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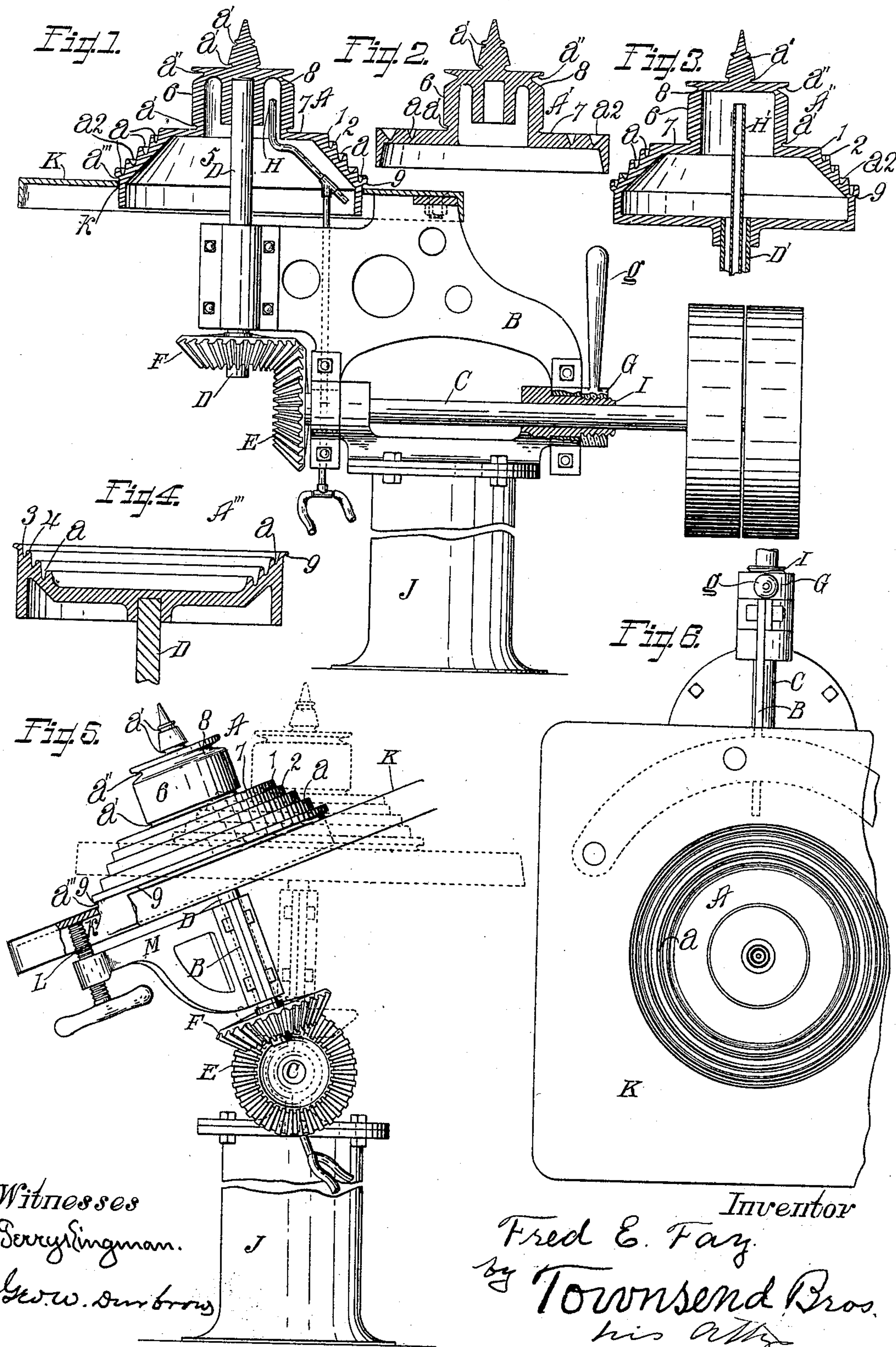
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MACHINE FOR SMOOTHING EDGES OF LAUNDERED ARTICLES.

(Application filed May 17, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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MACHINE FOR SMOOTHING EDGES OF LAUNDERED ARTICLES.

SPECIFICATION forming part of Letters Patent No. 615,975, dated December 13, 1898.

Application filed May 17, 1897. Serial No. 636,835. (No model.)

To all whom it may concern:

Be it known that I, FRED E. FAY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Machine for Smoothing the Edges of Laundered Articles—such as collars, cuffs, neckbands, wristbands, starched skirts, and collars of ladies' shirt-waists—of which the following is a specification.

This invention relates to that class of laundry-machines in which grooves are provided to receive and smooth the edge of a cuff or collar or other article which is to be smoothed.

An object of this invention is to afford greater ease, speed, and convenience for smoothing the edges of laundered articles; also, to provide for smoothing long and limber edges, such as the edges of skirts, &c. This I do by using the face of the table to form a stationary extended wall of the smoothing-groove on which to rest the article; also, by providing means for adjusting such extended wall to widen or narrow the groove, so as to adapt the same for thick or thin fabrics.

Another object of my invention is to provide a machine by which the work of smoothing the whole length of the curved edge of a laundered collar or other article can be completed by one motion of the operator. This I accomplish by providing the smoothing head, disk, or other appliance with one or more annular vertical channels which shall have such circle and form as to receive the full length of the cuff or collar in such a manner as to have all points of the inserted edge bear in the grooves, and thus smooth the edge the full length of the article with one motion of the operator. These annular grooves or channels may be in a plane, conical, or concave face, and by preference I provide the machine with a circular rotary head having one or more peripheral horizontal grooves in addition to the annular vertical grooves, so that the same head may be used for simultaneously smoothing one entire circularly-curved edge at one movement of the hand, or if it is not in a circle the edge can be run along the peripheral groove, thus to smooth both kinds of edges on the same head.

Another object of the invention is to provide for keeping the body of the garment—such, for instance, as a shirt—out of the way of the operator while the process of smoothing the edge of a neckband or wristband or other edge to be smoothed is in progress. This I accomplish by arranging the head (and the table therefor in case a table is used) with its face out of the horizontal plane, so that the body of the garment may fall by gravity away from the head and will thus be out of the way of the operator during the operation.

I preferably pivot the smoothing appliance to tilt, so that it can be brought into a vertical, horizontal, or other desired position, and while I regard this as a feature of the invention I also regard the invention as broadly including all of the various parts and combinations hereinafter set forth and claimed.

The accompanying drawings illustrate my invention.

Figure 1 is an elevation of the machine, partly in vertical mid-section. In this view the machine is shown adapted to be heated by gas and the annular grooves or channels are made in a conical face. Fig. 2 is a vertical mid-section of another form of head in which the annular channels are made in a plane face. Fig. 3 is a vertical mid-section of a head adapted to be heated by steam. Fig. 4 is a vertical mid-section showing a concave form of head. Fig. 5 is an elevation of the machine, showing the head aslant. A portion of the table is broken away to illustrate the adjustable feature of the lower groove. Fig. 6 is a fragmentary plan of the machine shown in Fig. 1.

In Figs. 1 and 5 the standard of the machine is broken to contract the view.

A A' A'' A''' indicate different forms of the garment-smoothing head, the same in its various forms being provided in its smoothing-face with an annular vertical groove *a* to receive the curved edge of a laundered article, whereby one entire edge of such article can be smoothed at one motion of the operator. The operating-face of this head may be a plane, a conical, or concave surface. The head in its preferable form is provided with a number of annular vertical grooves, the inner and outer walls of which are slightly slop-

ing to diverge, so that the groove is more or less V-shaped. This facilitates entering the edge into the groove.

For the purpose of smoothing the fold edge of a turn-down collar I provide the annular vertical groove a^2 , which is designed to flare sufficiently to allow such fold edge to enter, so as to be readily smoothed. Preferably the inner and outer walls are of different heights, such as indicated by 1 2 in Figs. 1 and 3 and by 3 4 in Fig. 4. This assists to guide the edge, so that the work of the operator will become practically mechanical. The practical operation being to start any portion of the edge of a collar or cuff in the groove, the motion of the head draws the balance of the edge into the groove without further effort of the operator.

In Figs. 1, 3, 5, and 6 I have shown a cone-like head provided in its sloping wall with a number of annular vertically-extending grooves; and the inner wall of each groove extends above the outer wall of the same groove, as at 1 2, so that the walls and bottom of the groove form a stop, rest, and guide for the work to be ironed on its edge. The inner wall of the groove is preferably cone-shaped, being the frustum of a cone.

The invention also comprises other novel features, as set forth in the claims.

B indicates a bracket journaled coaxial with the power-shaft C.

D indicates the head-carrying bracket-shaft journaled to the bracket, and E F indicate bevel gear-wheels for communicating motion from the power-shaft to the bracket-shaft. Any suitable means may be employed to communicate motion from the power-shaft to the head.

G indicates suitable means for holding the bracket at different inclinations. H indicates means for heating the head. The means for holding the bracket at any suitable inclination may be the nut G with lever g and screwed onto the bearing I to clamp the bracket B, or it may be any other suitable form of fastening desired. The means for heating the head may be a gas-burner, as at H, Fig. 1, or a steam-pipe, as at H' in Fig. 3. D' in Fig. 3 indicates an outlet for the water of condensation from the head. The head shown also has one or more peripheral horizontal grooves, as at $a' a''$; and when the head is aslant or vertical—that is to say, when the plane of the head is not in horizontal position—the edge to be smoothed can be inserted in these grooves and the weight of the garment will hold the other portions of the garment out of the way.

In practical use the cuff or collar to be smoothed is ordinarily first smoothed upon its faces and the smoothing of the edge is the finishing touch, and this is done after the cuff or collar has been passed through the shaper. The operator in finishing the article will dampen the edge to be smoothed and will then put it into one of the annular grooves a .

The whole edge of the cuff or collar will then be acted upon at once by the walls and floor of the groove, thus instantly smoothing the edge of the cuff or collar or the edge of the wristband or neckband.

The inner circular wall of the groove in the cone-shaped head shown in Fig. 1, &c., forms a guide for the cuff and collar, and the taller outer wall in the concave form shown in Fig. 4 performs the same office.

Preferably the rotating head is provided with a peripheral groove, as at a'' , the lower wall 8 of which groove is a frustum of a cone, the bottom of the groove being at the smallest diameter of such frustum. This affords special convenience for smoothing the edge of the neckbands of shirts, as will hereinafter be more fully explained.

The rotary head preferably has a main portion 5, provided with the annular grooves a , and a boss or hub 6, provided with peripheral grooves. One of these grooves a' is at the base of the boss, so that the face 7 of the main portion 5 of the head forms a stop and rest for the laundered article when its edge is to be inserted into the groove. The other peripheral groove a'' has its lower wall 8 slanting at such an angle with the periphery of the boss as to easily take in the sloping neckband of a shirt—that is to say, the neckband of a shirt projects at an angle from the bosom, and the said groove a'' of the boss or hub is provided with the sloping wall, so that the neckband can be conveniently brought up into place with its edge in the bottom of the groove without bending the bosom.

In smoothing the edges of curved collars or other articles they are inserted into the annular grooves; but the straight edges will be inserted into the peripheral grooves.

Collars and cuffs are of different radii and need to be smoothed by annular grooves of appropriate size. A number of annular grooves or channels are therefore preferably provided for this purpose.

The pipe D' (shown in Fig. 3) carries the head A' in the same manner, and for this purpose serves the same as shaft D in Fig. 1, and it is to be understood that power can be applied thereto to drive the head in the same way as with the form of bracket-shaft shown in Fig. 1.

J indicates the standard, which supports the operative parts, and K indicates a table, which is carried by the bracket and has a circular hole k , in which the head is fitted and rotates.

The appliance is provided with an edge-smoothing groove a''' , which is formed between a projecting part or shoulder 9 of the head and the face of the table K, so that in ironing garments, such as skirts, the bottom or other edges of which have become slightly frayed or roughened by wear can be inserted to be smoothed. Such edges as these are too limber to be readily held in place in a peripheral groove, such as a' , both walls of which

are moving, the tendency of the moving surface being to bend the limber fabric and throw it out of the groove. This difficulty is overcome by the groove a''' , the lower wall of which is formed of the stationary table K, so that when the garment rests upon the stationary table its edge can be brought into contact with the revolving head without being rumpled or displaced, as it would be if resting upon a revolving surface.

In practice the operator in smoothing the edges of a skirt or other like garment will lay the garment upon the table and, taking hold of the edge on opposite sides of the revolving head, will draw the edge along and against the revolving head at a''' , thus allowing the head to smooth the edge.

To adjust the width of the groove, all or a portion of the stationary table or supporting-face K may be raised or lowered with relation to the peripheral shoulder or flange 9.

L indicates a screw carried by a bracket M and arranged to engage the under side of the table at one side of the revolving head, and it can be turned to push a portion of the table up toward the shoulder 9, thus to narrow the groove formed between the shoulder and the table, thus to more effectively iron the edges of thin fabrics. By relieving the screw L the table will recede from the shoulder to leave the groove a''' of uniform size entirely around the head.

The table is preferably made of metal, and there is sufficient spring in the table to allow it to move far enough to narrow and widen the groove as much as is required.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A garment-smoothing rotatable head, provided with annular grooves, the inner and outer walls of which are of different heights.

2. A rotatable cone-like head, provided with a continuous annular groove in its sloping wall, open at the top, and the inner wall of which groove extends above the outer wall, so that the walls and bottom of the groove form a stop, rest and guide for an article to be ironed on its edge.

3. A circular rotatable head, provided with a continuous annular groove, the inner wall of which is of different height to the outer wall and cone-shaped to serve as a stop and guide to the article to be ironed at its edge.

4. A rotary head for smoothing the edges of laundered articles and comprising a body portion provided with annular grooves and a hub or boss provided with peripheral grooves.

5. A rotary head for smoothing the edge of laundered articles, and having annular and peripheral grooves.

6. The combination of a rotary head, having a projecting peripheral shoulder; and a stationary supporting-face to form with the shoulder a groove to receive an edge to be smoothed.

7. The combination of a rotary head, having a peripheral shoulder; a stationary face arranged to form with the shoulder a groove to receive an edge to be smoothed; and means for moving such supporting-face toward and from the shoulder.

8. The combination of a rotary head, provided with a peripheral shoulder; a stationary table provided with a circular hole in which the head rotates, and arranged beneath the shoulder, and means for raising and lowering a portion of the table with relation to the shoulder.

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