

K. WICKERSHEIM.  
HAT STRETCHER.  
APPLICATION FILED OCT. 31, 1912.

1,065,856.

Patented June 24, 1913.  
2 SHEETS—SHEET 1.

Fig. 1.

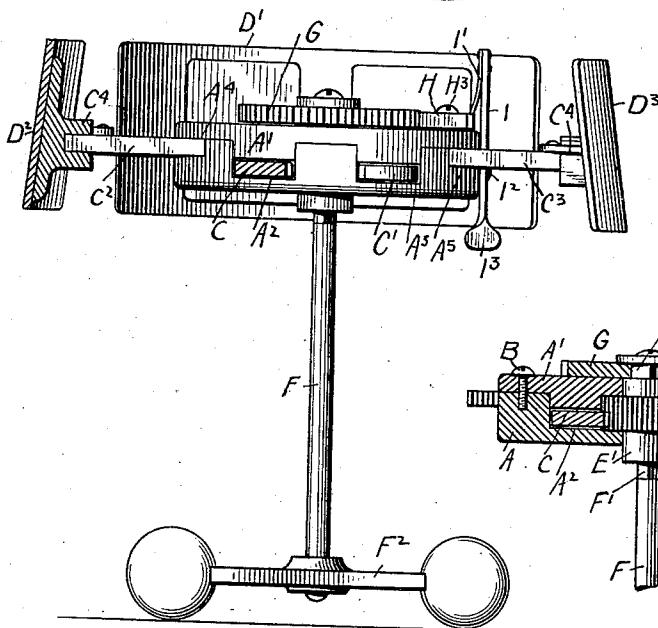
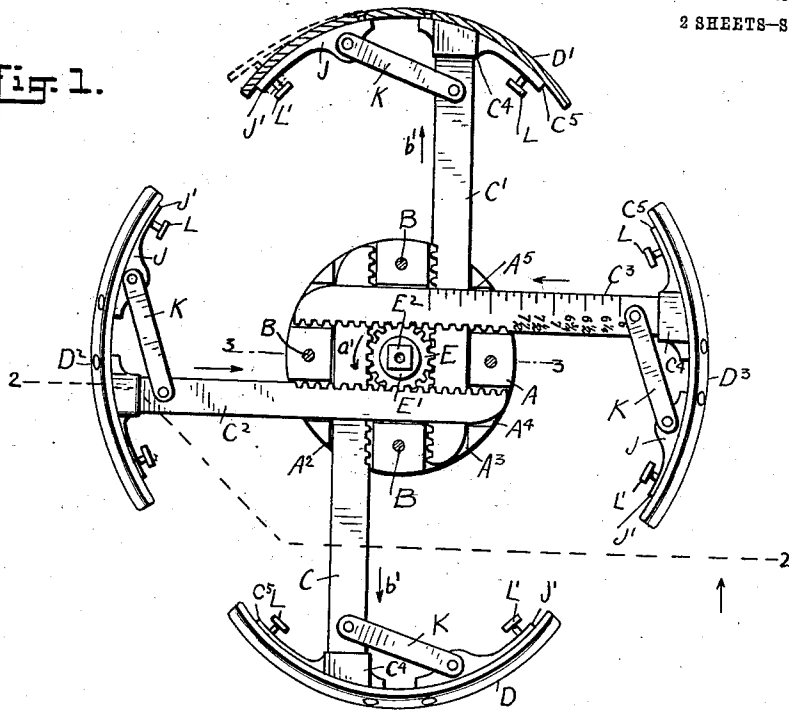


Fig. 2.

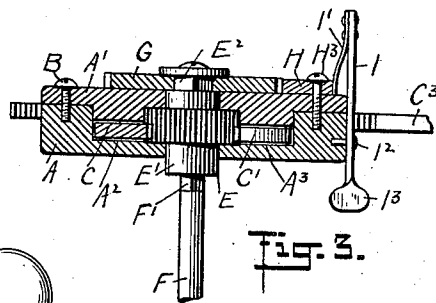


Fig. 3.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

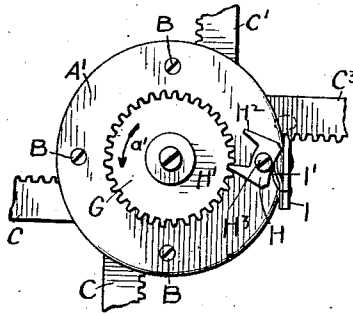
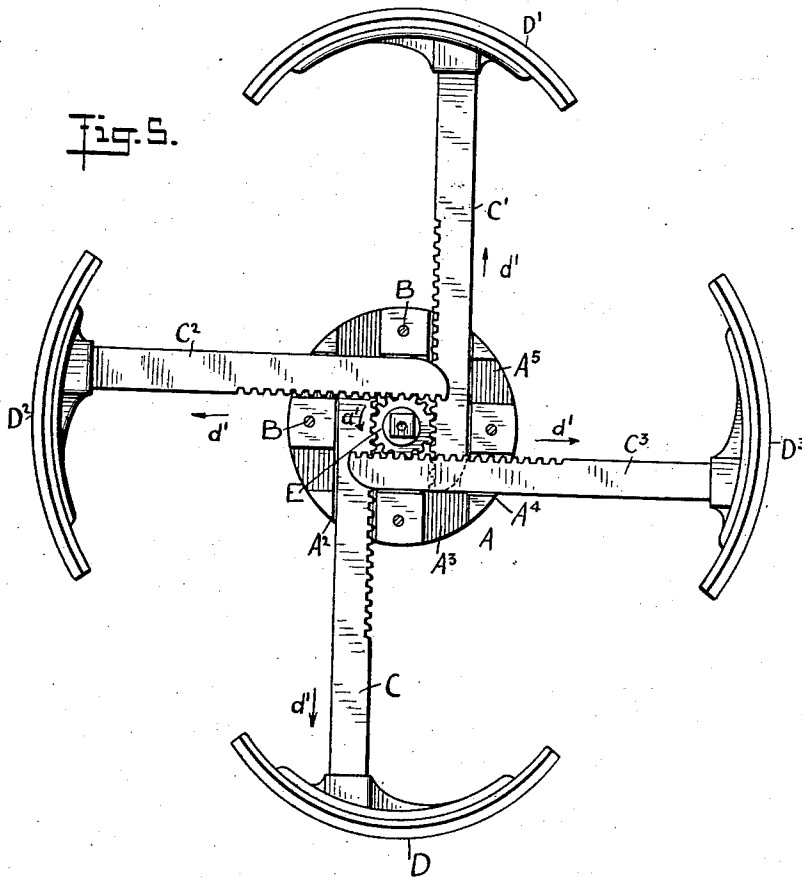


Fig. 5.



WITNESSES

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# UNITED STATES PATENT OFFICE.

KARL WICKERSHEIM, OF NEW YORK, N. Y.

## HAT-STRETCHER.

1,065,856.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed October 31, 1912. Serial No. 728,800.

*To all whom it may concern:*

Be it known that I, KARL WICKERSHEIM, a subject of the German Emperor, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Hat-Stretcher, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved hat stretcher, more especially designed for use in hat stores to permit of conveniently and quickly stretching a hat, either all around or only at the sides, or at the front and back, to insure proper fitting of the hat on the wearer's head. For the purpose mentioned, use is made of a central support provided with two sets of guideways one above the other and at an angle one to the other, the guideways being spaced from the center of the support, stretching plates provided with rack bars slidingly and interchangeably engaging the said guideways, and a gear wheel centrally arranged in the said support and in mesh with the said rack bars.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the hat stretcher, the top plate of the support and the locking device being removed, the stretching plates being in position for stretching either the sides or the back and front of the hat; Fig. 2 is a sectional side elevation of the same on the line 2—2 of Fig. 1; Fig. 3 is a similar view of the same on the line 3—3 of Fig. 1; Fig. 4 is a plan view of the central portion of the hat stretcher and showing more particularly the locking device; and Fig. 5 is a plan view of the hat stretcher with the top plate and locking device removed, the stretching plates being in position for simultaneous outward or inward movement for stretching a hat all around.

The hat stretcher is provided with a central support A provided with a top plate A' fastened in place by set screws B or other fastening means, and the said central support A is provided with sets of guideways A<sup>2</sup>, A<sup>3</sup> and A<sup>4</sup>, A<sup>5</sup>, of which the guideways A<sup>2</sup>, A<sup>3</sup> are parallel and at right angles to the guideways A<sup>4</sup>, A<sup>5</sup> which are also arranged paral-

lel one to the other. The guideways A<sup>2</sup>, A<sup>3</sup> are located in a plane below the guideways A<sup>4</sup>, A<sup>5</sup> (see Fig. 2). The guideways are spaced equal distances from the center of the support A and in the guideways are mounted to slide rack bars C, C', C<sup>2</sup> and C<sup>3</sup>, provided at their outer ends with stretching plates D, D', D<sup>2</sup> and D<sup>3</sup>, preferably made of sheet metal capable of flexing and segmental in shape, to readily fit the inside of a hat for stretching the same, as hereinafter more fully explained. The rack bars C, C', C<sup>2</sup>, and C<sup>3</sup> are in mesh with a gear wheel E having its hub E' journaled in the support A and its top plate A', and the hub E' is provided with a polygonal bore for engagement by the correspondingly shaped end F' of a key F having a handle F<sup>2</sup> to permit the operator to turn the key F with a view to rotate the gear wheel E. The handle F<sup>2</sup> is shaped so as to form a supporting base adapted to rest on a table or other support to support the hat stretcher and the hat held thereon. When the several parts are arranged as shown in Fig. 1 and the gear wheel E is turned in the direction of the arrow a' then the rack bars C, C' and their stretching plates D, D' are moved outwardly in opposite directions, that is, in the direction of the arrows b', to stretch the front and back of a hat. During the outward movement of the rack bars C, C' the other rack bars C<sup>2</sup>, C<sup>3</sup> and their stretching plates D<sup>2</sup>, D<sup>3</sup> move inwardly so as to be out of contact with the sides of the hat while the latter is stretched front and rear. When it is desired to stretch the sides of the hat the gear wheel E is turned in the inverse direction of the arrow a' so that the rack bars C<sup>2</sup>, C<sup>3</sup> and their stretching plates D<sup>2</sup>, D<sup>3</sup> move outwardly in engagement with the sides of the hat to stretch the same while the rack bars C and C' and their stretching plates D, D' move inwardly. When it is desired to stretch the hat all around then the rack bars C<sup>2</sup>, C<sup>3</sup> are disengaged from their guideways A<sup>4</sup>, A<sup>5</sup> and the rack bar C<sup>2</sup> is inserted into the guideway A<sup>5</sup> while the rack bar C<sup>3</sup> is moved into engagement with the guideway A<sup>4</sup> (see Fig. 5). Now when the several parts are in this position and the gear wheel E is turned in the direction of the arrow a' then the several rack bars C, C', C<sup>2</sup> and C<sup>3</sup> move simultaneously outwardly in the direction of the arrows d' so

that the stretching plates D, D', D<sup>2</sup> and D<sup>3</sup> simultaneously engage the inside of the hat to stretch the hat all around.

In order to lock the rack bars C, C', C<sup>2</sup> and C<sup>3</sup> and their plates D, D', D<sup>2</sup> and D<sup>3</sup> at the time they are in outermost position, the following arrangement is made: The upper end E<sup>2</sup> of the hub E' of the gear wheel E is made polygonal and on it fits a gear wheel G adapted to be engaged by the angular ends H', H<sup>2</sup> of a double pawl H pivoted at its middle at H<sup>3</sup> on the top plate A'. The back of the pawl H is engaged by the free end of a spring I' held on the upper end of a lever I fulcrumed at I<sup>2</sup> on one side of the support A, and the lower end of the lever I is provided with a finger piece I<sup>3</sup> (see Figs. 2 and 3) under the control of the operator for imparting a swinging motion to the lever I with a view to cause the spring I' to impart a swinging motion to the pawl H with a view to engage either end H' or H<sup>2</sup> with the gear wheel G. It is understood that when the end H' of the pawl H is in mesh with the gear wheel G then the gear wheel G is held against turning in the direction of the arrow a', and when the pawl H is reversed and its end H<sup>2</sup> is moved into engagement with the gear wheel G then the latter is locked against turning in the inverse direction of the arrow a'. Thus when using the stretching plates D and D' for stretching purposes the pawl H is moved into such a position that the end H<sup>2</sup> is in mesh with the gear wheel G and when the stretching plates D<sup>2</sup>, D<sup>3</sup> are used for stretching purposes the pawl H is thrown into the position shown in Fig. 4. When moving the stretching plates D, D', D<sup>2</sup> and D<sup>3</sup> simultaneously in position for stretching purposes then the end H<sup>2</sup> of the pawl H is in engagement with the gear wheel G to allow turning of the gear wheel G in one direction and to lock it against return movement.

One of the rack bars, as shown, the rack bar C<sup>3</sup>, is provided with a graduation (see Fig. 1) to indicate hat sizes thus enabling the user of the stretcher to correctly stretch the stretcher to a desired size.

In practice, the rack bar C, C', C<sup>2</sup> or C<sup>3</sup> is preferably connected with the corresponding stretching plate D, D', D<sup>2</sup> or D<sup>3</sup> by the use of a head C<sup>4</sup> held on the outer end of the rack bar and riveted or otherwise secured to the corresponding stretching plate. As the rack bars are out of center relative to the support A the heads C<sup>4</sup> are somewhat to one side of the middle of the corresponding stretching plate, and in order to properly support a stretching plate use is preferably made of an additional head J secured to the stretching plate at the opposite side of the middle of the stretching plate at which the head C<sup>4</sup> is located, and

this extra head J is connected by a link or a brace K with a corresponding rack bar. Both heads C<sup>4</sup> and J are provided with outwardly-extending flanges C<sup>5</sup>, J' in which set screws L, L' abutting against the outer ends of the corresponding stretching plate to permit of flexing the ends of the stretching plate outward so as to accurately fit the stretching plate against the inner surface of the hat to be stretched.

The stretcher shown and described is very simple and durable in construction and is exceedingly serviceable for use in hat stores to permit of conveniently and quickly stretching a hat either all around or only at the sides or at the front and back, to insure proper fitting of the hat on the wearer's head.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A hat stretcher, comprising a central support provided with two sets of guideways one above the other and at an angle to the same, the guideways being spaced from the center of the support, stretching plates provided with rack-bars slidingly and interchangeably engaging the said guideways, and a gear wheel centrally arranged in the said support and in mesh with the said rack bars.

2. A hat stretcher, comprising a central support provided with two sets of guideways one above the other and at an angle to the same, the guideways being spaced from the center of the support, stretching plates provided with rack bars slidingly and horizontally engaging the said guideways, a gear wheel centrally arranged in the said support and in mesh with the said rack bars, a toothed locking wheel on the said gear wheel outside of the support, a double pawl pivoted on the said support, and means for manipulating the said pawl to throw either end into engagement with the said locking wheel.

3. A hat stretcher, comprising a central support provided with two sets of guideways one above the other and at an angle to the same, the guideways being spaced from the center of the support, stretching plates provided with rack bars slidingly and interchangeably engaging the said guideways, a gear wheel centrally arranged in the said support and in mesh with the said rack bars, a toothed locking wheel on the said gear wheel outside of the support, a double pawl pivoted on the said support, a lever fulcrumed on the said support, and a spring on the said lever and engaging the said pawl to manipulate the latter.

4. A hat stretcher, comprising a central support provided with two sets of guideways one above the other and at an angle to the same, the guideways being spaced from

the center of the support, stretching plates provided with rack bars slidably and horizontally engaging the said guideways, a gear wheel centrally arranged in the said support and in mesh with the said rack bars, and a key engaging the said gear wheel for turning the latter, the key having a supporting base and forming a stand for the hat stretcher.

5. A hat stretcher, comprising a central support having two sets of guideways one above the other and at right angles to each other, rack bars slidably mounted in the guideways and carrying stretching plates at their outer ends, a centrally arranged gear wheel engaging the rack bars, means for operating the gear wheel, a toothed wheel carried by the gear wheel, and a double pawl pivoted on the support and adapted to engage the toothed wheel to prevent it from turning in either direction.

6. A hat stretcher provided with a flexible stretching plate, a rack bar having a head secured to the said stretching plate to one side of the middle of the plate, a lug secured to the stretching plate at the other side of the middle of the plate, and a link connecting the said rack bar with the said lug.

7. A hat stretcher provided with a flexible

stretching plate, a rack bar having a head secured to the said stretching plate to one side of the middle of the plate, a lug secured to the stretching plate at the other side of the middle of the plate, a link connecting the said rack bar with the said lug, the said head and the said lug having outwardly-extending flanges, and set screws screwing in the said flanges and abutting against the outer ends of the said plate to flex the said outer end.

8. A hat stretcher provided with a stretching plate, a rack bar having a head projecting from one side thereof and secured to the stretching plate at one side of the center of the same, an auxiliary head secured at one end to the stretching plate at the other side of the middle thereof, a link connecting the fixed end of the auxiliary head with the rack bar, and screws mounted in the outer ends of the said heads and engaging the stretching plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARL WICKERSHEIM.

Witnesses:

THEO. G. HOSTER,  
PHILIP D. ROLLHAUS.