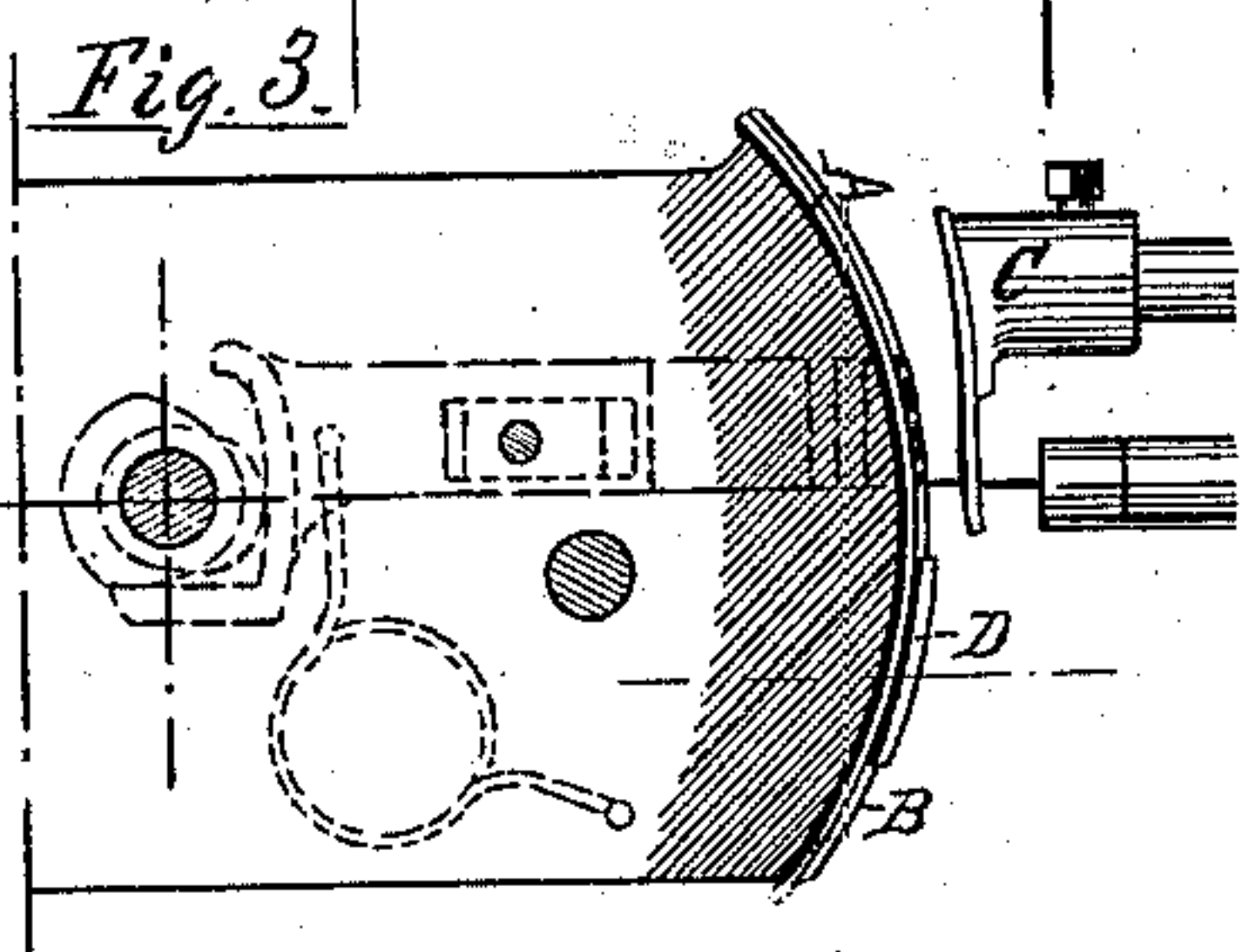
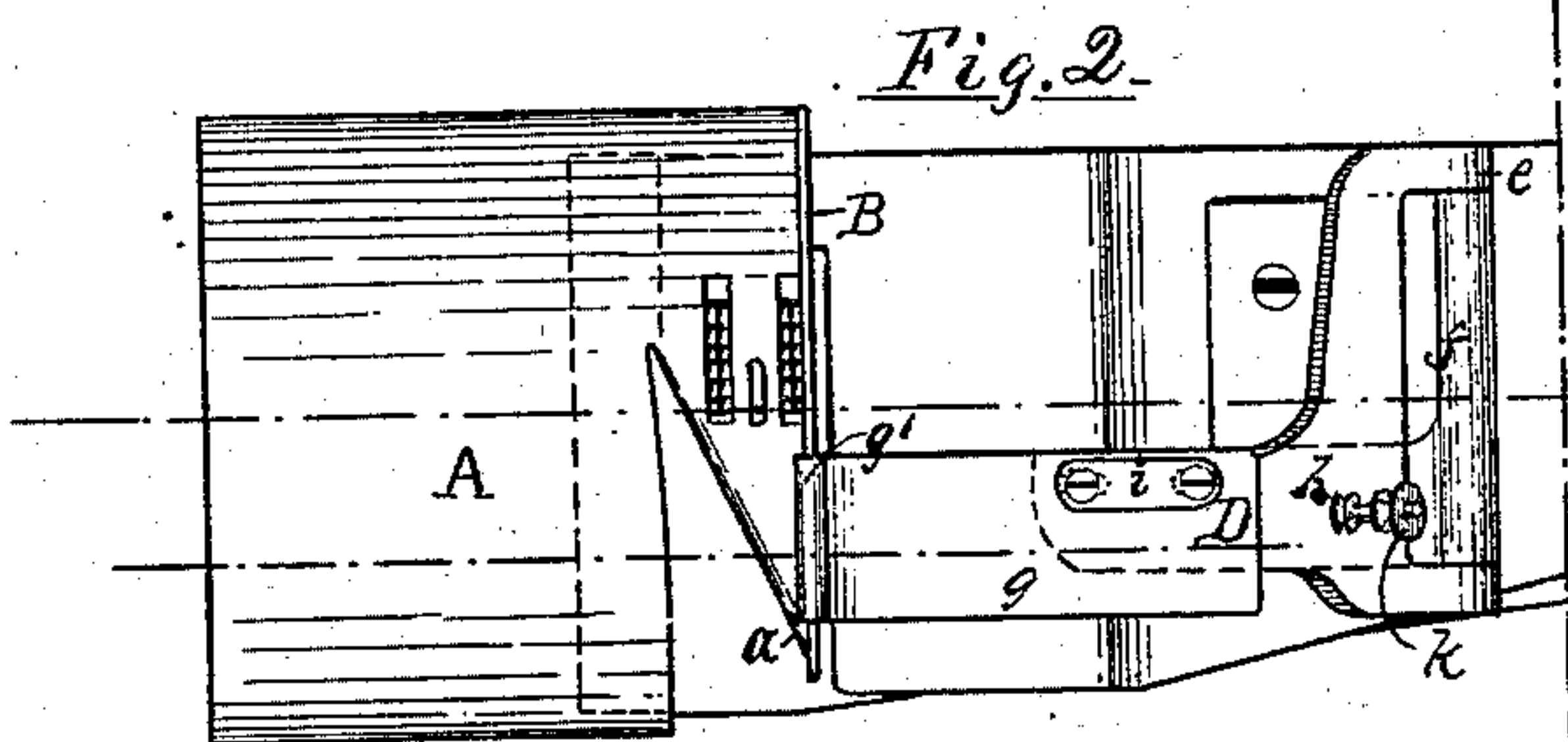
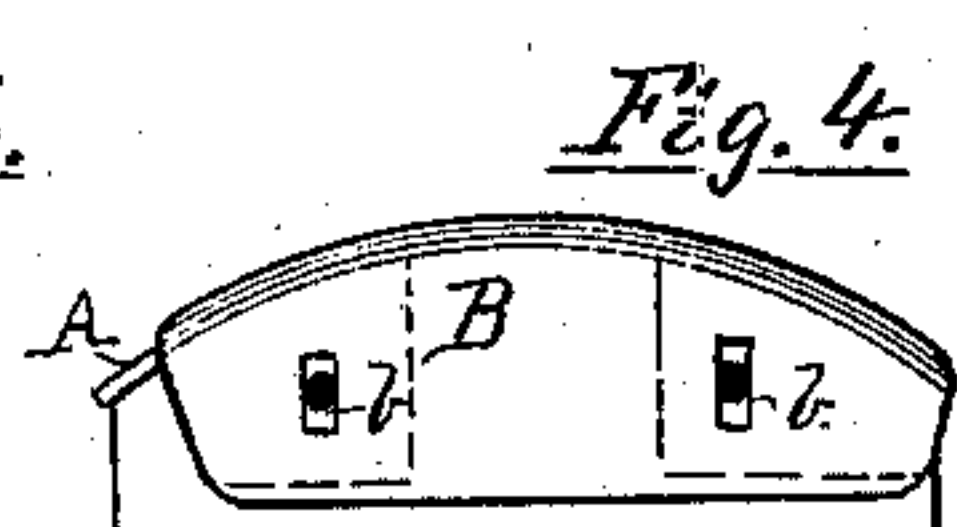
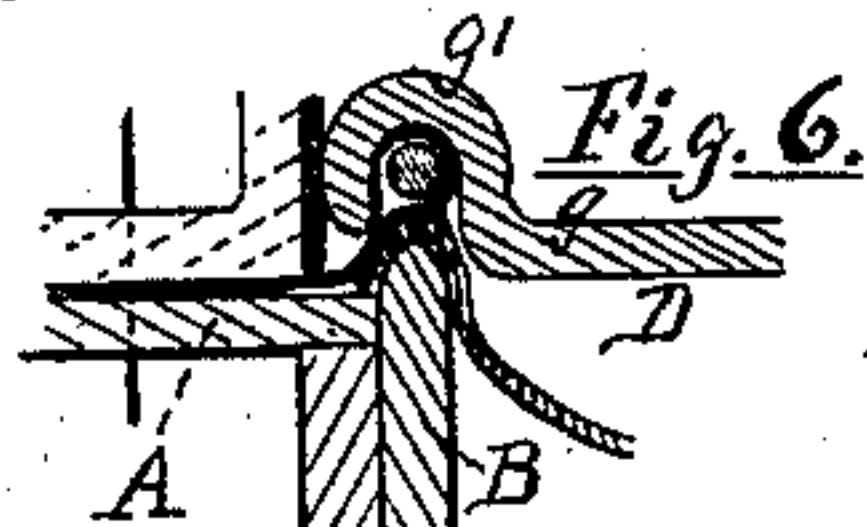
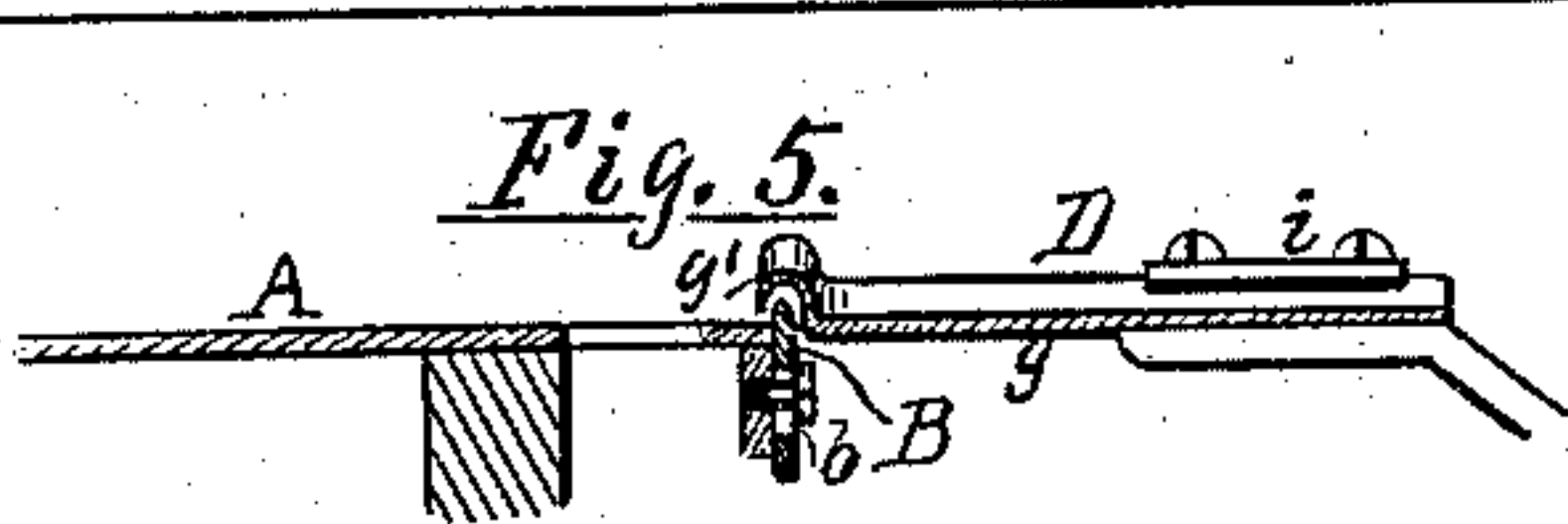
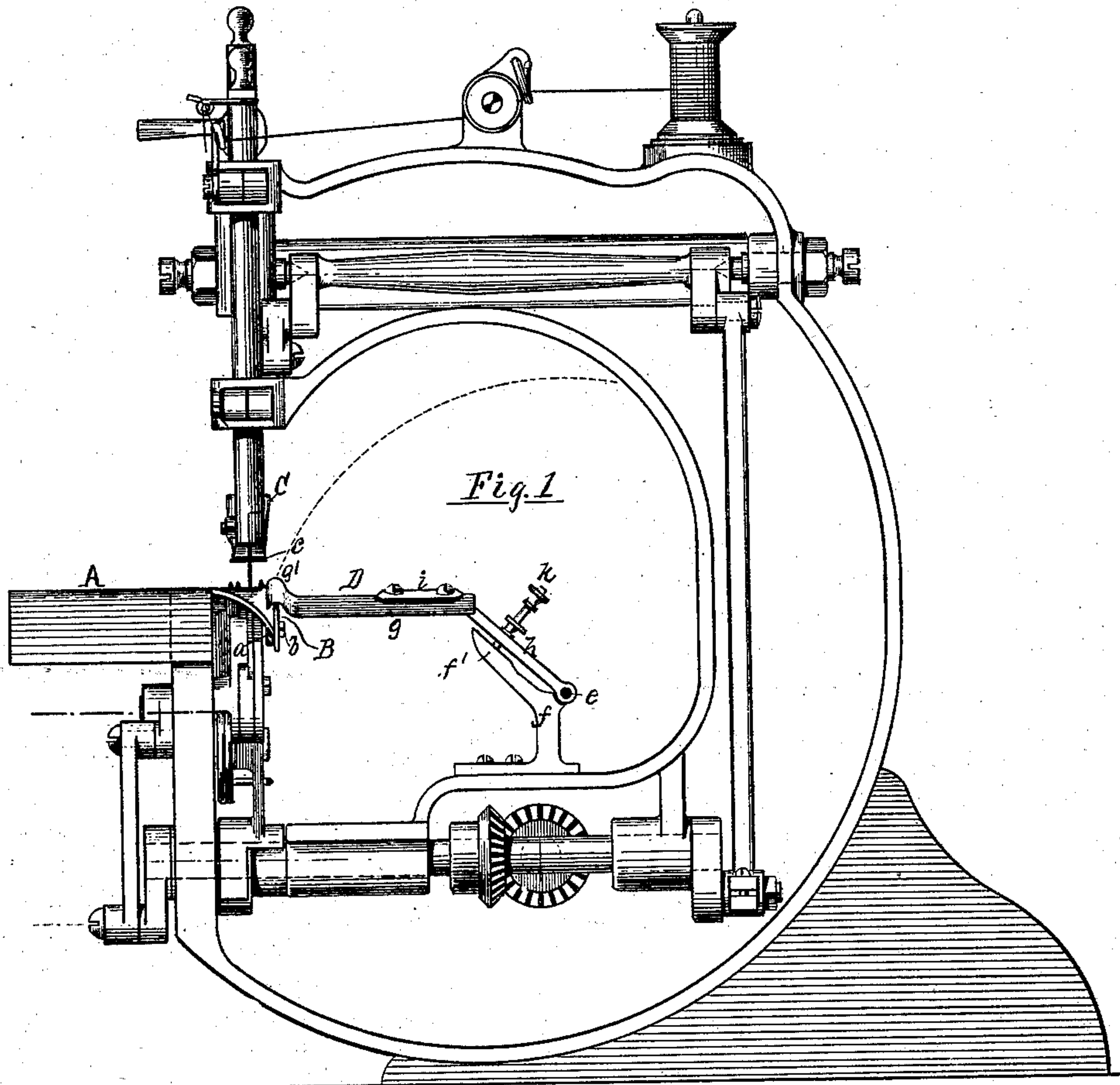


(No Model.)

R. EICKEMEYER.  
Sewing Machine.

No. 238,871.

Patented March 15, 1881.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

RUDOLF EICKEMEYER, OF YONKERS, NEW YORK.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 238,871, dated March 15, 1881.

Application filed June 18, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, RUDOLF EICKEMEYER, of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

My said improvements have for their object the stitching of linings into hats; and the several features of my invention are fully specified in detail in the claims hereunto annexed.

So far as my knowledge extends no sewing-machine heretofore designed for the general purpose indicated has been so constructed and provided with lining-guides that in stitching into a hat a flanged sweat-lining the hat could be supported by the contact of the interior of the side crown with the work-plate, or, in other words, so that the work-plate could occupy the interior of the hat and permit the latter to revolve around and rest upon said plate, the flanged lining being meantime properly guided, and by reason thereof to require little or no manipulation or attention from the operator during the stitching operation. In my new machine I employ a convex or semi-cylindrical work-plate mounted upon a horn containing feeding mechanism adapted to cooperate with a presser-foot and arranged to be wholly within the hat during the stitching operation.

Work-plates have heretofore been mounted upon a horn in machines for lining hats; but such work-plates were not of such form as enabled them to occupy the interior of the hat, and therefore more care, attention, and manipulation of the hat and lining are requisite in their use than with my present machine. Convex work-plates capable of occupying the interior of the hat are not novel with me, but they have heretofore only been employed on machines which had no elevated horn, but had below and at the rear of the work-plate a driving-shaft so little below the work-plate that a flanged lining could not droop or hang in the position requisite to obviate injury to the flange and prevent the flanged edge of the lin-

ing from being drawn away from the path of the needle. As organized by me my machine is generally designed for sewing in such linings as are turned and flanged, and specially for sewing in linings which are combined with a reed and its covering of oil-silk or other water-proof material. I therefore employ at the rear side of the work-plate, and mounted thereon, a vertical crease-line guide-plate, which occupies the creased recess in the lining at the rear of the turned and flanged edge, and in connection therewith a sweat-guide, which is recessed to receive (between it and the guide-plate) the center of the flanged portion of the sweat-lining if no covered reed be employed therewith; but if such a reed be employed then the reed and the center of the flanged portion of the lining are both interposed between the edge of the guide-plate and the recessed sweat-guide. In the case of reed-linings which are not doubled and flanged, the edge of the guide-plate, will occupy the line at the junction of the lining and the reed-covering, and the reed and its covering will then occupy the recess in the sweat-guide. The guide-plate is rendered adjustable with relation to the surface of the work-plate, and the sweat-guide is rendered adjustable with reference to the guide-plate, for adapting them to operate upon various kinds of linings and under various conditions. The work-plate is also specially constructed with reference to the proper separation of the main portion of the oil-silk or other sticky material from contact with the rear side of the sweat-lining during the stitching operation.

For more fully and further describing my invention I will refer to the accompanying drawings, in which—

Figure 1 is a side view of a machine embodying my invention. Fig. 2 is a top view of the work-plate and sweat-guide. Fig. 3 is an end view of the horn and work-plate with presser-foot and needle-bar in proper relative positions. Fig. 4 is a rear-end view of the upper portion of the horn, work-plate, and guide-plate. Fig. 5 is a horizontal vertical section of a portion of the work-plate, the guide-plate, and sweat-guide. Fig. 6 is an enlarged sectional view, illustrating a portion of a hat, a



covered reed, and a sweat-lining in position relatively to the work-plate, guide-plate, and sweat-guide.

The machine which I have shown in the drawings is of the character shown and described in my United States Letters Patent No. 182,182, dated September 12, 1876, so far as relates to the stitching mechanism, the elevated horn, and the form and mounting of the frame. In my former hat-lining machine, however, the work-plate is concave, and the feed-bar is operated on a line corresponding to the surface of that work-plate, while in my present machine the work-plate is convex or semi-cylindrical, and the feed-bar during the feeding motion is operated on a convex line corresponding with the convex surface of the plate.

The convex or semi-cylindrical work-plate A has a contour on its upper curved face generally corresponding to the inside surface of the side crown of the average of hats to be lined. The serrated feed-bar has two faces, one on each side of the needle-slot beneath the presser-foot, which is also, as usual, slotted for the needle. In working on doubled flanged or flared sweat-linings it is desirable that the fold thereof be automatically opened as the lining is advanced toward the needle. So, also, in working linings in combination with covered reeds, the main portion of the reed-covering requires to be opened or separated from the under side of the lining, especially because of their tendency to adhere on account of the adhesive or sticky nature of the oil-silk or other water-proof material usually employed for reed-coverings. I have provided, in a novel construction of the work-plate, for the proper opening of the folded flanged sweats, and also opening or separating the oil-silk from the lining. The side of the work-plate from which the lining moves toward the needle is angularly recessed or cut away, so as to present at the rear corner thereof a sharp angular point, *a*, which acts as a separator, and over which the lining and water-proof material are drawn, and by which they are separated, the water-proof material passing upward over the work-plate, and the main portion of the lining being extended wholly at the rear of the work-plate.

At the rear end of the work-plate is a sharp-edged vertical guide-plate, B. Its upper edge is longitudinally convex to correspond with the surface-line of the work-plate, and also sufficiently thin or sharp to enable it to occupy the crease-line of a folded flaring sweat-lining, or to closely enter between the lining and the reed-covering on the line at which the two are joined, as in the case of flared linings which are not doubled or folded. To enable this guide-plate to properly operate under the various conditions of use it is made vertically adjustable upon the horn by means of slots and screws *b*, so that its sharp edge can be set at any desired height with relation to the surface of the work-plate.

In order that the end of the guide-plate adjacent to the sharp angular point *a* of the work-plate shall not obstruct the proper operation of said point in opening or separating the oiled silk from the lining, as described, the said end of the guide-plate is extended slightly beyond said point and beveled or sharpened, to constitute, practically, a prolongation of said point *a*.

The presser-foot C has a straight rear edge, *c*, parallel with the rear edge of the work-plate and with the guide-plate B. The presser-foot and guide-plate are so located with reference to each other that when a hat is being lined, its rim occupying a vertical position immediately in the rear of the presser-foot, the contact of the under surface of the brim with the inner surface of the guide-plate, or in contact with the flanged portion of the lining interposed between said guide-plate and brim, serves to prevent the hat from moving beyond or over the guide-plate, and the rear edge, *c*, of the presser-foot, by its contact with the side crown of the hat closely adjacent to and usually in contact with the surface of the upper side of the brim at its junction with the side crown, confines the hat against bodily movement away from the guide-plate. This construction, combination, and arrangement of the work-plate, guide-plate, and presser-foot, whereby the guide-plate and foot co-operate as guides, can be made valuably available in executing certain lines of work, and I contemplate the application of an adjustable edge to said presser-foot to enable variable adjustments to be more easily made than by the removal of one presser-foot and the substitution of another of greater or lesser width, as required.

Owing to the fact that the covered reeds are mounted upon the edges of the folded, flared, and other linings so as to constitute, practically, an extension of the lining overlapping the brim of the hat, it is desirable that said covered reeds be in a measure independently guided and controlled to secure their proper position with relation to the hat and the lining during the stitching operation. It is, however, quite common to stitch the reed-covering and the lining together prior to stitching them to the hat, and during this preliminary operation it is also important that the covered reeds be properly controlled and guided. I have therefore devised a peculiarly-mounted guide, D, which so co-operates with the guiding-plate B as to be of service in stitching folded and flared linings into a hat with or without the covered reed, and also so as to be of service in stitching reed coverings and linings together prior to uniting them to the hat. I will term this device a "sweat-guide," although in some cases it operates as a guide for the reed-cover alone, as well as in some cases for the sweat-lining and the reed-covering combined, and also in some cases for linings which are simply doubled and flared, and in various other more or less analogous



operations. Because of the fact that ring-shaped linings are to be stitched, it is desirable that the sweat-guide D be capable of ready displacement, in order that the lining and hat may be readily placed in position for stitching, and removed thereafter, and I therefore have pivoted my sweat-guide at its rear end, *e*, to a standard, *f*, mounted upon the frame of the machine at such a distance in the rear of the horn as will afford ample space for linings of the greatest width beneath said guide and in rear of the horn. The plate *g* of the sweat-guide is attached to the hinged plate *h* by means of a cap-plate and screws, *i*, the plate *g* being so slotted as to admit of its adjustment longitudinally with reference to the pivotal point and to the rear edge of the work-plate. The operative end of the plate *g* is recessed from edge to edge on its under side, as at *g'*, so that when located above the edge of the guide-plate B said recess is parallel with the edge of the guide-plate. This recess *g'* should be of such dimensions in cross-section as will enable it to properly receive so much of the covered reed, or so much of a doubled flared sweat-lining, as will enable it to exercise the desired gaging or guiding effect in each instance. Should the presser-foot be so enlarged as to operate as a guiding-surface for one side of a covered reed, for instance, then the recess *g'* would need only to be so shaped as to rest upon the top of the covered reed and against one side thereof; and it is to be understood that the operative end of the sweat-guide is to be of such form as will enable it to best cooperate with the work-plate and feeding mechanism in producing the desired results in performing each particular kind of work incident to the art of lining hats.

For vertically adjusting the operative end of the sweat-guide with relation to the work-plate and the guide-plate, I have provided the adjusting-screw *k*, which passes through the hinged plate *h*, within a tapped hole, and has an abutting support upon the upper surface of an arm, *f'*, on the standard *f*. The screw *k* has a thumb-nut, by which it may be firmly set at any desired adjustment.

The various practical applications of the devices organized and constructed substantially as shown and already described, will be readily obvious to persons skilled in the art, and I will, therefore, only specially describe the operation of stitching a combined covered reed and a flaring double sweat-lining.

I will assume that the reed, its cover, and the lining have been stitched together and secured at the ends to form a band of proper size for the hat to be lined. The presser-foot being raised and the sweat-guide thrown backward, the lining is placed upon the work-plate beneath the raised presser-foot, with the edge of the guide-plate B in proper contact with the lining, substantially as illustrated in Fig. 6, the oil-silk resting upon the work-plate and the main body of the lining extending down-

ward and rearward from the guide-plate. The sweat-guide D is then brought over so as to embrace within its recess the covered reed. Care should be taken that the separator or point *a* of the work-plate is well entered between the oil-silk and the lining, so as to properly lift or separate the adhesive material from the under side of the lining. The hat is then placed upon the work-plate by passing its brim beneath the presser-foot, and thence upward and in rear thereof, and resting the inside of the side crown upon the work-plate, after which the presser-foot is lowered, its rear edge being then in close guiding contact with the upper or adjacent surface of the brim close to the side crown. The machine is then set in motion, and the oil-silk and lining secured to the hat by a line of stitches through the oiled silk or other reed-covering and the side crown, usually about one-fourth of an inch from the brim. After the stitching is completed the sweat-guide is thrown backward, the presser-foot raised, the hat removed, and the lining turned into the crown.

It is well known that hats with curved brims have linings correspondingly curved in the cutting thereof, and also at the flanged or flaring edge, and all devices for lining such hats as heretofore constructed have, so far as my knowledge extends, contained a supporting-surface, on or over which the lining is drawn with its under side spread out flat and in close contact with said supporting-surface during the stitching operation; and under these circumstances the lining is apt to be, and frequently is, drawn outwardly from under the hat, thus defeating the attainment of a neat and marketable finish.

With my sweat-guide and work-plate mounted, respectively, on an independent standard far in the rear of the work-plate and on a horn, with ample open space at its rear and below the sweat-guide to allow the lining to freely occupy the peculiar positions incident to the curved feature, the lining can never be drawn out from under the hat and from the proper control of the guide-plate and sweat-guide.

I do not limit my invention to the precise construction and arrangement of the several devices which I have shown and described, because I am well aware that they can be variously modified without substantial departure from my invention, or materially affecting their operation, or the attainment of the ends herein designated.

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

1. In a sewing-machine for stitching flanged linings into hats, a convex work-plate, adapted to occupy the interior of a hat and mounted upon a horn, to afford free space for the lining below the rear edge of the work-plate, in combination with a guide or guides for the sweat-lining, substantially as described.

2. The combination, with stitching mechan-



ism, of a convex work-plate and the guide-plate which stands vertically at the rear edge of the work-plate and has a sharp edge for occupying the crease-line of a folded flanged sweat-  
5 lining, substantially as described.

3. The combination of the work-plate and the guide-plate with means for vertically adjusting said guide-plate with reference to the supporting-surface of the work-plate, substantially  
10 as described.

4. The combination of the convex work-plate, the guide-plate standing vertically at the rear edge of the work-plate, and the presser-foot adapted at its rear edge to co-operate  
15 as a guide with the guide-plate by engaging in contact with one side of the brim of a hat when interposed between the presser-foot and the coincident surface of the guide-plate, substantially as described.

20 5. The combination, in a sewing-machine, of the work-plate mounted upon a horn, and the sweat-guide mounted upon the frame of

the machine at the rear of the horn, to afford a free open space for sweat-linings hanging  
over the rear edge of the work-plate behind  
the horn and beneath the guide, substantially  
25 as described.

6. The combination, substantially as before described, of the sweat-guide mounted at the rear of a work-plate and horn and devices for  
30 adjustably locating said guide with reference to the work-plate and work thereon, substantially as described.

7. The combination of the work-plate, vertical sharp-edged guide-plate, and sweat-guide,  
35 substantially as described.

8. The work-plate cut away angularly at one side from the rear corner and provided with the separator or point *a*, substantially as described.

RUDOLF EICKEMEYER.

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