



HATS AND THEIR MANUFACTURE.

THE NATURAL NECESSITY FOR A HEAD-COVERING. — NATURE'S SUGGESTION. — THE VARIETY OF HEAD-COVERINGS USED. — THE MODERN HAT. — THE COLONIAL MANUFACTURE OF HATS. — PROTECTION THEN. — ENGLISH LEGISLATION. — THE TRADE AFTER THE REVOLUTION. — THE PROCESS OF FELTING BY HAND. — SILK HATS. — STRAW HATS. — BONNETS. — WOMEN INVENTORS AND PATENTEES. — THE INTRODUCTION OF MACHINERY INTO HAT-MAKING. — THE RESULTS. — THE EFFECTS OF THE TARIFF. — AN INSTANCE OF ITS INJUDICIOUS PROVISIONS FURNISHED BY HATS.

THE wearing of some covering for the head, in order to protect it from the heat of the sun, or to guard the eyes from its too great brilliancy, was probably one of the very first steps made by mankind in their progress from the nakedness of savagism to the wearing of clothes. Besides, too, the head, as it is the seat of the chief organs of the senses by which our perceptions and knowledge of the outside world are received, is naturally the most important part of our organization, and instinctively we protect and adorn it. Nature herself, in covering it with hair, has suggested the treatment which the savage but follows out when he feels himself fully clothed with a head-dress of brilliant feathers.

The shape, the color, the decoration of the various head-dresses worn by different races of men at different periods have been as diverse as the materials from which they have been made. The skins of beasts and birds, mats of leaves, twigs, or straw, cloth, metal, fabrics of wool, have each in turn been impressed into this service. The shape and the decoration of the hat has also been always an important matter. During the Middle Ages, when the social distinctions of the people were more sharply drawn and defined, the hat, by its form, its material, and its decoration, was the chief indication of the social position of its wearer. Jewels and plumes marked the rank of the noble; a sober hue, a simpler form, and a plainer method of adornment, showed that their wearers belonged to a lower social grade; while the worker, the peasant, those who carried on the industrial labors which supported the extravagance of the upper classes, had to content themselves with the simplest of all.

Though in our modern times we are so prone to congratulate ourselves on having freed ourselves from many of the superstitious customs and ideas of our ancestors, yet unconsciously the hat assumes an almost undue importance in our costumes. With our city youths, mounting their first hat marks the attainment of virility almost as certainly as in Rome the assumption of the *toga virilis* marked the attainment of manhood. Nor is there any single article of costume concerning which the modern fop is more curiously careful than he is of his hat. Should he lose it, some gusty day, by a sudden blast, he stands almost as bewildered and ashamed as though he was involuntarily making some indecent display of himself in the public street.

Leigh Hunt, in one of his sketches of London life, gives an amusing picture of the almost reverential respect which the modern dandy has for his hat. He represents himself as looking at the wild animals in their cages in one of the public gardens. Standing before the cage of tigers, and observing these ferocious beasts, together with the crowds of men, women, and children who were standing before them, it suddenly occurs to him how shocking it would be should one of the tigers snap the bars which confined him, and spring infuriated into the midst of the group of women and children. Musingly he concludes that it would be really a sad accident, when, looking at the clouds, he observes a thunder-storm approaching. He sees that it threatens to rain, and instantly the immediate danger of damage to his hat flashes into his mind. "It would be awful," he ejaculates, "should that get wet!" and rapidly flees to a place of shelter. The thought of a tiger loose among a crowd of women and children does not excite him nearly so much as the thought of a shower which should injure his hat.

Among the industries of America the manufacture of hats has always held a prominent position. As early as 1662 the colonial government of Virginia offered a premium of ten pounds of tobacco, the currency of that time, for every good hat made in the Province, of wool or fur. Nor even in those early times was the personal advantage of a monopoly in any important branch of manufacture overlooked. In 1672, John Clough, John Tapping, and other hatters in Massachusetts, attempted to obtain from the General Court the exclusive privilege of manufacturing the hats used in that Colony. The answer of the General Court was one which might be given with profit by the Legislatures of later times to some of the more recent demands for similar exclusive rights. They promised these enterprising gentlemen that they should have this privilege granted them,

“when they should make as good hats, and sell them as cheap, as those from other parts.”

Protection, too, was early applied to the raw material of this manufacture. In 1675 the exportation from the Province of wool and raccoon furs was prohibited; and in 1704 the hat-makers of Pennsylvania were given leave to introduce a bill for the prohibition of the export of beaver, raccoon, or any other furs fit for being worked up into felt. Under these circumstances the trade increased so rapidly that, in 1731, the felt-makers of London complained to Parliament that the foreign markets were almost entirely supplied with hats from America, and that hats were even sent into England from America, to the great detriment of their own trade; and that therefore they petitioned to have the export of hats from America into foreign markets prohibited. In consequence of this petition a special committee was appointed to examine the subject, who reported that in New England and New York ten thousand hats were yearly manufactured; that the product of Boston was forty hats a week, which were exported to Spain, Portugal, Ireland, and the West Indies. Parliament therefore enacted, in 1732, that “no hats or felts, dyed or undyed, finished or unfinished, shall be put on board any vessel in any place within any of the British plantations, nor be laden upon any horse or other carriage, to the intent to be exported from thence to any other plantation or to any other place whatever, upon forfeiture thereof, and the offender shall likewise pay £500 for every such offence,” with a like penalty for every officer, and £40 for every other person, knowingly aiding in it. This enactment remained in force until abrogated by the Revolution.

It seems singular that so recently such short-sighted policy should have guided the action of a government claiming to be even ordinarily enlightened; and equally strange that when the laws of trade were thus foolishly tampered with, and such absurd obstructions placed in the way of the legitimate growth of industry, that the enterprise, the energy, and the wealth of any nation should have grown as those of England and the United States have done. And yet to-day among the majority of the governments of the civilized world, and our own is not excluded in this enumeration, much of the legislative interference with industry and trade is based upon considerations as foolishly suicidal and as ignorantly contrary to the best interests of those whose rights the legislators pretend to regulate and protect as this was. Fortunately the inherent force of national industry is too strong to be repressed by even legislative interfer-

ence; and if not in one way, then in another, such restrictions are done away with, even though it may be at the cost of conventional obedience to the law.

While this enactment was in force, though its effect was intended to be the destruction of the manufacture of hats in the Colonies, large quantities of them were still made and still exported. After the successful termination of the Revolution, the business increased steadily, and before 1800 was carried on, to a greater or less degree, in almost every State of the Union. By the census of 1810, returns were made from eighteen States and Territories of the manufacture of hats to the value of \$ 4,323,744, while fourteen manufactories in Louisiana were not included in the report. In 1831 a convention of hat-manufacturers estimated the total hat production in the United States, for home consumption and for export, at \$15,000,000 yearly. In the census of 1840, however, the value of the hats made in the United States was placed at \$ 8,704,342. This estimate is evidently too low. In 1842 a convention of hat-manufacturers, held in New York, appointed a committee to examine and report upon the introduction of machines for expediting the operations of manufacture in the business. This committee reported that hats were then sold at an average of twenty-five to fifty per cent. cheaper than they were ten years before. Up to this time the manufacture of hats had been carried on chiefly by purely manual labor. This process was tedious and slow.

The fur of hares, rabbits, with wool, and the fur of beavers, is the material chiefly used for the production of felt hats of all kinds. The hair being removed from the skins, the first operation was to clean and then felt it. Felting is a process by which the fibres of wool or other materials are so interlaced, without weaving, as to make a texture. This result is attained by a process called *bowing*. The proper quantity of the material being mixed in the right proportions, according to the variety of felt it is intended to produce, it is violently agitated, tossed in the air, and caused to mix thoroughly, the fibres falling with the greatest possible irregularity upon a table, and thus becoming spread out evenly in a thin sheet, the fibres of which are interlaced in every conceivable direction. This thin layer is then covered with a cloth, and the combination of the fibres increased by pressure. Upon this layer another is laid, by the same process, and so on until the fabric of felt has been brought to the required thickness. The operation was one which required skill, judgment, and experience in the operator, and a competent *bower* was always in demand.

By the old process of manual labor, a man could make in a day about four or five hat bodies, as they are called, that is, the hat in its first state of preparation ; so that the cost of each of them was from fifty to sixty cents. As early as 1799 inventions, intended to cheapen the cost of the manufacture of hats, began to be patented in the United States, and many improvements were thus made in the various processes.

The silk hat, or beaver hat, as it is still called from the time when the fur of the beaver was chiefly used in its manufacture, is made from silk plush. The best quality of this is still imported from Paris. This branch of the manufacture is even now conducted chiefly by hand processes. The silk is fitted upon a frame, and the entire structure is moulded into shape by hot irons. The delicacy and accuracy of its lines and curves is a matter of great importance, and requires great skill in the workman. The silk hats of American manufacture are generally acknowledged to be the best made, since they combine strength and solidity with lightness. This last quality is one of prime importance, since the hat is so stiff, and the head is sensitive to weight. The best hats made often weigh less than five ounces each, though it is difficult to combine with such lightness the strength which will enable them to last very long.

Beside felt or silk, straw is largely used in the manufacture of hats. These are specially worn during summer, and constantly in tropical climates. Straw hats were made and used largely in Southern Europe three centuries ago, and the Leghorn hats are still valued and sold at high prices. The material for these hats is a species of wheat straw, which is raised for this purpose upon the banks of the Arno. This branch of manufacture was introduced into England during the last century, and the wheat grown upon the chalky soil near Dunstable was found to furnish a straw so suitable for the purpose, that the manufacture has grown until, by recent statistics, it was stated that seventy thousand persons were employed in it, and the production amounted to near four millions of dollars a year.

In South America certain grasses are found which are most admirably adapted for making hats. Not only are hats made of it, but from this straw, by tight plaiting, the natives make vessels which will contain milk and other liquids. Under the general name of Panama hats, the straw hats imported from South America are well known and deservedly valued. In the United States the manufacture of hats from straw, for both men and women, has long been

established, and in many localities is largely carried on. Not only have the straws from grain been used for this purpose, but many of the wild grasses have been impressed into the service.

In Massachusetts, ladies' hats of fine quality have been made from the field and meadow grasses, known botanically as *Poa* and *Agrostis*, of which the red-top, *A. vulgaris*, has been found to be specially well adapted to this use. In 1798, Miss Betsy Metcalf, who afterwards by marriage became Mrs. Baker, though only twelve years old at this date, and without any previous knowledge of the art, made in Dedham, Mass., from oat straw, which she smoothed with her scissors, and split with her thumb-nail, a bonnet of seven braids, with bobbin insertion like openwork, and lined with pink, in imitation of a then very fashionable style of English bonnets. The straw was bleached by holding it in the vapor of burning sulphur. Her bonnet was very much admired by the ladies of the vicinity, who came from the neighboring towns to see it. Operatives were instructed in the method of their construction by the young inventor, and thus the foundation was laid of an extensive business which was followed in Dedham, Wrentham, Providence, and other New England towns, and elsewhere.

In the Transactions of the Rhode Island Society for the Encouragement of Domestic Manufactures, for 1858, is an account of Mrs. Baker's labors in this direction, and in the society's collections is a fac-simile, from her own hands, of the first bonnet she made.

Nor was this the only instance of the kind. In 1821, Miss Sophia Woodhouse, who by marriage became subsequently Mrs. Wells, and who resided at Wethersfield, Conn., sent to the Society of Arts, in London, England, samples, in their raw, bleached, and manufactured states, of a new material for making straw hats in imitation of those of Leghorn. The material used was the grass known as the *tickle-moth*, a species of spear, or smooth-stalked meadow grass, growing abundantly in that section of country, and named botanically as *Poa pretensis*. The dealers in London pronounced the bonnet sent for inspection superior in fineness and color to the best Leghorn, and advised the cultivation or importation of the straw as a means for obtaining a desirable supply of material for the manufacture.

At the next session of the society a large silver medal and twenty guineas were voted to Miss Woodhouse, on condition of her furnishing the society with some of the seed, the description of the bleaching process, and the treatment of the grass, and also evidence

that she was the original discoverer of the process. This same year a patent was granted to Garden Wells and Sophia Wells of Wethersfield, for the above process of making bonnets and hats of grass.

The Misses Burnap, of Merrimac, N. H., also at about this same time claimed the discovery of a proper material in that region for the manufacture of bonnets, and one made by them sold for fifty dollars, in Boston, at auction. Premiums were offered in New York for the best bonnet of domestic material and manufacture, and in many parts of the country the business was established on a permanent footing.

In 1826 the manufacture of palm-leaf hats, from the material imported from the West Indies, was begun in Massachusetts, and in 1831 two millions were made and sold, and this branch of manufacture is still an important one. In 1830 the value of the hats manufactured in the country was estimated at ten millions of dollars, and the exports reached half a million in value.

With the growth of this business various improvements have been made in the processes, and the use of machinery has been introduced to simplify the manufacture and cheapen the cost. In the manufacture of straw hats the results attained have been considerable, and though hand labor is still chiefly relied upon in this branch of the business, yet many of the other processes have been greatly facilitated by machinery. In the manufacture of felt hats, however, ingenious machines have been invented and improved, until the whole process of production is performed by them with a rapidity and accuracy unattainable by other means, and with a proportionate benefit to the consumers.

In 1846 a patent was taken out by H. A. Wells for an improvement in a machine for felting, by which the process was applied to the making of hat bodies, the term applied to the rough form of the hat. By the use of this machine, which has been modified and improved, all the felt hats made in this country during the past few years have been manufactured. A perforated metallic form, shaped like a cone, is made to revolve, and, by a current of air forced through it, gathers and felts the fibres of hair and wool which are kept in a constant state of agitation about it.

By the introduction of this process, the cost was so reduced that not only was the demand at home fully supplied, but about one seventh of the entire production was exported, and a large and profitable trade in American hats was established with the rest of the

world. By the census of 1860, the total value of the hats made in the United States was given as nearly seventeen millions of dollars. At present, however, by the operation of the injudicious provisions of the tariff, the export trade in hats is entirely destroyed, while the home trade finds difficulty in holding its own. The duties laid upon every imported article which enters into the composition of a hat, and they are almost every one, — the fur, the plush, the bands, and other articles, made by other countries, and either are not or from natural causes cannot be made in this country, — causes them to be so dear to the manufacturer, that, notwithstanding the superior advantages which his machinery gives him, he can be undersold by the importer of hats made abroad. Of the whole range of our industries which have been injured or destroyed by the working of the present tariff, there is none which gives a more convincing evidence of the ignorant injudiciousness with which it has been constructed, than this of hats.

