

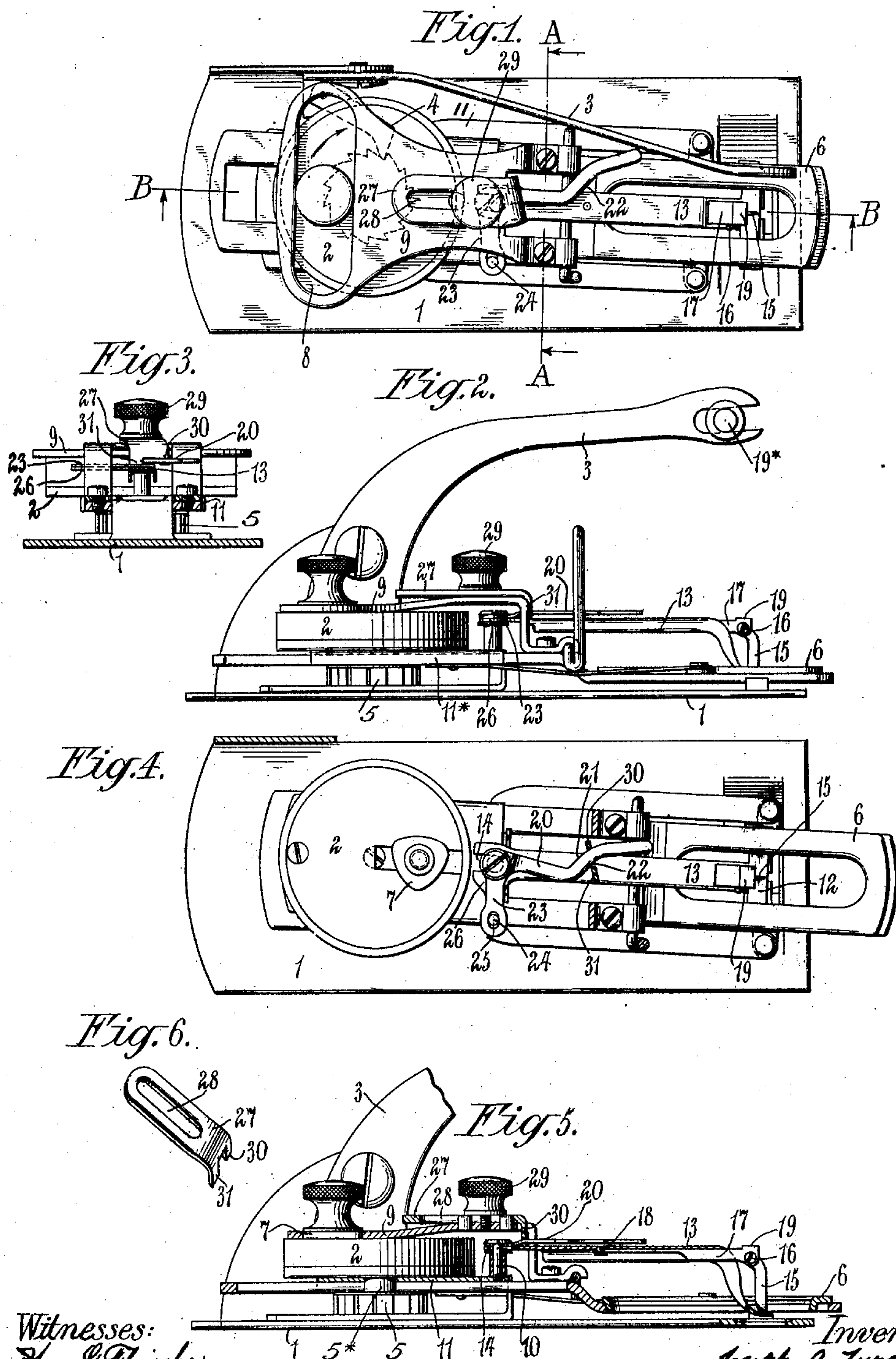
J. A. TURCK.

BUTTONHOLE CUTTING AND STITCHING ATTACHMENT FOR SEWING MACHINES.

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990,610.

Patented Apr. 25, 1911.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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BUTTONHOLE CUTTING AND STITCHING ATTACHMENT FOR SEWING-MACHINES.

990,610.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Application filed November 11, 1910. Serial No. 591,859.

*To all whom it may concern:*

Be it known that I, JOSEPH A. TURCK, a citizen of the United States, and resident of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Buttonhole Cutting and Stitching Attachments for Sewing-Machines, of which the following is a specification.

This invention relates to that class of buttonhole cutting and stitching attachments for sewing machines in which the cutting of the buttonhole and the stitching thereof is simultaneous, the cutting knife being brought into and out of cutting operation at predetermined times during the stitching operation, and the cutting of the material by the knife immediately preceding the stitching operation along one side of the buttonhole.

The object of this present invention is to provide improvements in the means for controlling the cutting device.

A further object is to provide certain improvements in the construction, form and arrangement of the several parts which control the movements of the cutting knife into and out of its operative position.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents the attachment in top plan with my improvement applied thereto, the parts being in the position which they assume when the stitching and cutting operation is started, Fig. 2 is a side view of the same, Fig. 3 is a transverse section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, Fig. 4 is a horizontal section showing more clearly the means for throwing the cutting blade into and out of operation, the parts being in the position which they assume when the cutting device has been moved into its operative position, Fig. 5 is a detail longitudinal section taken in the plane of the line B—B of Fig. 1, and Fig. 6 is a view in perspective of the adjustable cam plate.

I will not describe in detail the different parts of the attachment which are well known but will only mention the same in a general way and then devote myself to a description of the parts of the attachment which form the subject matter of the present

invention, viz; the means for bringing the cutting blade into and out of its operative position.

The base plate is denoted by 1 on which is rotatably mounted the usual cam disk 2. This cam disk is rotated from the lever 3 through the pawl and ratchet 4, 5. The movement of the lever 3 is controlled by the movement of the needle bar, not shown herein, in the usual manner. The work clamp 6 has its longitudinal movements imparted to it from the rotary cam disk 2 in the usual manner by the cam 7 radially adjustable along the cam disk 2, which cam 7 is located in the transverse slot 8 of the top plate 9 of said work clamp. The lateral movement is imparted to the work clamp 6 by a cam, not shown herein, located within the cam disk 2. A bridge 11 is interposed between the cam disk 2 and ratchet 5, which bridge is provided with depending lips 11\* overlapping the sides of the shank of the lower jaw of the work clamp 6 so as to rock laterally on the stud shaft 5\* which connects the cam disk 2 with the ratchet 5, said shaft serving to hold the bridge against longitudinal movement.

The parts so far described are of the well known and approved form as clearly illustrated and fully described in U. S. Letters Patent No. 412,081, dated October 1, 1889, and form no part of the present invention except in so far as they assist in the operation of the parts controlling the movement of the cutting blade. A post 10 uprises from the bridge 11 projecting forwardly from beneath the cam disk 2. A stripper plate 12 is guided between the jaws of the work clamp, the shank 13 of which plate is extended upwardly and rearwardly and has a slotted engagement with the post 10 by providing the inner end of the shank 13 with an elongated slot 14 through which the post 10, extends.

The cutting blade 15 is pivoted at 16 to the outer end of a spring bar 17, the inner end of which bar is riveted or otherwise secured at 18 to the under side of the shank 13 at a distance inwardly from the outer end of said shank. This bar 17 is provided with the usual anvil 19 arranged to be engaged by an abutment 19\* carried by the lever 3 or by an attachment for the needle bar not shown herein, when the said anvil



is located in the path of said abutment or attachment, for the purpose of depressing the blade 15 and thereby cutting the material.

5 The means which I have shown for bringing the anvil 19 into and out of the path of its operating part for rendering the cutting blade operative or inoperative, is constructed, arranged and operated as follows:—A two-armed lever is pivoted on the  
10 post 10 above the shank 13 of the stripper plate 12, the forwardly extended arm 20 of which lever is provided with double cam surfaces 21, 22, formed, in the present instance, by bending the arm 20 to the desired  
15 shape. This lever is further provided with a laterally extended arm 23 which has a pin and slot engagement 24, 25, with a laterally extended arm 26 on the shank 13 located  
20 directly below the arm 23. This arrangement will cause the shank 13 and thereby the cutting device to be moved longitudinally to bring the anvil 19 into and out of position to be operated upon, by the  
25 rocking of the cam lever 20, 21, 22, 23. A cam plate 27 is adjustable along the top plate 9 of the work clamp by providing the cam plate with an elongated slot 28 through which a clamp screw 29 passes. This cam  
30 plate is adjustable longitudinally to correspond with the radial adjustment of the cam 7 along the cam disk 2 for controlling the amount of longitudinal movement of the work clamp for rendering the attachment  
35 suitable for cutting and stitching buttonholes of varying lengths. This cam plate 27 is provided with depending bifurcated ends 30, 31, engaging the opposite sides of the arm 20 of the cam lever so that as the  
40 work clamp is moved longitudinally back and forth the cam plate 27 will control the rocking movement of the cam lever and thus the longitudinal movement of the cutting device.

45 In operation, presupposing the parts to be in the position in which they are shown in Fig. 1, the anvil 19 is in position to be engaged by the abutment 19\* at every movement of the lever 3 and needle bar which  
50 controls the same. This will cause the blade to cut the material just in advance of the stitching along one side of the buttonhole. As the blade approaches the end of the buttonhole it is withdrawn out of the path of  
55 the abutment 19\* by the rocking of the cam lever by the arms 30, 31, thereof engaging the cam surfaces 21, 22, of said lever for rocking the lever. As the material is returned to its original position for stitching  
60 the opposite side of the buttonhole, the cutting blade will be automatically projected back into its original operative position with respect to the abutment 19\*. It will thus be seen that a very simple and effective  
65 means is provided for bringing the cutting

blade into and out of its operative position without the use of springs, the movements of the cutting blade in both its outward and inward directions being positively controlled by the cam plate 27 and its lever 20. 70

What I claim is:—

1. In a buttonhole cutting and stitching attachment for sewing machines, a stripper, a cutting device carried thereby and a single means engaging the stripper for positively  
75 moving the cutting device into and out of its operative position.

2. In a buttonhole cutting and stitching attachment for sewing machines, a bridge-piece, a stripper slidably mounted thereon, 80 a cutting device carried by the stripper and a single means engaging the stripper for positively moving the cutting device into and out of its operative position.

3. In a buttonhole cutting and stitching 85 attachment for sewing machines, a work clamp, a bridge-piece, a stripper having its plate guided by the work clamp and its shank guided by the bridge-piece, a cutting device carried by the stripper and a single 90 means engaging the stripper shank for positively moving the cutting device into and out of its operative position.

4. In a buttonhole cutting and stitching attachment for sewing machines, a work 95 clamp, means for imparting reciprocatory movements thereto, a cutting device and a common means for positively moving the cutting device into and out of its operative position comprising a cam lever connected 100 to the cutting device and a cam plate carried by the work clamp for operating said lever in both directions.

5. In a buttonhole cutting and stitching attachment for sewing machines, a stripper, 105 a yielding cutting device carried thereby and a common means connected to the stripper for positively moving the cutting device into and out of its operative position.

6. In a buttonhole cutting and stitching 110 attachment for sewing machines, a stripper, a yielding cutting device carried thereby, a cam plate and a cam lever co-acting therewith connected to the stripper for positively moving the cutting device into and out of 115 its operative position.

7. In a buttonhole cutting and stitching attachment for sewing machines, a work clamp, means for imparting reciprocatory movements thereto, a stripper, a cutting de- 120 vice carried thereby and means for positively moving the cutting device into and out of its operative position comprising a cam lever connected to the stripper and a cam plate carried by the work clamp for 125 operating the lever.

8. In a buttonhole cutting and stitching attachment for sewing machines, a work clamp, means for imparting reciprocatory movements thereto, a post, a stripper plate 130



having its shank slidably connected with said post, a yielding cutting device carried by the stripper shank and means for moving the cutting device into and out of its operative position comprising a cam lever connected to the stripper shank and a cam plate carried by the work clamp for operating the lever.

9. In a buttonhole cutting and stitching attachment for sewing machines, a work clamp, means for imparting reciprocatory movements thereto, a bridge, a post uprising from the bridge, a stripper having its shank slidably mounted on said post, a yielding cutting device carried by the stripper and means for moving the cutting device into and out of its operative position comprising a cam lever mounted on said post and connected to the stripper shank and a cam plate carried by the work clamp for operating the lever.

10. In a buttonhole cutting and stitching attachment for sewing machines, a work clamp, means for imparting reciprocatory movements thereto, a post, a stripper plate having its shank slidably mounted on said post and provided with a laterally extended arm, a yielding cutting device carried by said stripper shank and means for posi-

tively moving the cutting device into and out of its operative position comprising a cam lever pivoted on said post, said lever having a laterally extended arm connected to the laterally extended arm of the stripper shank, and a cam plate carried by the cloth clamp in position to engage the other arm of said lever for operating the lever.

11. In a buttonhole cutting and stitching attachment for sewing machines, a work clamp, means for imparting reciprocatory movements thereto, means for adjusting the amount of said reciprocatory movements in a longitudinal direction, a cutting device, a cam lever connected thereto and an adjustable cam plate for operating the lever in both directions to bring the cutting device into and out of its operative position at varying points with respect to the longitudinal movement of the work clamp.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 4th day of November, 1910.

JOSEPH A. TURCK.

Witnesses:

HOWARD E. BARLOW,  
E. I. OGDEN.