B. CAVALIER.

STEAMING DEVICE.

APPLICATION FILED NOV. 18, 1913.

1,093,532. Patented Apr. 14, 1914.

Fig. 1.

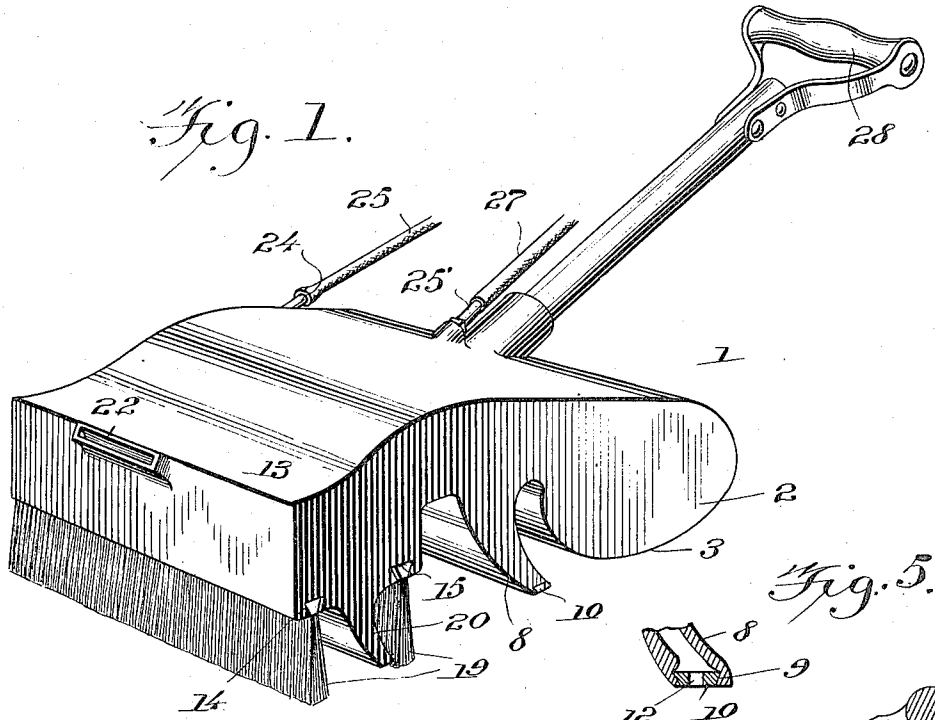


Fig. 5.

Fig. 2.

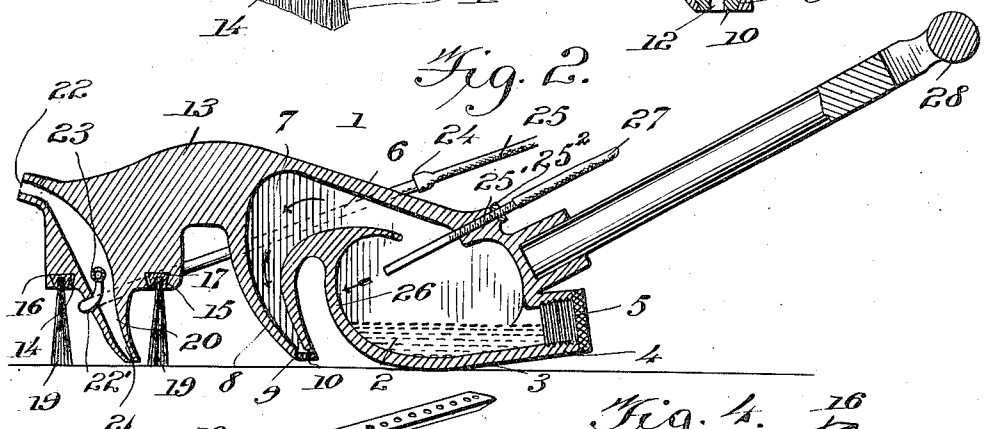


Fig. 3.

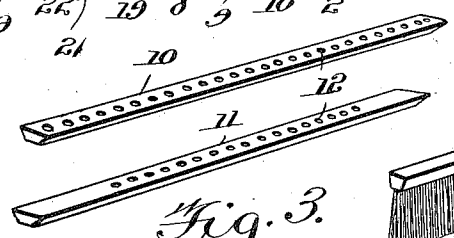


Fig. 4.



Witnesses

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STEAMING DEVICE.

1,093,532. Specification of Letters Patent. Patented Apr. 14, 1914.

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To all whom it may concern:

Be it known that I, BENJAMIN CAVALIER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Steaming Devices, of which the following is a specification.

This invention relates to steaming apparatus and particularly to apparatus for steaming velvet, velveret, plush, satin, silketeen or other cloths having a silk weft woven so as to form a raised pile at one side of the cloth.

In cloths of the above-described character any inequalities of the surface formed by the pile are clearly noticeable and tend to destroy the effect. These inequalities in the surface of the pile are formed in various manners and particularly during the operation of making or fitting a garment made of the cloth, and in tailoring the pile in a measure is affected or the inequalities therein formed through direct handling of the cloth or by folding the same or by permitting it to become wrinkled, or running thereover the customary basting stitching.

When the pile is once affected by reason of the above it can only be restored to a condition of uniformity by steaming and by treating the pile surface to the action of moisture and then subsequently brushing the pile so as to cause the same to appear as a non-interrupted or unbroken mass of weft extending at a common angle from the cloth. Frequently in treating the cloth in an attempt to restore the pile to its original condition the same is treated to moisture and heat, the latter being applied, usually by pressure of a hot iron against the back of the cloth. As a result of this method of treating the cloth the pile becomes spotted and streaked and highly glossed, due, chiefly, through the fact that the moisture is unevenly distributed or water is allowed to become deposited upon the pile during the operation.

I contemplate the provision of a method for treating the surface of the pile whereby to accelerate the action of restoring the same to its intended uniform condition, and I propose to employ means for treating silk velvet or Lyons' velvet or other expensive materials without detrimental results in the cloth itself or in the lining of the cloth when the latter is made up in the form of the finished article for use. With a view to preventing any spotting of the pile through the direct contact therewith of water, I propose to provide a condensing chamber in which steam from a suitable supply source may be conducted and then discharged in a dry state into a distributing nozzle, the chamber serving the purpose of an applicator by means of which heat may be initially applied to the surface of the pile, so as to resist any atmospheric tendency of the steam vaporizing or condensing on the surface of the pile after the steam is discharged from the nozzle. In this manner the steam in a dry condition may be made to impregnate the pile and any inequalities of the surface of the pile may be obliterated and primarily arranged so that on a subsequent treatment which will be presently referred to the cloth or pile thereof will appear as an uninterrupted surface. After thus treating the surface of the pile, first, to the action of heat, and then to the action of dry steam, I propose to brush the pile in one direction only and to then effect a drawing out of the pile through the action of a vacuum which is created at a point directly behind the brush, and to then finally brush the pile to restore the same to its intended unbroken and uninterrupted condition. Through this method the pile is treated so that there is no after gloss, streaking or spotting.

Specifically speaking, the method above contemplated may be used in tailor establishments, millinery establishments, or in decorating parlors where use is made of expensive tapestry or other goods where a very thick pile is formed on one side of the material and in view thereof I propose to employ a form of head which may be manually operated over the surface to be treated, and particularly a form of head which may be used in various manners according to the nature of the material and the shape of the object to be operated upon. I also contemplate the provision of a head of the above described character wherein the different steps of the method referred to may be successively brought or advanced into action against the cloth.

I further desire it to be understood, particularly in view of the fact that it is necessary to prevent the water of condensation from becoming deposited on the material, to provide means for properly separating the water from the steam discharge nozzle and for also storing the water of condensation in

a manner which will permit of its being drawn off expeditiously as may be desired.

Another object of the invention is the provision of a steaming device which may be operated while the apparel to be treated is arranged upon a form such as are commonly employed for the display of apparel in stores.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of the steamer; Fig. 2 is a longitudinal section therethrough; Fig. 3 is a perspective view of different forms of nozzle plates; Fig. 4 is a perspective view of one of the brush heads; Fig. 5 is a detail section through a portion of the steam discharge nozzle.

In carrying out my invention use is made of a head 1 preferably of metal or material which in a measure will act to transmit heat to the surface to be operated upon. This head is provided with a condensing chamber 2 having a pressing or heat distributing surface 3 which is curved longitudinally whereby to permit of its being drawn over the surface to be treated. This chamber is provided at its forward end with a discharge extension 4, in which is removably fitted a suitable plug or closure 5, whereby the water of condensation may be drawn off from the chamber as the occasion may demand. The chamber is provided at its top and preferably at the rear wall with a passage 6, which extends rearwardly at 7 and which is then extended into a downwardly and forwardly curved spraying nozzle 8, the discharge end of the latter being disposed slightly above the surface 3 of the chamber 2 but located directly therebehind so as to follow the chamber as the head is drawn over the material. The head has its nozzle 8 provided at its discharge end with a longitudinal groove 9 in which may be mounted any one of the nozzle plates 10 and 11 shown in Fig. 3. These plates are each of dove-tail form in transverse section and they are provided with longitudinal rows of perforations 12. The length of the row of perforations in one plate may exceed the length of perforations in the other plate. In other words, the plates are so formed that according to the width of the material to be treated the operator may adjust to the nozzle any one of the plates in which the length of the row of perforations is suitable as proportioned with the width of the material to be treated.

Rearwardly of the nozzle 8 and formed preferably as an integral part of the head 1 is an extension 13 having a pair of parallel spaced dove-tail grooves 14 and 15, respectively receiving brush heads 16 and 17. These brush heads are provided with longitudinal rows of bristles 19 whose brushing surfaces are disposed in the same general line with the surface 3 of the chamber 2. Between the brushes and formed as a part of the extension 13 is a downwardly and forwardly curved nozzle 20 having a continuous duct 21. This duct extends upwardly and then rearwardly at 22 where it discharges to the atmosphere. Extending into the duct of the nozzle 20 is a pipe 22 having its terminal 23 axially located in the duct and disposed with such regard to the end 21 of the nozzle as to induce suction at this point when an agent or fluid such as air is discharged into the duct by way of the pipe. This pipe may be extended along one side of the head, as at 24, and it may then be connected with a rubber hose 25. This hose may be extended to a reservoir for the storage of air which is to be used for the purpose of creating a vacuum in the duct of the nozzle just referred to.

Leading into the condensing chamber 2 is a pipe 25′ which terminates at one end in spaced relation from the baffle wall 26 of the chamber. The baffle wall 26 is preferably abruptly turned at its upper end and it thus serves to prevent the water of condensation from being accidentally conducted into the passage 6 should the device be unduly canted while in operation. The pipe 25 is threaded in the chamber and a jam-nut 25^2 is employed to hold the pipe against accidental rotation. This pipe is connected by a hose 27 or the like which may be led from any suitable well known form of reservoir that is designed for the reception of steam. By thus extending the pipe 25 into the chamber 2 it is obviously seen that the steam as it leaves the pipe will be discharged in the direction of the baffle 26, from which latter the steam will be deflected in an upward direction and then discharged in a dry state into the passage 6.

Through the arrangement of parts referred to it is only believed to be necessary in order that one may gain a perfect understanding of the operation of the invention, to say, that in use a form of handle 28 which extends forwardly and outwardly at an angle from the chamber 2 is grasped in the hand of the operator and the material to be treated, whether it be velvet in strip form or made up in the form of the finished article is placed upon a suitable display form or the like and the head 1 is then drawn over the pile surface of the material. It is of course understood that prior to this operation steam is admitted to the chamber 2 from which it will be discharged onto the pile by way of the nozzle 8. The surface 3 by being initially subjected to the steam, becomes heated and the surface 3 thus forms an applicator to first heat the material so

that on a subsequent discharge of the dry steam against the pile the said steam will be held against condensing on the pile. This is absolutely necessary in order to prevent spotting of the pile. Following this operation the pile is first allayed by the brush 19 following the nozzle 8 and is smoothed uniformly against the cloth. Following this operation, the pile is drawn up by vacuum induced in the nozzle 20 and then finally the pile is straightened by the next adjacent brush 19.

While the device is intended principally for the treatment of material of the character hreinabove named, I wish it to be distinctly understood that it may be used in establishments where it is necessary to a treatment of the cloth with moisture for the purpose of preventing the cloth from shrinking when it is made up.

I claim:—

1. The herein-described method of treating cloth having a raised pile at one side, which consists in first treating the pile to the action of heat and then spraying the pile with dry steam and then causing the pile to be drawn outwardly by suction, as and for the purpose specified.

2. The herein-described method of treating cloth having a raised pile at one side, which consists in first treating the pile to the action of heat and then spraying the pile with dry steam and then causing the pile to be drawn outwardly by suction, and then finally re-brushing the pile as and for the purpose specified.

3. A device of the character described for treating cloth having a raised pile at one side comprising a heat distributing member, means for applying dry steam to the cloth, brushing means for the cloth, and means for drawing the pile.

4. A device of the character described for treating cloth having a raised pile at one side comprising a heat distributing member, means for applying dry steam to the cloth, brushing means for the cloth, and means for drawing the pile and operated by induced suction.

5. A device of the character described for treating cloth having a raised pile at one side comprising a heat distributing member, means for applying dry steam to the cloth, brushing means for the cloth, means for drawing the pile and operated by induced suction, and second means for brushing the pile.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN CAVALIER.

Witnesses:
E. EDMONSTON, Jr.,
JAMES R. KOEHL.