Oct. 16, 1934. W. Y. ABRESCH 1,976,711

HAT STRETCHER

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Fig. 1.

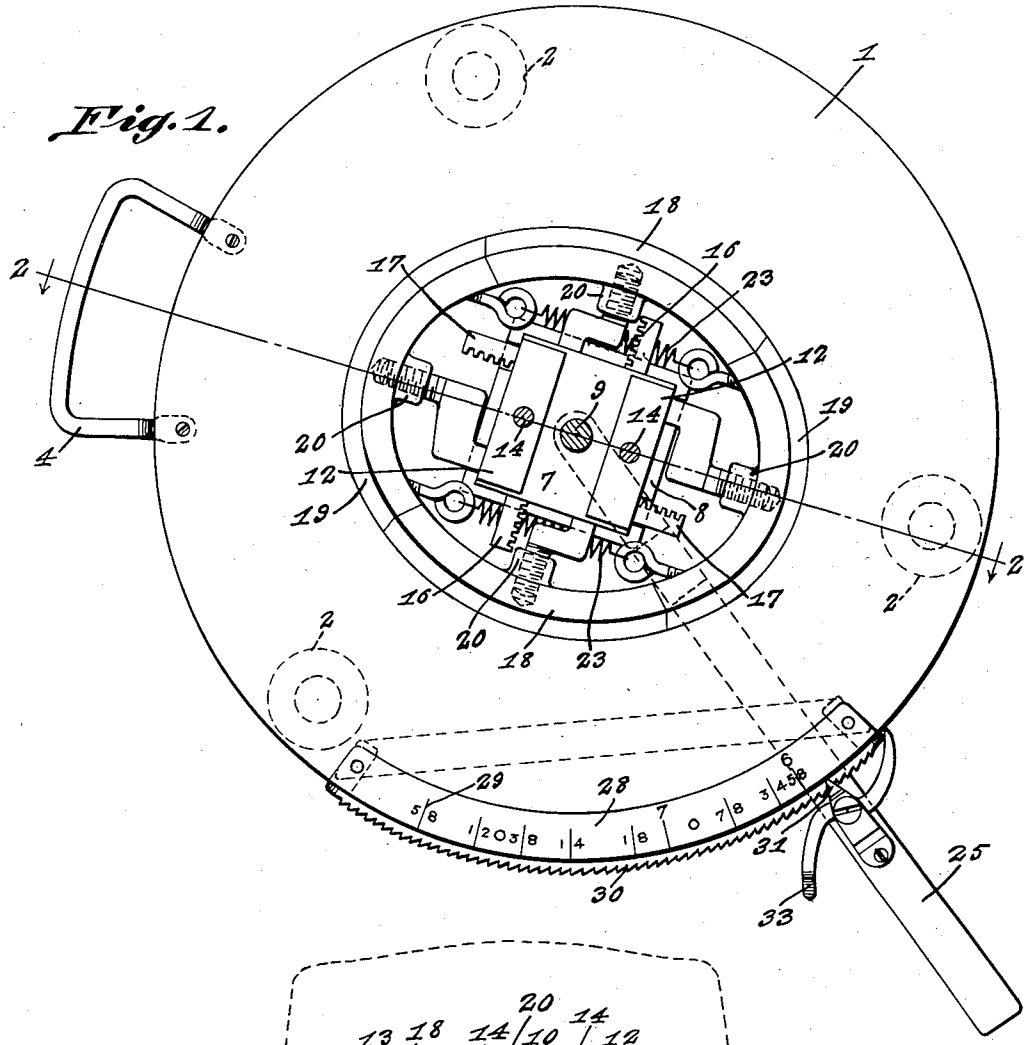
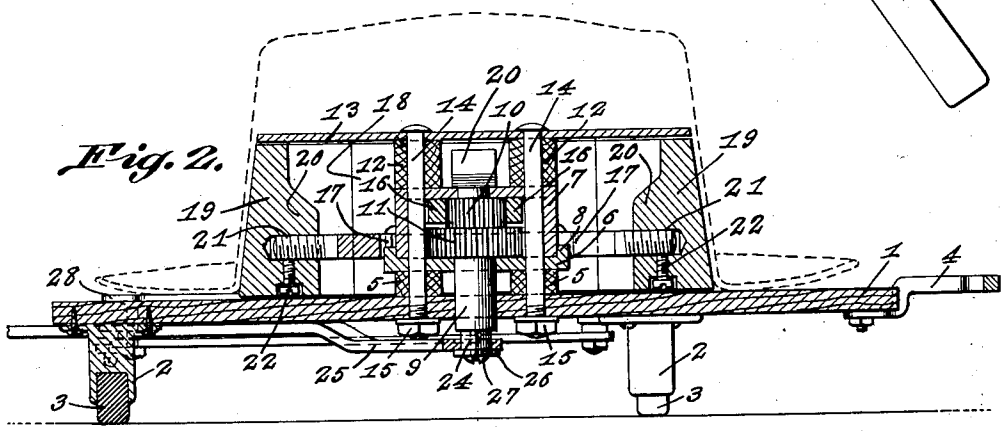


Fig. 2.



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Fig. 3.

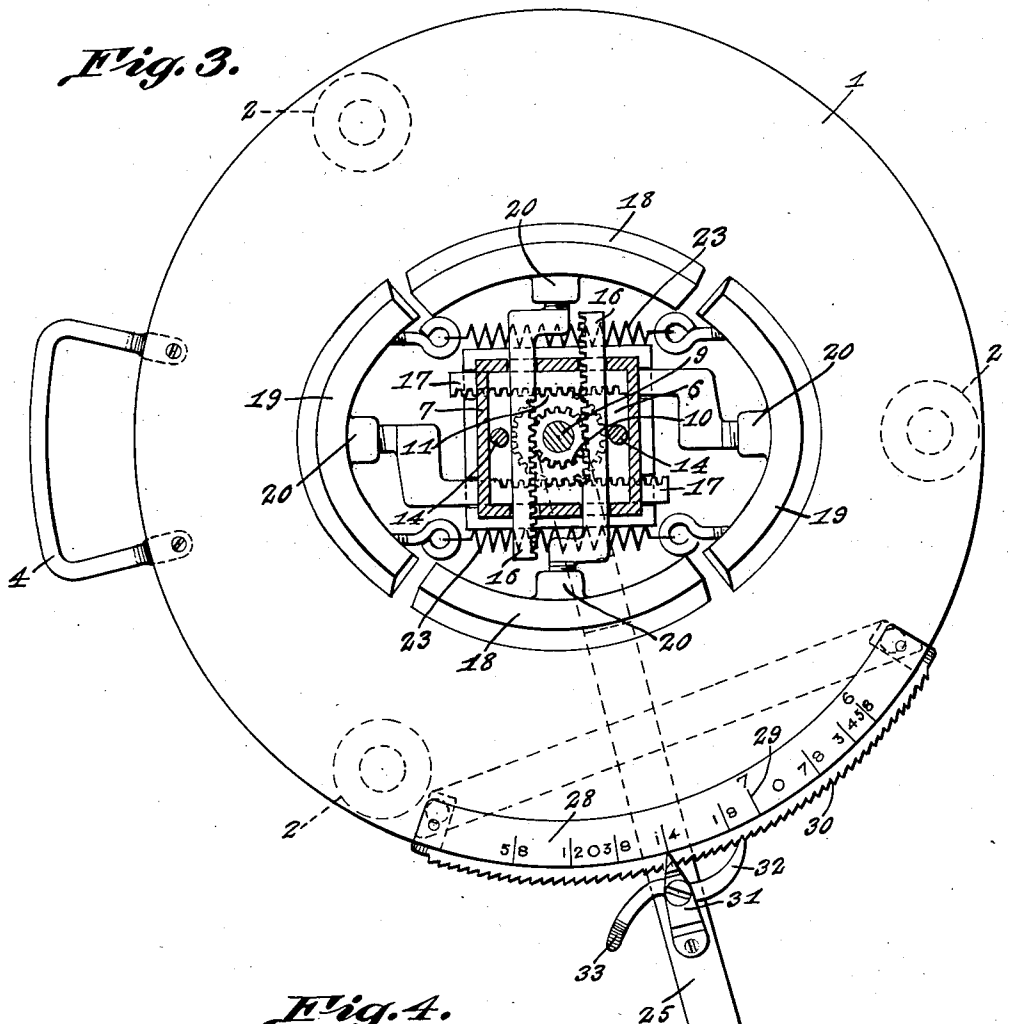
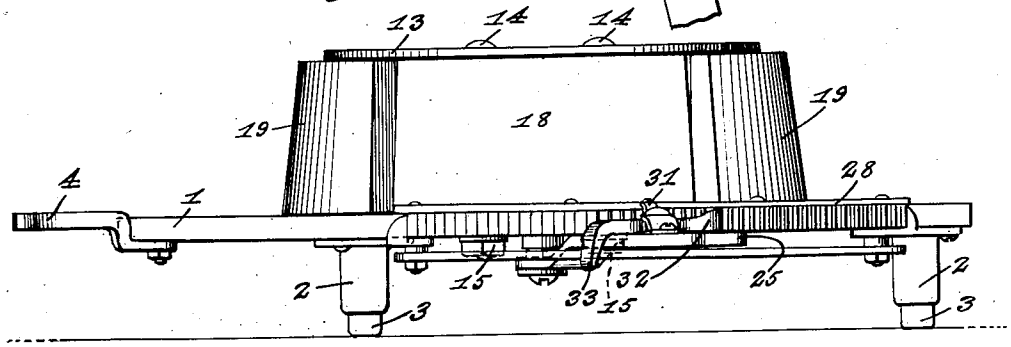


Fig. 4.



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UNITED STATES PATENT OFFICE

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HAT STRETCHER

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Application June 7, 1933, Serial No. 674,746

2 Claims. (Cl. 223—33)

The object of this invention is to provide a simple device whereby a hat may be stretched to any given size and which may be held in the stretched condition until it has been fully set. It is also an object of the invention to provide a holding mechanism which may be easily released and when released will quickly release the hat.

Other objects of the invention will appear in the course of the following description and the invention resides in certain novel features which will be particularly pointed out in the appended claims.

In the annexed drawings:

Figure 1 is a plan view of a hat stretcher constructed in accordance with the present invention, the cover for the stretcher blocks being removed.

Figure 2 is a vertical section on the line 2—2 of Figure 1.

Figure 3 is a plan view with parts in section.

Figure 4 is a side elevation.

In carrying out the invention there is provided a table or base 1 of any suitable material and of any desired design, the table top being supported by legs or posts 2 secured to its under side and equipped with cushions or feet 3 of rubber or similar material whereby the device may be placed upon any convenient support and moved from point to point thereover without marring the surface thereof. For convenience in handling the device a handle 4 of any approved design is secured to the table at the edge of the same, as clearly shown.

Resting upon the table adjacent the center of the same is a pair of blocks 5 which are preferably formed of wood but may be of any other material and supported by these blocks is a gear casing consisting of a lower member 6 and an upper member 7 resting upon the lower member within a flange 8 thereon, the members being of a generally rectangular form, as shown in Figure 1, so that when fitted together they will not readily separate. Journaled in the table 1 and in the top of the upper gear case member 7 is a post 9 carrying gears 10 and 11 within the gear case and resting upon the top of the upper gear case member 7 are additional blocks 12 which support a cover 13 of suitable form and size to extend over the stretcher blocks when the latter are in their normal or initial positions. Long bolts 14 are inserted through the blocks 5 and 12 and through the gear case, as well as the cover 13 and the table 1, and are equipped with securing nuts 15 for the table whereby the parts are secured in their assembled positions. The gears 10 and 11 mesh with racks 16 and 17 which are secured to and extend inwardly from the side stretcher blocks 18 and end stretcher blocks 19, respectively, the rack bars being offset adjacent their outer ends so that while they will be properly disposed to mesh with the respective gears they will be secured to the stretcher blocks at the centers thereof so that the power will be applied to the stretcher blocks so as to be distributed equally throughout the same. The stretcher blocks may be of metal and are provided with strengthening ribs or bosses 20 on their inner sides at their centers into which the outer ends of the respective bars are threaded, as shown most clearly at 21 in Figure 2.

The stretcher blocks are suitably shaped so that when they are together they will form a symmetrical oval and will readily engage the inside of a hat and maintain the conformation thereof.

After the outer ends of the rack bars have been threaded into the respective stretcher blocks, locking screws 22 may be fitted in the bottoms of the blocks so as to engage the bars and prevent withdrawal of the latter. Retractile springs 23 are disposed between and attached to the opposed end stretcher blocks 19 and tend constantly to hold them to the side blocks. The lower extremity of the shaft 9 is reduced relative to the main portion of the shaft and is of a non-circular outline, this reduced portion 24 being engaged in a correspondingly shaped opening in the inner end of a lever 25 and a washer 26 being fitted below the reduced portion and held thereto by a screw 27, as shown and as will be understood. The lever 25 is disposed below the table 1 and extends beyond the edge of the same, as clearly shown in Figures 1 and 3.

Secured upon the table, at that portion of the edge under which the lever projects, is a scale plate 28 having hat sizes marked thereon, as indicated at 29, and having its outer edge formed into ratchet teeth 30. Upon the upper side of the lever is secured an index 31 which projects over the scale plate 28 to cooperate with the size marks thereon, and pivotally mounted between this index finger and the top of the lever is a dog 32 which is adapted to engage the ratchet teeth 30 and thereby prevent reverse movement of the lever. The dog is extended past its pivot to the opposite side of the lever and formed into an outturned finger 33 which may be easily manipulated by pressure from the fingers of the operator.

In use, the hat to be stretched is placed over the cover 13 and the respective stretcher blocks to rest upon the table 1, as indicated by the dot-

ted lines in Figure 2. The lever is then pulled or swung from its initial position, shown in Figure 1, to the point where the indicator 31 will align with the size mark indicating the size to be given the hat whereupon the grip upon the lever may be released. The stretcher blocks slide readily over the top of the table and as they move outwardly they will, of course, stretch the hat to the desired degree. The dog 32 in engagement with the ratchet teeth 30 will effectually hold the lever in the position to which it has been moved so that the hat will be held in the enlarged form until it has been fully set. A pressure upon the finger 33 will release the dog 32 and the springs 23 will then at once draw the several blocks inwardly so that the hat will be released. It will be readily noted that the upper gear 10 meshing with the rack bars 16 is of less diameter than the gear 11 meshing with the rack bars 17 so that while the gears will operate simultaneously and the stretcher blocks will all move at the same time, the end stretcher blocks 19 will move somewhat more rapidly than the side stretcher blocks, this variation in the speed being desirable in order to retain the proper shape of the hat while stretching it to the desired degree. Inasmuch as the gears are carried by a single shaft, when the retractile springs 23 draw the end blocks inwardly the movement will be transferred through the gearing to the side stretcher blocks so that they will likewise be drawn inwardly. The lever 25 will operate directly upon the shaft and gearing and may be very easily manipulated, while it is disposed below the table and consequently permits the operating mechanism to be disposed in a very compact form and permits the provision of a cover plate 14 which houses the mechanism and protects it from damage which might be caused by objects possibly dropping thereupon. The stretcher blocks will be preferably beveled upon their outer faces, as shown clearly in Figures 2 and 4, so that they will conform to the flared formation which is generally imparted to the crowns of hats and will also facilitate the placing of the hat in position upon the stretcher and its removal therefrom.

Having described the invention, I claim:

1. A hat stretcher comprising a table, stretcher blocks mounted upon and slidable over the table, an operating shaft arranged centrally with respect to the blocks, gears of different sizes, mounted on the shaft, an operating lever connected to one end of the shaft, and rack bars meshing with the respective gears on the shaft and having their outer ends offset relative to their main body portions and threaded into the respective stretcher blocks at the centers thereof for engagement with the front, back, and side portions of a hat whereby the latter will be stretched in all directions in conformity with the natural shape of the head in different sizes.

2. A hat stretcher comprising a table, stretcher blocks resting upon and slidable over the table, a gear case disposed centrally with respect to the stretcher blocks, supporting blocks arranged above and below the gear case, a cover plate resting upon the upper blocks and extending over the stretcher blocks, a shaft journaled in the table and in the gear case, gears on the shaft within the gear case, rack bars connected to the respective stretcher blocks and meshing with the respective gears, means for turning the shaft, and securing bolts inserted through the table, the gear case, the supporting blocks and the cover.

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