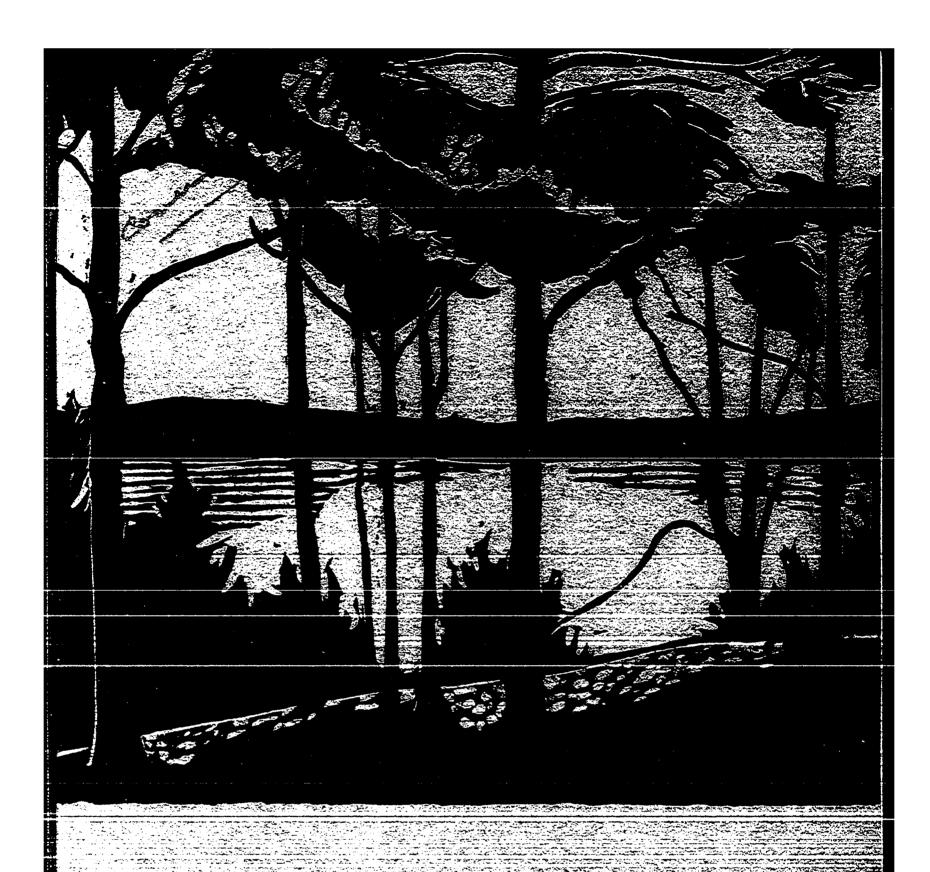
ROUND ABOUT MIDDLESEX FELLS

Historical Guide-Book

To the memory of Elizur Wright and all those who with him and after him strove to reserve and maintain the Middlesex Fells in their original beauty for the people of Massachusetts.

Compiled and Published
by
Medford Historical Society
Medford, Massachusetts
1935



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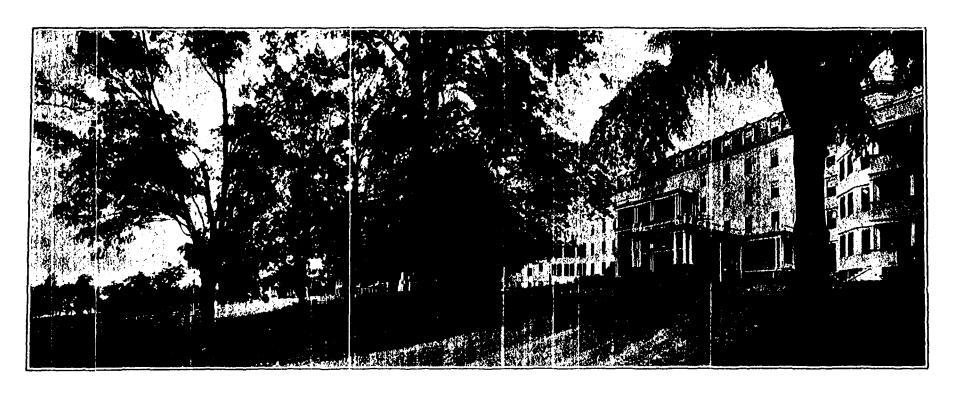
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was established in the Middlesex Fells in 1903. The Hotel Langwood, on beautiful Woodland Road, had burned and the New England Sanitarium acquired those buildings still standing and the surrounding property of forty-two acres. The present stone structure was at first the center of the new hospital, but by 1906 the present main sanitarium was erected. Through the following years building followed building until the sanitarium now numbers twenty-two in all. In 1917 the capacity of the main building was doubled by the addition of the Browning Memorial as a south wing, and in 1924 there followed the stucco maternity and surgical wing. Today this institution, one of a chain of one hundred or more sanitariums scattered over the world, here enjoys the peace and broad vision of its beautiful setting.

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CRANBERRY POOL.

HIS review of the early historic scenes of the beautiful Middlesex Fells, as compiled by the Medford Historical Society, is worthy of reading by all who are interested in this delightful reservation. Great care was taken to compile this interesting history from authentic information rather than from gossip or imagination, and one feels a close bond of fellowship with its early settlers and deeper appreciation of their trials and tribulations, as well as greater delight in its various scenes and localities, which have taken added color from the pictures which the book affords of the quaint and primitive life of days gone by. The hiker of the present day would more fully enjoy the many hidden beauties and interesting bits of history about the Fells if he used this book as a guide.

As the Middlesex Fells is one of the largest public reservations in the Metropolitan Parks District under the care and control of the Metropolitan District Commission it is with a deep sense of appreciation that this Commission extends its thanks in behalf of the Commonwealth to the Medford Historical Society and particularly to Mrs. Richard B. Coolidge who has edited this excellent history of "Our Middlesex Fells."

WILLIAM E. WHITTAKER,

Secretary of the

Metropolitan District Commission.

AFOOT THROUGH THE FELLS.

BY RUTH DAME COOLIDGE.

JARDLY a fifteen minute ride, as the automobile TARDLY a niteen innute rice, as flies, from the very gates of the State House lies today a domain of another century. In the heart of the most thickly settled part of Massachusetts is set apart forever for its people the charming reservation known as the Middlesex Fells. Primitive it cannot be. For three centuries its trees have jolted down the rocky hills to the towns of the valley. Yet these rocky hills by their forbidding sternness saved the land itself until the time when Elizur Wright and a group of valiant gentlemen succeeded in putting the "Five Mile Wood" under the care of the state. Today it is the resort of thousands from the crowded cities. To thousands of others it is still but half-known. It lies too close to us to be fully appreciated, but if one knows the art of horsemanship or the rarer art of walking, the Middlesex Fells is still a land of romance.

Unchanged as are the woodland and the jagged hills, in comparison with the complete transformation of the cities of the surrounding plain, the Middlesex Fells have contributed their share to the history of the entire countryside. Knowledge of forestclad depths existed before the settlement of Boston itself. In the year of 1628 or 1629, two brothers, Richard and William Sprague, made an exploring trip from the little plantation of Naumkeag (Salem) through the forests to Governor Cradock's plantation on the Mystic. The report they brought back was that the country was "an uncouth wilderness, full of timber."

Another group of explorers, sent out later from Shaw-mut (Boston), went apparently as far as the Fells and

"deemed it best to come back" as there was "little probability that the settlement would ever extend beyond the mountainous and rocky country." Both these expeditions must have threaded the Fells.

Another early reference to the same region is in a grant of land to Matthew Cradock at Medford. His plantation stretched three miles along the Mystic River and one mile north or as far as "the Rocks," a descriptive name by which the woods were to be known for a century more. So for some years the Fells were left unmolested.

Yet this "uncouth wilderness" must have been of exceeding beauty. Great forests of pine "more than a gunshot high" and lesser forests of hemlock covered the valleys and slopes of the hills, some of them remaining within the memory of man. Many of the hills were topped with a growth of cedar, others with oaks and hickories mixed with pine. On the more fertile slopes and edges of meadows were groves of great oaks. Canoe birches grew near the swamps, brightening wonderfully the sombre banks of hemlock and pine that grew behind them. In the swamps themselves were maples and gray birches, interrupted by the ancient reservoirs of the beaver. Tradition tells us of cedars growing so thickly that "an ox could not be led between them."

The Fells have a long history. The reservation geographically is a plateau, high above the Boston Basin, its surface broken into numerous small hills, bowls and vales. Two well-marked valleys run from north to south, one including Spot Pond, Wright's Pond and Intervale or Gravelly Brook; the other, the Winchester Reservoirs and Bower or Meetinghouse Brook. Spot Pond is one hundred sixty-three feet above sea level, while Bear Hill rises three hundred seventeen feet. The rocks, quartzites and slates of which these hills are composed were once layers of mud and sand on the bed of the ocean. Through and over these ancient rocks were erupted in succession great volumes of dio-

rite granite and felsites, following each other in this order from northwest to southeast. Geologists even suggest that Bear Hill may be the remnant of what was once a great volcano.

One feature of the Fells is a great dike, or seam, of diabase, the largest in eastern Massachusetts, which runs along Governors Avenue and northward past Pine Hill. This furnished a quarry for "Medford granite" and for load upon load of red gravel, the disintegrated form of the diabase. In Stoneham, too, was a quarry of "marble" or white limestone on the edge of the Fells.

But to the ordinary layman, to whom geological terms are Greek, it is more interesting to attempt to read the signature that the great glaciers scratched on the top of Pine Hill and various other places. There the great ice sheet, moving stolidly over the hills, wore them down to stubs, clawed them with boulders held like cutting tools in its icy hands, ground the edges and points of the strata to rounded knobs, and carelessly dropped "erratics," or huge boulders, in unexpected places. Then, too, as the ice pushed its way southeast, it planed a course up the hills, and let fall its burden on the southern side. So today the hills of the Fells for the most part have a gradual slope on the north and broken cliffs and debris on the south.

When the glacial age had retreated into the far past, these woods were the happy hunting ground of the Indians. There was once an Indian encampment near Turkey Swamp, then a sea of waving cat-o'-nine-tails, now Winchester Reservoir. Near Shiner Cliff lived that pathetic figure, Hannah Shiner, last of the Middlesex Indians. She was following the Indian trail which led from the Mystic to the Merrimac when she fell into the Aberjona and was drowned.

More interesting is the fact that the great historian and interpreter of the Indians, Francis Parkman, lived for several of the most impressionable years of his life on what was later known as the Lawrence farm in Medford, and roamed the Fells. Perhaps from the wild life there he was inspired with that passionate interest in the early explorers of the St. Lawrence and their adventures among the savage tribes of the northern wilderness.

The wild life of the Fells, however, which furnished the Indian with food and furs, was a source of fear to the early settlers. Matthew Cradock probably chose the ford of the Mystic River for his settlement because the Indian trails converged at that point and made it easy to barter in furs, but the men at the ford doubtless preferred the skins to the live animal. As late as 1735 "Sampson, a negro slave, was sorely frightened by a wild bear and cub which he met in the woods near Governor Cradock's house." Tradition says that a bear was killed in the Bear's Den in the early nineteenth century, and Bear Hill in Stoneham received its name from an unpleasant encounter of an early settler while looking for his cow. So destructive were wolves that bounties were offered in 1635, ten shillings for every wolf and two shillings for every fox. Foxes are still found, but no bounty is offered today.

Yet despite danger, the Fells early became public pasture and hogs and cattle were often turned loose in the woods during the summer. Later this pasturage was forbidden. Deer were so common that Medford chose annually a deer reeve. Occasionally within the last few years a stray deer has found its way into the Fells from the north.

In 1865 Marshall Symmes of Winchester captured a wild hog which was found to weigh over four hundred pounds. Rattlesnakes, now fortunately extinct, added their terrors. Last of all, as an early chronicler states, "the little flies, called mosquitoes, are troublesome in the night season. Many that are so bitten will fall a-scratching, whereupon their faces and hands swell."

EARLY HISTORY.

ROM the advent of Winthrop and his men, the Middlesex Fells lay within the boundaries of the town of Charlestown, which then included most of the land north of Cradock's grant of Medford. To the town of Charlestown the majestic primeval forest was chiefly valuable for woodlots. After all, in a day when every fireplace roared all winter, even an uncouth wilderness had its assets. So the people from the mouth of the Mystic came up the river with heavy scows or "lighters" to get in their supply of wood. In Malden they had landing privileges at "Sandy Bancke," though there were often contentions with the men of Malden that no space was left at the landing sufficient for men to stack their wood. If the boats did not stop at Malden, they swung round the great bend of the river by aid of sail and oar until they came to the Medford landing at "No Man's Friend," so-called from the difficulty in bringing the boats around the curve. Here, where at present is the Toppan Boat Company, was the landing at which the privilege was given to Charlestown men to make their entry into the back lots. From this landing they went by a road very nearly on the lines of Cross and Fulton Streets into the woods. In 1700 Charlestown in a vote referred to this tract as "waste land" and voted that it "should be divided and laid out equally, to every person an equal share." Up to this time the land had been held in common and had been protected from overcutting by a vote of the town.

In England great emphasis had been laid on the value of forest and the care of maintaining it. So, even in respect to what must have seemed an inexhaustible wood supply, Malden voted in 1689 that "no young trees under a foot over are to be felled for firewood under the penalty of paying five shillings for every such tree." When the land passed into private hands this protection was lost.

Little by little Charlestown was shorn of its outlying

lands. Stoneham was incorporated in 1725 with some seven hundred acres of Fellsland. In 1754 a large part of the Fells was ceded to Medford. Old maps of Medford show the woodlots marked with the names of the best-known families of the town such as Brooks, Hastings, Wyman, Hall and Sampson. Lanes ran from the town highways into the woodlots, as Ramshead Lane, Brooks Lane (near the present Bradlee Road), Fulton Street and others. It was the winter's work of many a man to cut the firewood in "sled lengths" (eight to twelve feet) and haul it to his yard.

In addition to the demand for firewood was the call for timber for building and for industry. The massive oak beams of the Cradock House probably came from "the Rocks" on the hills north of the river. On many a great tree the King's agent marked the broad arrow which reserved it for the use of his majesty's navy. The claypits of Medford consumed enormous quantities of wood, as did the bakery and the distilleries. So this beautiful forest region, called by some later orator "one-third swamp and two-thirds rock" was the power which produced Medford's main staples for barter and the firewood drifted down the river along with bricks and Medford rum.

The sites of old sawmills in the Fells tell the story of the demands upon the forest. At the outlet to Spot Pond was one mill built by James Barrett in 1706. Another, the race and dam of which are still evident across Whitmore Brook entrance, where the road swings into the woodland from the open meadow, was close to the "great road" to Woburn. A third was on Meetinghouse Brook, reached today easily by a narrow right of way from Lincoln Road. Here Jonathan Wade laid the foundation of his wealth about 1680 and built so well that the earth dam and the sluiceway are still clearly visible. It was this millowner who built the Garrison House on Bradlee Road, and whose widow, the wealthiest woman of her day in Medford, had the honor of a

special pew in the meetinghouse. The presence of grinding stones, within the memory of many, indicates that this mill was also used for grinding corn.

To another industry, the manufacture of shoepegs in Woburn, is due the early destruction of the canoe birch which formerly grew in great numbers about TurkeySwamp. Cedar posts and shingles, manufactured in Stoneham, called for cedar trees. Last of all, the shipping industry made its requisitions on the Fells. The oaks and pines of Turkey Swamp and its neighboring hills were teamed over the road to the shipyards on the river. Before long the demand for Medford's ships was so great that the Fells were insufficient and great rafts of logs floated down the Middlesex Canal from the New Hampshire forests.

Pine Hill tells the story of nature's struggle to reforest the Fells. In 1775-6 the wood was cut off for the army of Washington around Boston. Twenty years later it was once more covered with a thick growth, but in 1855 the whole hill was again stripped. By 1893 it was pretty well covered. The ravages of the gypsy moth caused still another sacrifice of trees, from which the hill is again slowly recovering today.

Of the quarries in the Fells under Pine Hill that furnished Medford granite, still to be seen facing the banks of the river near the Cradock bridge and on the top of many a stonewall, we have already spoken. More exciting days came, however, when in 1881 a mile north of Pine Hill some proprietor sunk a shaft to the depth of thirty feet and found, so the story runs, eighteen dollars in silver on the first assay, four dollars in gold, and copper in large proportion. The shaft was sunk to eighty-five feet and a lateral tunnel was excavated. Men now living can remember seeing the silver hunters at work with windlass and bucket. For two years the work was prosecuted and then after a large sum had been expended was abandoned as unprofitable. All that is left today is the name of Silver Mine Hill

with crushed rock and debris about the mouth of the old shaft. Another excavation for silver was made near the present North Border Road not far from the reservoir. This too was fruitless.

Usher's History tells us that from Pine Hill westerly to Purchase (Winthrop) Street, there are scattered remains of houses, now almost lost in the forest, which prove that there were living in this region many "When some of the Scotch-Irish who settled families. in Londonderry, New Hampshire, in 1719 became dissatisfied with that place, they came into this quarter. and many of them settled in Medford. They built some of the houses whose cellars yet remain with us, and introduced the foot spinning wheel and the culture of potatoes. They were as scrupulous about bounds and limits in these wilds as they had been in Scotland: hence the remarkable stone walls which bear witness to their industry. A few of these adventurers remained and among their descendants we may name the Fulton, Wier, Faulkner and McClure families." Another settlement was near Spot Pond in the valley now spanned by the arch for the Stoneham electric car line. Cellar holes were also found on the roads north and east of Spot Pond along Wyoming Avenue, Woodland Road, and in protected valleys along the western edge of the reservation as late as 1895. Richard Holden had probably the first house in Stoneham on the south slope of Bear Hill about 1640, and there were cellar holes along the old road that once extended through the valley west of Bear Hill to the east dam. A report published by the Metropolitan Park Commission in 1895 states that this road, which followed the valley close to Bear, Winthrop and Gerry Hills, had deeply worn channels in the rock, mute evidence of heavy travel. In the construction of Winchester North Reservoir a long stretch of corduroy was found along the line of this road, made of twelve foot logs of red cedar. These roads, however, doubtless owed much of their use to the logging teams as well as to the scattered settlers.



THE CEDAR TREE.



SPOT POND AND THE NEW ENGLAND SANITARIUM FROM THE HIGH SERVICE RESERVOIR.

ELIZUR WRIGHT'S DREAM COME TRUE.

THE acquisition by the state of the "Five Mile Wood," as this region was named, is another story. From the days of Governor Winthrop, lovers of nature have explored its wild swamps and fernclad cliffs. Fortunately for the Fells and for the commonwealth of Massachusetts, there came to the rescue a lover of trees and a man of practical action, Elizur Wright. Medford has had few men of greater or more varied ability. He is called the father of the great business of life insurance. He devoted himself also to the cause of anti-slavery and studied with keen foresight the great growth of population about Boston and the undoubted need for an adequate water supply. Himself an ardent lover of trees and the owner of many acres in Medford, he wrote an article in 1850 in the Boston Transcript, urging the need of a great public forest for recreational and educational purposes and for the preservation of a water supply. For this purpose no more suitable woods could be chosen than the five-mile tract of the Fells, which he suggested might become a private park to be called Mt. Andrew Park, with a system of schools of natural history.

His enthusiasm was seconded by that of the naturalists John Owen and Wilson Flagg, and later by that of Sylvester Baxter, who started a constant agitation in the Boston Herald. Baxter it was who first suggested the old Saxon word of Fells, long used in England to designate wild, hilly country. A long struggle, aided by Whitter, Higginson, the Appalachian Club and numberless private citizens, finally led to the enactment of legislation creating the Metropolitan Park Commission and the taking of the Fells in 1894, after Elizur Wright's death had followed his over-exertions in behalf of the woodlands he so loved. The state paid out eighty-five thousand dollars to private owners and accepted as a gift the splendid acres around Pine Hill presented by Walter and Ellen Wright in memory of their father,

Elizur Wright. To this gift have been added the acres of Virginia Wood, off Ravine Road, previously given the Trustees of Public Reservations. Further gifts of land and money from Peter C. Brooks and Shepherd Brooks in 1902 and 1906 made possible the Whitmore Brook entrance to the Fells and the building of the wood roads which ran along the western side of the reservoir to Forest Street, appropriately named, in part, Brooks Road.

No account of the Fells can be complete without a grateful recognition of the services of General Samuel C. Lawrence. For many years this foremost of Medford's citizens kept open to the public at great expense to himself his acres of woodland and the beautiful meadows in what were called the "Seven Hills." Today these hills are mostly levelled. The glancing waters of Meetinghouse Brook and dam with its little waterfall are imprisoned in a culvert. The meadows are now the seat of that new real estate development, the Lawrence Estates. The woodland acres of the General's estate, some two hundred eighty-five in number, with the observatory tower on Rams Head Hill, came into the possession of the state in 1925 and are now an integral part of the reservation.

PESTS AND REFORESTATION.

BOTH General Lawrence and the Metropolitan District Commission were sorely tried for years by the pest of the gypsy and browntail moths which besieged the Fells. Professor Leopold Trouvelot had allowed a few moths to escape from his home at Myrtle Street, Medford, while he was experimenting in 1868 in breeding a new silk worm. For thirty years the pests gradually spread until by the beginning of the new century they ravaged Medford. Thousands of dollars were spent by the state in the Middlesex Fells. Many infested trees wore a petticoat of burlap ready for aspiring caterpillars. Winter was busy with the work

of men who painted the egg-clusters on the trees with creosote.

In 1907 General Lawrence, in his section of the Fells, had spent three hundred thousand dollars in fighting the invading army of insects and had in his employ about one hundred men, twelve street watering carts, nine pumping machines, hundreds of feet of hose and an adequate supply of horses kept busy on the front line. After a long battle General Lawrence found that the use of a spray of arsenate of lead in addition to the painting of the creosote could bring the moths under control. In 1907 the line of the General's acres in the Fells could be clearly traced by comparison with the trees on either side. With his own acres under control, he proceeded to clean the trees of Winchester and the Fells, putting all his apparatus at the service of the state.

With the exception of this battle royal, the District Commission has carried out the development in orderly plans. When the reservation was acquired the Commission first determined to preserve the wildness which constituted the chief charm of the woods. The work was therefore confined to clearing away dead wood and cutting paths for fire protection. The land controlled by the waterboards around the reservoirs and Spot Pond was included in this general care. The rapid increase in the number of people visiting the woods enforced another policy. Not only was there increasing danger from fires, but "the wilderness was becoming the hiding place of wrong doers and dangerous ground for the innocent. The process of formalizing and developing the reservation was entered upon reluctantly, both because of the expense and because of the fear of mistakes being made, especially in road building by hasty work, before mature plans could be adopted. The policy was therefore adopted of keeping all interior roads and paths, so far as possible, mere wood roads with dirt surface and of building only the boundary roads on the outer edge of the reservation to permanent lines with gravel or stone surface." This was the statement in 1898 of William B. de las Casas, chairman of the Commission. After that time the development became increasingly difficult. On the one hand were landscape architects like Charles Eliot, who wished to open vistas, emphasize rocky hilltops, vary the monotonous sprout growth and cut out the gray birches, as weeds among the trees. On the other were the conservationists, who bewailed the sacrifice of beautiful trees and flowering shrubs and the almost complete destruction of rare plants, such as hepaticas, ladyslippers, waterlilies and ferns. In addition to this contest of theories was the complication added by the automobile and the electric car and their loads of sightseers. The fear of water contamination forced the clearing of trees about the Winchester Reservoirs.

Vigorous work has been done, however, in reforestation. In the last forty years millions of trees have been planted in all parts of the reservation. During the past year twenty-five thousand pines have been planted, and in the Whip Hill section there will be planted two thousand hemlocks, a continuation of the planting begun there nine years ago. This will vary the sprout growth which has so often replaced the cutting of the forest.

Of the sixty miles of roads and trails that thread the reservation about twelve miles only are open to the automobile. There are thirty-nine miles of bridle-paths and carriage-roads and twelve of trails. Recreation grounds provide tables for picnics and sandboxes and tilts for children.

Every winter the wild birds are fed. Reservation headquarters were stationed at what was formerly the Gould farm on Pond Street, Stoneham, and here, in addition to the Zoo, are nurseries of trees and shrubs to use in replanting, and a garden of corn, carrots and various feed for animals and birds. A force of one cap-

tain, four sergeants and forty carefully trained patrolmen keep watch over the whole. Over one hundred four thousand dollars was expended in 1933 on general maintenance and over one hundred twenty-seven thousand dollars on the boulevards.

The total area is divided as follows: Malden, 59.53 acres; Medford, 963.73 acres; Melrose, 180.19 acres; Stoneham 705.14 acres; and Winchester 261.93 acres.

SOME POINTS OF INTEREST.

To one who loves the Fells and has roamed along its old time roads and its modern trails, every point is of interest. Reminiscences crowd in upon the writer of one morning in May when her father took the family into the Fells at dawn to hear the bird chorus that greeted the rising sun. This still dwells with her as an experience so rich and beautiful that it seems as though every fair spring day should find one in the dusky woods at four in the morning.

Then follow memories of hosts of spring flowers, hepaticas in a long sunny valley, dogtooth violets and bloodroot by the foot of an old hill, ferns jutting from the rocks, and skunk cabbage, alder and wild hellebore making gay the brooks.

From the spice bush in May to the witch hazel in November the place is alive with an infinite variety. At no time are the Fells not a joy, from the flowerlike leaves of early spring to the rich carpet of color that lies below one from the Lawrence tower in autumn. Then the scarlet of the red maple and the purplish brown of the ash weave a pattern among the sombre red of the oaks and the browns of the beeches.

Winter, to the enthusiast on skis or snowshoes, is the most spectacular of all, when the bowed birches arch toward a brilliant blue sky and the white oaks rustle their tawny leaves against the snow. Even to those who speed through in summer by automobile roads, a hushed green world of beauty opens.

The Fells to be best appreciated should be entered afoot or on horseback. Perhaps it is best to have an objective, and to follow the fine trails or paths to the loveliest sections of the woodland. There are tramps around Cranberry Pond and around Winchester Reservoir that everyone should know. Pine Hill and Bear Hill lift their heads for those who aspire to a climb and a far-flung view. In the Melrose and Malden sectors are some of the wildest crags and the once farfamed cascade. Or, perhaps, it is better to plunge unguided into the woodland, to thread some faint path as fancy wills, uphill and down dale.

SKY LINE TRAILS.

O better approach to the best that the Fells have to offer can be made than by the Sky Line trails. In 1925, with the coöperation of the Appalachian Club, some twelve miles of trails were marked with two inch spots of white paint and an occasional arrow of direction. Today it is possible to play at a little woodcraft and have for one's exertions a succession of charming glimpses.

The main trail is a great loop running along the rocky hills around the three reservoirs of Winchester and the distance is about eight miles. Beginning at the foot of Pine Hill in Medford, it makes its way straight north in serpentine curves to Bear Hill, swinging west and rambling south again to the point of starting. In addition, a most attractive link trail leads from Black Rock on the Melrose border westward and intersects

the first trail midway.

"Although these trails," as Allen Chamberlain has written, "are for the most part through the woods, they have been so laid out as to lead to frequent viewpoints, some of which command wide prospects across the surrounding country; while others show charming pictures, in which Spot Pond on the one side and the Winchester lakes on the other are important features.

What the Fells lack in elevation in comparison with the Blue Hills is abundantly compensated for by the beauty of the water views, which are lacking in the larger reservations. And even if the hills of the Fells are comparatively low they have all the rugged qualities of much bigger humps, and their rock forms frequently are highly picturesque. Nor are the woods tame and uninteresting, for there is variety in plant species, and the trail is so laid out as to pass along the shores of some of the small interior ponds, too seldom seen by the average visitor, and to thread through several handsome swamps (by safe and dry routes, however) where the botanically minded and the bird hunters will find much to interest them."

Further directions are perhaps unnecessary, and points of interest may be approached by so many different routes that each is described separately. Some short walks are suggested here.

MEETING-HOUSE BROOK. Leave Medford by a small right of way from Lincoln Road off Lawrence Road and follow the path through the "Bower," past the site of Frenchman's Mill, built by Wade, and continue by the charming ravine to South Border Road. A scramble through the woods will bring one to the source of the brook at South Reservoir. An easier course is to follow Border Road about half a mile to the north and take the road leading to the Lawrence Observatory. Return by the carriage-road to Lawrence Road.

Cranberry Pool. Follow the Mystic Valley Parkway almost to the top of the long hill and turn to the left off the road to the Causeway, up a road over the hill. Follow around Cranberry Pool. The trail on the eastern shore is not clearly marked, but is all the more interesting. Do not fail to see the tree that seems to grow from out of the rock.

PINE HILL. Climb the hill from the path leading off South Border Road. Follow the Sky Line trail, noting

glacial scratches, to main road, and return via Owen Walk. This walk is especially rich in variety of trees, in interesting geological stones, the diabase and the Medford granite quarries.

BEAR HILL. Climb Bear Hill from the Stoneham entrance, and continue by Dark Hollow Road, now unfortunately not as deep in shade as when it was first named. Pass over Winthrop Hill until you strike the carriage-road, returning by Dike's Brook.

The Cascade. Leave Washington Street in Melrose, climb the hill by the Cascade and follow the trail to White Rock. Continue to the north until the trail crosses the automobile road: thence follow the winding road past the high service reservoir, take the clearly defined trail past Cairn Hill back to Jerry Jingle Notch, Boojum Rock and Bear's Den. Return by Pinnacle Rock and Black Rock.

Longer walks are suggested by S. Edson Carter, long in the service of the Commission. One of these leads from the Cascade in Melrose to the right to Pond Street and thence around the north end of Spot Pond to Bear Hill. Then bear down Dark Hollow Road to the Sheepfold, Porter Cove, Hemlock Pool, Jerry Jingle Notch back to the cascade.

Another inclusive hike leads over Pine Hill to the east dam and along the road to Bear Hill, swinging back again by Dark Hollow Road. From the Whitmore Brook entrance one may hold to the west border of the reservoirs, encircle Nanapashemet Hill and come by Cranberry Pool to the Mystic Valley Parkway. Numberless other walks will suggest themselves.

PINE HILL.

MOST fittingly does the Sky Line trail start from Pine Hill. This noble hill, worn by glacier and time, was the gift to the commonwealth by Walter and Ellen Wright in accordance with the wish of their father, Elizur Wright. It was planned at one time to place on



Photo by Albert C. Dove, Metropolitan District Commission.

PINE HILL.

the summit of the hill a memorial to this Father of the Fells. A fund of over three thousand dollars is still held for this purpose with the Metropolitan District Commission.

Whatever form this may take, whether a tower or a bronze tablet, his best memorial is the hill itself. Over against the new development of Fulton Heights it still rises, unspoiled by the hand of man. A small tower of the geodetic survey is stationed on one of its higher points. The hardy growth on the rocky crown suffered deeply from the gypsy moth. From its top is a fine view of Medford, with the sinuous folds of the Mystic. On clear days one catches a glimpse of the ocean, deep blue beyond the headland of Nahant.

Glacial scratches are clearly traced in the hard rock of the summit. Below the western slope of the hill runs the old road to the quarry, a deep shaded road, bordered with trees of almost every variety that grow in the reservation. Especially charming are the silvery gray copses of beech and the mossy depths of the old quarry. From this quarry was taken much of the granite used in stonewalls along our Medford streets, and for the posts standing about Boston Common. The granite was very hard and difficult to polish, though when finally polished it was very handsome. From the quarries, too, came load upon load of crumbled diabase, or red gravel, once most fashionable for garden paths. As the laden teams issued from the quarry road, the driver tossed fifty cents for his burden into a hollowed rock that served as a contribution box for the tax gatherer.

Just before Quarry Road emerges on the main Fellsway West, high on the left side of the road may be seen the fine grained stone where the hot diabase cooled quickly as it touched the granite bordering the dike.

WRIGHT'S POND.

THIS pond is really artificial, first created for the making of ice, another product of industrial Medford. Later it was acquired by the City of Medford as a part of its water system, and was protected by land given by General Lawrence to guard the watershed.

The pond today is a mecca for bathers to such an extent that special police protection has become neces-

sary.

North of the pond is a glacial boulder which Elizur Wright considered the largest in the Fells.

THE OLD MAN OF THE FELLS.

TUST beyond Pine Hill, near the main travelled J Fellsway West, and easily seen from the road itself, is a rock formation called the Old Man of the Fells. The profile view is excellent, especially when the head of the man is capped with a wig of snow.

THE LAWRENCE TOWER.

THE iron tower on Rams Head Hill, more commonly called the Lawrence Obcalled the Lawrence Observatory, is one of the chief goals of all the walkers of the southern Fells. General Samuel C. Lawrence, delighted with a similar tower in Maine, determined to raise one of his own on the highest hill in his woodlands. He started the work February 24, 1898.

Mr. Lyman Sise, the architect of the tower, was perhaps the first man to initiate the custom of skis in our Fells, where skis and snowshoes are now both so popular. In spite of constant supervision, so heavy a storm swept down upon the partly completed tower that the uprights were blown down and the work had to be started all over again. The work was finally completed an exact year from the date of its start, February 24, 1899.

A most interesting study of all the surrounding country may be made from this windblown summit, for the tower standing on a hill two hundred twenty-nine feet above sea level lifts the spectator to a height of three hundred ten feet, and gives a view hardly equalled in eastern Massachusetts.

Guided by the compass directions on the corners, one can orient oneself and read the horizon. To the north-west on a clear day is the blue cone of Mt. Monadnock, to the west the long line of Wachusett, on the south Great Blue Hill with the tiny observatory on the top and on the east the ocean.

To the west and southwest the remarkably even sky line marks the level of the old "peneplain" which surrounds the depression of Boston and its suburbs. If one imagines the tops of the hills connected, one may see clearly the line of this old plain. The gaps are valleys worn by rivers and the higher hills are remnants of old hard mountains.

In some age of geology the great area now known as the Boston Basin cracked and slipped below the area of the peneplain, and if one studies the horizon carefully, he may see the rim of that Boston Basin from Lynn around by Arlington to the Blue Hills and the sea.

On this area of sunken land are all the cities of greater Boston; beginning from the east, Lynn, Maiden, Medford, Belmont; then where the Charles curves along the edge of the upland, Waltham, the Newtons, Needham, and Dedham, with Readville, Milton and Quincy to the south. There is a broad rather hilly plain to be seen between the Charles and the Neponset from Watertown through Brookline, Jamaica Plain, Forest Hills, Roslindale to Mattapan and thence to the sea.

The action of the rivers is also interesting. The Mystic lies at our feet, meandering over its tidal flats. Off to the southwest the Charles River breaks through the upland at the rim of the basin and to the south is the valley of the Neponset. All the land upon which now are Cambridge, Somerville and Charlestown (with the exception of the high hills or drumlins) were once

brought down from the uplands by the Charles and Mystic Rivers; and East Boston, where the rivers join, owes much of its origin to their combined action, as is also the case with much of Chelsea and Winthrop. All of greater Boston rests on the waste brought down from the rivers, with glacial hills scattered over the flood plains.

But the view is not only one of growing understanding. It is a wonderful dream of color, of every shade of green in spring, of every tone of red and yellow in fall,

always with the glint of ocean in the distance.

To the trained eye the brook valleys are easily traceable by the general coloring of the trees which fill them. The characteristic tree of brook and swamp is the red maple, which with its soft red of blossoms in early spring, its brilliant scarlet in early autumn and the silver gray of its twigs in winter, tints all the valleys of the reservation and defines them as on a map.

BEAR HILL OBSERVATORY.

WHAT the Lawrence Tower is to the south of the Fells, Bear Hill Observatory is to the north.

From Spot Pond Governor Winthrop found his way in 1632 to Cheese Rock on Bear Hill, and from its top looked over the meadows to the north and over the wooded heights about him. Perhaps the view consoled him for his scanty luncheon of cheese, after which the rock is named to this day. At all events, this hill, the highest in the Fells, being some three hundred seventeen feet above sea level, may well be the goal of a walker in the Fells. It is easily accessible by automobile from Stoneham. The Appalachian Club early placed a tower on its summit, which was replaced by the Metropolitan Commission in 1910. This tower commands a most comprehensive view of the Fells.

"The horizon from south to west is set with familiar eminences," wrote Prof. Charles E. Fay of Tufts College, himself a famous mountain climber. "The Blue Hill range seventeen and a half



Photo by Albert C. Dove, Metropolitan District Commission.

CHEESE ROCK ON BEAR HILL.

miles, the hills of Brookline and Newton, the distant Pegan over Belmont, and then the heights of Arlington, Lexington and Then the Skyline suddenly retreats, and for sixty degrees we have an almost continuous line of distant mountains. First the 'whale-back' of Wachusett, nearly due west, forty miles; next, after two or three considerable hills. Watatic, fortythree miles, rises in a pronounced cone; then comes the monarch of them all, the grand Monadnock. The lower swell of Kidder Mountain follows, and then a fine mountain mass, rivalling Monadnock itself as seen from here, fifty-eight miles, yet in reality far less grand. It consists of two high peaks, some distance apart, but joined by a lofty ridge. The first is Temple Mountain, the other something of a peak at its eastern end, the Lyndeborough Range. A trifle farther to the right and still more distant one sees Crotchet Mountain, in Francestown, rising above an intervening hill. Nothing of note follows until Joe English Hill, lifting its bulk out of the low horizon, asserts itself with much more assurance than the higher Uncanoonucs, whose upper portions only are seen farther to the eastward, overtopping a much nearer ridge. Nearly as far to the right of the Eastern Uncanoonuc as Joe English is to its left, about midway between the former and that prominent hill in the middle ground which ranges in line with two ponds (Fox Hill in Billerica), rises a high and very distant summit, which can hardly be other than the southern Kearsarge. A few degrees west of north, where the horizon again recedes, the eye greets a mountain seldom noted in the list of those visible from our suburban hills,—probably Pawtuckaway, a coast survey station in Rockingham County (New Hampshire). About as far to the east of north are the hills of Andover, the grassy slopes of Holt's most prominent. Over other gently swelling hills of Essex County the view ranges, until, summoning courage to pass the great rampart of masonry that crowns the summit of Asylum Hill in Danvers, it comes to enjoy the glimpses of the sea."

One can also see clearly Revere Beach Bath House, Nahant, outer Brewster, Minot's Light (twenty-two and one-half miles), Boston Light (fifteen miles), Fort Independence, Fort Warren, Bunker Hill and the State House. South of the tower is the high service reservoir for Stoneham constructed when the water level of Spot Pond was raised.

SPOT POND.

FEBRUARY 7, 1632, was the date when Spot Pond was christened. Governor Winthrop and some comrades "went over the Mistick river at Medford, and going N. and by E., among the rocks about two or three miles, they came to a very great pond, having in the midst an island of about an acre, and very thick with trees of pine and beech and the pond had divers small rocks standing up here and there in it, which they therefore called Spot Pond. They went all about it on the ice. From thence (toward the N.W. about half a mile) they came to the top of a very high rock. . . . This place they called Cheese Rock, because when they went to eat somewhat, they had only cheese, the governor's man forgetting for haste to put up some Bread."

Geologists tell us that this pond before the ice age was a broad upland valley. The ice swung a barrier across its southern end. Later the hand of an early Melrose settler furthered the work of the glacier and made the level of the pond much higher than in the day of Winthrop.

In 1870 it became the water supply of Medford, Malden and Melrose, and in 1900 was absorbed by the Metropolitan Water Board as a storage and distributing reservoir. For this purpose the banks of the pond were raised nine feet, so that many of the projecting rocks for which Governor Winthrop gave it its name are now below the water. By the same rising of the water Bold Point, once a promontory, became an island; a swamp full of waterlilies on the northwest border became part of the pond.

Spot Pond is now used as one of the most important distributing reservoirs of the Metropolitan System and contains 1,791,700,000 gallons when at its high water mark of elevation 163 above Boston City Base. Owing to the extensive public use of the Middlesex Fells adjoining the pond it was necessary to divert all drainage that would naturally flow into the pond in

order to prevent pollution. Some of the water is received direct from the Wachusett and Sudbury systems by gravity and the rest comes from Chestnut Hill Reservoir in Brighton by pumping. In order to furnish consistent water pressure to cities and towns in the northern water district, a northern high service reservoir, called Fells Reservoir, was constructed on the hill in the rear of the old Langwood Hotel, with a water level of 271. This reservoir is filled by pumping the water from Spot Pond.

The island in the center is called Great Island and at one time was a resort for picnic and wrestling matches, especially by the Scotch-Irish who lived nearby. A boulder with the inscription "Here Fell Shute," marked the defeat of a local champion. Tradition says that one prize fight which took place here lasted all day and curious spectators who came to look on were tied to trees so they could not escape and report the illegal fight. The island now is accessible neither by boat nor by skates, as one may not trespass above a water supply.

In the olden days horse racing and iceboating were permitted on the ice, and fishing through holes in the frozen surface. In fact, at Sprague's Point one man made his living by the rental of rowboats and sailboats and by fishing and shooting ducks and geese in season.

The region, especially Spot Pond Grove, was a great center for woodland parties. The Spot Pond House, a somewhat notorious hotel on the westerly side of the pond, was a thriving resort for the teams and coaches which came up the toll road from Medford. The Spot Pond House is gone and the toll road has become the wide Fellsway West; but the picnickers and lovelorn couples still haunt the pond today.

Spot Pond has been a source of power for mills, for recreation and for water supply. Yet another use must be recorded. It is part and parcel of the great romance of Frederick Tudor, the ice king. Early in the nineteenth century Tudor, as a young man, hit upon the idea of shipping ice to the tropics. Ridicule followed. Sailors were afraid the iceladen ships would founder. The first venture was a complete failure.

The story of the experiments in packing ice and of salesmanship in marketing it is one of the romances of business. Spot Pond had its share in sending ice to the Caribbean, and Tudor had large holdings in the Fells and icehouses near Pickerel Rock.

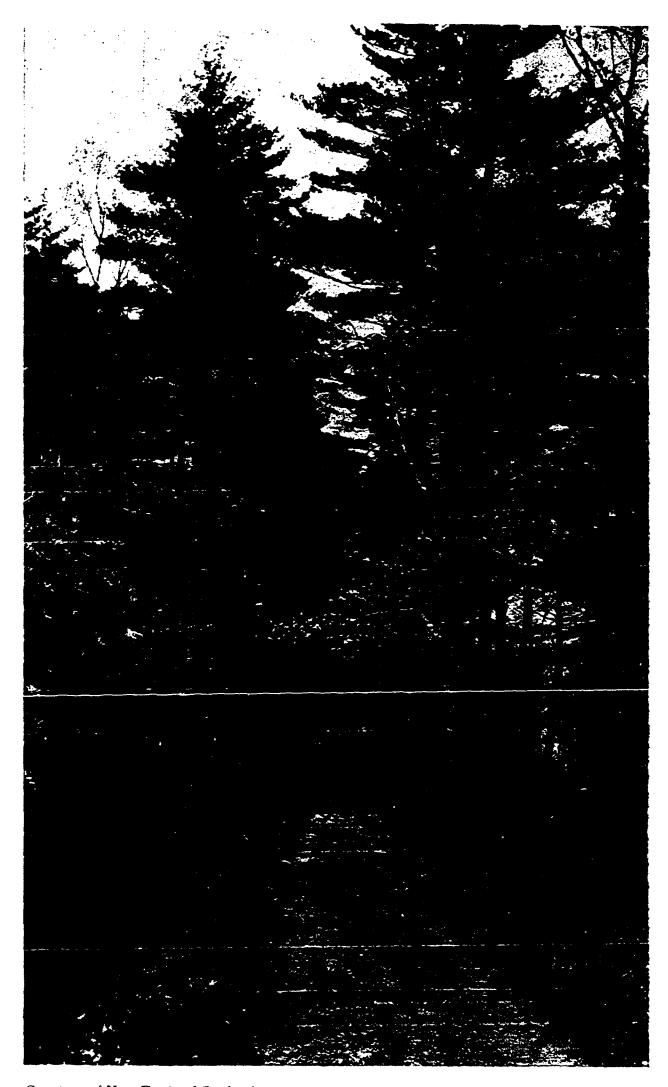
The industry may have drawn the attention of business men in Boston to the beauty of the region. About 1850, several gentlemen bought land along Woodland Road and four of them built houses of stone. One of these. William Foster, patterned his house after a chateau in Normandy where his wife was born. Mr. William B. Lang called his home Langwood, and it became later the Langwood Hotel and is now a part of the New England Sanitarium. But one of the other houses is still standing, the Botume house next to the pumping station.

VIRGINIA WOOD.

ROM the close comradeship of the families about the pond sprang another romance. The daughter of William Foster, in her French chateau by the pond, was wooed and won by the brother of the ice king, Henry I. Tudor. Apparently they both loved the great trees about the pond which had escaped fire and the axe, for they took great care of the woodland on their estates.

These Tudors had three children, two of whom died in infancy. The third, Virginia, died at about the age of twenty in Paris. When the state appointed Trustees of Public Reservations in 1891, Mrs. Fannie Foster Tudor was the first to convey the beautiful pine and hemlock grove along Ravine Road near Spot Pond to the commonwealth, to be called Virginia Wood in memory of her daughter. It was made a part of the Middlesex Fells Reservation in 1923.

No fairer memorial could be given to a beloved daughter than this beautiful stretch of woods. Here are tall pines and hemlocks, lightened in spring by a brilliant white shower of dogwood blossom. One of the finest



Courtesy of New England Sanitarium.

APPROACH TO CRYSTAL SPRING.

views in the Fells is that from a high rock where one stands among the towering pines and sees between their naked boles the sparkling waters of the pond.

THE SHEEPFOLD.

EVERY boy or girl scout knows the sheepfold, the picnic and recreation grounds of the Fells, where fires may be kindled with safety. All kinds of games are possible in the open meadow. Originally this was a large farm used as a piggery. The landscape architects of the Metropolitan Park Commission advised in 1902 that it be kept open for landscape purposes and for public recreation. With the gift of a small number of sheep to keep the pasture closecropped, the piggery was transformed to a sheepfold. Today the sheep have followed the pigs into oblivion. The old buildings were removed and the one used as a sheepfold again transformed to more practical uses.

WINCHESTER RESERVOIRS.

In the second great natural valley of the Fells that runs from north to south lie the three Winchester Reservoirs. Ensconced as naturally among the surrounding hills as if stranded there from glacial ages, they are yet of very recent date. Under the southern end extended once thousands upon thousands of waving cat-o-nine-tails, for this was the great Turkey Swamp. Here had been an encampment of Indians, and here, opposite Shiner Cliff, had lived the last of the Indians, old Hannah Shiner.

Barely half a century had passed after the death of this last of the Indians before the white men were increasing in Winchester so rapidly that the town selectmen began combing the neighborhood for an adequate water supply. This fastness of birds and wild animals satisfied the engineers. By 1874 the North Reservoir was already in service, the water flowing by gravity to supply the town. By 1880 more water was needed and the town purchased land for another reservoir. When the reservoir was completed, however, the northern end was very shallow. A dam was therefore built dividing the southern and middle reservoirs, in that way raising the water in the shallow area. The middle reservoir is thus raised above the other two bodies of water and can be used to feed either the north or the south reservoir. The three together have an area of some one hundred ninety-eight acres and contain nine hundred ninetythree million, six hundred thousand gallons of water.

When the North Reservoir was placed in service one hundred fifteen black bass weighing from threequarters of a pound to two pounds each were put into the reservoir for the sake of purifying the water. From time to time from 1880 on fishing was allowed in the reservoir. This led to abuses, so that in 1934, under the State Department of Conservation, many fish were removed from the reservoirs and placed in surrounding ponds where they could be caught. Some of these were very large specimens.

A system of reforestation has been developed, based largely on the fact that pine trees, with their thicker coverage, best retard evaporation of water from the ground. In addition, the leaves of the deciduous trees, blowing into the reservoirs, have a tendency to discolor the water. For this reason much cutting of trees was permitted near the reservoirs during the winter of 1918 when fuel was scarce and the ground has been replanted with pine. It has been found necessary also to trim the lower branches to fight fires and to keep a clear view of the shores, for there has been an influx of people to pick berries and mushrooms during the years of unemployment, who have not realized the ponds were a water supply. This has forced the town of Winchester to the use of special police to protect its water supply. Whether the pine forests are as beautiful as the original mixed growth cannot yet be said, but the union of a water supply with a public park system has some elements of difficulty.

Round about these reservoirs run many charming walks. Grinding Rock Hill is named from a great hollow used by the Indians for grinding their corn with a Money Hill is said to owe its name to the custom, during the days of the gypsy moth epidemic, of paying off the workers at that point. Molly's Brook originally flowed another way to a mill pond, but was diverted to the South Reservoir when Mr. A. E. Whitney released his water rights to the town of Winchester.

Care, too, is taken in the feeding of birds, and at the log cabin of the forester off Horseshoe Path additional inducements to all aesthetic birds are offered in birdhouses of every style and period. Probably the advanced birds of this generation consider their ancestors of Turkey Swamp as aborigines.

THE CEDAR TREE.

LITTLE westward from Whitmore Road, about half way between Winthrop Street and South Border Road, is a natural wonder. This is a tree some fifteen feet tall and of our native variety of red cedar (junipera Virginiana). It differs a little from others of its kind, which are tall and tapering, in being somewhat spherical in its branching top. The boulder beneath it is nearly cubical in shape, in size about twelve feet and partly buried in the alluvial drift. Not the slightest crevice or cranny can be seen in the rock beneath the tree and none beside it into which its roots like spreading fingers might clasp, were there any. The only favoring thing in its strange setting is a slightly higher portion of the rough boulder forming a barrier against the north wind. Some bird in its flight might have dropped the seed in this sheltered nook on the sunny south corner of this huge boulder, and there under Nature's kindly forces it germinated and in its rock cradle the infant seedling was nurtured. It was a survival of the fittest and has

attracted the attention not only of the casual observer but of scientific men, geologists and naturalists. They estimate the tree to be over four hundred years old. Under favorable conditions the native red cedar, thriving best on rocky soil, is of very slow growth, but here is one growing in no soil, but all rock.

-Moses W. Mann.

CASCADES, SPRINGS AND BROOKS.

OTHER points of interest crowd upon the map. There is the Cairn about which many stories are told. Some believe it to have been the work of Malden High School boys of yore. Another theory is that it was erected stone by stone by doctor's prescription to a man too lazy to exercise.

The Bear's Den lies in the romantic Malden section of the Fells.

Charming ponds, dark with drowned leaves and shrill with the song of hylas in early spring, bear names as picturesque as the walks about them. Among these is Shiner Pond, once patronized in quest of small fish to be used as bait. Another is Hemlock Pool, still beautiful, though many of its great hemlocks have been cut down. Dark Hollow Pond, the overflow of Spot Pond, was originally much smaller.

Especial note should be made for hikers of the fine springs. Quarry Spring is off Quarry Road at the foot of Little Pine Hill. Indian Spring is located on Molly's Spring Road, south of Nanapashemet Hill. Near it is the cool pine-shaded road that enters the Fells from South Border Road in Winchester. Here is one of the largest pines found in the Fells. In the northwesterly section is Willow Spring on the path of that name.

Most famous of all is Crystal Spring, off Wyoming Avenue in Melrose. This was greatly patronized in a recent summer when a pest of small algae in the Spot Pond water gave it the temporary nickname of Medford chowder. Hundreds went with their pitchers to the clear waters of Crystal Spring.

Lovely, too, are the brooks which rise in these hills and curl with bewitching leisure or sudden swirls of haste to the lowlands. A real adventure lies in tracing Meetinghouse Brook amid its tangle of bushes and marshy islets, from the Winchester Reservoir along its hesitant trickle until it gains force in its deepset valley and swings past Frenchman's Mill and finally makes an ignominious exit into the culvert at the border of the Lawrence Estates.

Most dramatic of all the brooks is Shilly Shally. Rising to the east, this stream meanders slowly toward the high cliffs that front the eastern side of the Fells like palisades, and plunges over them in a beautiful cascade of some two hundred feet. This cascade is well worth a trip in winter or early spring, but its position on the very edge of the reservation, almost in the backyard of the old rubber factory of Melrose, detracts from its mystery. Before the high service water tower was built, there was no feature so often described. Today if we turn our backs to humdrum civilized life and face that rampart that guards the Fells we can still admire in winter the icebound cascade spreading some fifteen feet in shining armor, and the great black and white rocks that rise like giant portals on either side. Unfortunately, as the year wears into spring the cascade almost disappears. Another small cascade is on Spot Pond Brook and has its source in the ponds romantically named Doleful and Dark Hollow.

Both these cascades are obligingly near the automobile road, but to see the Fells best is to park that anachronism, the automobile, near the opening of one of the trails and become an explorer again, following the footpaths or the winding roads, or plunging headlong through the shrubbery and underbrush, exulting in the tonic adventure of walking.

HISTORY OF THE MIDDLESEX FELLS ZOO.

By PAUL A. GREGG.

WHEN the Middlesex Fells Reservation came into being in the early 1890's, no thought of a zoo was included in its plans. Little did the reservation's superintendent, Charles P. Price, ever dream that his little hobby for birds and animals would grow into the zoo as it stands today.

Mr. Price's love for animals brought him in contact with many naturalists and zoölogists of that day. He started to collect a specimen or two of the native birds and animals that made their home on the reservation. Small cages were built in the rear of his home, built mostly by himself as a recreation, and many of his leisure hours were spent with his pets.

Friends came and went. All these friends were shown his pets before they departed. These friends brought others, until a walk in the Fells was not completed by anyone in the surrounding towns until Mr. Price's animal collection was seen.

Here is where the trouble began. Many people were coming to see his collection, and many of them would present him with specimens that they procured themselves. It began to cost money to house and feed his fast growing family of pets. He therefore decided it was time to give up his hobby. But when the public found this out many protests were made to the Metropolitan Park Commission. These protests served their purpose and the animal collection stayed (but no one has ever found out who authorized it to stay). A laborer was detailed to spend part of his time feeding this collection and the park carpenter built new cages as they were needed.

About the year 1900, a cub bear was born in the wilds of the state of Maine. Little did this bear cub know the important part he was to play in the history of Mr. Price's animal collection. Up to this time the collection consisted of woodchucks, red and gray squirrels, rab-

bits, skunks, chipmunks, muskrats, a fox and a porcupine—for animals. For birds there were black, mallard and pintail ducks, one pair of wild Canada geese, also crows, blackbirds, hawks, owls, ring-necked pheasants and partridges.

The first animal to be added to the collection not captured on the reservation was a wildcat from the state of Maine. Then a deer from the local game warden was included. The collection had started to grow.

The next summer the bear cub was presented to the collection. A little history of this bear might be added at this time. It so happened that one day a Maine wood-chopper felled a large tree. When this tree hit the ground a black bear was discovered hibernating in a large hole in the tree. This bear was killed by the woodchopper. On examination of her winter home a newborn cub was found. This cub was carried home by the man for his wife to care for. The cub became one of a large family of children, of which the youngest was only two or three weeks old. No milk could be had for the little bear, so it was fed at the mother's breast with her new born baby. This family was very poor and if the bear cub could be raised till spring came, it could be sold for money to help the family along. Two days later the father of the family was injured, never to be able to do a day's work again.

Spring came and the cub was taken to the nearest town and offered for sale. The cub was then nearly four months old and weighed about twenty pounds. The story got out about how the bear was captured and raised and the misfortune of the family. A man from Massachusetts heard the story, bought the bear and wrote a book on its life. The cub was sent on a lecture tour throughout the country and the proceeds of the lectures and the sale of the book were turned over to the family. In this way they were kept from poverty and the children were educated.

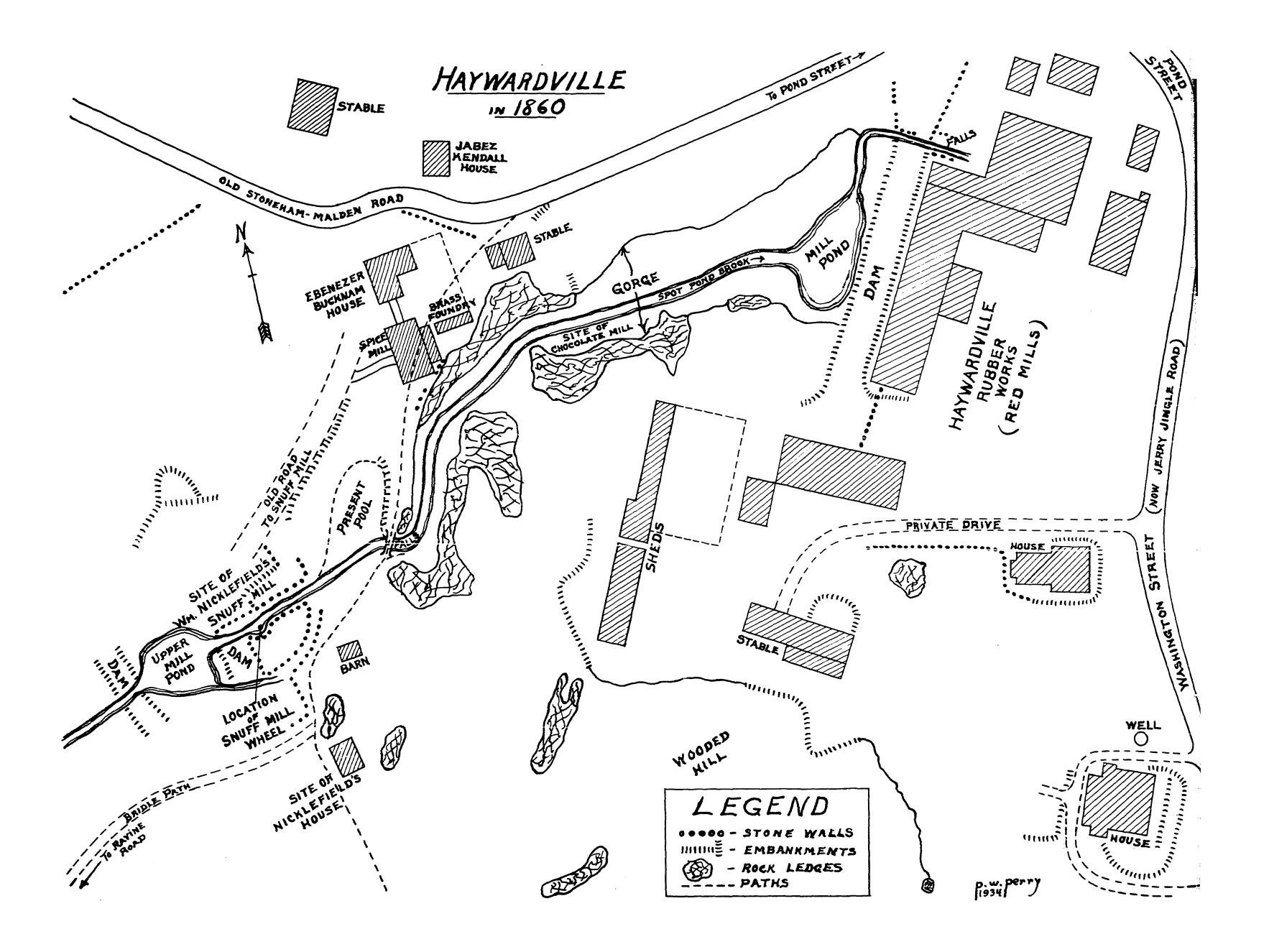
After the bear had been exploited for nearly two years

it was turned over to the animal collection in the Middlesex Fells Reservation. The bear was now famous and brought considerable notoriety to the zoo. Crowds of people began to come to see the bear and thus more donations of animals were received. At last the collection began to look like a zoo of North American Animals.

This bear lived at the zoo until he was fourteen years old, when he died. He was replaced by three small cubs. Two of these same cubs are still alive after nineteen years and at the present time are in good health and share the large bear cage with two of their own offspring.

In the year 1915, about the time the old bear died, interest in the animal collection seemed to fade. Of course, the war coming along had a lot to do with it and so it stood for the next ten years. By 1925 the cages were sadly in need of repairs; most of them were beyond repairs. Then the old keeper was retired, having reached the age limit, and a new keeper was hired who took more interest in the collection. Captain Edward M. Woods was appointed superintendent and with the new regime improvements of various kinds were made. Old cages were replaced with new ones, many of the old birds and animals were put to sleep and a wider variety of new ones purchased.

The zoo took on a new lease of life. The attendance began to grow. The newspapers began to write articles on how well the animals were kept. With the new care and better food the animals began to breed. Our first surprise was two bear cubs born in 1926. One of these was raised and traded off when five years old. The deer herd began to increase. The pheasants and water fowl were producing young until so many were on hand something had to be done. A dealer in animals and birds was found who would be glad to take our surplus in trade for varieties we did not have. So pheasants were traded for peafowl, water fowl traded for eagles, deer traded for wolves, and so on. As these new animals



began to produce young, they in turn were traded for wildcats and lynx. A pair of mountain lions were purchased. This pair has produced thirteen youngsters to date and many of the birds and animals at the zoo today were procured by trading these young cubs.

A monkey or two were given, as well as several parrots; next a fine young jaguar was presented to the zoo. Here was another problem. What were we going to do with these warm-climate animals in winter? An old building was revamped into a winter house, a mate for the jaguar was purchased and before another year went by more monkeys, parrots and a rattlesnake had been given to the zoo. Hence the old house had to be enlarged to twice its size to hold these additions.

Through the efforts of Mr. Frank A. Bayrd, then a member of the Commission, and Captain Woods a pair of elks and a pair of buffaloes were purchased. Mr. Bayrd also supervised the purchase of the mountain lions. And so through donations, trades and a few purchases the zoo has grown until today we have on display such animals as jaguars, mountain lions, wildcats, Canada lynx, civet cat, a mongoose and an African lion in the cat family; wolves, coyotes and fox make up the canine family; and elks, buffaloes, deer, sheep, goats. On a visit of the Rodeo Show to Boston, Colonel W. T. Johnson, owner of the Rodeo, made the zoo a present of a fine pair of Texas long-horned steers to complete the bovine herd. Then there are bears, raccoons, badgers, wild hogs, woodchucks, fox and gray squirrels, a skunk, a kinkajou, a coati and several varieties of monkevs.

The bird family consists of bald and golden eagles, owls, hawks, peafowl, three species of crane, eight varieties of wild geese, swans, a number of wild and domesticated ducks and ten varieties of pheasants.

Snakes have just recently been added to the collection. A native timber rattlesnake has been with us for some time and within the last few months a large

Florida diamond-backed rattlesnake has been donated.

During the spring and fall seasons this zoo gives pleasure to old and young, averaging about ten thousand each week and a slightly smaller number during the rest of the year.

ALONG THE BRIDLE TRAILS.

BY RUTH BRADLEE.

Too few people know the joys of horseback riding in the Middlesex Fells. There are fifty-one miles of bridle paths to please riders of all abilities and all notions, and convenient for almost anyone wishing to ride away from automobiles, tracks, the smell of gasoline and the general noisiness of civilization.

There are paths into the Fells leading from Winchester, Melrose, Malden, West Medford, Woburn and Stoneham. There are long, level roads for brisk canters, there are hilly roads for those who like variation in speed, there are broad roads, crooked roads, narrow roads and straight roads. The foliage is not too conventionally arranged so that it looks sleek and citified. nor so wild that should one decide to race up a steep, winding hill one suddenly finds oneself struck smartly in the face by a stinging branch. On cold days one can ride deep into the woods, out of the wind, where the trees grow thickly together, and in warm weather it is pleasant to feel the breeze across Spot Pond or one of the reservoirs. In the winter one sees the straightforward tracks of the fox across the frozen ponds. the spring the pheasants are out, walking proudly with their young, and in the fall the trees are a lavish panorama of rich coloring. The main broad roads go around the three reservoirs, all closely connected with each other and with Spot Pond; other smaller paths lead from these roads only to return to them again. It is almost impossible to lose one's way. From West Medford one enters on Winthrop Street; from Winchester,

Border Road; from West Medford, East Border Road; from Woburn, Marble Street; from Stoneham, Wyoming Avenue. Having entered, all roads leading to the reservoirs or pond, one merely goes around the lakes or goes on tangents which again bring you back to familiar territory. And the wishes of all riders—those in possession of the poet's soul or those riding simply for the joy of riding, or those in search of health and fresh air—are satisfied.

THE VANISHED VILLAGE OF THE FELLS.

By PARKER W. PERRY.

CAPE ANN is justly proud of her deserted village, Dogtown, but the Middlesex Fells may lay claim to a deserted village of her own in the almost forgotten Haywardville. This once thriving settlement, whose past can be reconstructed only from musty deeds and faded photographs, is as rich in historical interest as its more famous Cape Ann predecessor.

Haywardville was situated east of Spot Pond, in the eastern part of the town of Stoneham, near the Melrose line. Its site is bounded on the west by Woodland Road, which runs along the easterly side of Spot Pond; on the north by Pond Street (a continuation of Wyoming Avenue, Melrose); on the east by Washington Street and the new Jerry Jingle Highway (Fellsway East); and on the south by Ravine Road. Spot Pond Brook, the cause of its rise and its decline, runs easterly through the approximate center of the plot of land.

The name of the first settler of the section is shrouded in mystery, but he was not slow to take advantage of the water power rights of the brook; for in 1640, less than two years after he had built his homestead among the pines, he had built the first mill on the banks of the swiftly-running brook. This was used first as a saw mill, and some years later converted into a grist mill, as was the custom in those days when the timber supply was

exhausted. Judging, however, from the present heavy growth of pine, beech, maple and elm trees on the hill, this conversion took place long before the timber was all gone. Perhaps the settler was one of those rare men who place the aesthetic value of a tree above its commercial worth!

There are some interesting anecdotes concerning this first mill, which stood about where the pumping station now is. Some of the farmers at the head of the pond were violently opposed to it, as the dam, they claimed, flooded their land. Accordingly, they gathered together all the youngsters in the neighborhood and sent them after dark to tear down the dam with shovels and pitchforks. The irate millowner, on discovering the damage the next morning, promptly built the dam up again to its former height, whereupon the farmers had it torn down again. This sort of thing went on sporadically over a number of years, but I have been unable to discover which side was ultimately victorious.

The original mill changed hands several times in its first hundred years, but there was no further activity on the banks of the stream until Ebenezer Bucknam sold a parcel of land in 1792 to one William Nicklefield, who erected a snuff mill about a half-mile east of the original mill. The foundations of this mill are still plainly visible, above the rustic bridge which crosses the waterfall. Bucknam conveyed this parcel with certain curious reservations, one of which was that Nicklefield might erect any kind of a mill except a grist mill on the land. This seems like a rather odd reservation to make, as by this time the original mill had ceased to exist, but perhaps he made it in case he should ever want to build another grist mill himself. He also allowed Nicklefield to lay out a road sixteen and onehalf feet wide from his mill through Bucknam's land to the main road. This road is still in existence, leading from the old foundations down to Pond Street.

In 1798 Bucknam sold another piece of land, a few

rods east of the snuff mill, to Thomas Rand, with the conditions that he could not build on it a saw or a grist or a corn mill. On this land, deep in the gorge, Rand built a mill, but there is no record of what he used it for. However, an old volume of historical reminiscences of Stoneham, published in 1842, refers to a chocolate mill which once stood here, so it may have been that Rand was one of the pioneer chocolate makers in the country.

Nicklefield's and Rand's businesses cannot have prospered very long, for in 1809 and 1810 James and Aaron Hill bought these two properties. The deeds refer to "where the snuff-mill formerly stood," so it is probable that the mill had been pulled down. As there is no further mention of the Rand mill, it too probably suffered a similar fate.

The Hills built a mill here, but kept it only a year before selling it to several members of the Hurd family, in whose hands it stayed for the remainder of its existence. The Hurds ran a spice mill and ground various herbs for medicinal uses. Legend has it that the great number of barberry bushes in the vicinity sprang from the seeds of that shrub which they used in their business, the surplus of which they threw into the surrounding woods. Strangely, the 1842 "history" refers to this as the Wheeler Mill, but there is no evidence in the deeds that it was ever owned by anyone of this name, though the Hurds may have hired a Mr. Wheeler to run it for them.

Another of the legends that persists in several sources concerns a deserter from some British ship lying in Charlestown harbor, who fled through these woods and hid himself under the floor of the mill. Although soldiers searched the mill thoroughly, they did not find the fugitive, who afterwards became a worthy citizen of Stoneham. Another version of the tale has it that he hid inside the large mill wheel, but its ending is similar in that he was not captured.

Interesting as all this early lore is, it is but a preface to the real activity of the locality. In 1813 the guardian of Stephen Bucknam, a spendthrift (according to no less an authority than the Middlesex Deeds!), sold a parcel of land in the extreme eastern portion of the settlement to one Barrett of Malden, a silk dyer; but Bucknam reserved the right to cut wood on the land for ten years. Barrett erected a mill here, but there is no evidence of the year in which he did so. This was probably a small factory, and was located near the corner of the present Pond Street and the Fellsway.

Events moved along serenely until the fabulous forties, when suddenly things began to hum. Barrett was by this time dead, but his son sold to Elisha Converse the factory lot and a plot adjoining it on the south. Converse started a rubber mill here, and ten years later sold it to Nathaniel Hayward, by far the most important figure in this tale.

It appears that Nathaniel Hayward, when he was the proprietor of a livery stable in Boston, in 1834, became interested in the then new product, rubber, through a a rubber composition which was used for carriage tops. He was so fascinated with the possibilities of the product that he sold his stable and devoted his entire time to experimenting with rubber. In 1836 he entered the employ of the Eagle Rubber Company, which manufactured ladies' aprons and carriage covers. In April of that year the company removed to Woburn, where it stayed for eighteen months, which proved to be eventful ones. Hayward, during this period, stumbled on the secret of vulcanizing rubber; had he carried his tests just a little farther, his name would now be the famous one rather than that of Goodyear. making some rubber aprons, and to bleach them he used sulphur. He found that the fumes of the sulphur not only whitened them, but hardened them so that they no longer became sticky when heated. By patient experiment he discovered that the sulphur was responsible for this hardening, but his partial knowledge blinded him to the vital fact which was later discovered by Goodyear—that the rubber was only partly vulcanized at a moderate temperature, and that greater heat must be applied thoroughly to vulcanize it.

By the autumn of 1837 the rubber industry was completely prostrated, and the hopes of its inventors had vanished into thin air. There were probably only two men in this trying time whose faith in the future of rubber was unshaken. One was Hayward, and the other was Charles Goodyear. The two men, who were neighbors in Woburn, met in the summer of 1838, and Hayward passed on his secret of using sulphur to the other man. The following January Goodyear, in testing Hayward's mixture, accidentally dropped some on a hot stove, thereby ending the long search for the secret of vulcanizing rubber.

Although Goodyear justly got the credit for the discovery, Hayward carried on further experiments and took out the first patent for the making of rubber footwear, which places him as the founder of the present huge rubber footwear industry. He started its manufacture in Lisbon, Connecticut, in 1842, and five years later established the Hayward Rubber Company, with a main factory in Colchester, Connecticut, and a second factory for the preparation of crude rubber at Bozrahville, nearby. This establishment was for many years the largest in the country, and after Hayward retired in 1865 the factories remained in business, and were finally taken over as a unit of the United States Rubber Company.

All this may seem to be straying rather far from the point, but it is necessary to establish a background for the man who meant so much to the little village of Haywardville in its most prosperous years. In 1858 Hayward, probably at the zenith of his career, bought the Converse Mill and enlarged it, operating it under the name of the Haywardville Rubber Works, although

it was popularly known as the Red Mills. He himself lived in the beautiful pre-Revolutionary house nearby which had been a rendezvous for the patriots in the exciting times of '76.

The next dozen years were very busy ones for the little village. In addition to the rubber factory, there were the spice mill and a brass foundry which had been built near it, and several ice houses located on the shores of Spot Pond. The largest of these were owned by Charles Copeland, proprietor of one of Boston's first "Ice Cream Parlors," who lived where the Metropolitan Pumping Station now is. New houses were erected for the mill workers, and there was even a tenement block on Pond Street. At the top of the hill, near the pond, was the picturesque District Schoolhouse and opposite stood a tavern (with the quaint name of "Briar Cottage") and a boathouse which did its share to provide diversion for the villagers. On the Sabbath the little school was transformed into a church, and doubtless the nearby tavern provided the good dominie with a fruitful topic for many an eloquent sermon! At the foot of the hill, near the village store, stood the hamlet's "haunted house," which was usually vacant and probably was a favorite subject for discussion by the cracker-barrel philosophers.

How long the village would have prospered, and how it would look today, is impossible to tell, for its activity was cut short when the powers-that-be decided that Spot Pond would make an ideal drinking water supply for the adjacent towns. In 1867 the three M's—Malden, Medford, Melrose—began agitation for the taking of Spot Pond as a reservoir, but two years elapsed before they officially voted to start work. Two pumping stations were built, one to supply Malden and one for Melrose, on the easterly shore of the pond, near the outlet; and one for Medford, near Wright's Pond. The three towns bought all the land on the shores of the pond to prevent pollution of the water. The works were put into use on August 26, 1870.



Photo by Albert C. Dove, Metropolitan District Commission.

CASCADE NEAR SITE OF HAYWARD MILL.

The effect of this on Haywardville was disastrous. With most of the water from the pond diverted to the pipes of the towns, the mills faced ruin. Their owners brought suit against the separate towns, and after more than ten years of litigation all claims were finally settled. The mills fell into decay, most of the people moved away, and the glory of Haywardville became a memory.

Only one industry remained—the ice business, as the towns had not prohibited the cutting of ice on the pend. It is due to this fact that I have been able to get photographs of the old buildings, for Charles C. Jones moved here in 1879, first leasing the old Copeland Ice Houses, and later building his own at the pend. During the fifteen years he conducted his business here he lived in the old Bucknam House near the abandoned spice mill, and took many valuable photographs, some of which I am fortunate enough to own. To his son, Frank, and his grandson Archie, who now live in Malden, I am indebted for much priceless information regarding the location and history of the old buildings.

For almost a quarter of a century there was little change in the abandoned settlement. A few families lived in the old houses, and their children played in the silent mills and went to the district school at the top of the hill. During the ice-cutting season the village regained some of is former bustle, when extra helpers lived for a time with their families in the houses that were vacant the rest of the year. Grass grew in the ruts of the old mill-roads, and the factories themselves were filled with dust and festooned with cobwebs.

For a time during the early nineties it seemed as if a revival were imminent, for plans were drawn up to extend the dead-end Stoneham Branch of the Boston and Maine Railroad through these woods and into Boston by way of Malden. Ambitious promoters laid out several new streets on paper, and prepared to sell house lots. These plans were frustrated when the state,

looking for a source of water supply for Greater Boston, decided to purchase Spot Pond for use as a distributing reservoir. At the same time, all the surrounding land was purchased as a part of the Middlesex Fells Reservation.

The Red Mills buildings in Haywardville were cut into sections, transformed into houses, and moved a half-mile east to form a street called, until recently, Fells Court. (It has lately blossomed out with the pretentious title of Ravine Terrace!) Most of the other buildings, including the tenement, the spice and brass mills, the old Kendall House, the schoolhouse and the general store, were razed, but the Bucknam House, the "haunted house" and one other were moved down Wyoming Avenue, where they stand today, although in a much altered state.

The Park officials smoothed over the scars where the buildings had stood, and allowed grass and bushes to grow naturally over the old foundations and cellar holes. The only additions were a charming rustic bridge over the falls above the gorge, and a fence around the lower millrace. In the thirty-odd years since the state bought the land in 1896, the site of Haywardville had become one of the loveliest rustic retreats north of Boston, until its recent conversion into a nature trail robbed it of its more primitive charm.

Haywardville is still well worth a visit by all who cherish the few remaining vestiges of an era in our history now closed. With a little study and imagination the visitor can easily reconstruct the thriving village of a century ago.

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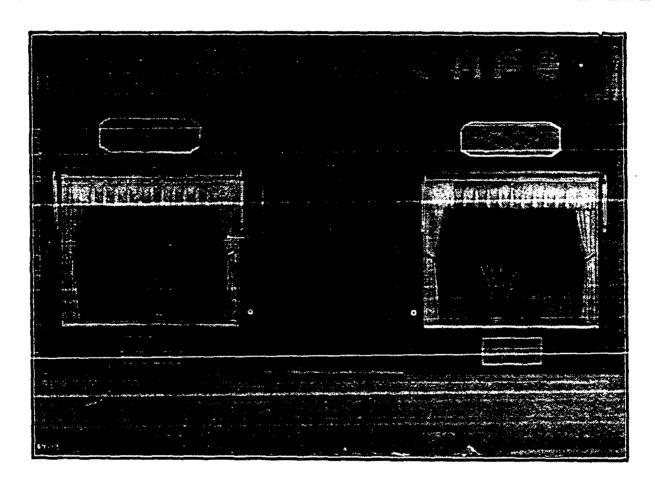
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