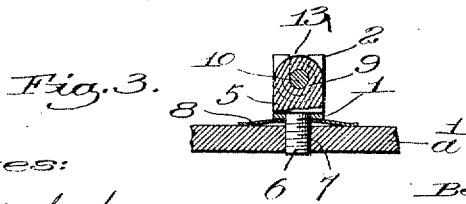
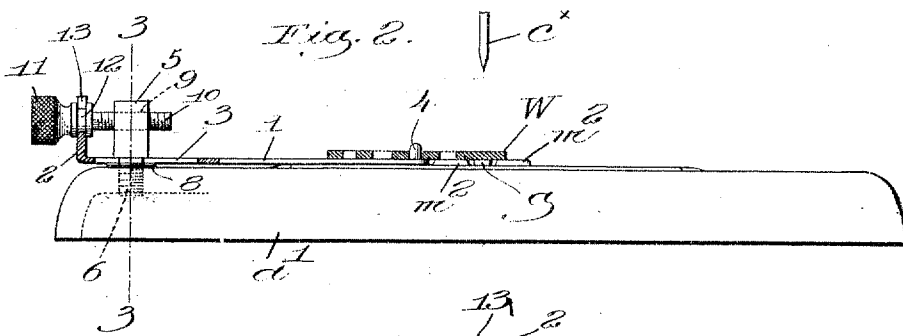
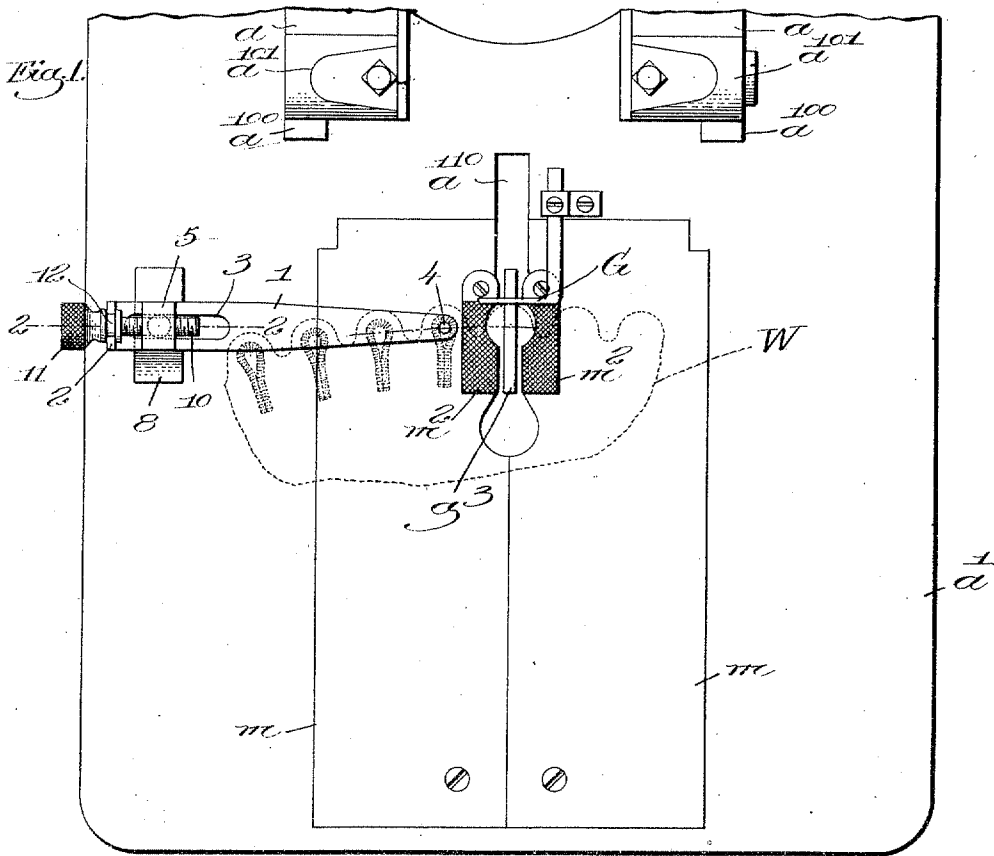


B. T. LEVEQUE.
 WORK GAGE FOR BUTTONHOLE SEWING MACHINES.
 APPLICATION FILED SEPT. 19, 1910.

984,145.

Patented Feb. 14, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE

BERNARD T. LEVEQUE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE REECE BUTTON HOLE MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

WORK-GAGE FOR BUTTONHOLE-SEWING MACHINES.

984,145.

Specification of Letters Patent.

Patented Feb. 14, 1911.

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To all whom it may concern:

Be it known that I, BERNARD T. LEVEQUE, a subject of the King of Great Britain, and resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Work-Gages for Buttonhole-Sewing Machines, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to sewing machines for making button-holes, and it has for its object the production of a simple and efficient work-gage for use in connection with such machines, to properly position the work for the formation of a series of button-holes therein.

In certain machines for making button-holes, such for instance as forms the subject-matter of United States Patent No. 349,359 granted September 21, 1886 to John Reece, a cutting blade is provided to cut the slit in the fabric after the stitching of the button-hole has been effected, and such machines are used in making button-hole pieces for button shoes. The button-hole piece, of proper shape, is manipulated by the operator to form a series of button-holes one after another, and it is of importance that the series of button-holes shall be properly and exactly spaced apart, as otherwise the appearance of the completed shoe will suffer, and if the button-holes are irregularly spaced the buttons when attached must be correspondingly and irregularly spaced. Heretofore this spacing has been accomplished in various ways, sometimes by the eye, but more frequently by the use of a marking device which indents or otherwise marks the work at the point the next button-hole is to be formed, and in such case the skill of the operator is depended upon to place the button-hole piece in position with the indicating mark as nearly as possible in the path of the slit-cutting device. This is not an accurate process, manifestly, and even in the hands of a skilled and careful operator mistakes will often occur, resulting in spoiled work.

My present invention obviates this liability, and to that end I have provided a work-gage adapted to be mounted on the bed-plate of the machine and having a projection which is inserted in a completed button-hole to thereby position the work prop-

erly for the formation of another button-hole. The work-gage is made adjustable so that the spacing between successive button-holes can be varied according to the requirements of any particular piece of work, such adjustment changing the distance between the projection of the work-gage and the path of the button-hole cutting device.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims. Herein I have shown my novel work-gage in connection with the bed-plate, and some of its appurtenances, of a machine such as is shown in the Reece patent above referred to.

Figure 1 is a top plan view of a portion of the bed-plate of a button-hole sewing machine, with a work-gage applied thereto embodying my present invention, the work being indicated in dotted lines to avoid confusion; Fig. 2 is a partial transverse section, on the line 2-2, Fig. 1, and a part of the button-hole cutting device is shown; Fig. 3 is a vertical sectional detail on the line 3-3, Fig. 2.

The stationary bed-plate a' , the bearings a^{101} of a movable frame a adapted to travel upon ways a^{100} on the bed-plate, said bearings supporting the pivots for the cutting-blade, (partly shown at c , Fig. 2) the cutting-bed g movable with the frame a in the slot a^{102} , (Fig. 1) the lower members m of the work-clamp, and their serrated parts m^2 , may be and are all substantially as in the Reece patent above referred to, and United States Patent No. 462,865 granted November 10, 1891 to G. S. Hill.

Inasmuch as the stitch-forming mechanism forms no part of my present invention and is old *per se* I have shown no part of it herein.

In the present embodiment of my invention the work-gage comprises an elongated, flat arm 1 preferably made of stiff plate metal, upturned at its outer end at 2 and having a longitudinal slot 3 near such outer end, the free, inner end of said arm having fixedly attached to it an upturned projection 4, preferably rounded or convex at its end, see Fig. 2.

A headed post comprising a head 5, and a threaded shank 6 is screwed into an upright, threaded hole 7, Fig. 3, in the bed-plate near one side thereof, the shank passing through

the slot 3 in the arm 1, and a spring washer 8 surrounding the shank is interposed between the top of the bed-plate and the arm, pressing the latter against the head of the post.

By setting up the post the washer will be compressed and it then serves as a friction device to retard any angular movement of the arm and post about the axis of the latter as a center.

A horizontal, threaded hole 9 in the head receives a threaded stud 10, provided with a milled or other head 11 and annularly grooved at 12 to enter a notch 13 in the up-turned part 2 of the arm 1. By rotating the stud 10 in one direction or the other the arm 1 will be moved longitudinally with relation to the headed post, to thereby move the projection 4 toward or away from the path of the cutting device c^x , it being remembered that upon the descent of the latter upon the cutting-bed g^3 the button-hole slit is made in the work. When such adjustment of the arm is effected the spring-washer 8 keeps the arm snugly against the bottom of the head 5, and no angular movement of the arm can take place unless the headed post is turned.

Sometimes an edge-gage G is used on machines of this character, see Fig. 1 to position the edge of the button-hole piece, indicated in Fig. 1 by dotted lines at W.

The work-gage is set by adjusting the arm 1 so that the distance of the projection 4 from the path of the cutting blade c^x is equal to the desired spacing between successive button-holes to be made in the button-hole piece W. The first button-hole is now made therein, at the proper point, and thereafter the operator places the work over the arm 1, inserting the projection 4 in the eye-end of the slit of the button-hole first made, with the edge of the work positioned, as by the edge-gage G. The sewing machine is then started, and a button-hole is stitched and cut at the proper point, for the projection 4 in the completed button-hole properly positions the work for the formation of the next button-hole. As one button-hole after another is made the work is fed along by the operator, and in the case of a button-hole piece the projection 4 will be caused to enter the slit of the last completed button-hole, until the desired number of button-holes have been made. It will be manifest that the spacing of the button-holes of the series must be absolutely accurate, and that the space between any two will be surely and definitely determined with the greatest exactitude. The angular movement of the work-gage with the post 6 is to enable the projection 4 to be moved toward or away from the edge-gage G, according to the distance the eye end of each button-hole is to be from the edge of the work W.

In Fig. 1 I have shown four completed button-holes, the projection 4 being in the eye end of the last one made, positioning the work properly for the formation of the fifth button-hole of the series.

Various changes or modifications in details of construction and arrangement may be made by those skilled in the art without departing from the spirit and scope of my invention as set forth in the annexed claims.

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

1. In a button-hole sewing machine provided with a cutting blade, in combination, the bed-plate, a work-gage mounted thereon and having a projection to enter a completed button-hole and position the work for the formation of the next button-hole, a supporting post rotatably mounted in the bed-plate and in sliding engagement with the work-gage, and manually adjustable means connecting said post and work-gage to move the latter longitudinally with relation to the post, to adjust the projection with relation to the path of the cutting blade.

2. In a button-hole sewing machine provided with a button-hole cutting device, a work-gage comprising an elongated arm having an upward projection to enter a completed button-hole and position the work for the formation of the next button-hole, means to support said arm with the projection thereon in operative position with relation to the cutting device, and a rotatable, threaded connection between said means and the arm, manual rotation of said connection moving the arm longitudinally with relation to the supporting means to adjust the position of the projection.

3. In a sewing machine of the class described, a bed-plate, a headed post screwed thereinto, an arm having a longitudinal slot to receive the shank of the post, a projection on the free end of the arm to enter a completed button-hole and position the work for the formation of the next button-hole; a manually adjustable connection between said arm and the head of the post, to move said arm longitudinally with relation to the post and thereby adjust the position of the projection, and a spring interposed between the bed-plate and the arm adjacent the post.

4. A work-gage for button-hole sewing machines, comprising an elongated arm adapted to extend over the bed-plate of the machine and beneath the work, an upward projection on the free end of the arm, to enter a completed button-hole and position the work for the formation of another button-hole, a device to retain the arm upon the bed-plate, said device being rotatably mounted in the bed-plate and in sliding engagement with the arm, and means between said device and the arm to effect longitudinal

nal adjustment of the arm relatively to said device and to insure rotative movement of the arm with said retaining device.

- 5 A work-gage for button-hole sewing machines, comprising an elongated arm up-
turned at its outer end and longitudinally
10 slotted adjacent thereto and provided at its inner end with an upward projection to enter a completed button-hole, a headed post
15 extended through the slot in the arm and adapted to be screwed into the bed-plate of the machine, the head of the post having a threaded hole, and an adjusting stud rota-
20 tably mounted in the upturned part of the arm and screwed into said threaded hole, rotation of the stud effecting longitudinal
25 movement of the arm relatively to said post, to vary the distance between the latter and the upturned projection.
- 30 6. A work-gage for button-hole sewing machines, comprising an arm adapted to extend over the bed-plate of the machine and between it and the work, said arm having a longitudinal slot near its outer end and pro-
35 vided with an upward projection at its inner end to enter a completed button-hole and position the work for the formation of the
40 next button-hole, a connecting post adapted to pass through the slot of the arm and into the bed-plate, to retain the arm thereon, and manually operated means between said post and arm to effect longitudinal adjustment of the latter relatively to the post.
- 45 7. In a machine for making button-holes, a bed-plate, an upright post screwed there-
into, a work-gage extended over the bed-plate and adapted to be moved angularly
50 with said post as a fulcrum and also movable longitudinally with relation to the post, friction means to normally prevent such an-
55 gular movement of the work-gage and post, and manually operated, positively acting means to effect longitudinal movement of the
60 work-gage and maintain the same in ad-

justed position, said work-gage including a 45
projection to enter a completed button-hole and position the work for the formation of another button-hole.

8. In a machine for making button-holes, a bed-plate, an upright headed post mounted 50
thereon, a work-gage comprising an elongated arm extended over the bed-plate and longitudinally slotted near one end to receive the shank of the post beneath the head
55 thereof, and a projection on the free end of the arm, to enter a completed button-hole and position the work for the formation of another button-hole, said arm at its slotted
60 end being upturned, a threaded adjusting stud rotatably mounted in the upturned end and screwed into the head of the post, rota-
tion of the stud effecting longitudinal ad-
justment of the work-gage relatively to the post, and a friction washer surrounding the
65 shank of the post and interposed between the bed-plate and said arm, to retard an-
gular movement thereof with the post.

9. In a machine for making button-holes, a bed-plate, a work-gage having a projection 70
to enter a completed button-hole and position the work for the formation of another button-hole, a connection between said
work-gage and the bed-plate, the work-gage being angularly movable with said connec-
75 tion as a center and also movable longitudinally with relation thereto, and means to maintain the work-engaging projection at a predetermined distance from said connec-
80 tion while permitting an angular change of the work-gage.

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

BERNARD T. LEVEQUE.

Witnesses:

JOHN C. EDWARDS,
THOMAS J. DRUMMOND.