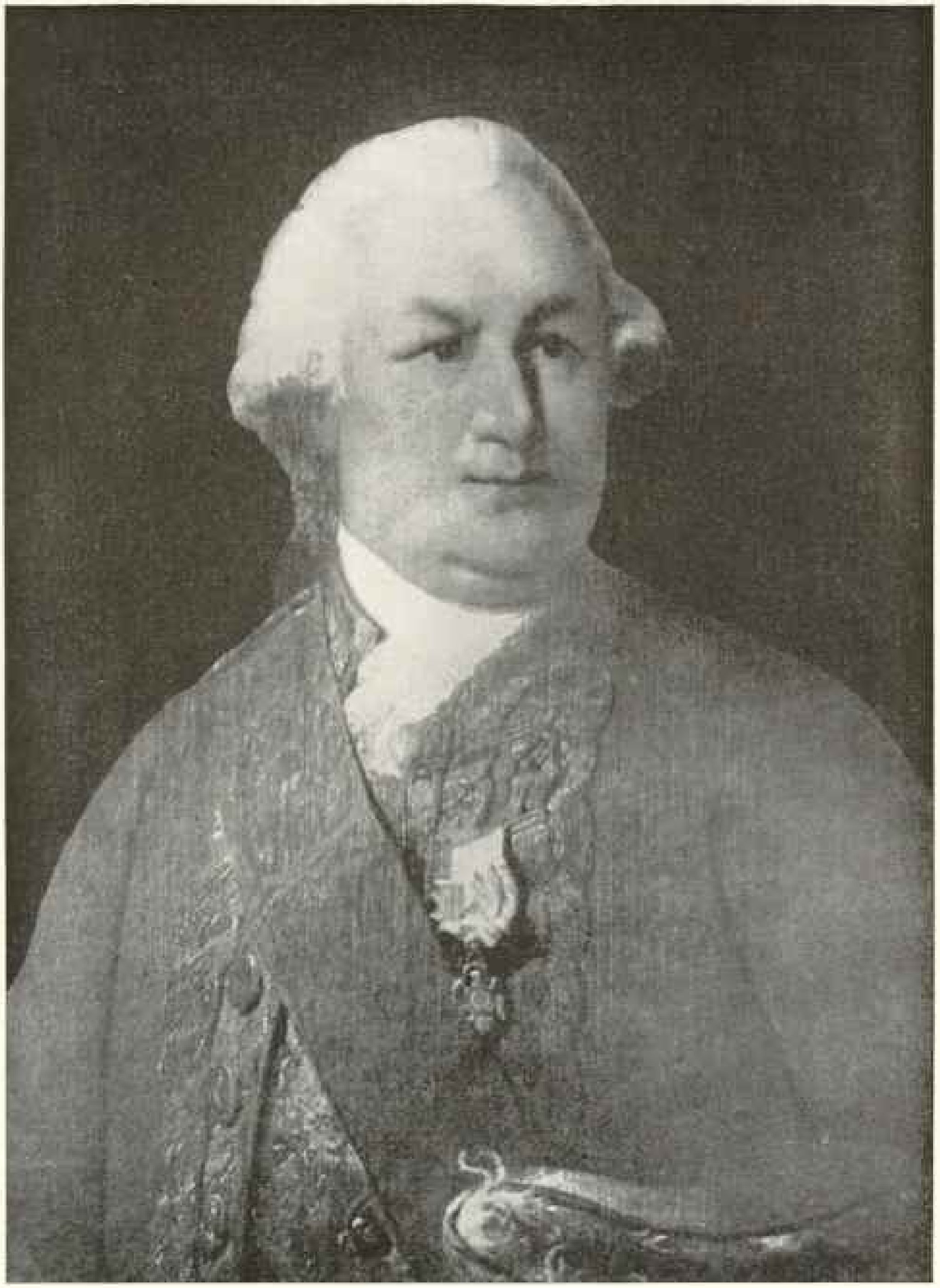
The more so since, when nearing the coast, our fleet had fallen into fogs. "Nothing so sad and dangerous at sea as fogs," Closen sententiously writes; "besides the difficulty of avoiding collisions in so numerous a fleet, each vessel, in order to shun them, tries to gain space; thus one may chance to get too far from the center. The standing orders for our convoy were, in view of avoiding those inconveniences, to beat the drums every quarter of an hour or fire petards. The men-of-war fired their guns or sent rockets. The speed limit was three knots during the fog, so that each vessel might, as far as possible, continue keeping company with its neighbor."

In spite of all which the *Ile de France* was lost, and there was great anxiety; she was not seen again during the rest of the journey, but she appeared later, quite safe, at Boston.

WASHINGTON GIVEN THE HONORS OF A MARSHAL IN THE FRENCH ARMY

The landing orders of Rochambeau, making known now to all concerned the intentions of the government, were clear and peremptory. Drawn up by him on board the *Duc de Bourgogne*, he had caused copies to be carried to the chiefs of the several corps on board the other ships:

"The troops which His Majesty is sending to America are auxiliary to those of the United States, his allies, and placed under the orders of General Washington, to whom the honors of a marshal of France will be rendered. The same with the President of Congress," which avoided the possibility of any trouble as to precedence, no one in the French army having such a rank.



ADMIRAL DE GRASSE, WHO RISKED AND DID MORE FOR THE UNITED STATES THAN ANY SINGLE FOREIGNER

By blockading the James and York rivers and by repulsing the British fleet, thereby preventing its coming to the relief of Lord Cornwallis at Yorktown, this French naval officer became a potent factor in the establishment of the American Republic (see pp. 537 and 541).

"In case of an equality of rank and duration of service, the American officer will take command. . . . The troops of the King will yield the right side to the allies; French troops will add black to their cockades, black being the color of the United States," and some such hats, with black and white cockades, are still preserved at Fraunce's Tavern, New York.

"The intention of His Majesty," the general continues, "is that there be perfect concert and harmony between the generals and officers of the two nations. The severest discipline will be observed. . . . It is forbidden to take a bit of wood, a sheaf of straw, any kind of vegetables, except amicably and in paying. . . . All faults of unruliness, disobedience, insubordination, ill will, brutal and sonorous drunkenness . . . will be punished, according to ordinances, with strokes of the flat of the sword." Even "light faults of lack of cleanliness or attention" will be punished. "To make the punishment the harder for the French soldier, he will be barred from military service during his detention."

The army, but not the fleet, had been placed under the orders of Washington. Ternay's instructions specified, however, that while his squadron had no other commander than himself, it was expected that he "would proffer all assistance that might facilitate the operations of the United States," and that he would allow the use of our ships "on every occasion when their help might be requested."

Good will was obviously the leading sentiment, and the desire of all was to give as little trouble and bring as much useful help as possible.

THE FRENCH FLEET AT NEWPORT

On the 11th day of July the fleet reached Newport, after seventy days at sea, which was longer than Columbus had taken on his first voyage, but which was nothing extraordinary. Abbé Robin, a chaplain of the army, arrived later, after a journey of eighty-five days, none the less filled with admiration for those "enormous machines with which men master the waves"—a very minute enormity from our modern point of view.

"There were among the land troops," says Closen, "endless shouts of joy" at the prospect of being on terra firma again. The troops, owing to their having been fed on salt meat and dry vegetables, with little water to drink (on board the *Comtesse de Noailles* water had become corrupt; it was now and then replaced by wine, "but that heats one very much"), had greatly suffered. Scurvy had caused its usual ravages; 600 or 700 soldiers and 1,000 sailors were suffering from it; some had died.

They were now confronted by the unknown. What would that unknown be? Rochambeau had only his first division with him; would he be attacked at once by the English, who disposed of superior naval and land forces about New York? And what would be the attitude of the Americans themselves? Everybody was for them in France, but few people had a real knowledge of them. Lafayette had, but he was young and enthusiastic. Would the inhabitants, would their leader, Washington, would their army, answer his description?

A GAME OF NAVAL CHESS

On the arrival of the fleet Newport had fired "13 grand rockets" and illuminated its windows, but that might be a mere matter of course. Of these illuminations the then president of Yale, Ezra Stiles, has left a noteworthy record: "The bell rang at Newport till after midnight, and the evening of the 12th Newport illuminated; the Whigs put thirteen lights in the windows; the Tories or doubtfuls four or six. The Quakers did not choose their lights should shine before men, and their windows were broken."

The game was, moreover, a difficult one and had to be played on an immense chess-board, including North and South (Boston, New York, Charleston, and the Chesapeake), including even "the Isles"—that is, the West Indies—and what took place there, which might have so much importance for continental operations, had constantly to be guessed or imagined for lack of news.

Worse than all, the reputation of the French was, up to then, in America such as hostile English books and caricatures

and inconsiderate French ones had made it. We knew it, and so well, too, that the appropriateness of having our troops winter in our colonies of the West Indies was at one time considered. Our minister, Gérard, was of that opinion: "The Americans are little accustomed to live with French people, for whom they cannot have as yet a very marked inclination."

"It is difficult to imagine," said Abbé Robin, "the idea Americans entertained about the French before the war. They considered them as groaning under the yoke of despotism, a prey to superstition and prejudices, almost idolatrous in their religion, and as a kind of light, brittle, queer-shapen mechanism, only busy frizzling their hair and painting their faces, without faith or morals." How would thousands of such mechanisms be received?

PREPARING TO GIVE THE ENEMY "HOT SHOT"

With his usual clear-headedness, Rochambeau did the necessary thing on each point. To begin with, in case of an English attack, which was at first expected every day, he lost no time in fortifying the position he occupied, "having," wrote Mathieu-Dumas, "personally selected the chief points to be defended, and having batteries of heavy artillery and mortars erected along the channel, with furnaces to heat the balls."

During "the first six days," says Closen, "we were not quite at our ease, but, luckily, Messieurs les Anglais showed us great consideration, and we suffered from nothing worse than grave anxieties." After the second week Rochambeau could write home that if Clinton appeared he would be well received. Shortly after he feels sorry the visit is delayed; later, when his own second division, so ardently desired, did not appear, he writes to the war minister: "In two words, Sir Henry Clinton and I are very punctilious, and the question is between us who will first call on the other. If we do not get up earlier in the morning than the English, and the reinforcements they expect from Europe reach them before our second division arrives, they will pay us a visit here that I should prefer to pay them in New York."

Concerning the reputation of the French, Rochambeau and his officers were in perfect accord: it would change if exemplary discipline were maintained throughout the campaign. There is nothing the chief paid more attention to than this, nor with more complete success. Writing to Prince de Montbarey a month after the landing, Rochambeau says: "I can answer for the discipline of the army; not a man has left his camp; not a cabbage has been stolen; not a complaint has been heard."

NOT ONE COMPLAINT AGAINST THE CONDUCT OF THE FRENCH TROOPS

To the President of Congress he had written a few days before: "I hope that account will have been rendered to Your Excellency of the discipline observed by the French troops; there has not been one complaint; not a man has missed a roll-call. We are your brothers and we shall act as such with you; we shall fight your enemies by your side as if we were one and the same nation."

Mentioning in his memoirs the visit of those "savages" who had been formerly under French rule and persisted in remaining friendly to us, he adds: "The sight of guns, troops, and military exercises caused them no surprise; but they were greatly astonished to see apple trees with their apples upon them overhanging the soldiers' tents." "This result," he concludes, "was due not only to the zeal of officers, but more than anything else to the good disposition of the soldiers, which never failed."

William Channing, father of the philanthropist, confides to the same Ezra Stiles, in a letter of August 6, 1780, his delighted surprise: "The French are a fine body of men and appear to be well officered. Neither the officers nor men are the effeminate beings we were heretofore taught to believe them. They are as large and likely men as can be produced by any nation." So much for the brittle, queer-shaped mechanisms.

With the French officers in the West Indies, most of them former companions in arms and personal friends, Rocham-

beau, as soon as he had landed, began to correspond. The letters thus exchanged, generally unpublished, give a vivid picture of the life then led in the Isles. Cut off from the world most of the time, not knowing what was taking place in France, in America, on the sea, or even sometimes on the neighboring island, unaware of the whereabouts of Rodney, having to guess which place he might try to storm and which they should therefore garrison, these men, suffering from fevers, having now and then their ships scattered by cyclones, played to their credit and with perfect good humor their difficult game of hide and seek.

They send their letters in duplicate and triplicate, by chance boats, give news of the French court when they have any, and learn after a year's delay that their letters of October, 1780, have been duly received by Rochambeau in June, 1781.

The Marquis de Saint-Simon writes from Santo Domingo to say how much he would like to go and fight under Rochambeau on the continent: "I would be delighted to be under your orders, and to give up for that the command-in-chief I enjoy here."

ROCHAMBEAU'S WARM HEART AND STRICT DISCIPLINE

The stanch devotion of Rochambeau to his duties as a soldier, his personal disinterestedness, his cool-headedness and energy as a leader, his good humor in the midst of troubles, had secured for him the devotion of many, while his brusquerie, his peremptoriness, the severity which veiled his real warmth of heart whenever the service was at stake, won him a goodly number of enemies, the latter very generally of less worth as men than the former.

In the affectionate letter by which he made up early differences with "his son Lafayette," shortly after his arrival, he observes, concerning his own military career: "If I have been lucky enough to preserve, up to now, the confidence of the French soldiers, . . . the reason is that out of 15,000 men or thereabout who have been killed or wounded under my orders, of different rank and in the most deadly actions, I have not to reproach myself with having caused a single one to be killed for the sake of my own fame."

"He seemed," Ségur said in his memoirs, "to have been purposely created to understand Washington and be understood by him, and to serve with republicans. A friend of order, of law, and of liberty, his example more even than his authority obliged us scrupulously to respect the rights, properties, and customs of our allies."

WAITING FOR THE SECOND DIVISION

Nothing without my second division, Rochambeau thought. He had urged the government in his last letters before leaving France to send it not later than a fortnight after he himself had sailed: "The convoy will cross much more safely now under the guard of two warships," he had written to Montbarey, "than it will in a month with an escort of thirty, when the English are ready." And again, after having embarked on the *Duc de Bourgogne:* "For Heaven's sake, sir, hasten that second division. . . . We are just now weighing anchor."

But weeks and months went by and no news came of the second division. Washington with his ardent patriotism, Lafayette with his youthful enthusiasm, were pressing Rochambeau to risk all in order to capture New York, the stronghold of the enemy and chief center of their power. "I am confident," Rochambeau answered, "that our general (Washington) does not want us to give here a second edition of Savannah," and he felt the more anxious that, with the coming of recruits and going of veterans and the short term enlistments, "Washington would command now 15,000 men, now 5,000."

Rochambeau decided in October to send to France his son, then colonel of the regiment of Bourbonnais, to remonstrate. As capture was possible and the envoy might have to throw his dispatches overboard, young Rochambeau, being blessed with youth and a good memory, had learned their contents by heart. One of the best sailors of the fleet had been selected to convey him, on the frigate *Amazone*.

On account of superior forces mount-

Photograph by courtesy of Horace Wells Sellers

THE FIRST FRENCH AMBASSADOR TO THE UNITED STATES: CHEVALIER GERARD

"Whereas the Honorable Sieur Gerard, the first Minister Plenipotentiary to the United States, hath before as well as since their treaty with France uniformly, ably, and zealously promoted the objects of the alliance and welfare of both nations, *Resolved*, That the committee do request Mr. Gerard to sit for his picture before he leaves this city, and that the same be placed in the Council Chamber of the United States." So ran the resolution, adopted in 1779 by the Continental Congress, which resulted in this Peale portrait of one of the first and ablest friends of the American Republic in the days of its infancy.

ing guard outside, the captain waited for the first night storm that should arise, when the watch was sure to be less strict, started in the midst of one, after having waited for eight days, was recognized, but too late, was chased, had his masts broken, repaired them, and reached Brest safely. The sailor who did so well on this occasion and who was to meet a tragic death at Vanikoro, bore the name, famous since, of La Pérouse.

DARK DAYS FOR THE PATRIOT CAUSE

Time wore on—a sad time for the American cause. One day the news was that one of the most trusted generals, famous for his services on land and water—Benedict Arnold—had turned traitor; another day that Gates had been routed at Camden and Kalb killed. In December Ternay died. In January, worse than all, the soldiers of the Pennsylvania line mutinied; unpaid, underfed, kept under the flag long after the time for which they had enlisted, "they went," Closen writes in his journal, "to extremities. In Europe they would not have waited so long."

The danger was great, but brief; tempted by the enemy to change sides and receive full pay, the Pennsylvania line refused indignantly. "We are honest soldiers, asking justice from our compatriots," they answered; "we are not traitors."

Owing to Washington's influence, order soon reigned again; but the alarm had been very great, as shown by the instructions which he handed to Colonel Laurens, now sent by him to Versailles with a mission similar to that of young Rochambeau. The emotion caused by the last events is reflected in them: "The patience of the American army is almost exhausted. . . . The great majority of the inhabitants is still firmly attached to the cause of independence," but that cause may be wrecked if more money, more men, and more ships are not immediately supplied by the French ally.

A SERIOUS SITUATION IN THE SOUTH

While the presence of the American and French troops in the North kept Clinton and his powerful New York garrison immobile where they were, the situation in the South was becoming worse and worse, with Cornwallis at the head of superior forces, Lord Rawdon holding Charleston, and the hated Arnold ravaging Virginia.

Against them the American forces under Greene, Lafayette, and Morgan (who had partly destroyed Tarleton's cavalry at Cowpens, January 17) were doing their utmost, facing fearful odds.

With a handful of men, knowing that the slightest error might be his destruction, young Lafayette, aged twenty-four, far from help and advice, was conducting a campaign in which his pluck, wisdom, and tenacity won him the admiration of veterans. Irritated ever to find him on his path, Cornwallis was writing a little later to Clinton: "If I can get an opportunity to strike a blow at him without loss of time, I will certainly try it." But Lafayette would not let his adversary thus employ his leisure.

One day, however, something would have to be done, and, in order to be ready, Rochambeau kept his army busy with maneuvers, military exercises, sham warfare ("le simulacre de la petite guerre"), and the building of fortifications. As for his officers, he encouraged them to travel, for a large part of the land was free of enemies, and to become better acquainted with these "American brothers," whom they had come to fight for. French officers were thus seen at Boston, Albany, West Point, Philadelphia.

LATIN WAS THE LANGUAGE OF COMMUNICATION

Closen, who, to his joy and surprise, had been made a member of Rochambeau's "family"—that is, had been appointed one of his aides—as soon as his new duties left him some leisure, began, with his methodical mind, to study, he tells us, "the Constitution of the thirteen States and of the Congress of America," meaning, of course, at that date, their several constitutions, which organization, "as time has shown, is well adapted to the national character and has made the happiness of that people so respectable from every point of view." He began

after this to examine the products of the soil of Rhode Island, "perhaps one of the prettiest islands on the globe."

The stay being prolonged, the officers began to make acquaintances, to learn English, to gain access to American society. It was at first very difficult; neither French nor American understood each other's language; so recourse was bravely had to Latin, better known then than today.

UNSPEAKABLE QUANTITIES OF TEA ARE DRUNK

For the use of Latin the commander-in-chief of the French army was able to set the example, and Ezra Stiles could talk at a dinner in that language with Rochambeau, still reminiscent of what he had learned when studying for priesthood.

Beginning to know something of the language, our officers risk paying visits and go to teas and dinners. Closen notes with curiosity all he sees: "It is good behavior each time people meet to accost each other, mutually offering the hand and shaking it, English fashion. Arriving in a company of men, one thus goes around, but must remember that it belongs to the one of higher rank to extend his hand first."

Unspeakable quantities of tea are drunk. "To crave mercy, when one has taken half a dozen cups, one must put the spoon across the cup; for so long as you do not place it so, your cup is always taken, rinsed, filled again, and placed before you. After the first, the custom is for the pretty pourer (verseuse)—most of them are so—to ask you: *Is the tea suitable?*" "An insipid drink," grumbles Chaplain Robin, over whom the prettiness of the pourers was powerless.

The toasts are also a very surprising custom, sometimes an uncomfortable one. "One is terribly fatigued by the quantity of healths which are being drunk (*toasts*). From one end of the table to the other a gentleman pledges you, sometimes with only a glance, which means that you should drink a glass of wine with him—a compliment which cannot be politely ignored."

But what strikes him more than anything else is the beauty of those young ladies who made him drink so much tea: "Nature has endowed the ladies of Rhode Island with the handsomest, finest features one can imagine; their complexion is clear and white; their hands and feet usually small."

But let not the ladies of other States be tempted to resent this preference. One sees later that in each city he visits young Closen is similarly struck, and that, more considerate than the shepherd Paris, he somehow manages to refuse the apple to none. On the Boston ladies he is quite enthusiastic, on the Philadelphia ones not less; he finds, however, the latter a little too serious, which he attributes to the presence of Congress in that city.

THE FRENCHMEN'S IMPRESSION OF WASHINGTON

But, above all, the object of my compatriots' curiosity was the great man, the one of whom they had heard so much on the other side, the personification of the new-born ideas of liberty and popular government — George Washington. All wanted to see him, and as soon as permission to travel was granted several managed to reach his camp. For all of them, different as they might be in rank and character, the impression was the same and fulfilled expectation, beginning with Rochambeau, who saw him for the first time at the Hartford conferences, in September, 1780, when they tried to draw a first plan for a combined action.

A friendship then commenced between the two that was long to survive those eventful years. "From the moment we began to correspond with one another," Rochambeau wrote in his memoirs, "I never ceased to enjoy the soundness of his judgment and the amenity of his style in a very long correspondence, which is likely not to end before the death of one of us."

Chastellux, who saw him at his camp, where the band of the American army played for him the "March of the Huron," could draw from life his well-known description of him, ending: "Northern America, from Boston to Charleston, is a great book, every page of which tells his praise." Count de Ségur says that he apprehended his ex-

Photograph by H. C. Mann

IN FRONT OF THE THOMAS NELSON HOUSE: YORKTOWN

This was the home of Thomas Nelson, American patriot, Signer of the Declaration of Independence, Governor of Virginia, and Colonel of the Second Virginia Regiment. During the Revolutionary War the credit of the Colonies reached such a low ebb that it was saved from utter ruin only by the voluntary loans and endorsements of individuals. Thomas Nelson was one who thus supported the government, and his last years were spent in near-poverty because most of his property was sold to satisfy the debts he had incurred to pay off the troops of the Virginia line.

pectations could not be equaled by reality, but they were. "His exterior almost told his story. Simplicity, grandeur, dignity, calm, kindness, firmness shone in his physiognomy as well as in his character. He was of a noble and high stature, his expression was gentle and kindly, his smile pleasing, his manners simple without familiarity. . . . All in him announced the hero of a republic."

ABBÉ ROBIN'S TRIBUTE

"I have seen Washington," says Abbé Robin, "the soul and support of one of the greatest revolutions that ever happened. . . . In a country where every individual has a part in supreme authority . . . he has been able to maintain his troops in absolute subordination, render them jealous of his praise, make them fear his very silence." Closen was one day sent with dispatches to the great man, and, like all the others, began to worship him.

As a consequence of this mission, Washington came, on the 6th of March, 1781, to visit the French camp and fleet. He was received with the honors due to a marshal of France; the ships were dressed; the troops, in their best uniforms, "dans la plus grande tenue," lined the streets from Rochambeau's house (the fine Vernon house, still in existence) to the harbor; the roar and smoke of the guns rose in honor of the "hero of liberty." Washington saw Destouches's fleet sail for its Southern expedition and wished it Godspeed; and after a six days' stay, enlivened by "illuminations, dinners, and balls," he left on the 13th.

"I can say," we read in Closen's journal, "that he carried away with him the regrets, the attachment, the respect, and the veneration of all our army." Summing up his impression, he adds: "All in him betokens a great man with an excellent heart. Enough good will never be said of him."

ROCHAMBEAU'S DISAPPOINTMENT

On the 8th of May, 1781, the *Concorde* arrived at Boston, having on board Count de Barras, "a commodore with the red ribbon," of the same family as the future member of the "directoire," and who was to replace Ternay. With him was Viscount Rochambeau, bringing to his father the unwelcome news that no second division was to be expected. "My son has returned very solitary" was the only remonstrance the general sent to the minister.

But the young colonel was able to give, at the same time, news of great importance. A new fleet under Count de Grasse had been got together, and at the time of the *Concorde's* departure had just sailed for the West Indies, so that a temporary domination of the sea might become a possibility. "Nothing without naval supremacy," Rochambeau had written, as we know, in his note-book before starting.

In spite, moreover, of "hard times," wrote Vergennes to La Luzerne, and of the already disquieting state of our finances, a new "gratuitous subsidy of six million livres tournois" was granted to the Americans. Some funds had already been sent to Rochambeau, one million and a half in February, with a letter of Necker, saying: "Be assured, sir, that all that will be asked from the finance department for your army will be made ready on the instant." Seven millions arrived a little later, brought by the *Astrée*, which had crossed the ocean in 67 days without mishap. As for troops, only 600 recruits arrived at Boston, in June, with the *Sagittaire*.

THE QUESTION OF THE HOUR: STORM NEW YORK OR RELIEVE THE SOUTH?

Since nothing more was to be expected, the hour had come for definite decisions. A great effort must now be made—*the* great effort in view of which all the rest had been done, the one which might bring about peace and American liberty or end in lasting failure. All felt the importance and solemnity of the hour. The great question was what should be attempted—the storming of New York or the relief of the South?

The terms of the problem had been amply discussed in letters and conferences between the chiefs, and the discussion still continued. The one who first made up his mind and ceased to hesitate between the respective advantages or disadvantages of the two projects, and who

plainly declared that there was but one good plan, which was to reconquer the South—that one, strange to say, was neither Washington nor Rochambeau, and was not in the United States either as a sailor or a soldier, but as a diplomat, and in drawing attention to the fact I am only performing the most agreeable duty toward a justly admired predecessor. This wise adviser was La Luzerne. In an unpublished memoir, drawn up by him on the 20th of April and sent to Rochambeau on May 19, with an explanatory letter, in which he asked that his statement (a copy of which he also sent to Barras) be placed under the eyes of Washington, he insisted on the necessity of immediate action, and action in the Chesapeake:

"It is in the Chesapeake Bay that it seems urgent to convey all the naval forces of the King, with such land forces as the generals will consider appropriate. This change cannot fail to have the most advantageous consequences for the continuation of the campaign," which consequences he points out with singular clear-sightedness, adding:

ADVANTAGES OF A SOUTHERN OFFENSIVE

"If the English follow us and can reach the bay only after us, their situation will prove very different from ours; all the coasts and the inland parts of the country are full of their enemies. They have neither the means nor the time to raise, as at New York, the necessary works to protect themselves against the inroads of the American troops and to save themselves from the danger to which the arrival of superior forces would expose them." If the plan submitted by him offers difficulties, others should then be formed; but he maintains that "all those which have for their object the relief of the Southern States must be preferred, and that no time should be lost to put them in execution."

At the Weathersfield conference, near Hartford, Conn., between the Americans and French, on the 23d of May (in the Webb house, still in existence), Washington still evinced, and not without some weighty reasons, his preference for an attack on New York. He spoke of the advanced season, of "the great waste of men which we have found from experience in long marches in the Southern States," of the "difficulty of transports by land"; all those reasons and some others, "too well known to Count de Rochambeau to need repeating, show that an operation against New York should be preferred, in the present circumstances, to the effort of a sending of troops to the South." On the same day he was writing to La Luzerne: "I should be wanting in respect and confidence were I not to add that our object is New York."

TO VIRGINIA'S RESCUE

La Luzerne, however, kept on insisting. To Rochambeau he wrote on the 1st of June: "The situation of the Southern States becomes every moment more critical; it has even become very dangerous, and every measure that could be taken for their relief would be of infinite advantage. . . . The situation of the Marquis de Lafayette and that of General Greene is most embarrassing, since Lord Cornwallis has joined the English division of the Chesapeake. If Virginia is not helped in time, the English will have reached the goal which they have assigned to themselves in the bold movements attempted by them in the South; they will soon have really conquered the Southern States. . . .

"I am going to write to M. de Grasse as you want me to do; on your side, seize every occasion to write to him, and multiply the copies of the letters you send him"—that is, in duplicate and triplicate for fear of loss or capture. "His coming to the rescue of the oppressed States is not simply desirable; the thing seems to be now of the most pressing necessity." He must not only come, but bring with him all he can find of French troops in our isles; thus would be compensated, to a certain extent, the absence of the second division.

THE FATE OF THE UNITED STATES HANGS ON DE GRASSE

Rochambeau soon agreed, and, with his usual wisdom, Washington was not long in doing the same. On the 28th of

May the French general had already written to de Grasse, beseeching him to come with every means at his disposal, to bring his whole fleet, and not only his fleet, but a supply of money, to be borrowed in our colonies, and also all the French land forces from our garrisons which he could muster. The desire of Saint-Simon to come and help had, of course, not been forgotten by Rochambeau, and he counted on his good will.

After having described the extreme importance of the effort to be attempted, he concluded: "The crisis through which America is passing at this moment is of the severest. The coming of Count de Grasse may be salvation" (see page 541).

Events had so shaped themselves that the fate of the United States and the destinies of more than one nation would be for a few weeks in the hands of one man, and one greatly hampered by imperative instructions obliging him, at a time when there was no steam to command the wind and waves, to be at a fixed date in the West Indies, owing to certain arrangements with Spain.

Would he take the risk, and what would be the answer of that temporary arbiter of future events, François Joseph Paul Comte de Grasse, a sailor from the age of twelve, now a lieutenant general and "chef d'escadre," who had seen already much service on every sea, in the East and West Indies, with d'Orvilliers at Ushant, with Guichen against Rodney in the Caribbean Sea, a haughty man, it was said, with some friends and many enemies, the one quality of his acknowledged by friend and foe being valor? "Our admiral," his sailors were wont to say, "is six foot tall on ordinary days and six foot six on battle days."

READY FOR A FIGHT OR A FROLIC

What would he do and say? People in those times had to take their chance and act in accordance with probabilities. This Washington and Rochambeau did. By the beginning of June all was astir in the northern camp. Soldiers did not know what was contemplated, but obviously it was something great. Young officers exulted. What joy to have at last the prospect of an "active campaign," wrote Closen in his journal, "and to have an occasion to visit other provinces and see the differences in manners, customs, products, and trade of our good Americans!"

The camp is raised and the armies are on the move toward New York and the South; they are in the best dispositions, ready, according to circumstances, to fight or admire all that turns up. "The country between Providence and Bristol," says Closen, "is charming. We thought we had been transported into Paradise, all the roads being lined with acacias in full bloom, filling the air with a delicious, almost too strong, fragrance." Steeples are climbed, and "the sight is one of the finest possible." Snakes are somewhat troublesome, but such things will happen, even in Paradise.

The heat becomes very great, and night marches are arranged, beginning at two o'clock in the morning; roads at times become muddy paths, where wagons, artillery, carts conveying boats for the crossing of rivers cause great trouble and delay. "French gayety remains ever present in these hard marches. The Americans, whom curiosity brings by the thousand to our camps, are received," Abbé Robin writes, "with lively joy; we cause our military instruments to play for them, of which they are passionately fond. Officers and soldiers, then, American men and women mix and dance together; it is the feast of equality; the first-fruits of the alliance which must prevail between those nations. . . . These people are still in the happy period when distinctions of rank and birth are ignored; they treat alike the soldier and the officer, and often ask the latter what is his profession in his country, unable as they are to imagine that that of a warrior may be a fixed and permanent one."

WASHINGTON WARNS OF SPIES

Washington writes to recommend precautions against spies, who will be sent to the French camp, dressed as peasants, bringing fruit and other provisions, and who "will be attentive to every word which they may hear drop."

Several officers, for the sake of example, discard their horses and walk, indifferent to mud and heat; some of them,

Photograph by H. C. Mann

THE MAIN STREET OF YORKTOWN IS TODAY JUST AS IT WAS WHEN WASHINGTON, ROCHAMBEAU, AND LAFAYETTE WERE THERE

Tradition and the journals of several American officers relate that the first shot from the American battery against the troops of Lord Cornwallis at the siege of Yorktown was fired by General Washington himself. It was this little Virginia village that saw the beginning of the triumphant end of the Revolutionary War.

like the Viscount de Noailles, performing on foot the whole distance of 750 miles between Newport and Yorktown. Cases of sickness were rare.

On the 6th of July the junction of the two armies took place at Phillipsburg, "three leagues," Rochambeau writes, "from Kingsbridge, the first post of the enemy in the island of New York," the American army having followed the left bank of the Hudson in order to reach the place of meeting.

On the receipt of the news Lord Germain, the British colonial secretary, wrote to Clinton, who commanded in chief at New York: "The junction of the French troops with the Americans will, I am persuaded, soon produce disagreements and discontents, and Mr. Washington will find it necessary to separate them very speedily, either by detaching the Americans to the southward or suffering the French to return to Rhode Island. . . . But I trust before that can happen Lord Cornwallis will have given the loyal inhabitants on both sides of the Chesapeake the opportunity they have so long ago earnestly desired, of avowing their principles and standing forth in support of the King's measures."

Similar proofs of my lord's acumen abound in his partly unpublished correspondence. He goes on rejoicing and deducting all the happy consequences which were sure to result from the meeting of the French and American troops, so blandly elated at the prospect as to remind any one familiar with La Fontaine's fables, of Perrette and her milk-pot.

Washington, in the meantime, was reviewing the French troops (July 9) and Rochambeau the American ones, and—a fact which would have greatly surprised Lord Germain—the worse equipped the latter were, the greater the sympathy and admiration among the French for their endurance.

THE PATIENT CONTINENTAL SOLDIERS

"Those brave people," wrote Closen, "it really pained us to see, almost naked, with mere linen vests and trousers, most of them without stockings; but, would you believe it? looking very healthy and in the best of spirits." And further on:

"I am full of admiration for the American troops. It is unbelievable that troops composed of men of all ages, even of children of fifteen, of blacks and whites, all nearly naked, without money, poorly fed, should walk so well and stand the enemy's fire with such firmness. The calmness of mind and the clever combinations of General Washington, in whom I discover every day new eminent qualities, are already enough known, and the whole universe respects and admires him. Certain it is that he is admirable at the head of his army, every member of which considers him as his friend and father."

These sentiments, which were unanimous in the French army, assuredly did not betoken the clash counted upon by the English colonial secretary, and more than one of our officers who had a few years later to take part in another revolution must have been reminded of the Continental soldiers of '81 as they led to battle, fighting for a similar cause, our volunteers of '92.

FRANCE FOUGHT FOR AN IDEA

No real hatred, any more than before, appeared among the French troops for those enemies whom they were now nearing, and with whom they had already had some sanguinary skirmishes. During the intervals between military operations relations were courteous and at times amicable. The English gave to the French news of Europe, even when the news was good for the latter, and passed to them newspapers. "We learned that news" (Necker's resignation), writes Blanchard, "through the English, who often sent trumpeters and passed gazettes to us. We learned from the same papers that Mr. de La Motte-Picquet had captured a rich convoy.

"These exchanges between the English and us did not please the Americans, nor even General Washington, who were unaccustomed to this kind of warfare." The fight was really for an idea, but, what might have dispelled any misgivings, with no possibility of a change of idea.

Two unknown factors now were for the generals the cause of deep concern. What would de Grasse do? What would

Clinton do? The wounded officer of Johannisberg, the winner of Charleston, Sir Henry Clinton, a lieutenant general and former member of Parliament, enjoying great repute, was holding New York, not yet the second city of the world nor even the first of the United States, covering only with its modest houses, churches, and gardens the lower part of Manhattan, and reduced, owing to the war, to 10,000 inhabitants.

But, posted there, the English commander threatened the road on which the combined armies had to move. He had at his disposal immense stores, strong fortifications, a powerful fleet to second his movements, and troops equal in number and training to ours.

There are periods in the history of nations when, after a continuous series of misfortunes, when despair would have seemed excusable, suddenly the sky clears and everything turns their way. In the War of American Independence such a period had begun. The armies of Washington and Rochambeau, encumbered with their carts, wagons, and artillery, had to pass rivers, to cross hilly regions, to follow muddy tracks; any serious attempt against them might have proved fatal; but nothing was tried. It was of the greatest importance that Clinton should, as long as possible, have no intimation of the real plans of the Franco-Americans; everything helped to mislead him—his natural disposition as well as circumstances.

CLINTON'S FATAL ERROR

He had an unshakable conviction that the key to the whole situation was New York, and that the royal power in America, and he, too, Lieut. Gen. Sir Henry Clinton, would stand or fall with that city. Hence his disinclination to leave it and to attempt anything outside. His instructions ordered him to help Cornwallis to his utmost, the plan of the British court being to conquer the Southern States first, and then continue the conquest northward. But he, on the contrary, was day after day asking Cornwallis to send back some of his troops.

A great source of light, and, as it turned out, of darkness also, was the intercepting of letters. This constantly happened in those days, to the benefit or bewilderment of both parties, on land or at sea. But luck had decidedly turned, and the stars shone propitious for the allies. We captured valuable letters, and Clinton misleading ones.

On the 18th of August the two armies raised their camps, disappeared, and, following unusual roads, moving northward at first for three marches, reached in the midst of great difficulties, under a torrid heat, greatly encumbered with heavy baggage, the Hudson River and crossed it at King's Ferry, without being more interfered with than before.

How can such an inaction on the part of Clinton be explained? "It is for me," writes Count Guillaume de Deux-Ponts in his journal, the manuscript of which was found on the quays in Paris and printed in America, "an undecipherable enigma, and I hope I shall never be reproached for having puzzled people with any similar ones."

The river once crossed, the double army moved southward by forced marches. Rochambeau, in order to hasten the move, prescribed the leaving behind of a quantity of effects; and this, says Closen, "caused considerable grumbling among the line," which grumbled, but marched.

The news, to be sure, of so important a movement came to Clinton; but, since the stars had ceased to smile on him, he chose to conclude, as he wrote to Lord Germain on the 7th of September, "this to be a feint." When he discovered that it was not "a feint" the Franco-American army was beyond reach. "What can be said as to this?" Closen writes merrily. "Try to see better another time," and he draws a pair of spectacles on the margin of his journal.

PHILADELPHIA'S WELCOME

The march southward thus continued unhampered. They crossed first the Jerseys, "a land of Cockayne, for game, fish, vegetables, poultry." Closen had the happiness to "hear from the lips of General Washington, and on the ground itself, a description of the dispositions taken, the movements and all the incidents of the

famous battles of Trenton and Princeton." The young man, who had made great progress in English, was now used by the two generals as their interpreter; so nothing escaped him.

The reception at Philadelphia was triumphal; Congress was most courteous; toasts were innumerable. The city is an immense one, "with seventy-two streets in a straight line. . . . Shops abound in all kinds of merchandise, and some of them do not yield to the Petit Dunkerque in Paris." Women are very pretty, "of charming manners, and very well dressed, even in French fashion." Benezet, the French Quaker, one of the celebrities of the city, is found to be full of wisdom, and La Luzerne, "who keeps a state worthy of his sovereign," gives a dinner to one hundred and eighty guests.

From Philadelphia to Chester, on the 5th of September, Rochambeau and his aides took a boat. As they were nearing the latter city, "we saw in the distance," says Closen, "General Washington shaking his hat and a white handkerchief, and showing signs of great joy."

GREAT NEWS! DE GRASSE HAD COME!

Rochambeau had scarcely landed when Washington, usually so cool and composed, fell into his arms; the great news had arrived; de Grasse had come, and while Cornwallis was on the defensive at Yorktown, the French fleet was barring the Chesapeake.

On the receipt of letters from Washington, Rochambeau, and La Luzerne, telling him to what extent the fate of the United States was in his hands, the sailor, having "learned, with much sorrow," he wrote to the latter, "what was the distress of the continent, and the need there was of immediate help," had decided that he would leave nothing undone to usefully take part in the supreme effort which, without his help, might be attempted in vain.

Having left, on the 5th of August, Cap Français (today Cap Haitien), he had added to his fleet all the available ships he could find in our isles, including some which, having been years away, had received orders to go back to France for repairs. He had had great difficulty in obtaining the money asked for, although he had offered to mortgage for it his Castle of Tilly, and the Chevalier de Charitte, in command of the *Bourgogne*, had made a like offer. But at last, thanks to the Spanish governor at Havana, he had secured the desired amount of twelve hundred thousand francs. He was bringing, moreover, the Marquis de Saint-Simon, with the 3,000 regular troops under his command.

De Grasse's only request was that operations be pushed on with the utmost rapidity, as he was bound to be back at the Isles at a fixed date.

AMERICA'S DEBT TO DE GRASSE

It can truly be said that no single man risked nor did more for the United States than de Grasse, the single one of the leaders to whom no memorial has been dedicated.

The news spread like wild-fire; the camp was merry with songs and shouts; in Philadelphia the joy was indescribable; crowds pressed before the house of La Luzerne, cheering him and his country, while in the streets impromptu orators, standing on chairs, delivered mock funeral orations on the Earl of Cornwallis. "You have," Rochambeau wrote to the admiral, "spread universal joy throughout America, with which she is wild."

Anxiety was renewed, however, when it was learned shortly after that the French men-of-war had left the Chesapeake, the entrance to which now remained free. The English fleet, of twenty ships and seven frigates, under Hood and Graves, the same Graves who had failed to intercept Rochambeau's convoy, had been signaled on the 5th of September, and de Grasse, leaving behind him, in order to go faster, some of his ships and a number of sailors who were busy on land, had weighed anchor, three-quarters of an hour after sighting the signals, to risk the fight upon which the issue of the campaign and, as it turned out, of the war was to depend. "This behavior of Count de Grasse," wrote the famous Tarleton, is "worthy of admiration."

Six days later the French admiral was back; he had had 21 officers and 200

Photograph by E. P. Griffith

ROCHAMBEAU'S HEADQUARTERS IN 1782: WILLIAM AND MARY COLLEGE AT WILLIAMSBURG, VIRGINIA (PAGE 545)

Only to Harvard does this venerable college yield the precedence of seniority among American institutions of learning. King William and Queen Mary granted its charter in 1693, and the chief source of its income during the three-quarters of a century before the Revolutionary War was the tax of a penny a pound on all tobacco exported, together with the profits from the office of the Surveyor General of the State. Jefferson and Monroe and Chief Justice John Marshall were students here, and the Phi Beta Kappa Fraternity was founded under its roof in the same year that the Declaration of Independence was signed.

sailors killed or wounded, but he had lost no ship, and the enemy's fleet, very much damaged, with 336 men killed or disabled, and having lost the *Terrible*, of 74 guns, and the frigates *Iris* and *Richmond* of 40, had been compelled to retreat to New York. Admiral Robert Digby thereupon arrived with naval reinforcements; "yet I do not think," La Luzerne wrote to Rochambeau, "that battle will be offered again. If it is, I am not anxious about the result." Nothing was attempted. This "superiority at sea," Tarleton wrote in his *History of the Campaigns*, "proved the strength of the enemies of Great Britain, deranged the plans of her generals, disheartened the courage of her friends, and finally confirmed the independency of America." "Nothing," Rochambeau had written in his note-book at starting, "without naval supremacy."

ANOTHER FRENCH FLEET IN THE CHESAPEAKE

On reëntering the bay, de Grasse had the pleasure to find there another French fleet, that of his friend Barras. As a lieutenant general, de Grasse outranked him, but as a "chef d'escadre" Barras was his senior officer, which might have caused difficulties: the latter could be tempted, and he was, to conduct a campaign apart, so as to personally reap the glory of possible successes.

"I leave it to thee, my dear Barras," de Grasse had written him on the 28th of July, "to come and join me or to act on thy own account for the good of the common cause. Do only let me know, so that we do not hamper each other unawares."

Barras preferred the service of the cause to his own interest; leaving Newport, going far out on the high seas, then dashing south at a great distance from the coast, he escaped the English and reached the Chesapeake, bringing the heavy siege artillery now indispensable for the last operations. The stars had continued incredibly propitious.

The well-known double siege now began—that of Yorktown by Washington and Rochambeau, and that of Gloucester, on the opposite side of the river, which might have afforded a place of retreat to Cornwallis. De Grasse had consented to land, in view of the latter, 800 men under Choisy, whom Lauzun joined with his legion, and both acted in conjunction with the American militia under Weedon.

The two chiefs on the Yorktown side were careful to conduct the operations according to rules, "on account," says Closen, "of the reputation of Cornwallis and the strength of the garrison." Such rules were certainly familiar to Rochambeau, whose fifteenth siege this one was.

THE SURRENDER

From day to day Cornwallis was more narrowly pressed. As late as the 29th of September he was still full of hope. "I have ventured these two days," he wrote to Clinton, "to look General Washington's whole force in the face in the position on the outside of my works; and I have the pleasure to assure Your Excellency that there was but one wish throughout the whole army, which was that the enemy would advance."

A dozen days later the tone was very different. "I have only to repeat that nothing but a direct move to York River, which includes a successful naval action, can save me; . . . many of our works are considerably damaged."

Lord Germain was, in the meantime, writing to Clinton in his happiest mood, on the 12th of October: "It is a great satisfaction to me to find . . . that the plan you had concerted for conducting the military operations in that quarter (the Chesapeake) corresponds with what I had suggested."

The court, which had no more misgivings than Lord Germain himself, had caused to sail with Digby no less a personage than Prince William, one of the fifteen children of George III, and eventually one of his successors as William IV; but his presence could only prove one more encumbrance.

After the familiar incidents of the siege, in which the American and French armies displayed similar valor and met with about the same losses, the decisive move of the night attack on the enemy's advanced redoubts had to be made—one of the redoubts to be stormed by the Americans with Lafayette and the other by the French under Viomesnil.

On the 19th of October, after a loss of less than 300 men in each of the besieging armies, an act was signed as great in its consequences as any that ever followed the bloodiest battles, the capitulation of Yorktown. It was in a way the ratification of that other act which had been proposed for signature five years before at Philadelphia by men whose fate had more than once in the interval seemed desperate—the Declaration of Independence.

On the same day Closen writes: "The York garrison marched past at two o'clock, before the combined army, which was formed in two lines, the French facing the Americans and in full dress uniform. . . . Passing between the two armies, the English showed much disdain for the Americans, who, so far as dress and appearances went, represented the seamy side, many of those poor boys being garbed in linen *habits-vestes*, torn, soiled, a number among them almost shoeless. The English had given them the nickname of *Yanckey-Dudle*.

"What does it matter? the man of sense will think; they are the more to be praised and show the greater valor, fighting, as they do, so badly equipped." As a "man of sense," Rochambeau writes in his memoirs: "This justice must be rendered to the Americans, that they behaved with a zeal, a courage, an emulation, which left them in no case behind, in all that part of the siege intrusted to them, in spite of their being unaccustomed to sieges."

YORKTOWN'S PITIFUL ASPECT

The city offered a pitiful sight. "I shall never forget," says Closen, "how horrible and painful to behold was the aspect of the town of York. . . . One could not walk three steps without finding big holes made by bombs, cannon-balls, splinters, barely covered graves, arms and legs of blacks and whites scattered here and there, most of the houses riddled with shot and devoid of window panes. . . . We found Lord Cornwallis in his house. His attitude evinced the nobility of his soul, his magnanimity and firmness of character. He seemed to say: I have nothing to reproach myself with; I have done my duty and defended myself to the utmost." This impression of Lord Cornwallis was general.

As to Closen's description of the town, now so quiet and almost asleep by the blue water, amid her sand-dunes, once more torn and blood-stained during the Civil War, resting at the foot of the great marble memorial raised a hundred years later by Congress, it is confirmed by Abbé Robin, who notices, too, "the quantity of human limbs which infected the air," but also, being an abbé, the number of books scattered among the ruins, many being works of piety and theological controversy.

A GENEROUS VICTOR

Nothing better puts in its true light the dominant characteristics of the French sentiment throughout the war than what happened on this solemn occasion, and more shows how, with their new-born enthusiasm for philanthropy and liberty, the French were pro-Americans much more than anti-English. No trace of a triumphant attitude toward a vanquished enemy appeared in anything they did or said. Even in the surrendering the fact remained apparent that this was not a war of hatred.

"The English," writes Abbé Robin, "laid down their arms at the place selected. Care was taken not to admit sightseers, so as to diminish their humiliation." Henry Lee (Lighthorse Harry), who was present, describes in the same spirit the march past: "Universal silence was observed amidst the vast concourse, and the utmost decency prevailed, exhibiting in demeanor an awful sense of the vicissitudes of human life, mingled with commiseration for the unhappy."

The victors pitied Cornwallis and showed him every consideration; Rochambeau, learning that he was without money, lent him all he wanted.

CORNWALLIS'S TRIBUTE TO THE FRENCH

Cornwallis realized quite well that the French had fought for a cause dear to their hearts more than from any desire to humble him or his nation. He publicly rendered full justice to the enemy, acknowledging that the fairest treatment had been awarded him by them. In the

final report, in which he gives his own account of the catastrophe and which he caused to be printed when he reached England, he said:

"The kindness and attention that has been shown us by the French officers, . . . their delicate sensibility of our situation, their generous and pressing offers of money, both public and private, to any amount, has really gone beyond what I can possibly describe and will, I hope, make an impression on the breast of every British officer whenever the fortunes of war should put any of them in our power."

The French attitude in the New World was in perfect accord with the French sentiments in the Old. On receiving from Lauzun and Count de Deux-Ponts, who for fear of capture had sailed in two different frigates, the news of the taking of Cornwallis, of his 8,000 men (of whom 2,000 were in hospitals), 800 sailors, 214 guns, and 22 flags, the King wrote to Rochambeau: "Monsieur le Comte de Rochambeau, the success of my arms flatters me only as being conducive to peace."

THE BEGINNING OF A NEW POLITICAL ERA

One of the most authoritative publicists of the day, Lacretelle, in 1785, considering, in the *Mercure de France*, the future of the new-born United States, praised the favorable influence exercised on them by the so much admired British Constitution—"the most wonderful government in Europe. For it will be England's glory to have created peoples worthy of throwing off her yoke, even though she must endure the reproach of having forced them to independence by forgetfulness of her own maxims."

As to the members of the French army who had started for the new crusade two years before, they had at once the conviction that, in accordance with their anticipation, they had witnessed something great which would leave a profound trace in the history of the world. They brought home the seed of liberty and equality, the "virus," as it was called by Pontgibaud, who, friend as he was of Lafayette, resisted the current to the last and remained a royalist.

Youthful Saint-Simon, the future Saint-Simonian, thus summed up his impressions of the campaign: "I felt that the American Revolution marked the beginning of a new political era; that this revolution would necessarily set moving an important progress in general civilization, and that it would before long occasion great changes in the social order then existing in Europe."

ROCHAMBEAU VISITS JEFFERSON

For one year more Rochambeau remained in America. Peace was a possibility, not a certainty.

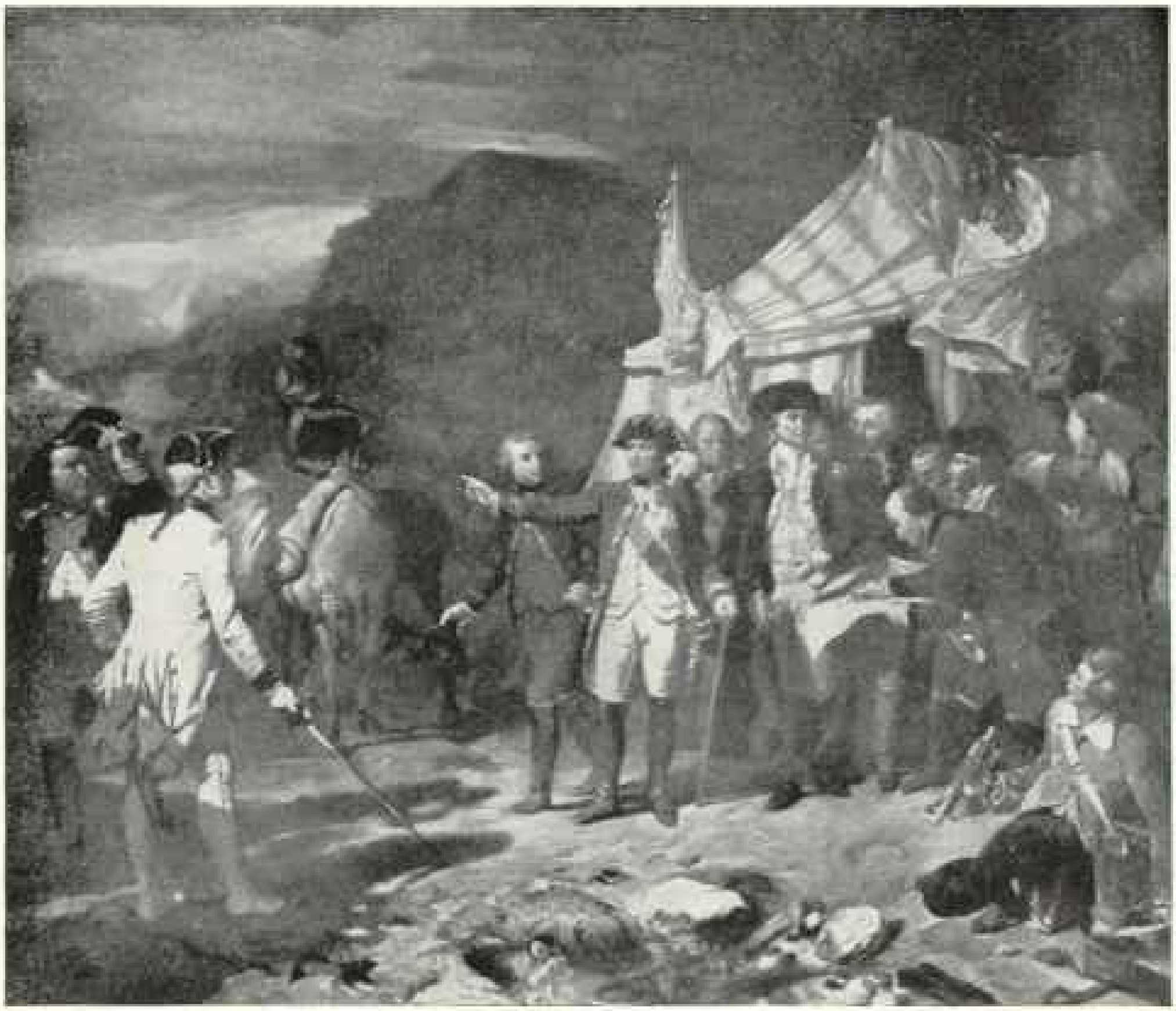
Rochambeau had established himself at Williamsburg, the quiet and dignified capital of the then immense State of Virginia, noted for its "Bruton Church," its old College of William and Mary, designed by Sir Christopher Wren, and the birthplace of the far-famed Phi Beta Kappa fraternity; its statue of the former English governor, Lord Botetourt, in conspicuous marble wig and court mantle. "America, behold your friend," the inscription on the pedestal reads.

That other friend of America, Rochambeau, took up his quarters in the college, one of the buildings of which, used as a hospital for our troops, accidentally took fire, but was at once paid for by the French commander.

Rochambeau, his son, and two aides, one of whom was Closen, journey to visit at Monticello the already famous Jefferson. They take with them 14 horses, sleep in the houses where they chance to be at nightfall—a surprise party which may, at times, have caused embarrassment; but this accorded with the customs of the day.

The hospitality is, according to occasions, brilliant or wretched, "with a bed for the general as ornamented as the canopy for a procession," and elsewhere "with rats which come and tickle our ears." They reach the handsome house of the "Philosopher," adorned with a colonnade, "the platform of which is very prettily fitted with all sorts of mythological scenes."

The lord of the place dazzles his visitors by his encyclopædic knowledge. Closen describes him as "very learned in



From a painting by Couder

THE SURRENDER OF CORNWALLIS AT YORKTOWN

General Washington stands between Rochambeau and Lafayette. The original painting hangs in the Gallery of Battles at Versailles, but a copy in oils is one of the art treasures of the French embassy in Washington.

belles-lettres, in history, in geography, etc., being better versed than any in the statistics of America in general and the interests of each particular province—trade, agriculture, soil, products; in a word, all that is of greatest use to know. The least detail of the wars here since the beginning of the troubles is familiar to him. He speaks all the chief languages to perfection, and his library is well chosen, and even rather large, in spite of a visit paid to the place by a detachment of Tarleton's legion, which has proved costly and has greatly frightened his family."

MANY MEMORIALS ARE PRESENTED TO THE FRENCH COMMANDER

Numerous addresses expressing fervent gratitude were received by Rochambeau from Congress, from the legislatures of the various States, from the universities, from the mayor and inhabitants of Williamsburg, the latter offering their thanks not only for the services rendered by the general in his "military capacity," but, they said, "for your conduct in the more private walks of life, and the happiness we have derived from the social, polite, and very friendly intercourse we have been honored with by yourself and the officers of the French army in general, during the whole time of your residence among us."

The favorable impression left by an army permeated with the growing humanitarian spirit is especially mentioned in several of those addresses: "May Heaven," wrote "the Governor, council, and representatives of the State of Rhode Island and Providence Plantations in General Assembly convened," "reward

your exertions in the cause of humanity and the particular regard you have paid to the rights of the citizens."

PREJUDICES 300 YEARS OLD DESTROYED IN 3 YEARS

Writing at the moment when departure was imminent, the Maryland Assembly recalled in its address the extraordinary prejudices prevailing shortly before in America against all that was French:

"To preserve in troops far removed from their own country the strictest discipline and *to convert into esteem and affection deep and ancient prejudices* was reserved for you. . . . We view with regret the departure of troops which have so conducted, so endeared, and so distinguished themselves, and we pray that the laurels they have gathered before Yorktown may never fade, and that victory, to whatever quarter of the globe they direct their arms, may follow their standard."

The important result of a change in American sentiment toward the French, apart from the military service rendered by them, was confirmed to Rochambeau by La Luzerne, who wrote him: "Your well-behaved and brave army has not only contributed to put an end to the success of the English in this country, but has destroyed in three years prejudices deep-rooted for three centuries."

The "President and professors of the University of William and Mary," using a style which was to become habitual in France but a few years later, desired to address Rochambeau, "not in the prostituted language of fashionable flattery, but with the voice of truth and republican sincerity," and, after thanks for the services rendered and the payment made for the building destroyed "by an accident that often eludes all possible precaution," they adverted to the future intellectual intercourse between the two nations, saying: "Among the many substantial advantages which this country hath already derived and which must ever continue to flow from its connection with France, we are persuaded that the improvement of useful knowledge will not be the least. A number of distinguished characters in your army afford us the happiest presage that science, as well as liberty, will acquire vigor from the fostering hand of your nation."

They concluded: "You have reaped the noblest laurels that victory can bestow, and it is perhaps not an inferior triumph to have obtained the sincere affection of a grateful people."

THE FRENCH ARMY RETURNS TO PROVIDENCE

As the summer of 1782 was drawing near, the French army, which had wintered in Virginia, moved northward in view of possible operations.

On the 14th of August Washington and Rochambeau were again together, in the vicinity of the North River, and the American troops were again reviewed by the French general. They are no longer in tatters, but well dressed and have a fine appearance; their bearing, their maneuvers are perfect; the commander-in-chief, "who causes his drums," Rochambeau relates, "to beat the French march," is delighted to show his soldiers to advantage; everybody compliments him.

During his stay at Providence, in the course of his journey north, Rochambeau gave numerous fêtes, a charming picture of which, as well as of the American society attending them, is furnished us by Ségur: "Mr. de Rochambeau, desirous to the very last of proving by the details of his conduct, as well as by the great services he had rendered, how much he wished to keep the affection of the Americans and to carry away their regrets, gave in the city of Providence frequent assemblies and numerous balls, to which people flocked from ten leagues around.

"I do not remember to have seen gathered together in any other spot more gayety and less confusion, more pretty women and more happily married couples, more grace and less coquetry, a more complete mingling of persons of all classes, between whom an equal decency allowed no untoward difference to be seen. That decency, that order, that wise liberty, that felicity of the new Republic, so ripe from its very cradle, were the continual subject of my surprise and the object of my frequent talks with the Chevalier de Chastellux."

ALL FRANCE HONORS ROCHAMBEAU ON HIS RETURN

In the autumn of 1782 a general parting took place, Rochambeau returning to France.

The King, the ministers, the whole country, gave Rochambeau the welcome he deserved. At his first audience on his return he had asked Louis XVI, as being his chief request, permission to divide the praise bestowed on him with the unfortunate de Grasse, now a prisoner of the English after the battle of the Saintes, where, fighting 30 against 37, he had lost seven ships, including the *Ville de Paris* (which had 400 dead and 500 wounded), all so damaged by the most furious resistance that, owing to grounding, to sinking, or to fire, not one reached the English waters. Rochambeau received the blue ribbon of the Holy Ghost, was appointed governor of Picardy, and a few years later became a marshal of France.

Rochambeau was keeping up with Washington a most affectionate correspondence, still partly unpublished, the great American often reminding him of his "friendship and love" for his "companions in war." Dreaming of a humanity less agitated than that he had known, dreaming dreams which were not to be soon realized, he was writing to Rochambeau, from Mount Vernon, on September 7, 1785: "Although it is against the profession of arms, I wish to see all the world at peace."

The French Revolution found Rochambeau still an officer in the French army, defending the frontier as a marshal of France and commander-in-chief of the northern troops. In 1792 he definitely withdrew to his estate, barely escaping with his life during the Terror. A striking and touching thing it is to note that when a prisoner in that "horrible sepulchre," the Conciergerie, he appealed to the "Citizen President of the Revolutionary Tribunal" and invoked as a safeguard the great name of Washington, "my colleague and my friend in the war we made together for the liberty of America." Luckier than many of his companions in arms of the American war—than Lauzun, Custine, d'Estaing, Broglie, Dillon, and others—Rochambeau escaped the scaffold.

THE EQUILIBRIUM OF THE WORLD HAS BEEN ALTERED

Visiting some years ago the place and the tomb and standing beside the grave of the marshal, it occurred to me that it would be appropriate if some day trees from Mount Vernon could spread their shade over the remains of that friend of Washington and the American cause. With the assent of the family and of the mayor of Thoré, and thanks to the good will of the ladies of the Mount Vernon Association, this idea was realized, and half a dozen seedlings from trees planted by Washington were sent to be placed around Rochambeau's monument—two elms, two maples, two redbuds, and six plants of ivy from Washington's tomb. The last news received about them showed that they had taken root and were growing.

In less than a century and a half New York has passed from the ten thousand inhabitants it possessed under Clinton to the five million and more of today. Philadelphia, once the chief city, "an immense town," Closen had called it, has now ten times more houses than it had citizens.

Partly owing again to France ceding, unasked, the whole territory of Louisiana in 1803, the frontier of this country, which the upper Hudson formerly divided in its center, has been pushed back to the Pacific; the three million Americans of Washington and Rochambeau have become the one hundred million of today. From the time when the flags of the two countries floated on the ruins of Yorktown the equilibrium of the world has been altered.

There is, perhaps, no case in which, with the unavoidable mixture of human interests, a war has been more undoubtedly waged for an idea. The fact was made obvious at the peace, when victorious France, being offered Canada for a separate settlement, refused, and kept her word not to accept any material advantage, the whole nation being in accord and the people illuminating for joy.

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A MADONNA OF SORROW AT HER SON'S GRAVE

If the sympathy of the civilized world cannot still the anguish of the moment, the ages to come will venerate such heroic women who taught their sons the highest bravery, the finest courtesy, the loftiest honor—and who gave their all for France.

Photograph by Det Forenigede Kunstnere. A. G.

A MADONNA OF THE MOUNTAINS

In the whirlpool of Europe, Switzerland's political neutrality has kept its balance, and peace of a sort exists within the little democracy's borders. But it is a peace strained by the evidences of war and shot through with thoughts of another little state which had no friendly Alps to guard it—only a treaty and the honor of nations. Mother hearts cannot forget that there are no such idyls as this in Belgium today.

A MADONNA OF SACRIFICE.

Wordless reverence is the most fitting tribute to the Mothers of Belgium. May her sole remaining treasure, in the liberated and peace-blessed world of the future, live to realize that in the terrible vision of the present his eyes have seen the glory of the coming of the Lord.

Photograph by Garrigues

A BEDOUIN MOTHER AND CHILD

The father of this little nomad may be a warlike bandit with a cloudy notion of property rights and other details of the civilized code; his mother a simple daughter of the desert with a childish curiosity and fondness for gaudy trinkets, but her babe has the divine heritage of mother love as truly as the most fortunate child of our own land.

Negative by Eliza R. Scidmore.

A MOTHER OF WARRIORS: JAPAN

Stoicism is more than a tenet with the Japanese; it is almost a religion, and the mother of these babes, if the hand of death were laid upon them, could with calm fortitude relate her loss to a stranger without the display of grief, for it is a cardinal principle of her politeness that she should never burden another with her woes. But beneath this cross-barred cradle of cloth there beats the universal mother heart—universal in its high hopes for her children's future and in its eager joy at personal sacrifice for their happiness.

A MADONNA OF THE GREAT PLAINS

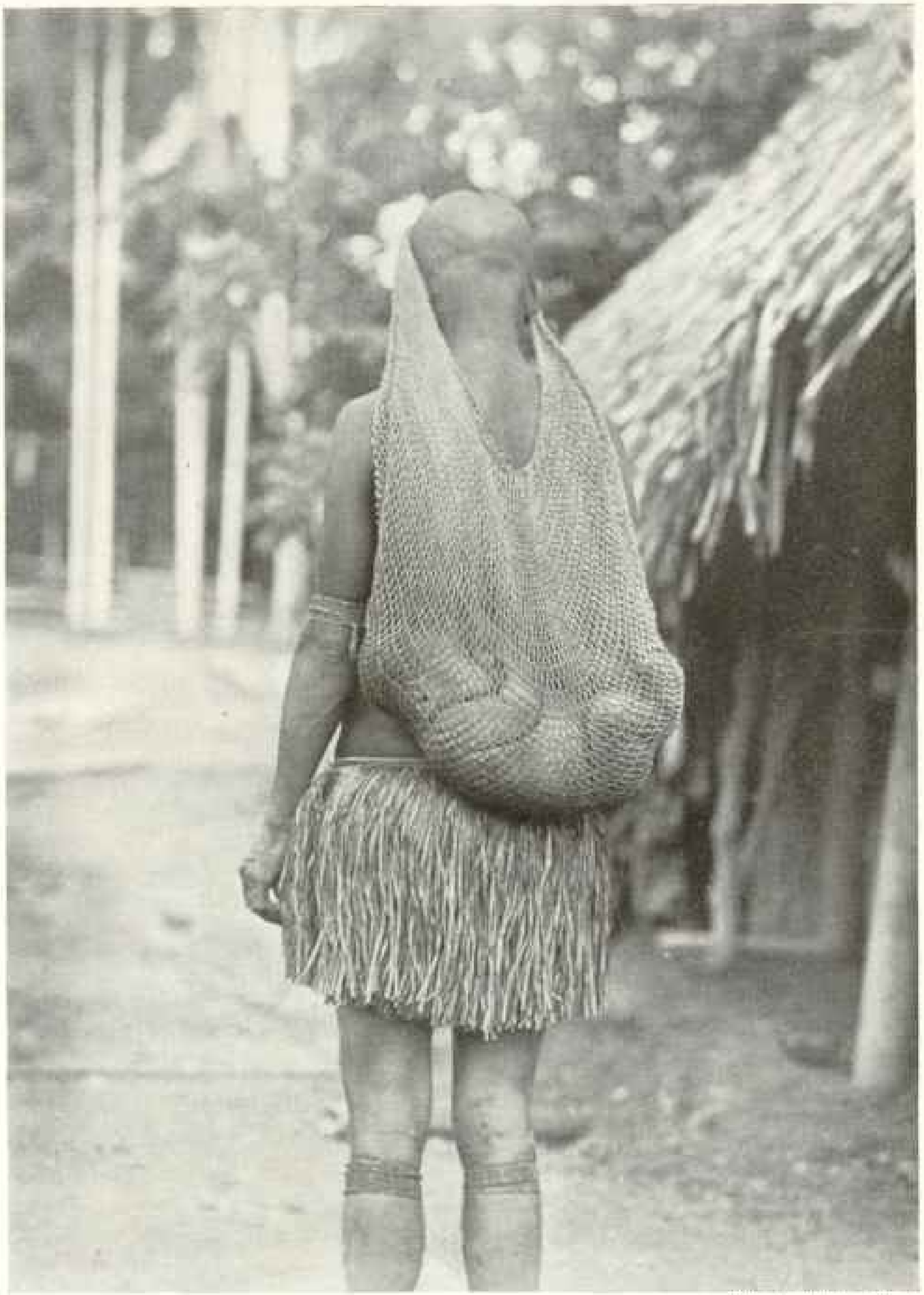
The Indian race, in general, has offered resistance to the American "melting pot," but Indian metal, after proper contact with civilized customs and industries, has gone into the making of many examples of splendid citizenship.

THE BALANCE OF POWER IN CHINA

Photograph by Burg Mesch

WARM HEARTS OF THE NORTH

The Lapland father may measure his wealth in herds of reindeer, in hides and pelts, but the Lapland mother knows that her bright-eyed, smiling baby and her sturdy two-year-old are the treasures beyond price.



Photograph by A. R. Lewis

A NEW GUINEA WOMAN AND BABY

This device is at a disadvantage when compared with an American cradle, but it is a touching evidence of maternal inventiveness and industry at work for baby's safety even in the South Seas.

Photograph by Mrs. Charles K. Moser

YOUNG SOMALI MOTHER AND BABE: ADEN

Even the primitive heart of a Somali woman is instinct with a sense of protection for the innocence and helplessness of a child.

Photograph by S. J. Spooner

A PATIENT MEXICAN MOTHER

When war for the peace of the world and "for the principles that gave her birth," is welding the great heart of America into high-purposed unity, she must needs feel a deep pity for the mothers and children of distracted Mexico, and a just indignation that their burden of poverty and distress has been increased by selfish Prussian intrigue.

Photograph from Hon. Belisario Porras

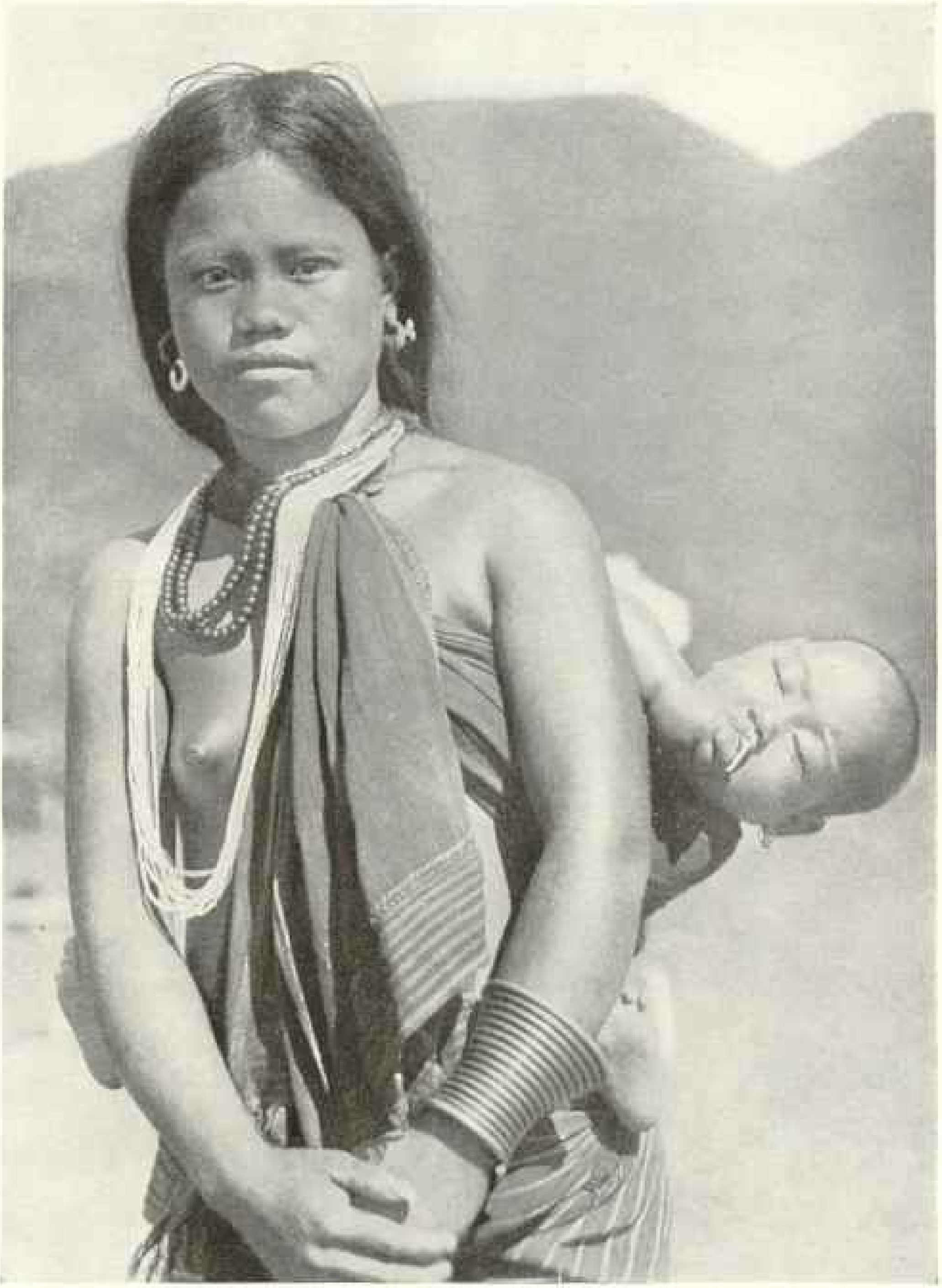
INDIAN MOTHER AND BABE: PANAMA

The Cuna-Cuna, or Tule Indians of the San Blas coast of Panama, are of the purest aboriginal strain. For hundreds of years they have resisted amalgamation, and woe to the Cuna-Cuna belle who looks with favor upon a "foreign" lover. They are an intelligent race and are not savages by any means—even though nose rings are a part of the adornment of all members of the gentler sex, who wear them from the time they begin to walk.

Photograph from Alexander Graham Bell

MOTHER AND CHILD IN CEYLON

In spite of the white man's improvements, the climate of Ceylon is not merciful to baby dwellers in "the Half-way House of the East;" but the little brown natives are merry and bright-eyed, nevertheless. Life is sweet, although, of course, much sweeter when one has a bit of palm sugar to suck.



Photograph by Harriet Chalmers Adams

MOTHERHOOD IN THE PHILIPPINES

He doesn't know that, after his mother, Uncle Sam is his best friend. Had he belonged to an earlier generation his childhood would have been spent at work in the fields until he was old enough to join father in head-hunting. Under American direction, the future probably holds for him an education and a respectable career as a farmer or as a member of the native police. At present he is just a healthy little Ifugao; mother's back is a warm and comfortable reality—and "Who is Uncle Sam, anyway?"

Photograph by D. W. Iddings

A HUNGARIAN GYPSY MOTHER AND CHILD—AT HOME

Neither the poets who have celebrated the gypsy passion for freedom and the open road, nor the ethnologists who have studied the mysterious origin of the race have offered an explanation of the Romany's lack of that almost universal quality—a love for home.

Photograph by George R. King

AN ESKIMO FAMILY

Tenderness and responsibility in their treatment of children is a virtue of the Eskimo which binds them closer to the brotherhood of civilized peoples than their skill at carving or with the needle.

OUR SECOND ALLIANCE

By J. J. Jusserand

Ambassador from France to the United States

The following impromptu address by Ambassador Jusserand was delivered at the reception by the United States Congress to M. Viviani, President of the French Commission, and Marshal Joffre, in the House of Representatives on May 3. The occasion was unique in that it was the first and only time that a resident ambassador of any foreign country has addressed the United States Congress.

Mr. Speaker and Gentlemen of the House of Representatives: I might repeat only the words of Marshal Joffre, though I have not the same excuse for not making a longer speech; but the words interpret my feelings as well as his and those of all my compatriots. Gentlemen, I thank you.

This occasion is a very great one, and I am sure that those two men whose portraits adorn this Hall—Washington and Lafayette—those two friends who fought for liberty, would, if they could, also applaud, and say to their descendants, their American and their French ones, "Dear people, we thank you."

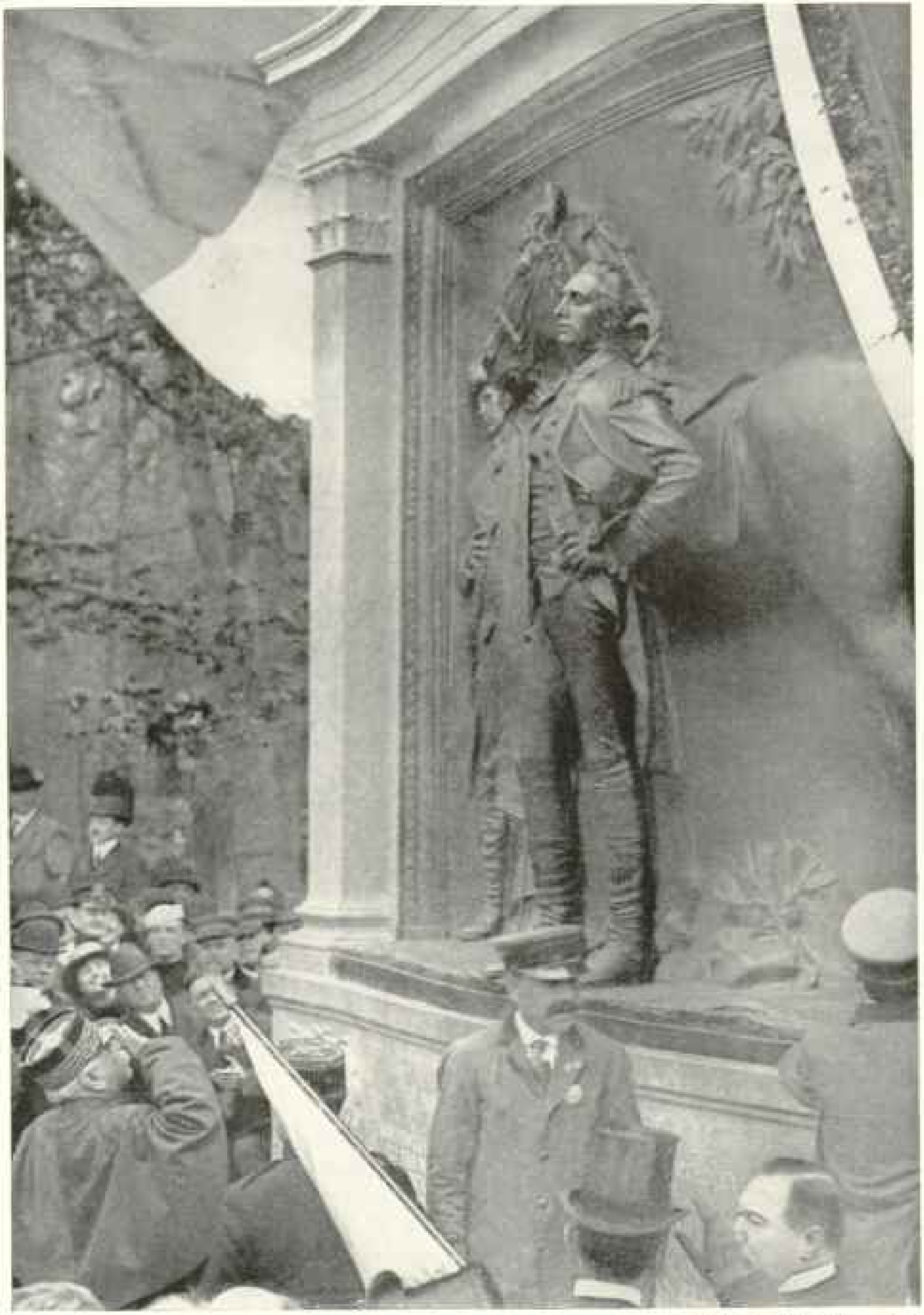
What you have been doing, the laws you have passed, the decisions you have taken, touch us deeply, and touch the French people in a very particular fashion, because what you have done is a sort of counterpart of what we did long ago.

What we did was to come to the rescue of men who wanted to be free, and our desire was to help them and to have no other recompense than to succeed, and that liberty should be established in this new continent.

What we did was unique then in the history of the world. We expected nothing for ourselves but your friendship, and that we got. We did not know that ever a time would come when the same action would be taken by another of the nations of the world; and yet that time has come, the same action has been taken, with the same energy, the same generosity, the same disinterestedness that characterized the conduct of those other men many years ago. It has been taken by the United States.

What you do now is to come to Europe to take part in the fight for liberty, a fight in which you expect no recompense, no advantage, except that very great advantage, that in the same way that we helped to secure liberty—human liberty, individual liberty, national liberty—on this continent, you will fight to see that liberty be preserved in the broad family of nations.

Thanks to you, we shall see the calamities of this struggle shortened, and a new spirit of liberty grow greater and stronger, pervade all countries and indeed fill the world.



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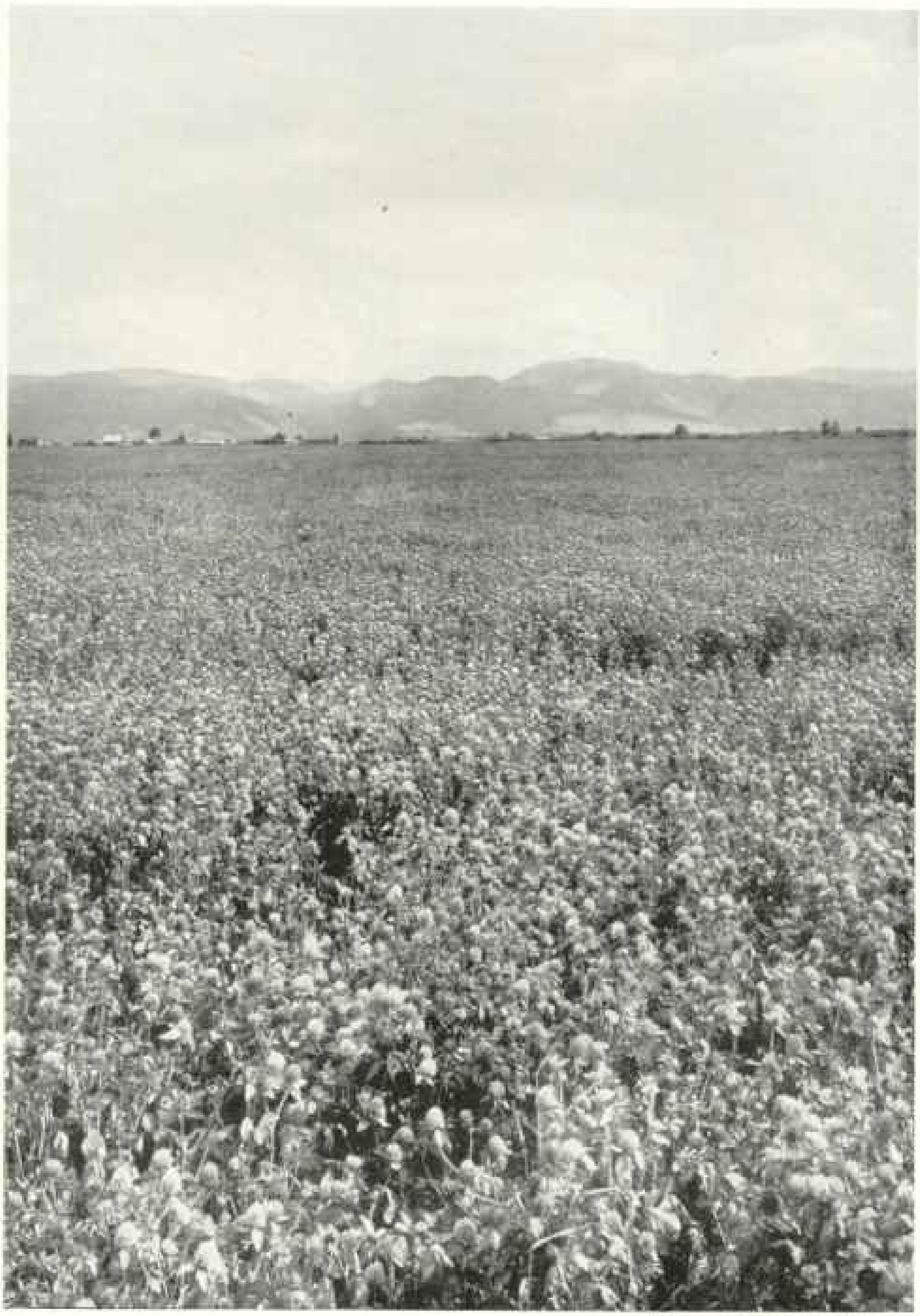
MARSHAL JOFFRE UNVEILS THE MEMORIAL TO LAFAYETTE IN PROSPECT PARK, BROOKLYN

Americans, as long as the United States endures, will reverence the name of Lafayette, who, though inheriting immense wealth and, as head of one of the oldest and most distinguished families, assured of an influential career in France, deliberately abandoned the advantages of birth to fight in our country for the liberation of mankind.



Photograph by Albert Schlechten

A CLOVER FIELD IN MONTANA (SEE PAGE 517)

Although thirty-eight of the States have in one way or another expressed their preferences and chosen their flower queens, this is the first attempt that has been made to assemble in a single publication color paintings and descriptions of all the State flowers (pp. 481–517).

Photograph by Charles Martin and Ethel M. Bagg

ROLLING AND PASTING RATION HEATERS AT HOME

THE CONVERSION OF OLD NEWSPAPERS AND CANDLE ENDS INTO FUEL

IN ITALY and France women and children are rolling old newspapers into tight rolls, pasting down the edges with glue or paste, and boiling them in paraffin to make ration heaters (*scalda-rancio*) out of them for the use of the soldiers in the trenches in the high Alps, where coal cannot be sent. They are making them by the million. The Italian National Society furnishes 1½ million a day to the government, and the old newspapers are being used up for this purpose so fast that they are becoming scarce, and paraffin has become very expensive.

In America there are still millions of candle ends and thousands of tons of newspapers scattered over the country, and it would seem to be well worth while for the thousands of willing hands in the homes to convert them into these most useful ration heaters for the boys at the front, or for their use next winter in the training camps, or even for use at home, where they can take the place of the more expensive solid alcohol or replace kindlings in the kitchen stove.

It is the easiest thing imaginable to make ration heaters, or *scalda-rancio*, as they are called in Italy, if one follows the directions of the National Italian Society.

Spread out four newspapers, eight sheets in all, and begin rolling at the long edge. Roll as tightly as possible until the papers are half rolled, then fold back the first three sheets toward the rolled part and continue to wrap around the roll almost to the first fold, then fold back another three sheets and continue to wrap around the roll again up to the last margin of the paper. On this margin, con-

Photograph by Charles Martin and Ethel M. Bagg

CUTTING THE NEWSPAPER ROLLS AND MELTING THE CANDLE ENDS

sisting of two sheets, spread a little glue or paste and continue the rolling, so as to make a compact roll of paper almost like a torch. If six of the sheets are not turned under, there will be too many edges to glue.

While the newspapers may be cut along the line of the columns before rolling and the individual columns rolled separately, as is done in the making of the trench candles in France, it is easier to roll the whole newspaper into a long roll and then cut it into short lengths. A sharp carving knife, a pair of pruning shears, or an old-fashioned hay-cutter will cut the rolls easily. These little rolls must then be boiled for four minutes in enough paraffin to cover them and then taken out and cooled, when they are ready to be put in bags and sent to the front. If there are more newspapers than candle ends, block paraffin can be bought for a few cents at any grocery or drug store.

Little children and grown-ups in Italy and France are rolling, gluing, and paraffining these ration heaters by the million, and their fathers and husbands in the high Alps and other places where wood and coal cannot be sent are cooking their rations over them.

Photograph by Charles Martin and Ethel M. Bagg

A SOLDIER BOILING HIS RATION OVER THE HOME-MADE RATION HEATERS

Three of these little rolls of paper, no larger than a spool of silk, saturated with hot paraffin and allowed to cool, will burn without smoke, which in the presence of the enemy is dangerous, and will boil a pint of soup in about ten minutes and keep lighted for twenty minutes or half an hour. By supporting the can of soup on pieces of rock and protecting the flames from the wind an ideal individual camp meal can be made.

NATIONAL GEOGRAPHIC SOCIETY

HUBBARD MEMORIAL HALL

SIXTEENTH AND M STREETS, WASHINGTON, D. C.

To carry out the purpose for which it was founded twenty-eight years ago, namely, "the increase and diffusion of geographic knowledge," the National Geographic Society publishes this Magazine. All receipts from the publication are invested in the Magazine itself or expended directly to promote geographic knowledge and the study of geography. Articles or photographs from members of the Society, or other friends, are desired. For material that the Society can use, adequate remuneration is made. Contributions should be accompanied by an addressed return envelope and postage, and be addressed:

GILBERT H. GROSVENOR, EDITOR

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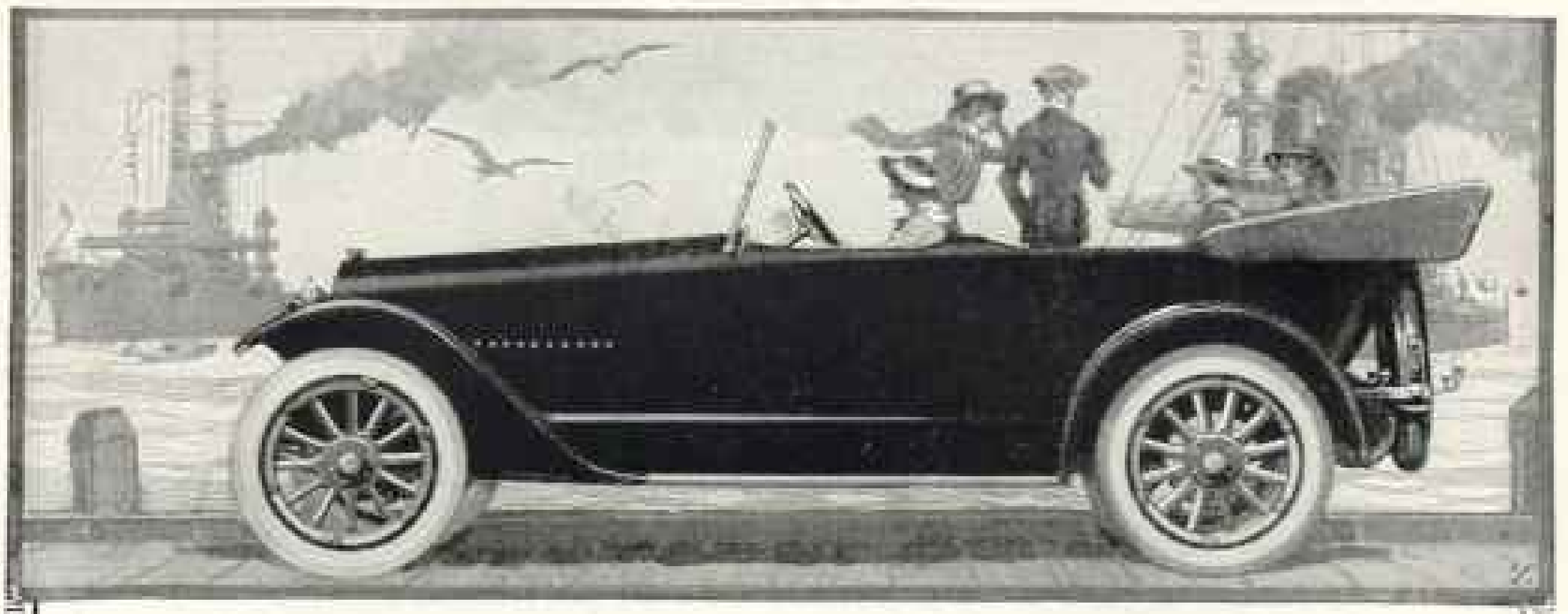


An Exceptional Car

Distinctive in a Hundred Ways

In the Mitchell car of either size you will find many unique attractions.

There are 31 wanted features which nearly all cars omit. There are luxuries and beauties far excelling any other car in this class.

Every vital part is built to the standard of 100 per cent overstrength. That is twice the usual margin of safety.

There are shock-absorbing springs found on no other car. They make this the easiest-riding car in existence. There is a remarkable motor, economical and efficient, the result of 14 years of study. There are reversible headlights, a ball-bearing steering gear, a dashboard engine primer, a light in the tonneau, a locked compartment for valuables.

There are eight new-style bodies, all exclusive to the Mitchell. The experts who designed them first reviewed 257 new models to include all the known attractions.

There is an extra-smart Club Roadster, a new-type Convertible Sedan.

All are built in this model plant, under John W. Bate's efficiency methods. The factory savings, amounting to millions of dollars, go into the extra values.

See these new models. See a truly complete car. See how strong a lifetime car should be. See how beautiful it can be. Over 70,000 motorists have come to the Bate-built Mitchells.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.

Mitchell SIXES

TWO SIZES

Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase and a highly-developed 48-horsepower motor.

$1460

Four-Passenger Roadster, $1485. Sedan, $2175. Cabriolet, $1895. Coupe, $1995.

Also Town Car and Limousine

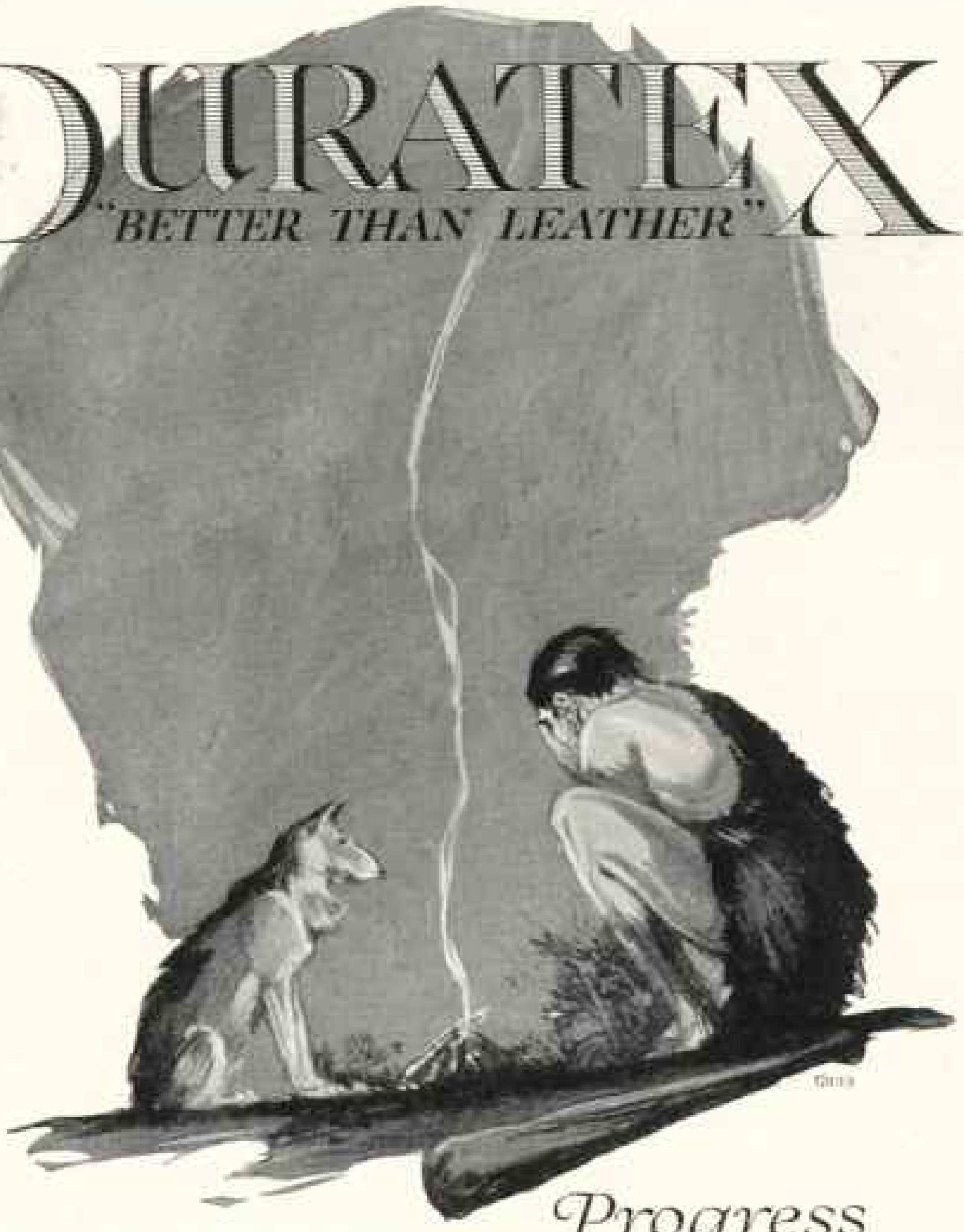
Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor—¾-inch smaller bore.

$1195

All Prices f. o. b. Racine

DURATEX

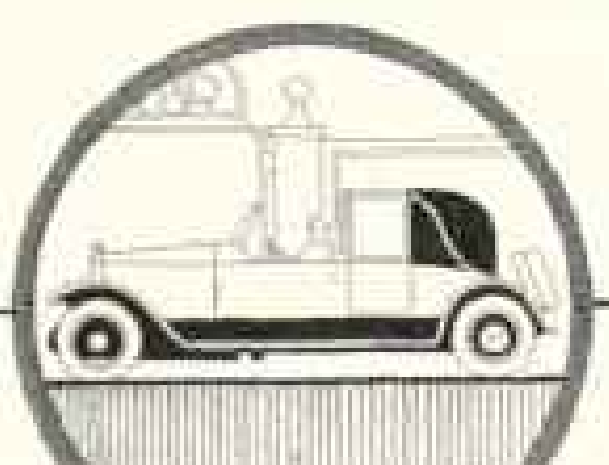
"BETTER THAN LEATHER"



Progress

Making fire was man's first adventure in chemistry. This was the beginning of human progress. Here for the first time he produced something which nature had failed to supply. The greater beauty of Duratex and its practical superiority to leather for motor car upholstery would seem to indicate that chemical science not only has met the situation created by the shortage of leather but has provided something better in place of it.

THE DURATEX COMPANY
Newark, N.J.



The Puffed Wheat Dish

As Every Child Would Like It—Constantly Overflowing

To the youthful lovers of Puffed Wheat and Rice, no dish seems large enough.

You know how it is—you mothers who have served them. Again and again the bowls come back for refilling.

There is never so much that the end of the dish doesn't leave a desire for more. For these bubbles of grain—airy, flaky, and nut-like—are delightful food confections.

Why Do You Stint Them?

Consider these facts, Mrs. Housewife.

These are whole grains, filled with all the elements that youthful bodies need. They are not partial foods, like most things. They are not unbalanced, so digestion is upset.

They are two of Nature's premier foods.

By Prof. Anderson's process—shooting from guns—every food cell is exploded. So every granule feeds.

No other grain food offers that advantage.

When such foods come in such likable form, why not let the children have them in abundance?

Puffed Grains are not mere breakfast cereals. They are flavory, crusty morsels to be mixed with any fruit. They are flimsy, toasted bubbles to float in bowls of milk.

They are nut-like tidbits for eating between meals. Douse them with melted butter. Use them in candy-making or as garnish for ice cream. They are ideal wafers for soups.

Such perfect foods, made so enticing, should be served in many ways.

Puffed Wheat

Puffed Rice

and Corn Puffs

Each 15c Except in Far West

Puffed Grains in Milk

Puffed Grains Mixed with Fruit

The Quaker Oats Company

Sole Makers

(1529)

Mark Twain Was A Great Pilot!

Fifty years ago he knew every sand-bar and danger mark in that ever-changing Mississippi River. His *accurate* knowledge insured a safe, pleasant journey for his passengers.

But today you wouldn't ride with a pilot who steered according to Mark Twain's landmarks. The pilot of today must know the river channel as it is *now*.

The same is true of tires. You want tires built on the *accurate, scientific knowledge of today*.

Miller Tires
GEARED-TO-THE-ROAD

The Miller Method of vulcanizing is a modern development that retains the natural vegetable wax and oil in the fabric; builds rugged endurance and safety into the rubber tread. But even this modern process is charted daily by experienced Miller engineers and chemists—men recognized as dependable tire pilots. That's why Miller Tire users don't have mishaps, but get excessive mileage and care-free service.

You demand an up-to-date car. Demand a tire of today—a Miller Tire.

For sale by Geared-to-the-Road Distributors and Dealers everywhere

THE MILLER RUBBER CO., AKRON, U. S. A.

Special Offer—We are the largest manufacturers of toy balloons in the world. Send 50 cents for the new Airoplay Outfit—a big package of balloons. Fun for everybody—children and grown-ups. Address Dept. F.

JOHNS-MANVILLE
ASBESTOS ROOFING

JOHNS-MANVILLE SERVICE
COVERS THE CONTINENT

THERE is no more magic in the resistance of Johns-Manville Asbestos Roofing to fire and the elements than there is in the warmth of wool, the permanence of granite, or in the resistance of rubber to water—it's natural. Every sheet of Johns-Manville Asbestos Roofing is naturally fire-repellent, water-resistant, time defiant, because each fibre of that felt is *naturally* endowed with those properties.

Your roof decision need not be one which asks the question "what kind of a roofing," but "what kind of a Johns-Manville Asbestos Roofing." There is not one negative factor in such a choice. It is the most economical roofing—the safest roofing—a roofing that rarely needs attention.

Is it any wonder that Johns-Manville Asbestos Roofing is fast gaining general acceptance, when an ideal material for roofing can now be had for any roof, as the list below will show?

Asbestos Built-Up Roofing for flat roofs, Asbestos Ready Roofing for sloping surfaces, Corrugated Asbestos Roofing for skeleton framing, Transite Asbestos Shingles for homes.

Johns-Manville Roofing Responsibility—a principle that certifies the service of every Johns-Manville Asbestos Roofing. You can register your roofing with us, and thus be assured of complete satisfaction in the service it gives.

First National Bank Bldg., Omaha, Neb.
Graham, Burnham & Co., Architects

H. W. JOHNS-MANVILLE CO.
NEW YORK CITY
10 Factories—Branches in 55 Large Cities

"In the Garden of Sleep"

BARRE GRANITE

Stands, the Everlasting Sentinel

For massive mausoleum or simple memorial stone, there is no other material so fittingly devised by Nature to combat the ravages of time and elements, in marking with everlasting beauty the last resting place.

Barre Granite, by its even texture, lends itself to whatever character of design or architecture is demanded, and its beauty is equally distinctive under the sculptor's chisel or in polished surface.

All Barre Granite is quarried at Barre, Vt. Specify that every part of your memorial be of Barre Granite.

Write for "Memorial Masterpieces," illustrating the monuments of many of America's distinguished citizens, including the Rockefeller, Fleischman, Heinz, Schley, Armour, Tarkington, Potter Palmer, Anheuser, Leland Stanford, and others.

Barre Quarriers and Manufacturers Ass'n
Dept. B, BARRE, VERMONT
"The Granite Center of the World"

Here's Fun For You!

A day in the woods with a Hawkeye Basket. Fish, hike, smoke, read, and rest in the woods and take along eatables and drinkables in a

Hawkeye BASKET REFRIGERATOR

Keeps contents cool, clean, and fresh for 36 hours with one filling of ice. Light weight, attractive, durable. The Hawkeye has been the keynote of hundreds of enjoyable days in the woods. Priced as low as $5.00.

Try a Hawkeye Basket—30 days without expense. Ask for Booklet 23.

BURLINGTON BASKET COMPANY
113 Hawkeye Bldg., Dept. M, Burlington, Iowa

You Can Make Photos in Natural Colors *with Your Own Camera*

USE the plate or film camera you now have. Process easily understood and readily followed by any one who can take black-and-white photographs. The new

HIBLOCK

is a plate that gives any number of colored prints from a single set of negatives. Well handled pictures show all the beauty of color found in animate or inanimate nature. Usable indoors or outdoors with natural or flash light. We supply all necessary materials for cameras of all sizes.

Write for our free booklet explaining color photography for your camera.

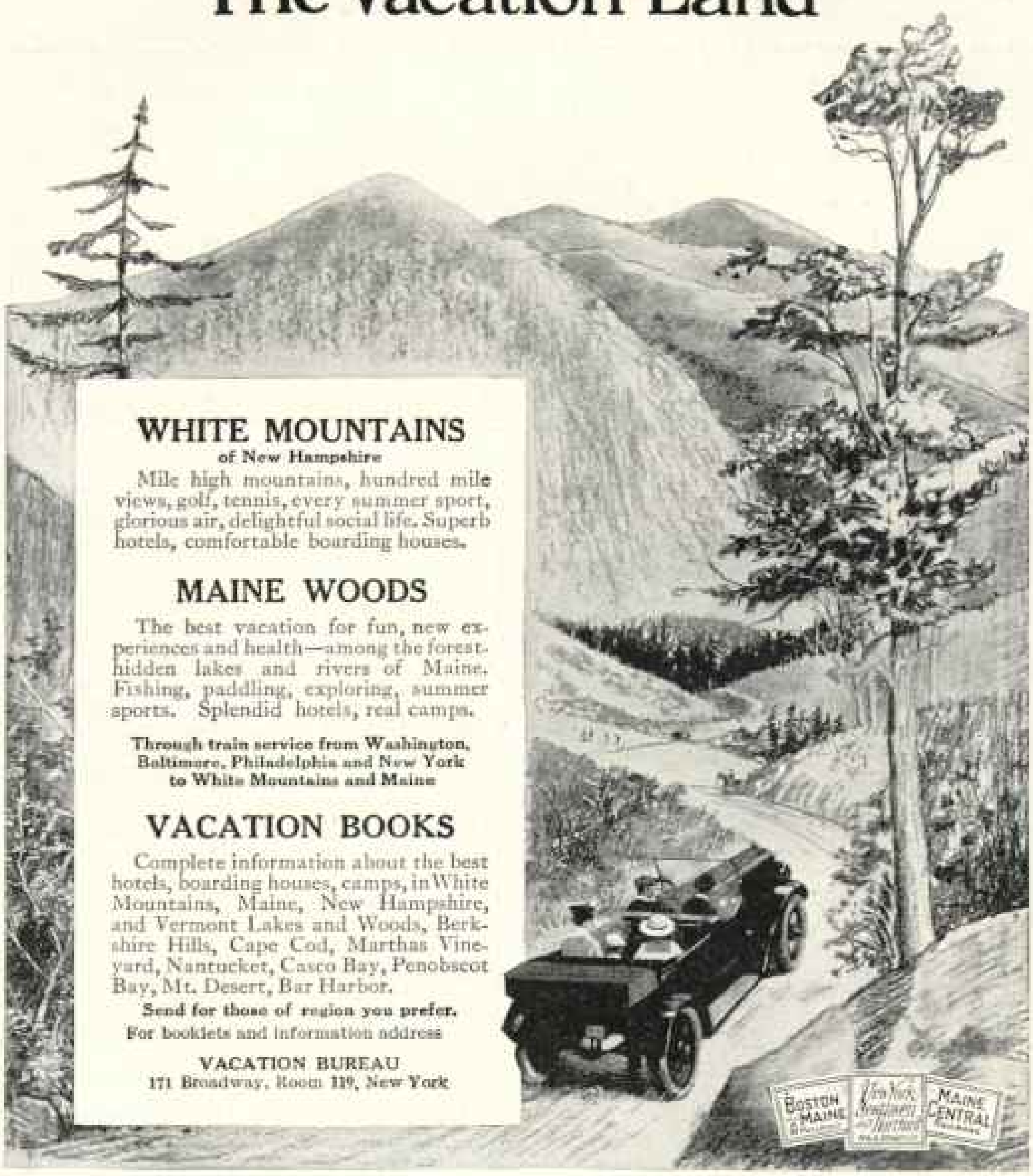
HESS-IVES CORPORATION

1201 Race Street, Philadelphia, Pa.

Dealers: If you are not already handling Hiblock plates, write for our offer today.

New England

The Vacation Land



WHITE MOUNTAINS

of New Hampshire

Mile high mountains, hundred mile views, golf, tennis, every summer sport, glorious air, delightful social life. Superb hotels, comfortable bourding houses.

MAINE WOODS

The best vacation for fun, new experiences and health—among the forest-hidden lakes and rivers of Maine. Fishing, paddling, exploring, summer sports. Splendid hotels, real camps.

Through train service from Washington, Baltimore, Philadelphia and New York to White Mountains and Maine

VACATION BOOKS

Complete information about the best hotels, bourding houses, camps, in White Mountains, Maine, New Hampshire, and Vermont Lakes and Woods, Berkshire Hills, Cape Cod, Marthas Vineyard, Nantucket, Casco Bay, Penobscot Bay, Mt. Desert, Bar Harbor.

Send for those of region you prefer.

For booklets and information address

VACATION BUREAU
171 Broadway, Room 119, New York

Your Income Tax

On June 15, 1917, every one whose income last year amounted to $3,000 or more paid the tax assessed by the Federal Government.

Returns from this tax are of the utmost importance to the Government, especially at the present time.

It is the duty of every individual subject to this tax to coöperate with the Government in simplifying the process of collection.

For the convenience of investors we have prepared a sixteen-page individual income record book which will greatly facilitate the making out of annual income reports.

Complimentary copy on request. Mention edition N6.

This is indicative of the attention—even to the smallest particular—which our clients receive through the Compton Investment Service.

William R. Compton Company

Municipal Bonds

"Over a Quarter Century in This Business"

NEW YORK: 14 Wall Street — ST. LOUIS: 408 Olive Street
CHICAGO: 105 S. La Salle Street — CINCINNATI: 102 Union Trust Building
PITTSBURGH: 721 Farmers Bank Building

July Investments

To Net 5½—6%

IN war time conditions, shrewd investors are turning back to the land and its earning-power for unimpeachable security. This widespread demand is met in the first mortgage bonds we offer, safeguarded under the *Straus Plan*.

EACH issue is a first mortgage on a high grade building and land in

New York — Chicago — Los Angeles
Detroit — Philadelphia — St. Louis

or some other large city. Price to net 5½—6%. Write for our booklet, "Acid Tests of Investments in War Time", and for

July Investment List No. F-708

S.W. STRAUS & CO.

Founded 1882 — Incorporated 1905
NEW YORK: 150 Broadway — CHICAGO: Straus Building

Branch Offices:

Detroit — Minneapolis — Cincinnati
Boston — San Francisco — Kansas City
Philadelphia — Dayton — Rochester

35 years without loss to any investor

Our Service—

Its Distinctive Features

No. 4—Trustees' Requirements

Appreciating the restrictions placed upon the investments of Savings Banks and Trustees, we maintain at all times a comprehensive list of issues eligible and attractive as to safety and yield for these various purposes.

Send for our current list of offerings, AN-60

The National City Company

National City Bank Building
New York

"Mention the Geographic—It identifies you."

To insure Victor quality, always look for the famous trademark, "His Master's Voice." It is on every Victrola and every Victor Record. It is the identifying label on all genuine Victrolas and Victor Records.

Victor Supremacy
means—the greatest music by the greatest artists

It is indeed a wonderful thing to have the greatest artists of all the world sing and play for you right in your own home.

The instrument that accomplishes this inevitably stands supreme among musical instruments.

And that instrument is the Victrola.

The greatest artists make records for the Victrola exclusively. They agree that only the Victrola can bring to you their art and personality with unerring truth.

The Victrola is the logical instrument for your home.

There are Victors and Victrolas in great variety of styles from $10 to $400, and there are Victor dealers everywhere who will gladly demonstrate them and play any music you wish to hear.

Victor Talking Machine Co.
Camden, N. J., U. S. A.

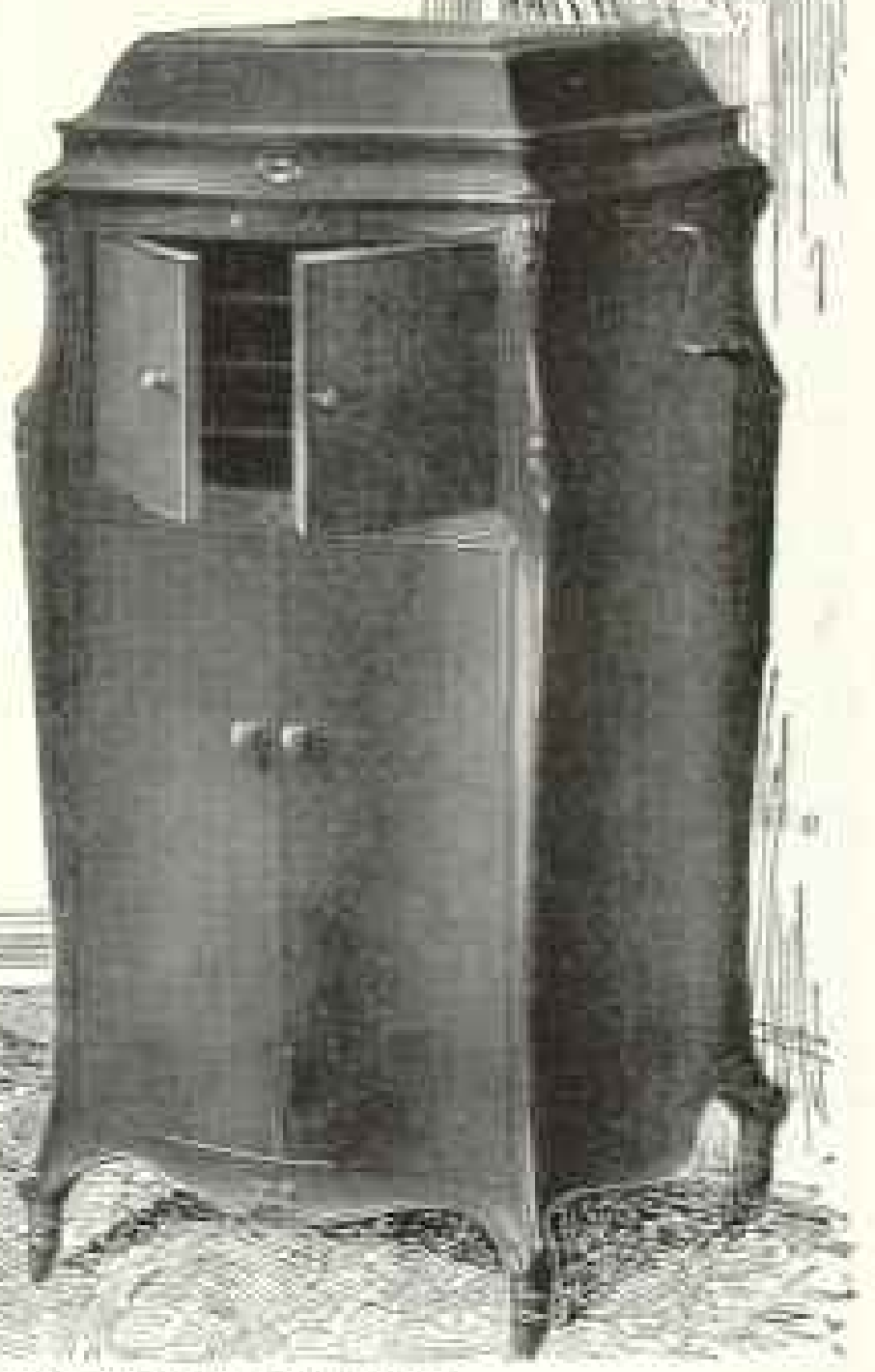
Berliner Gramophone Co., Montreal, Canadian Distributors

Important Notice. All Victor Talking Machines are patented and are only *licensed*, and with right of use with Victor Records only. All Victor Records are patented and are only *licensed*, and with right of use on Victor Talking Machines only. Victor Records and Victor Machines are scientifically coordinated and synchronized by our special processes of manufacture; and their use, except with each other, is not only unauthorized, but damaging and unsatisfactory.

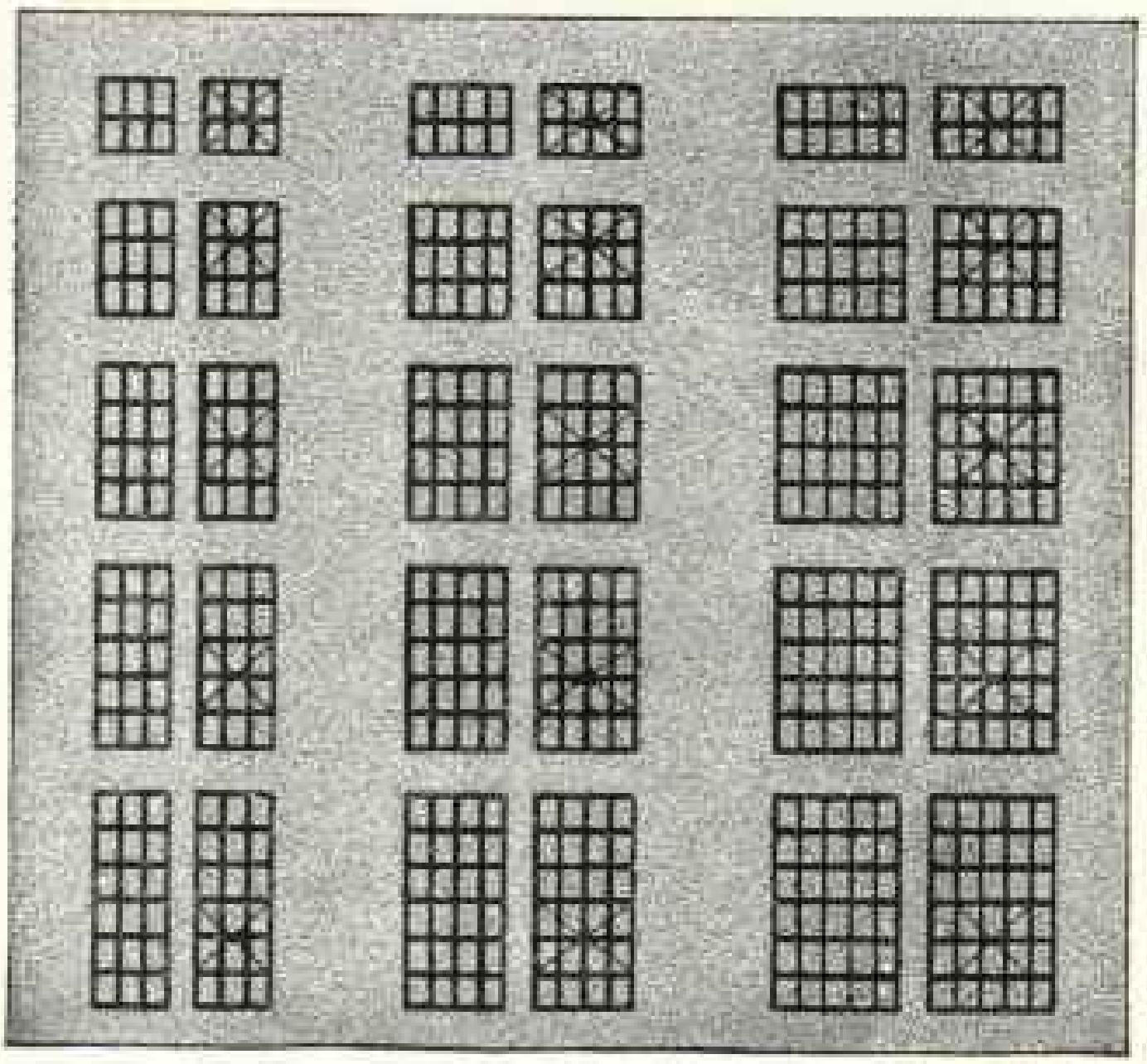
"Victrola" is the Registered Trade-mark of the Victor Talking Machine Company designating the products of this Company only.

Warning: The use of the word **Victrola** upon or in the promotion or sale of any other Talking Machine or Phonograph products is misleading and illegal.

Victrola XVII, $250
Victrola XVII, electric, $300
Mahogany or oak



New Victor Records demonstrated at all dealers on the 28th of each month



3 PANES HIGH
Y Height 3' 1⅝"
Z Height 3' 5⅝"

3 PANES WIDE
Y Width 3' 2"
Z Width 3' 8"

4 PANES HIGH
Y Height 6' 2⅝"
Z Height 6' 10⅝"

4 PANES WIDE
Y Width 4' 2⅝"
Z Width 4' 12⅝"

5 PANES HIGH
Y Height 7' 8⅝"
Z Height 8' 6⅝"

5 PANES WIDE
Y Width 5' 2⅝"
Z Width 6' 0⅝"

6 PANES HIGH
Y Height 9' 3⅝"
Z Height 10' 3⅝"

Ready For Your Building Now

These thirty types of Fenestra Solid Steel Windows in both 12 x 18 and 14 x 20 inch glass sizes are now at the immediate disposal of all builders

Shipment At Once

They are the most popular units in the entire Fenestra line.

They offer a variety in design and dimension sufficient to answer almost any building need.

They bear the usual high standard of Fenestra material and workmanship and carry the latest Fenestra fittings.

Meet your unexpected rush demands and offset the dangers of railroad delay by ordering these immediate shipment types, either from Detroit or from your nearest Fenestra representative.

An even larger variety can be shipped in ten days.

DETROIT STEEL PRODUCTS COMPANY

2619 East Grand Blvd. **Detroit, Michigan**

Fenestra

SOLID STEEL WINDOWS


GOODYEAR CORD
Outside Nikko Inn, Harmon, N. Y.
You Can Expect Immediate Benefits
It will undoubtedly require several months for you to experience in full the advantages of Goodyear Cord Tires.
The greater mileages they deliver, their slow and obstinate wear in everyday service, their consistent freedom from trouble—these can be learned properly only over a long period of use.
But there are other advantages perhaps no less important, from which you can expect immediate benefits.
The superior comfort of Goodyear Cords and the riding-ease they add to any car, the savings they effect in gasoline and power, the added distinction their equipment means and the security they insure—these are benefits you will appreciate in the first mile of travel.
Goodyear Cord Tires are from every standpoint the most efficient, economical and satisfactory tires we have been able to produce. Their quality makes them higher-priced—and better.
Goodyear Tires, Heavy Tourist Tubes and "Tire Saver" Accessories are easy to get from Goodyear Service Station Dealers everywhere.
The Goodyear Tire & Rubber Co., Akron, O.
GOODYEAR
AKRON
CORD TIRES

Westinghouse

SMALL MOTORS. FANS. ELECTRIC WARE FOR THE HOME

Your Unseen Servant

He comes at your bidding, but you do not see him.

You turn a switch or put a plug in a socket, and instantly he is at work.

He lights your lamps, cooks your meals, washes and irons your clothes, sweeps your rooms, gives you a breeze on hot summer nights, freezes your ice-cream, warms your bed, heats the baby's milk, runs your sewing-machine, polishes your silver, grinds your knives, transports you to your office, and carries you up or down in the elevator.

He works for small wages and is at your service twenty-four hours a day.

But you would not have this universal servant—at an expense anyone can afford—except for the work of many engineers who have made possible the economic generation of electric current and provided the means of turning that current into light, heat, and power.

When you use your Westinghouse Electric Iron or Toaster-Stove or Sew-Motor, you owe the lightening of your household tasks not alone to these appliances, but to many other types of electrical apparatus in the origination and perfection of which Westinghouse engineers have played a leading part.

These include the turbo-generators in the power-house miles away, that generate the electricity, and the switchboards, meters, transformers, rectifiers, regulators, and more that make possible the control, distribution, and use of this great force.

And Westinghouse engineering has been accompanied at every step by complete manufacturing facilities and high manufacturing standards.

Thus Westinghouse quality is the same, whether in a great 15,000-horsepower blooming mill motor, a 75,000-kilowatt generator, or little fan motors and electric irons in a million homes.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.
East Pittsburgh, Pa.

A Westinghouse Electric Fan keeps the home comfortable in hot weather for a few cents a day.

Westinghouse Electric Warm for the table provides a quick, easy, and efficient way to prepare breakfast and supper.

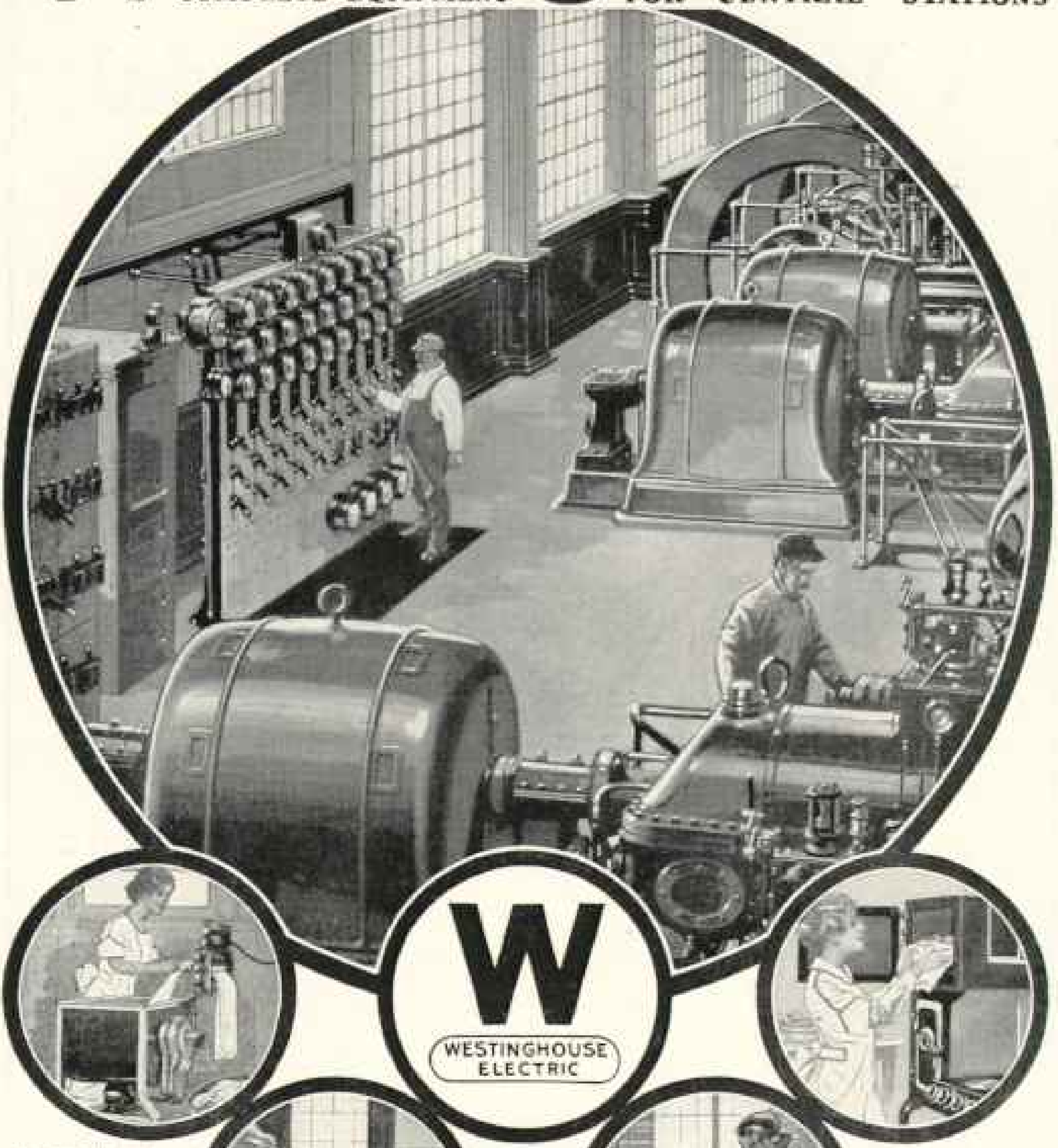
A Westinghouse Sew-Motor makes an electric machine of any ordinary sewing-machine, abolishing the toil of treadling.

A Westinghouse Electric Iron eliminates the hot stove, saves steps, and is ready any time anywhere there's a lamp-socket.

"Mention the Geographic—It identifies you."

Westinghouse

COMPLETE · EQUIPMENT FOR CENTRAL STATIONS



An Electric Washing-machine, equipped with a Westinghouse Motor, saves time, labor, and wear-and-tear on the clothes.

A Westinghouse Electric Milk Warmer heats the baby's milk quickly at the turn of a switch. Can be attached wherever there's a light-socket.

With a Westinghouse Automatic Electric Range the dinner is ready to serve when you come home after an all-day absence.

An Electric Vacuum Cleaner, driven by a Westinghouse Motor, suits itself, naturally, to the most energetic of housemaids.

DODGE BROTHERS

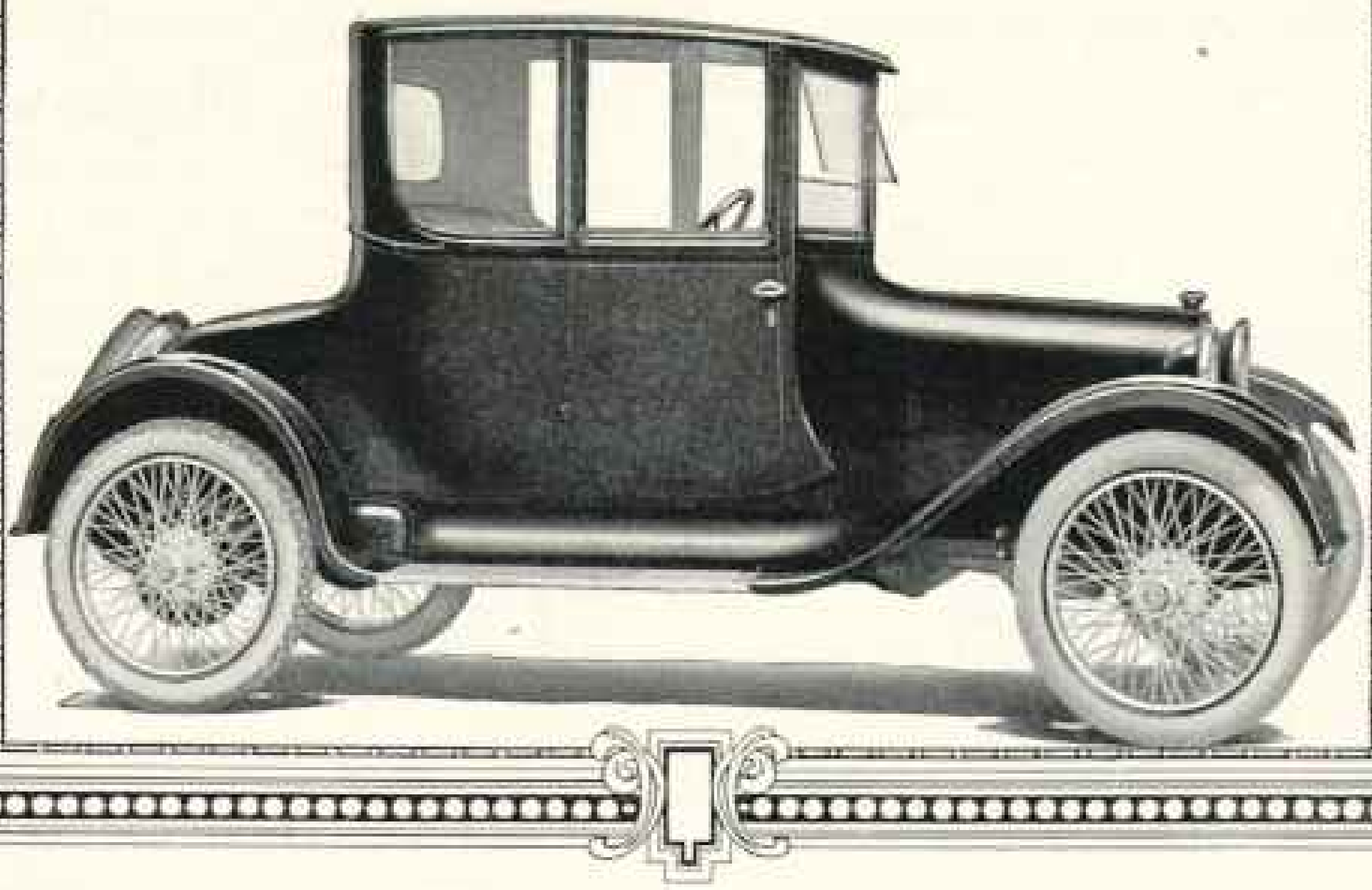
CLOSED CAR

Its uncommon beauty appeals
to feminine good taste

The convertible coupe is
well designed, well finished,
well upholstered, roomy—and
suited for use the year 'round.

Coupe or Sedan, $1265. In Canada, $1800
Touring Car or Roadster, $835. In Canada, $1185
All prices f. o. b. Detroit

DODGE BROTHERS, DETROIT



A Scenic and Educational Vacation Trip

Yellowstone Nat'l Park

Through Gardiner Gateway
and

Northern Pacific Ry.

Comfortable automobiles having replaced stage coaches this summer, enable you to see more of the wonders of this great vacation land.

Spokane and the Inland Empire
Puget Sound, Alaska, Seattle, Tacoma,
Portland, Rainier National Park
and the
Picturesque Columbia
River Highway

may be included in your vacation journey via the Northern Pacific Railway. Hundreds of miles of mountain, river and lake scenery.

Send for travel literature, summer rates and information.

A. M. CLELAND, Gen'l Pass. Agt.
66 Northern Pacific Railway
ST. PAUL, MINN.

NORTHERN PACIFIC
"The Northern Pacific Line"

"Mum"

(as easy to use as to say)

keeps the body fresh and sweet

A delightful sense of personal daintiness may be retained throughout the day by using a little "Mum" after the morning bath. This snow-white, greaseless cream gently neutralizes all odors of perspiration as they occur. Applied in a minute. Harmless to skin and clothing. A jar lasts a long time.

25c *at drug- and department-stores.*

"Mum" is a Trade-Mark registered in the Patent Office in Washington, D. C.

"MUM" MFG. CO 1106 Chestnut St Philadelphia

Mapleware

Lunch Set

Here's something you outdoor folk will like immensely—suitable for numberless occasions, but specially for serving your lunches on motor trips, at picnics, camping parties, yachting, etc.

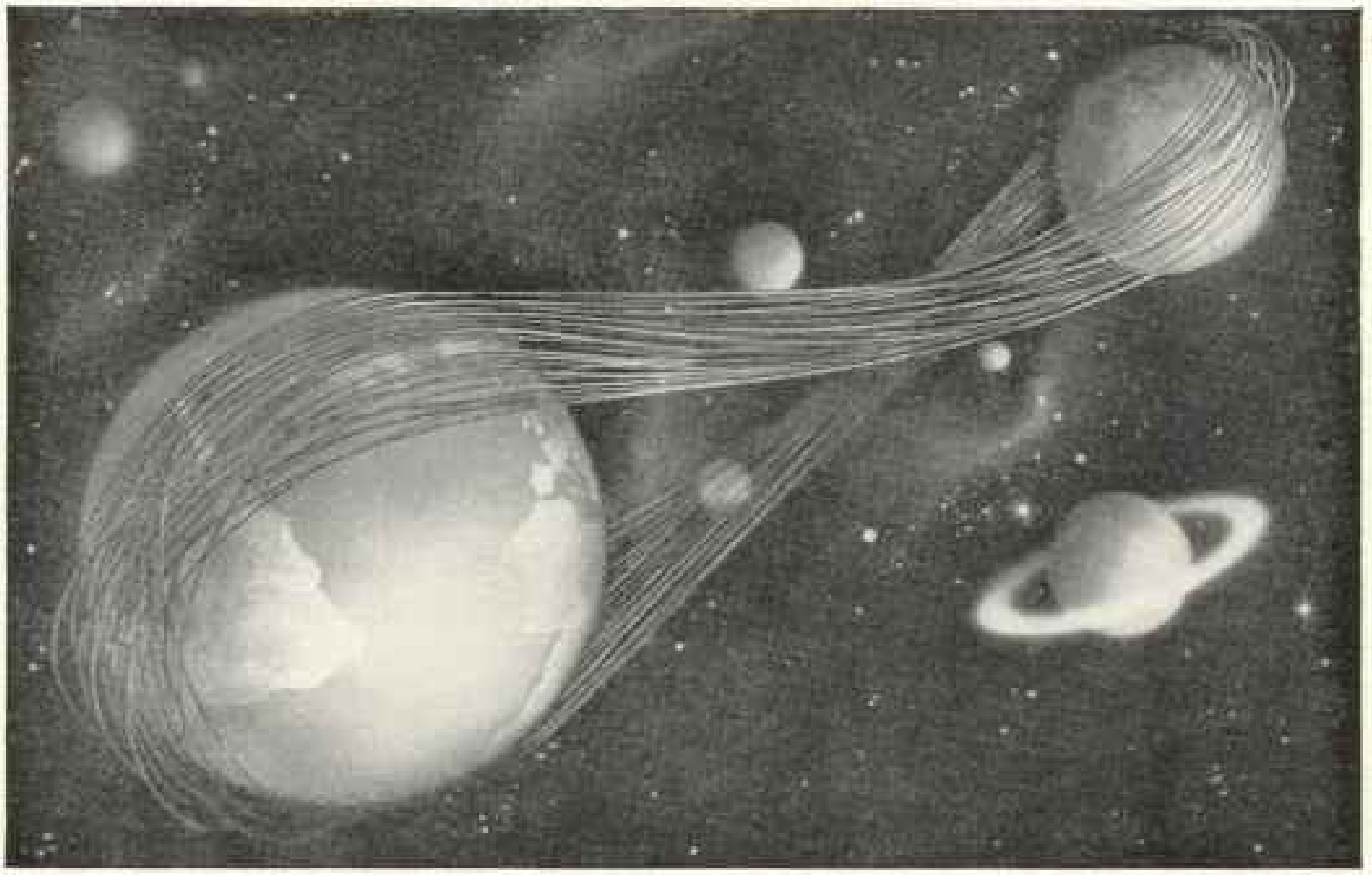
Sugar Maple Dishes will carry any foods—hot, cold, semi-liquid. Each carton contains:

6 Dinner Plates—7 Long Platters
2 Deep Salad Dishes
6 Medium Side Plates
6 Butter or Soft Dishes
12 Sanitary Spoons or Spreaders
1 Table Cover—all 9 x 60 inches (round files)
6 Large Napkins (good size)

Dispenses with weight and dishwashing. Retail price, 25c. the set; 3 sets, $1.00. Trial sets on receipt of price.

THE OVAL WOOD DISH COMPANY
Dept. 10, Delta, Ohio

New Orleans **San Francisco** **New York** **Toledo, O.**



Twenty Million Miles of Telephone Wire

The telephone wire in use in the Bell System is long enough to run from the earth to the moon and back again forty times.

The Bell System has about twice as much telephone wire as all Europe.

More than 500,000 new telephones are being added to the Bell System yearly—almost as many as the total number of telephones in England.

In twelve months the Bell System adds enough telephones to duplicate the entire telephone systems of France, Italy and Switzerland combined.

In proportion to population the extension of the Bell System in the United States is equal in two years to the total telephone progress of Europe since the telephone was invented—a period of about forty years.

The Bell System fills the telephone needs of the American people with a thoroughness and a spirit of public service which are without parallel the world over.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

"Mention the Geographic—It identifies you."

WHAT IT IS. WHY YOU WANT IT.

"Tide-water" Cypress

"A WORD TO THE 'BUYS' IS SUFFICIENT." HOW TO GET IT.

Owing to the nation-wide insistence upon Cypress, "The Wood Eternal," for all uses that invite decay, (as well as for artistic uses in interiors), it became necessary to devise safeguards for lumber-consumers who have had no reason to become skilled in identifying different woods or in judging their gradations or adaptabilities.

The one way for you to be sure that the Cypress you get was grown in a region near enough to the coast to possess the MAXIMUM *of decay-resisting quality* is to refuse all but genuine "TIDE-WATER" CYPRESS—and the **only way** to *know* that you're getting *Tide-water* Cypress is to *insist* (and *keep on insisting*) upon SEEING WITH YOUR OWN EYES the REGISTERED TRADE-MARK of the Southern Cypress Mfrs. Assn., *stamped ineradicably* in *one or both ends* of EVERY CYPRESS BOARD OR TIMBER, and on EVERY BUNDLE of "small sticks," such as flooring, siding, moulding and shingles. This is the mark to BUY BY—now that every piece of thoroughly reliable

"TIDE-WATER" CYPRESS MANUFACTURED BY ASSOCIATION MILLS IS IDENTIFIED BY THIS TRADE-MARK

TRADE MARK REG. U.S. PAT. OFFICE

Only mills which are qualified by the superior physical character of their product AND the ethical character of their business practice can belong to the Southern Cypress Mfrs. Assn. —and *only member-mills* can ever apply this legally registered trade-mark to ANY Cypress.

Let our ALL-ROUND HELPS DEPARTMENT help YOU *MORE.* Our entire resources are at your service with Reliable Counsel.

SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION

1224 HIBERNIA BANK BLDG., NEW ORLEANS, LA., or 1224 HEARD NAT'L BANK BLDG., JACKSONVILLE, FLA.

INSIST ON TRADE-MARKED CYPRESS AT YOUR LOCAL LUMBER DEALER'S. IF HE HASN'T IT, *LET US KNOW.*

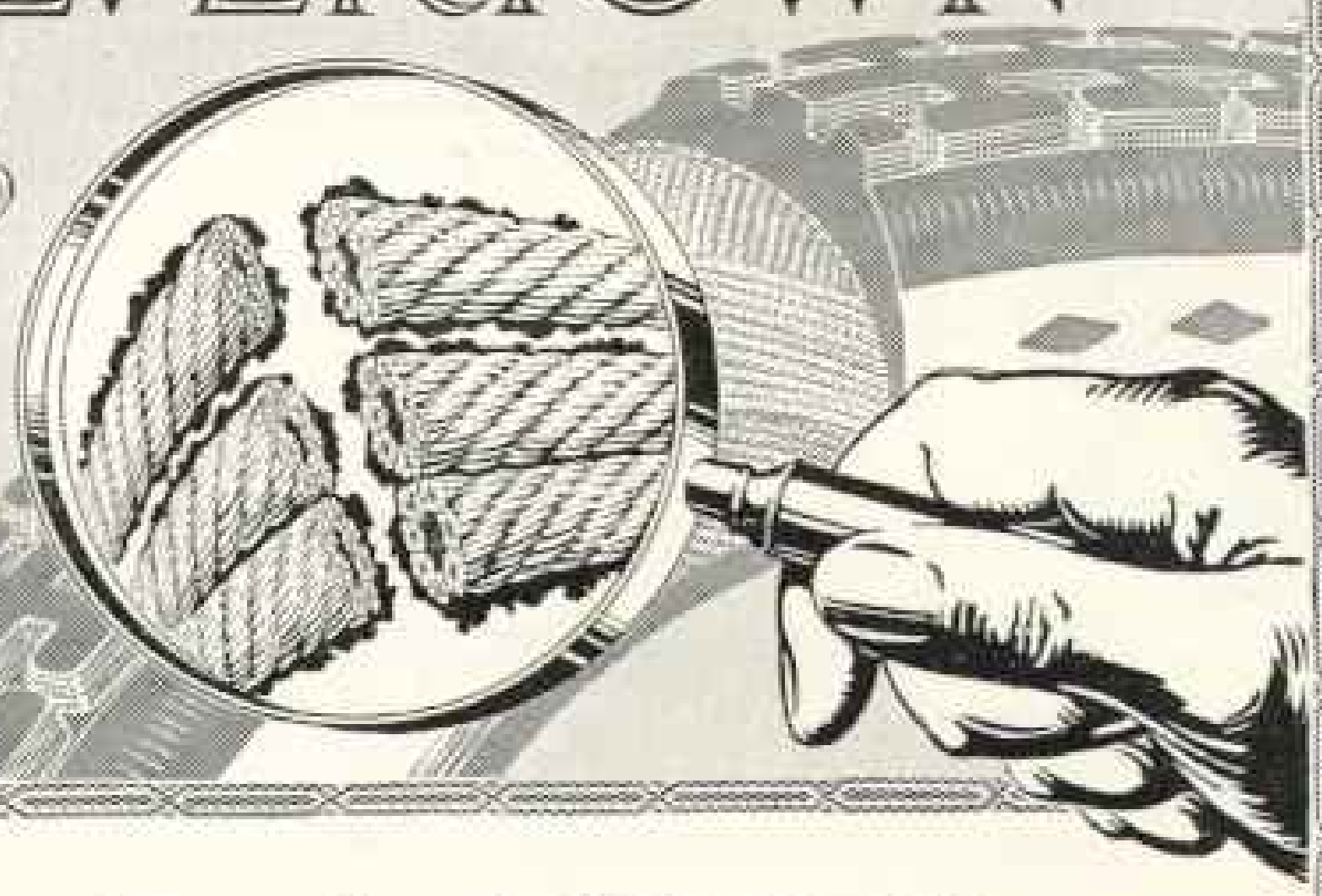
TELL HIM TO REMEMBER "BUY BY THE CYPRESS ARROW"

"Signed Lumber is Safe Lumber."

"Mention the Geographic—It identifies you."

Fair List Prices — Fair Treatment

GOODRICH
SILVERTOWN
Cord Tires



Cable Cord—40% Rubber
Immune to Tire Fever

BEHOLD how *cord* and *rubber* are fused into the flexible, powerful *cable-cord* which forms the exclusive *patent-protected* body of a Silvertown tire. Note the *rubber core*, and how each *cord tendon* in the cable-cord lies completely encased in a cushion of rubber.

Corded and cabled under high pressure, which replaces all air in the fiber with rubber gum, it is fused with rubber as a cobbler's waxed end is waxed with wax.

That fusion of rubber and cord, *cool no matter how fast the tire whirls*, when cross-wrapped in the Silvertown's two-ply body, is the secret of Silvertown's IMMUNITY from TIRE-FEVER—the internal heat rubbed up between the plies of many-ply tires—the great destroyer of tires.

With but two plies of strong, cool cable cord—Silvertowns, trade marked with the *Red Double Diamond*, are bound to outlast and outserve many-ply tires with their multiplied tire fever.

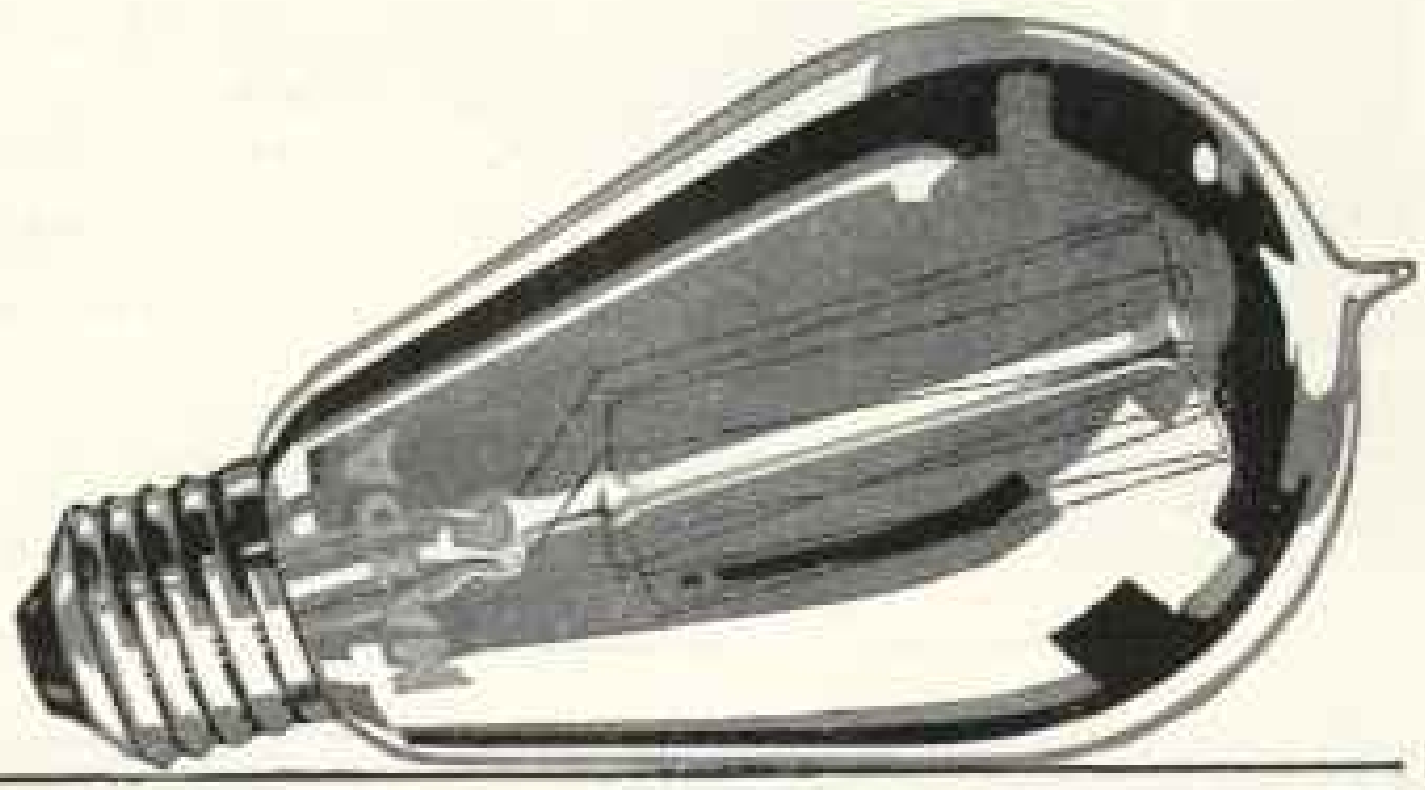
Moreover they give a style, a smoother riding comfort and gasoline saving economy you can not afford to deny yourself.

THE B. F. GOODRICH CO., *Akron, Ohio*

Goodrich also makes the famous Fabric Tires—Black Safety Treads

"Silvertown makes all cars high-grade"

Scientific study coupled with practical manufacturing methods—this is the basis of the MAZDA Service that helps lamp-makers produce better lamps.



MAZDA

"Not the name of a thing, but the mark of a service"

The Meaning of MAZDA

MAZDA is the trademark of a world-wide service to certain lamp manufacturers. Its purpose is to collect and select scientific and practical information concerning progress and developments in the art of incandescent lamp manufacturing and to distribute this information to the companies entitled to receive this Service.

MAZDA Service is centered in the Research Laboratories of the General Electric Company at Schenectady, New York. The mark MAZDA can appear only on lamps which meet the standards of MAZDA Service. It is thus an assurance of quality. This trademark is the property of the General Electric Company.

RESEARCH LABORATORIES OF GENERAL ELECTRIC COMPANY

4633

Resinol Soap

makes you *proud* of your complexion

There can be no luxury for a woman equal to the consciousness that her complexion is clear, fresh, delicately radiant. To keep it so, no amount of cosmetics can excel the *regular* use of a soap which thoroughly cleanses, and at the same time has just the right soothing, healing action to maintain the *natural* health and beauty of the skin.

Resinol Soap does this because it is an exquisitely pure and cleansing toilet soap containing the *Resinol* medication which physicians prescribe, in Resinol Ointment, for the treatment of skin affections. With its use, the tendency to pimples is lessened, redness and roughness disappear, and the skin usually becomes a source of pride and satisfaction.

The same extreme purity and gentle Resinol medication adapt Resinol Soap to the care of the hair and of a baby's delicate, easily irritated skin.

If the complexion is in bad condition through neglect or an unwise use of cosmetics, a little Resinol Ointment should at first be used to help Resinol Soap restore its health and beauty. Resinol Soap is sold by all druggists and dealers in toilet goods. The use of Resinol Soap greatly helps to offset the ill effects of summer sun, heat, and dust.

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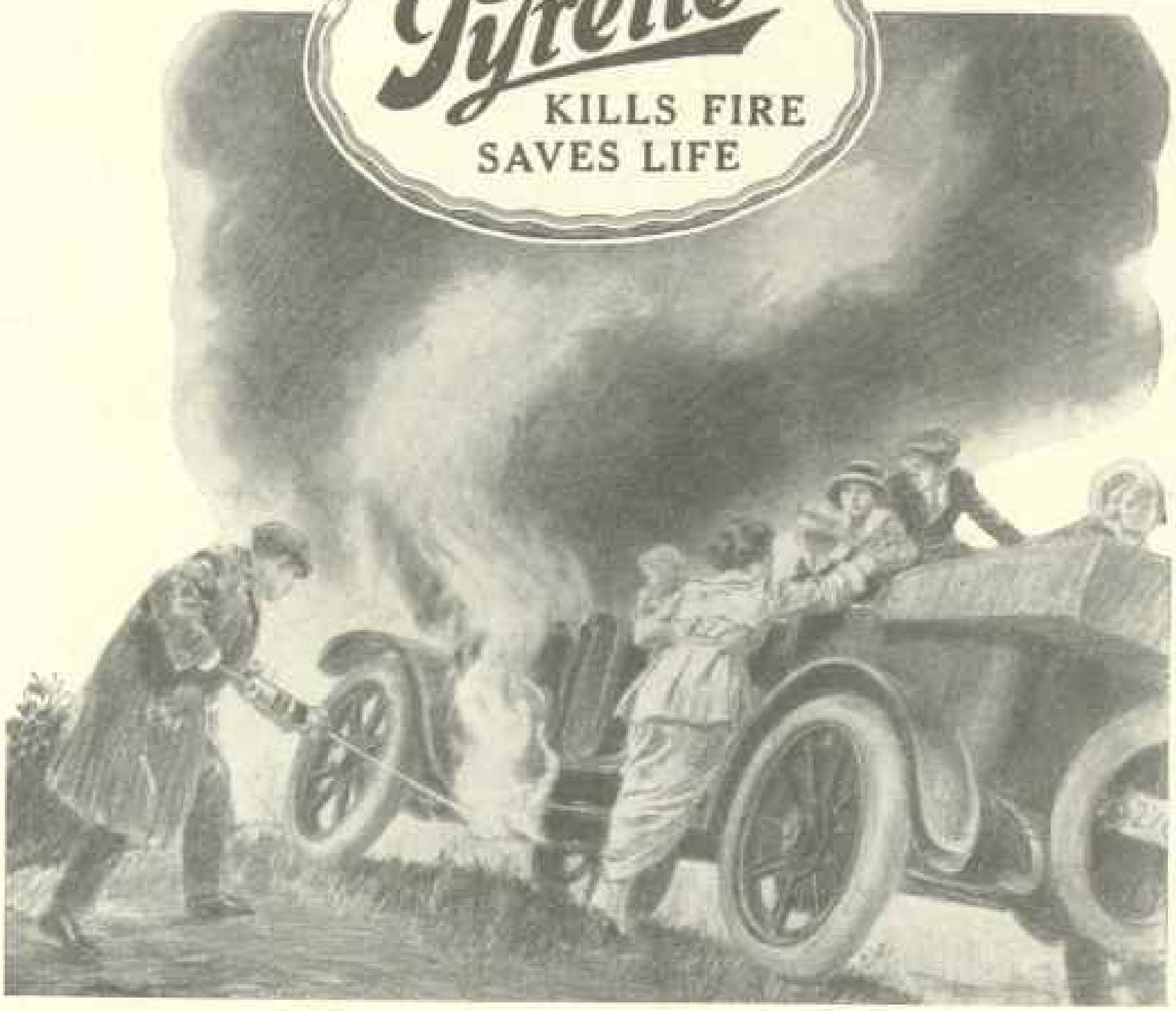
Pyrene

KILLS FIRE
SAVES LIFE



I heard screams. Saw a burning car; a frantic woman; children in grave peril. I snatched Pyrene and put out the fire so quickly that the little ones were unhurt.

Without Pyrene five minutes would have finished that car. Five children might have perished.

Think of *your* wife. *Your* children!

Every day you put off getting Pyrene for your automobile and Pyrene for your home is a monstrous gamble.

Sold by hardware and accessory dealers everywhere.

Pyrene saves 15 per cent on auto insurance premiums. Saves money as well as life.

Pyrene Manufacturing Company
New York
Every Appliance for Fire Protection

Eventually

WASHBURN-CROSBY'S

GOLD MEDAL FLOUR

Why Not Now?

"MAKE NO MISTAKE"