

Hat. 1. A head-covering with a crown, sides, and continuous brim. Made of cloth, felt, straw, silk, splints, grass, etc.

Felt hats are as old as Homer. The Greeks made them in various forms; skull-caps, conical, truncated, narrow or broad brimmed (*petasus*). The Phrygian bonnet was an elevated cap without a brim, the apex turned over in front. This form is

very old, and indicates an inhabitant of Asia Minor. It is known now as the *cap* of liberty. In Rome, the ceremony of manumission of a slave, the head was shaved and a *cap* presented as an emblem of freedom. An ancient figure of Liberty, of the time of Antoninus Pius, A. D. 145, holds the cap in the right hand.

We even find them with brim and no crown. Tied before or behind, — we thought this was quite modern. A broad-brimmed hat is shown in the sculptures of Karnak.

Herodotus refers to the soft hats of the Persians. They wore round-top caps without peaks, somewhat resembling the modern *fez*. Hats encircled with plumes were the head-dress of the Lycian contingent in the army of Xerxes.

Herodotus said that the skulls of the bareheaded Egyptians were so baked that they would hardly decay, and were, in this respect, very different from the Persians, who protected their heads and kept them so soft that they soon rotted. He observed it, he says, on an old field of battle in Egypt; the former were as hard as a brick, and the latter decayed.

The broad-brim hat (*causia*) was worn by the Macedonian kings. It is said by Smith (Dictionary of Greek and Roman Antiquities) to have been made of felt. It is shown on a medal of Alexander I. of Macedon. It was adopted by the Romans, especially Caracalla.

In the accompanying cut are shown some of the forms which the ancient felt hat assumed. The *pileus* (Latin) was the common felt cap, the *fess* of the modern Greeks, the *fez* of the Turks. The *petasus* (Greek) was a *hat*; it had a brim; its name, in fact, comes from a word whose root meaning is extension, dilation.

a is from a sepulchral bas-relief in Bœotia.

b is a fisherman's cap, from a statue in the Townley collection, British Museum.

c is a coin of Bruttium, South Italy; the figures are Castor and Pollux. With us, *castor* means a *hat*, from the beaver (*castor*, from a Sanscrit word meaning *musk*), which supplies the best material.

d is a head of Dædalus, from a bas-relief in the Villa Borghese collection. This form is still worn by the shepherd boys in Asia Minor.

e is a head of Ulysses, from an ancient lamp. It represents him as tied to the mast while he listens to the songs of the sirens.

f is the modern Greek peasant's cap, introduced for comparison.

g is from a parian marble bust of Paris, wearing the Phrygian cap, and now in the Glyptothek, Munich.

h is from a coin of the Emperor Verus, now in the British Museum, and representing *Armenia capta*. The captive wears a *plug* hat.

i represents Dacia in mourning, with a pudding-crown hat on. It is the obverse of one of Trajan's coins.

j is from a coin of Antoninus Pius, and represents the goddess of liberty.

k is from a statue of the sleeping Endymion in the Townley collection of the British Museum.

l is from a bas-relief in the Vatican, and exhibits the head of a shepherd.

m shows the shepherd Zethus with his hat slung behind his back. Borghese collection.

n, horseman with a *petasus*. Parthenon.

o p, silver coins of Ætolia in the British Museum.

q, from a vase of Sir W. Hamilton's.

r is from an ancient marble bust.

s t are from coins of ancient Italy, and representing heads of Mercury.

In the thirteenth century, Pope Innocent IV. allowed the cardinals the use of scarlet cloth hats.

Fig. 2419.



Ancient Hats.

The introduction of felt hats is credited to a Swiss, in Paris, in 1410, and in 1440 it is said to have become a common article of wear for travelers.

In 1449, Charles VII. made his triumphal entry into Rouen, wearing a felt hat lined with red velvet and surmounted with a fine plume of feathers. This set the fashion, and hats soon superseded the old chaperons and hoods.

Chaucer, who wrote during the latter part of the fourteenth century, represents the merchant as wearing a Flanders beaver hat. This may antedate our Swiss friend mentioned above.

The hats referred to in the reign of Richard II. (1385) were probably of cloth.

Felt hats are stated by one authority to have been first made in England in 1470; and by another authority (Stow) to have been first made there, by Spaniards, in 1510. Before this time the people, both men and women, wore close woollen caps; originally of cloth and afterwards knit. Knitting is quite a modern art.

Two centuries since, hats were customarily worn indoors.

"Home to bed; having got a strange cold in my head, by flinging off my hat at a dinner, and sitting with the wind in my neck."—PEPYS'S *Diary*, September 22, 1664.

"Home to supper, having a great cold, got on Sunday last, by sitting too long with my head bare, for Mercer [his wife's maid] to comb [his hair ?] and wash my ears."—*Ibid.*, January 25, 1664.

"This day Mr. Holden sent me a beaver, which cost me £4 5s."—*Ibid.*, 1641.

In Lord Clarendon's essay on the decay of respect paid to age, he says that in his younger days he never kept on his hat before those older than himself, *except at dinner*.

Hats, besides those of straw and similar material, are made of fur, principally that of the Russian hare or coney, mixed with a small proportion of wool or cotton.

There is a legend that the process of felting was accidentally discovered by St. Clement, who, having put some rabbits' fur in his shoes to protect his feet during a long journey, found at its conclusion that the fur had become compacted into a homogeneous mass.

The use of the fur of the beaver, which certainly dates back prior to 1585, threatens now to become obsolete, it being superseded to so great an extent by the imitation made by covering a body with silk plush.

In any process of making felt or fur body hats, the first operation is weighing out a sufficient quantity of the material to make a single hat-body.

In the hand process, the fur is bowed by being placed in a heap over a table above which is suspended the *bow*, much resembling a fiddle-bow, though having but one string which is vibrated by the workman striking it with his thumb until the hairs are brought into a light even layer. The wool is then treated in a similar way with a larger bow, and the two layers of fur and wool are, by means of a light wicker frame adapted to receive the material, placed one over the other and again bowed, when the mass is compressed by the wicker frame, and afterward by an oil-cloth pressed upon it by the hands until the fibers have become sufficiently united to bear handling.

A triangular piece of brown paper is then placed above it, over which its edges are folded, and the whole is wrapped up in a damp cloth and manipulated until the fibers have become thoroughly intertwined and the body is brought into a triangular form. This is called *basoning*.

In the next process, called *planking*, the body is alternately immersed in a kettle of very dilute sul-

phuric acid, to which beer-grounds or wine-lees are added, and then worked upon an inclined plane at the side of the kettle until it is shrunk to half its former size and much increased in thickness, the operation being completed by the aid of a rolling-pin which smooths and compacts the felt. The body is then dried in a stove, and sized with a brush dipped in shellac dissolved in alcohol, and again dried; any superfluous sizing is removed by dipping in an alkaline solution and scraping. Beaver fur is applied to the exterior by being mixed with fine cotton, and the two are felted, in manner similar to that described, into a thin sheet, which is affixed to the exterior of the body by manipulating it in the boiler and on the plank; in this process the cotton separates. The body is yet of a conical shape, and is partially brought into proper form by hand, and then stretched upon a cylindrical block, after which it is dyed by boiling in a solution of copperas, verdigris, gall-nuts, and logwood in water. It is now drained, dried, and removed from the block, and *finished* by placing over a jet of steam which softens it, when the brim is turned up, the stiffening of the crown inserted, placed upon a block, the nap smoothed, and a glossy surface imparted by means of warm and damp hair-brushes and a plush-brush called a *velours* (sometimes *lewer* or *ture*), finishing with a hot iron. The trimmings and lining are next sewed in, and the hat is finally warmed and such slight variation of shape imparted as the style requires.

In the present mode of making felt hats, after being *carroted* by treatment with a solution of mercury and nitric acid, in order to render the felting easier, the fur, when dry, is removed from the skin and assorted, according to quality, into back, belly, and side, the latter being the finest. These are mixed as may be required, according to the quality of the hat, and farther mixed in the proportion of 4 to 5 ounces, that being the quantity required for a hat body, with from $\frac{1}{4}$ to $\frac{1}{2}$ ounce of fine carded cotton. This mixture is placed in a box above a toothed picker, revolving with great velocity, which seizes the material and conveys it on an endless belt to another picker. The agitation caused by the current of air from these assists in intermingling the ingredients.

The *stock*, as it is now termed, is next passed through a series of toothed rollers, where coarse materials and dirt fall into trays beneath, while the finer portions are forced out at the farther extremity of the machine. The stock, which is now said to be *blown*, is next placed on the feeding-apron of the *forming-machine*, in quantities just sufficient for one hat-body. Here it is drawn in between two horizontal, felt-covered feed-rollers, and seized by a cylinder provided with several longitudinal rows of stiff brushes, and making about 3,000 revolutions per minute. By this a current of air is generated, which scatters the stock and blows it out through a vertical slot at the top of the machine against a revolving copper *cone* having a great number of perforations, and partially exhausted of air by a rapidly revolving fan. When the stock from the first machine is thus all withdrawn and compressed against the side of the *cone*, a wet cloth is placed over it; a metallic cover is slipped on over this, and the whole transferred to a tank of hot water. The *mat* is next removed from the cone, small portions of stock added to strengthen any thin spots which may be detected, and it is rolled and worked in a piece of blanket. After a little manipulation, it is ready for the process of felting, which is done by experienced workmen, by constant rolling and dipping in hot

water for several hours, for the purpose of farther thickening and fulling it; or, in other words, felting the fur and reducing the large cone to the proper dimensions for making a hat. After being properly sized or felted, it is passed to the shaving-room, where the outer surface is shaved with a sharp knife by a skilled workman, to remove whatever hair may yet remain in the fur. It is then returned to the kettle for a second sizing, to farther close up and strengthen the felt. After the farther operations of being stiffened, cleaned, blocked, colored, shaped, and pounced, the body is ready for the finishing process.

The great improvement of the perforated exhausted cone, with its attendant slotted blowing cylinder, is due to H. A. Wells, by whom it was patented April 25, 1846. Williams, in England, had previously employed a partially exhausted cone in connection with a carding-machine for making hat-bodies from tow or waste silk. See BLOWING-MACHINE, p. 307.

In this country, fur, mixed with a little Sea-Island cotton, is generally employed. The forming and sizing of the body are done in a way precisely similar to that of felt hats, but a much less quantity of stock, from 1 to 1½ ounces, is used.

After sizing, it is dipped into a solution of shellac and alcohol, drawn over a block and the brim flattened. A thick stiffening is placed in the crown and on the brim, and the body again blocked, slightly moistened, and ironed into shape. The brim is ironed on the brim-board, sand-papered smooth, again ironed and coated with a sizing of fine glue.

After this two coats of shellac varnish are applied and the body is ready to receive its silk plush covering. The plush for this purpose is imported from France and Germany, the former of superior quality.

The material is cut into two pieces which form the upper and under surfaces of the brim, and other two which constitute the body and crown. The under brim in one circular piece is first put on, and afterwards the upper brim, sewed to the crown and side piece; the whole forming a sort of bag, which is drawn over the body. The operation of sewing requires great neatness, to conceal the seam, and neatness is also required to conceal the joint where the two ends of the piece forming the side unite. This is effected by cutting off the overlapping part very exactly at the joint and brushing the nap over it; the application of a hot iron unites the plush to the body. The hat-band conceals the junction of body and upper brim, and the binding that of the upper and lower brim pieces.

The hat is finished by rubbing with small wire hand-cards and stiff brushes, after damping with a sponge, and afterwards ironing it. This straightens and lays the nap, a mixture of camphor and alcohol is applied to soften any adhering dirt, and the hat is then placed in the *luring-machine*, — an apparatus similar to a lathe, — in which the hat on its block is caused to revolve against pads of stiff woolen plush; this removes all dirt and water stains. The final gloss is imparted with the hot iron, after which it is trimmed. From the hands of the finisher the hat passes to the trimmers and curler, where the finishing touch is given and the brims molded into the shape, as the style and fashion may dictate, bringing out the Hogarth lines of beauty in their curves and curls, and adapting them to the taste of the correctly dressed gentleman of the day.

Two kinds of bodies are employed for silk hats.

One consists of stiffened muslin, and the other of felt or fur.

The muslin, or, as it is termed, the gossamer body, is said to be the lightest and most durable of the two kinds used, and is rapidly superseding the fur or felt body for general wear.

Silk-hat making is known to those connected with the trade as an art, and was styled by them in olden times, "the art and mystery of hat-making."

The parts of a hat are as follows: —

<i>a</i> , body or crown.	The banding-point, or break
<i>b c</i> , brim.	of the band, is at the junction
<i>b</i> , upper brim.	of the brim and crown.
<i>c</i> , under brim.	<i>f</i> , side crown.
<i>d</i> , rim.	<i>g</i> , square. <i>h</i> , tip.

A cap differs from a hat in the shape of its brim, which projects from one side only, and is called a *fore-piece* or *visor*. A bonnet differs from a cap in the angle at which the brim projects from the body.

Among the different kinds of hats may be cited, the

Cloth-hat.	Leather-hat.
Cork-hat.	Paper-hat.
Embossed-hat.	Silk-hat.
Felt-hat.	Spring-brim hat.
Fur-hat.	Straw-hat.

Collapsible hats, for opera or traveling, are made with springs or of springy material. See OPERA-HAT.

Panama hats are made of the leaves of the pandanus or seren pine (*Carludovica palmata*). These are gathered before they unfold, the ribs and coarser veins are removed, and the rest, without being separated from the base of the leaf, is reduced to shreds. After having been put in the sun for a day, and tied into a knot, the straw is immersed in boiling water until it becomes white. It is then hung up in a shady place, and subsequently bleached for two or three days, after which the straw is ready for use. The plaiting of the straw commences at the crown and finishes at the brim, and is a very troublesome operation. The hats are made on a block placed on the knees, and require to be constantly pressed with the breast. The coarser hat is usually finished in two or three days, but the finest often requires as many months.

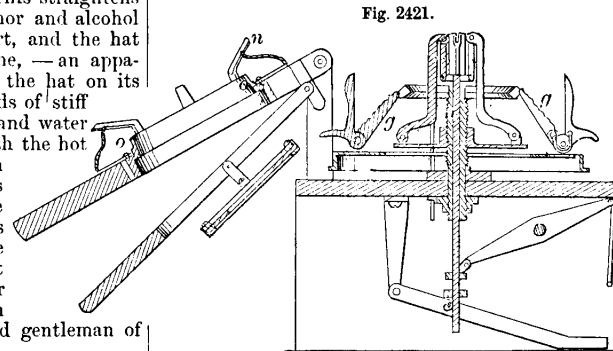


Fig. 2421.
Hat-Blocking Machine.

