No. 881,816. PATENTED MAR. 10, 1908.

J. M. MERROW.

PRESSER FOOT FOR SEWING MACHINES.

APPLICATION FILED JAN. 30, 1906.

Fig. 1.

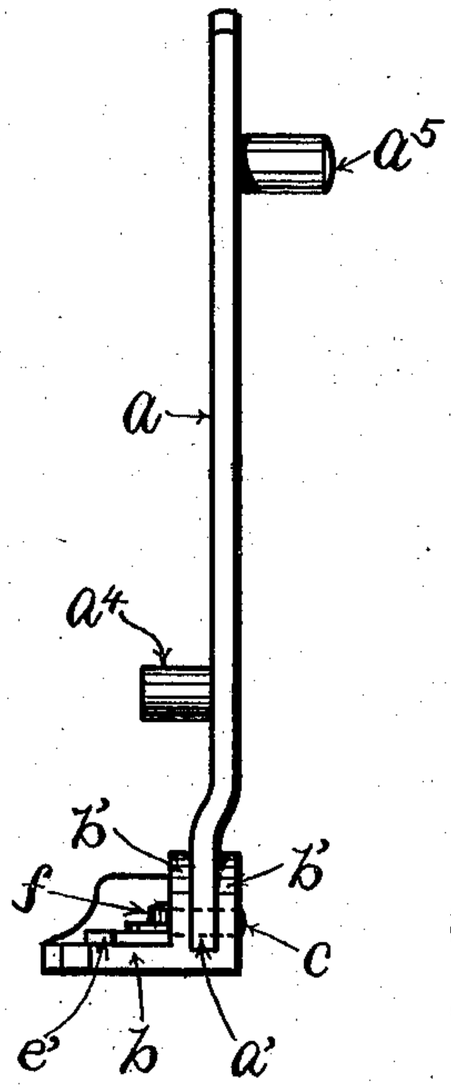

Fig. 2.

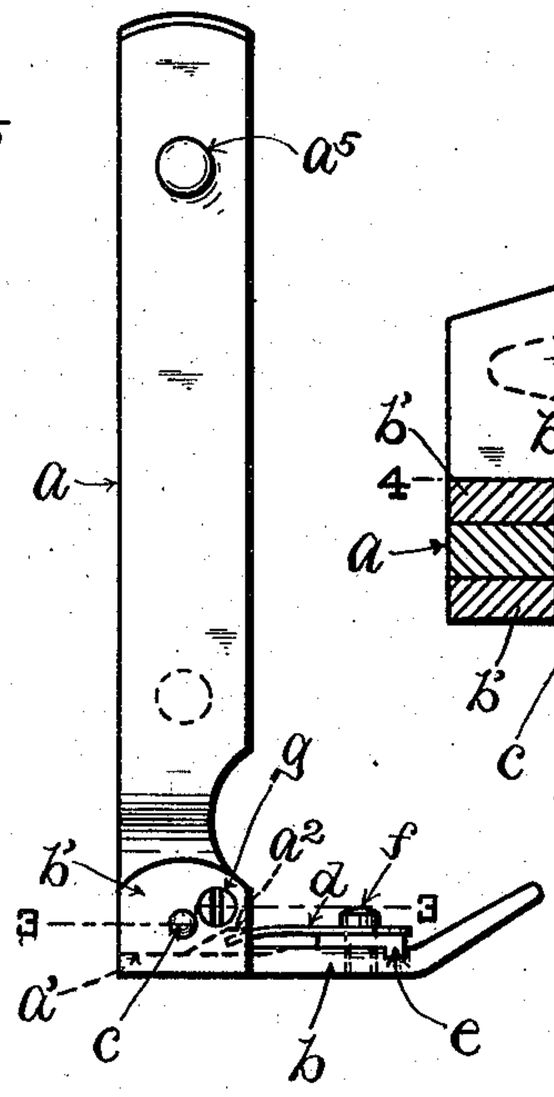

Fig. 3.

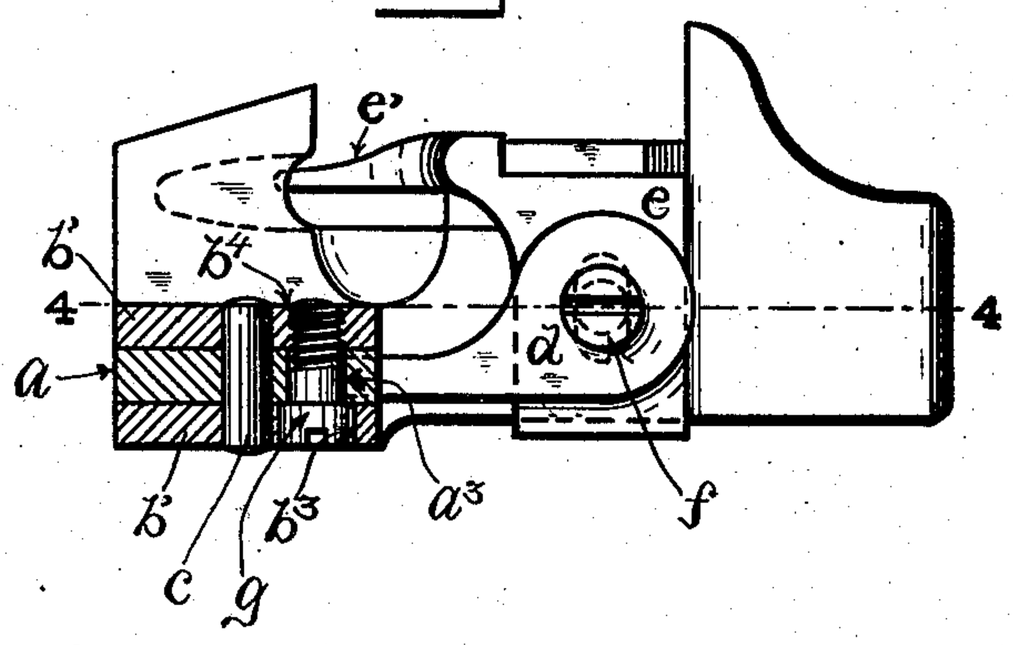

Fig. 4.

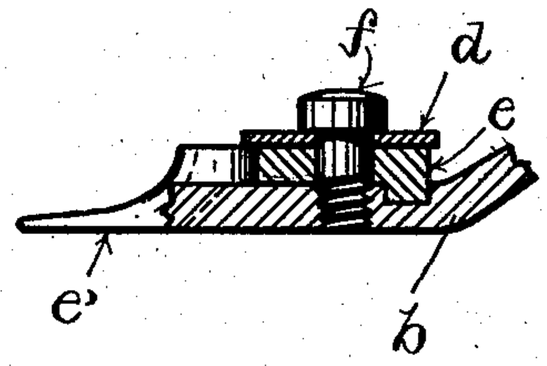

Fig. 5.

WITNESSES.

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PRESSER-FOOT FOR SEWING-MACHINES.

No. 881,816. Specification of Letters Patent. Patented March 10, 1908.

Application filed January 30, 1906. Serial No. 298,656.

To all whom it may concern:

Be it known that I, JOSEPH M. MERROW, a citizen of the United States, residing in the city and county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Presser-Feet for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

Among the many forms of presser feet in common use there are two especially prominent in one of which the foot is either integral with or rigidly attached to its supporting shank, lever or presser bar and in the other of which the foot has hinged or yielding connection with its support.

The first mentioned style of foot is usually employed when the sewing machine is to operate upon a class of work presenting a substantially uniform thickness of material at all times between the sole or under bearing surface of the foot and the upper surface of the needle plate, the entire bearing surface of the foot engaging the material. Some material however is not of uniform thickness, or contains welts or thick seams which must be fed along under the presser foot and in such cases, when a rigid foot is employed, only a small portion of the bearing surface of the foot engages the material, thereby impairing the feeding of the latter. To obviate this difficulty the hinged form of presser foot before mentioned has been devised which, when its toe engages a thickened portion of the material or a seam, rocks upon its hinge and permits the heel of the foot at the same time to press upon the material.

It is commonly the case that a single sewing machine is used for both the classes of work mentioned and to secure the best results two presser feet of the kinds described should be employed either of which may be substituted for the other as the character of the work may demand.

The object of the present invention is to obviate the necessity of employing two separate presser-feet and to provide a structure which can be readily changed from the rigid to the yielding variety or vice versa.

In the accompanying drawings illustrating the present invention: Figure 1 shows the presser foot in rear elevation. Fig. 2 is a side elevation of the foot. Fig. 3 is a view in plan and section showing the foot proper and related elements on an enlarged scale, the section being taken on the line 3—3 of Fig. 2. Fig. 4 is a view in section and elevation of a portion of some of the elements shown in Fig. 3, the section being taken on the line 4—4 of Fig. 3. Fig. 5 is a view partly in elevation and partly in section showing the manner in which the foot proper may be rocked on its pivotal or hinge connection with its shank.

Throughout the several figures of the drawings, like reference letters and numerals of reference denote the same parts.

The letter *a* denotes the presser-foot shank to which the presser foot *b* is pivotally secured. The foot *b* is provided at its rear or heel end with a pair of ears *b'* between which the end of the shank is received and the shank and foot are united primarily by a hinge pin *c* passing through the ears and shank. The end of the shank *a* at its lower edge, forms a stop *a'* in the rear of the hinge pin *c* to limit the rocking movement, of the said foot in one direction. In front of the hinge pin, the lower edge of the shank end is cut away as at a^2 to permit the foot *b* to rock in a direction to raise its toe end, and also to provide a shoulder against which a spring *d* may bear, the said spring acting between the foot and the shank in advance of the hinge pin with a tendency to force the toe end of the foot downward and to normally cause the heel end of the foot to engage the shank stop *a'*.

The spring *d* is preferably a flat spring and secured directly to the presser foot *b* near the toe of the foot. As shown in the drawings it is mounted upon a laterally adjustable block *e* having a chaining finger *e'*. Screw *f* serves to retain both the spring *d* and the block *e* in position upon the presser foot. The rearwardly extending portion of the spring *d* is suitably shaped to enter between the presser-foot ears *b'* and engage the shank shoulder a^2 as already described, and as clearly shown in Figs. 3 and 5.

In the presser foot illustrated, its normal position with reference to the shank is the same as the ordinary rigid presser-foot, that is, the sole or bearing surface is at right an-

gles to the shank, the rear part of the foot *b* being held in engagement with the stop *a'* by the spring *d*.

When a foot, hinged to its shank as shown and described is provided, it will be apparent that when seams or thickened portions of the material are encountered, the toe end of the foot will be rocked upward and the foot will ride over the seam without raising the foot simultaneously at both ends thus insuring the contact of substantially the entire surface of the bearing portion of the foot upon the material at all times.

To enable the conversion of the hinged foot into one of the rigid type, registering apertures b^3 b^4 and a^3 are drilled in the ears *b'* and the hinged end of the shank *a* respectively to permit the insertion of a dowel pin or lock, which may for convenience of removal be in the form of a screw *g* as shown in the drawings.

When a screw is employed as a lock, the hole b^4 alone is preferably tapped to receive the threaded end of the screw.

The screw *g* may be very readily inserted or removed and the character of the presser foot changed from the hinged or yielding foot to the rigid type or vice versa, without affecting or interfering in any way with other portions of the machine's mechanism.

The presser foot shank shown in the drawings is of the type that is movable in the machine head in the direction of the length of the shank and the latter is provided with studs, one a^4 to be engaged by a presser foot spring to force the presser foot downward and the other, a^5 to be engaged by a suitable lifter to raise or hold the presser foot in an elevated position, but as these features are old and form no part of this invention further illustration and detailed description are not thought to be necessary.

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

1. A sewing machine presser foot embodying a shank member and a foot member pivotally connected and having registering apertures, a pivotal connecting pin for the shank and foot members and a lock for insertion in the apertures to rigidly connect the said shank and foot members, substantially as described.

2. A sewing machine presser foot embodying a shank member and a foot member pivotally connected and having registering apertures one or more of which are screw threaded, a pivotal connecting pin for the shank and foot members and a screw threaded lock for insertion in the apertures to rigidly connect the said shank and foot members the said lock having threaded connection with one or more of the said apertures, substantially as described.

3. In a sewing machine presser foot, the combination of a shank portion, a foot portion, ears on the latter between which the shank portion is received, a hinge pin engaging the ears and the shank to pivotally secure the same together, a screw also engaging the said ears and shank and having threaded connection with one of said parts to lock the shank and foot portions rigidly together; substantially as described.

4. In a sewing machine presser foot the combination of a shank member and a foot member pivotally connected and having registering apertures, a hinge pin connecting the shank and foot members, a stop on the shank for limiting the rocking of the foot in one direction, a spring intermediate the shank and the foot acting normally to hold the foot in engagement with the stop and a lock for insertion in the apertures to rigidly retain the shank and foot members in the relative positions in which they are normally held by the spring, substantially as described.

5. In a sewing machine presser foot the combination of a shank member and a foot member pivotally connected and having registering apertures one or more of which are screw threaded, a hinge pin connecting the shank and foot members, a stop on the shank for limiting the rocking of the foot in one direction, a spring intermediate the shank and the foot members acting normally to hold the foot in engagement with the stop and a screw threaded lock for insertion in the apertures and having threaded connection with one or more of the same to rigidly retain the shank and foot members in the relative positions in which they are normally held by the spring, substantially as described.

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