

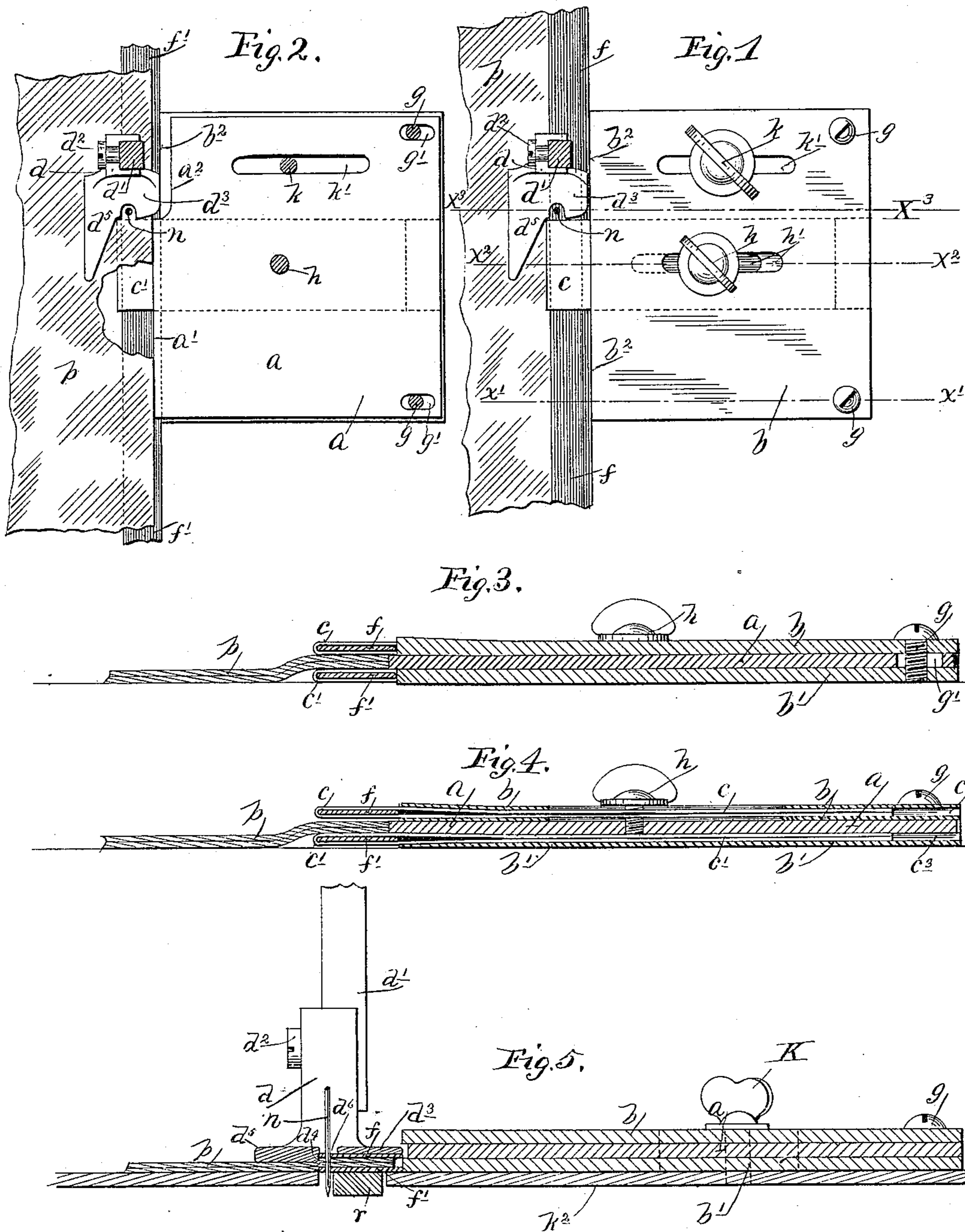
(No Model.)

2 Sheets—Sheet 1.

F. E. TALLANT.
BINDER FOR SEWING MACHINES.

No. 547,046.

Patented Oct. 1, 1895.



Witnesses.

E. F. Elmore

Rauf Merchant,

Inventor.

Frank E. Tallant
By his Attorney.

Jas. F. Williamson

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

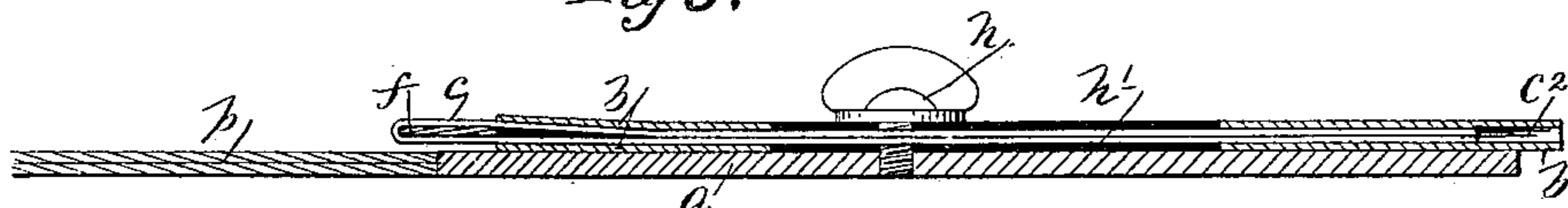


Fig. 7.

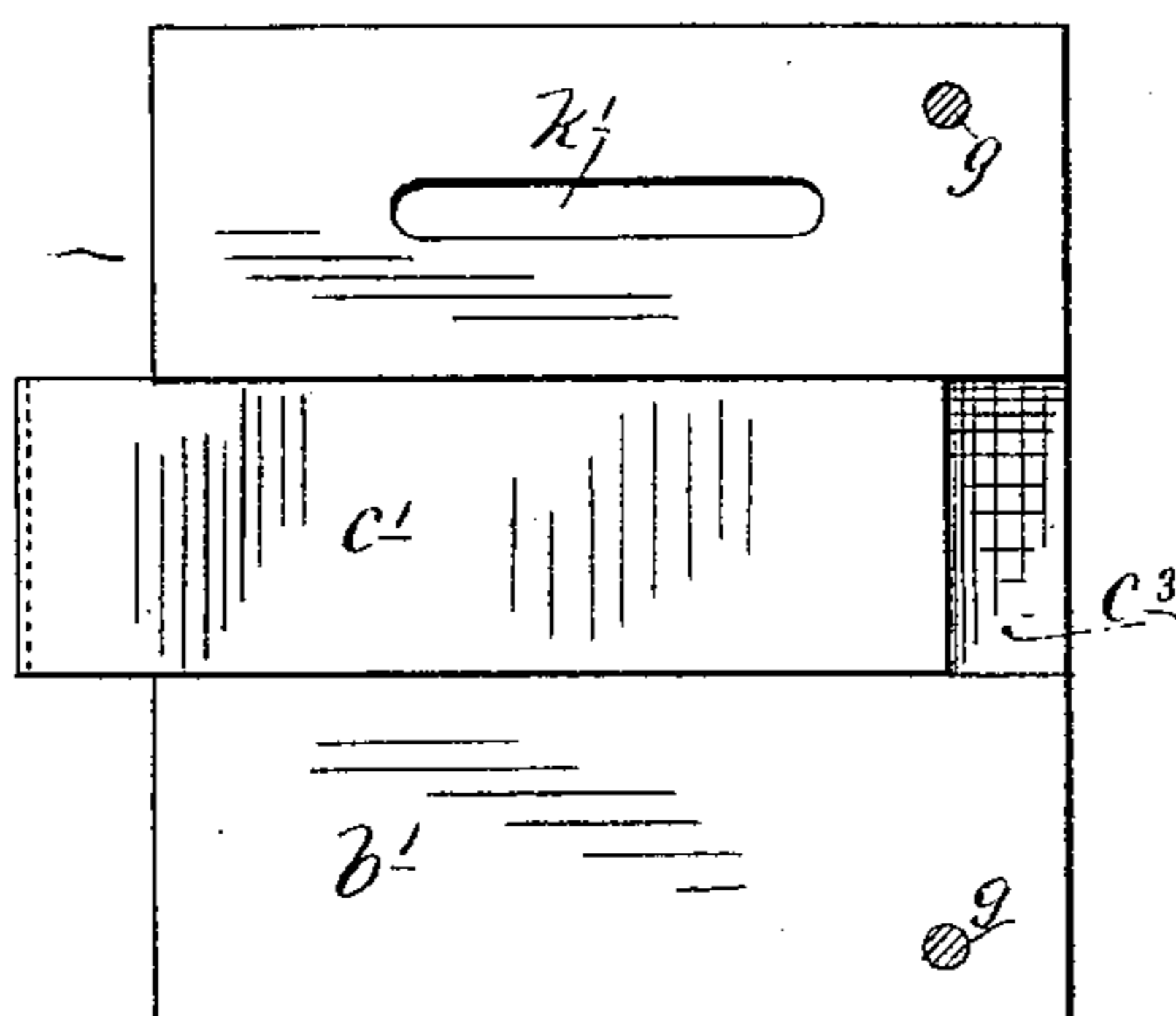


Fig. 8.

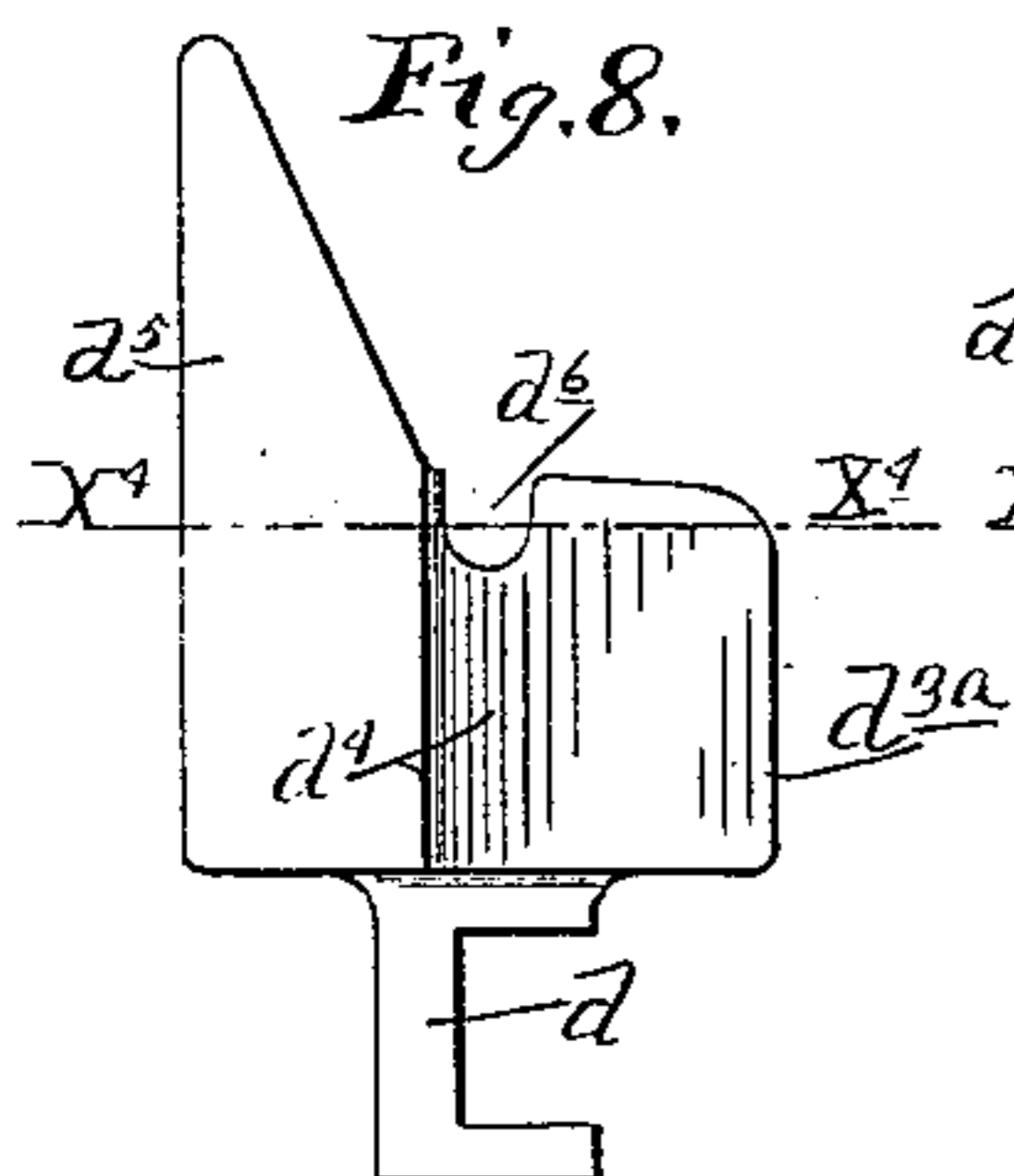


Fig. 9.

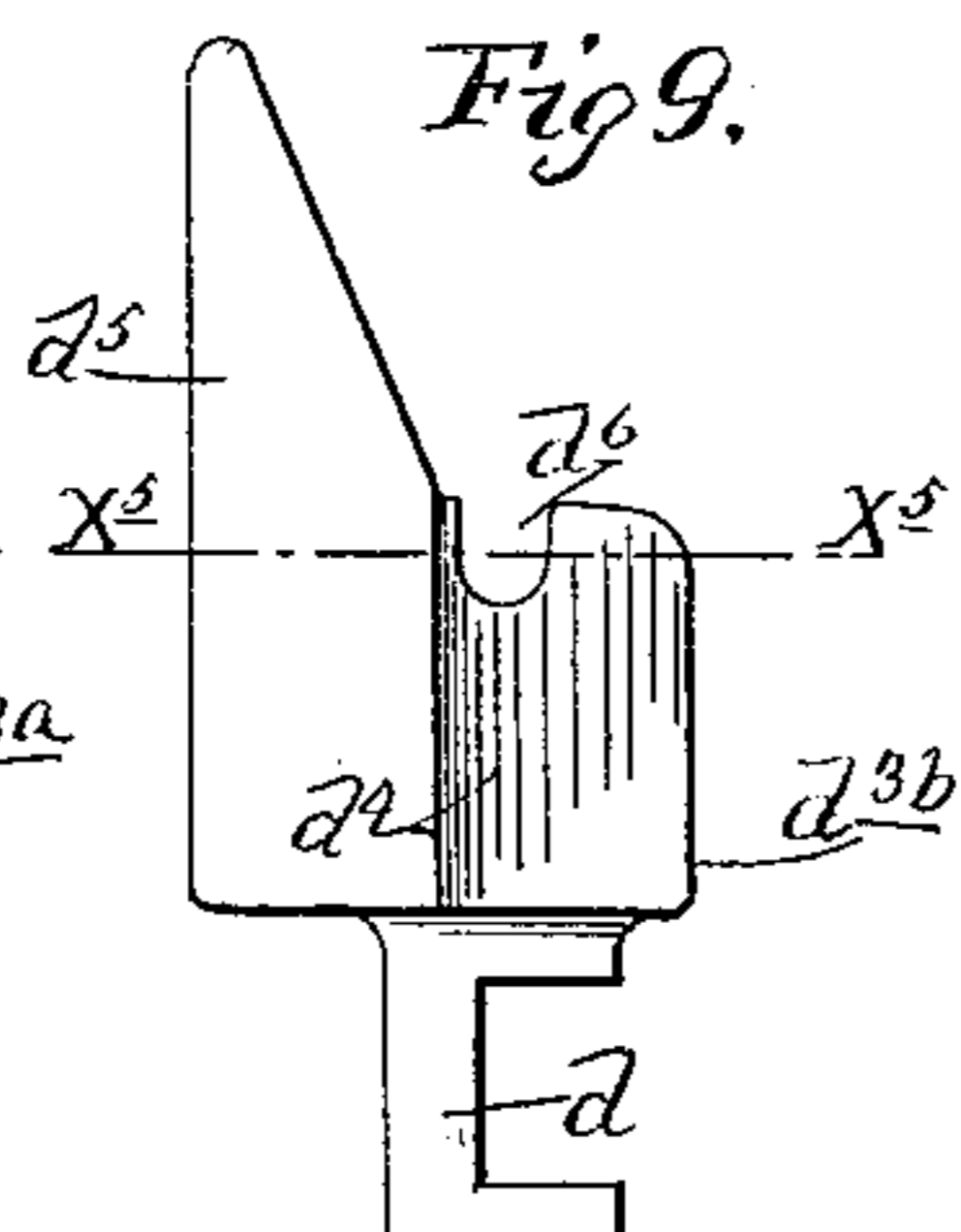


Fig. 10.

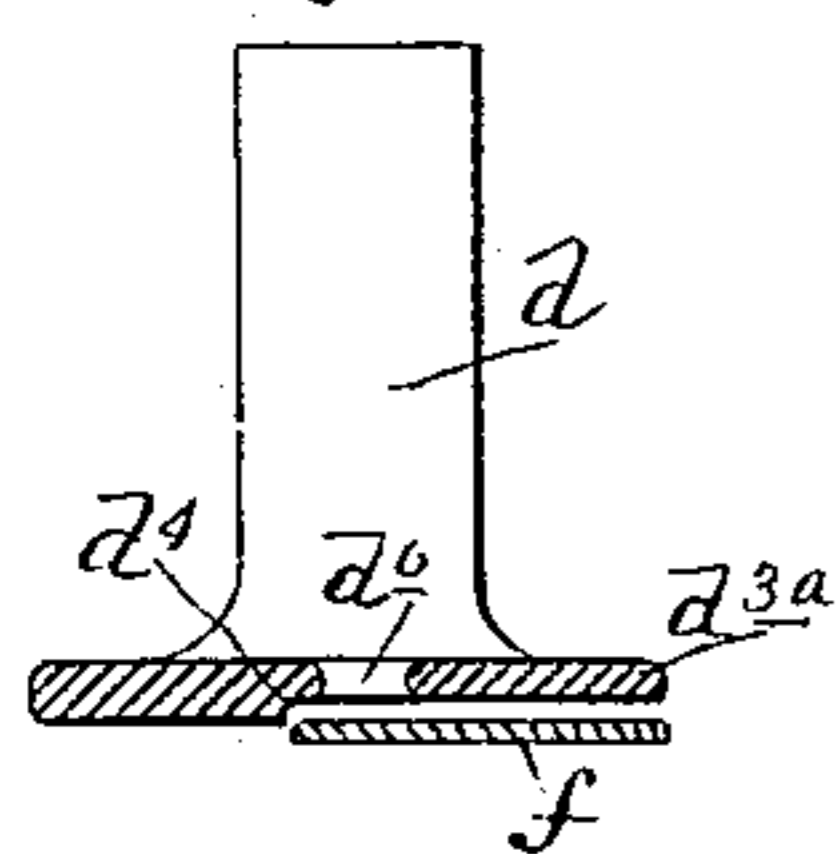
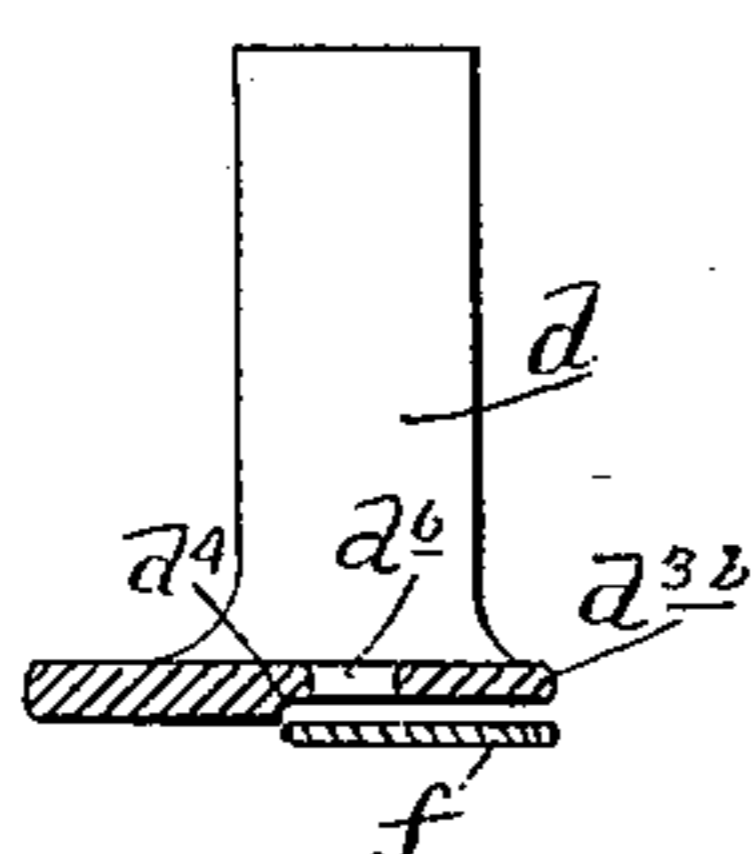


Fig. 11.



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UNITED STATES PATENT OFFICE.

FRANK E. TALLANT, OF MINNEAPOLIS, MINNESOTA.

BINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 547,046, dated October 1, 1895.

Application filed June 18, 1894. Serial No. 514,863. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. TALLANT, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Binders for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an efficient binder for use as a sewing-machine attachment.

To this end my invention consists of certain novel devices and combinations of devices, which will be hereinafter fully described, and be defined in the claims.

By the methods now generally employed for binding garments the braid is basted by hand and then sewed fast by the machine. For fine work two strips of braid are employed, one on each side of the cloth, and the outer margins of the same are felled together. The two strips require separate basting and separate stitching for securing the same to the cloth, which necessarily produces double stitching on both sides where both strips are sewed on by the machine, with the double stitching on at least one side, showing on the face of the braid where both strips are sewed flat. This, of course, is undesirable for fine work, and to avoid the same one strip is usually sewed by hand. Moreover, it is an extremely-difficult thing to apply the braid strips with sufficient accuracy to secure exactly-uniform width of projecting margins for the purposes of felling the same together over the outer margin of the cloth. A similar difficulty occurs where a single strip of braid is employed and overlapped to form the binding. It requires great care to locate the marginal lines of the braid equidistant from the outer edge of the cloth. On account of all these facts the binding of garments is a tedious operation and one calling for a considerable degree of skill, and it is therefore one of the most expensive items in the cost of making a garment. My invention was designed to overcome all these limitations and largely lessen the cost of this part of the work by providing a binder capable of insuring the

application of two strips of braid with absolute accuracy by a single seam made with the machine. No basting is required, and any width of braid may be employed and be applied to any thickness of goods.

The accompanying drawings illustrate my invention. Therein like letters refer to like parts.

Figure 1 is a plan view of my binder with the presser-foot standard shown in section and with some parts broken away. Fig. 2 is a similar view with the top-braid-guide plate removed. Fig. 3 is a vertical section on the line $X' X'$ of Fig. 1. Fig. 4 is a similar section on the line $X^2 X^2$ of Fig. 1, the braid loops being shown in full lines. Fig. 5 is a vertical section on the $X^3 X^3$ of Fig. 1. Fig. 6 is a vertical section on the same line as Fig. 4, showing the device as used for applying a single braid to effect the binding, or, otherwise stated, with the lower-braid-guide plate removed and the braid loop being shown in full lines. Fig. 7 is a plan view of the lower-braid-guide plate detached. Figs. 8 and 9 are underneath plan views of the interchangeable presser-feet; and Figs. 10 and 11 are sectional views, respectively, on the line $X^4 X^4$ of Fig. 8 and $X^5 X^5$ of Fig. 9, with the presser-feet right side up.

The binder proper comprises a cloth-guide plate a , a pair of braid-guide plates $b b'$, and a pair of loops $c c'$, which serve the double function of dividing the strips of braid from the cloth and of co-operation with the guide-plates $b b'$ for properly guiding the strips of braid. The cloth-guide plate a is provided with a straight-edge guiding-surface a' , extending from the front edge of the plate to a point approximately opposite the needle when the binder is in working position, and at this point the said plate a is shouldered to form an offset straight-edge a^2 to afford clearance for the presser-foot d , as will presently be more fully noted. The braid-guide plates $b b'$ are of rectangular form, as shown, embrace the cloth-guide plate a , and are each provided with straight-edge guiding-surfaces b^2 , extending parallel with each other the entire length of the plates. In the said braid-guide plates $b b'$ are seated the loop $c c'$, with freedom for adjustment transversely thereof or at right angles to the guiding-surfaces of said

plates and the path of the braid strips ff' . The said plates a , b , and b' and the said loops c c' are all secured together with freedom for independent adjustment of the center plate a . As shown, the three plates a , b , and b' are secured together by set-screws g , which work through an elongated slot g' in the plate a and are tapped into the plates b b' . The loops c c' are secured in whatever position they may be set by a clamping thumb-screw h , which works through coincident slots h' in the upper plate b and the upper loop c and is tapped through a seat in the center plate a and bears against the top of the lower loop c' . In this action the clamping thumb-screw h tends to draw the top plate b and the center plate a together against the upper loop c and to force the lower loop c' and the lower plate b' against the face of the machine-bed, to which the binder is attached. The binder is secured to the sewing-machine in proper working position relative to the presser-foot needle and feed by a clamping thumb-screw k , which works through coincident slots k' in the three plates b , a , and b' and is tapped into a suitable seat in the machine-bed k^2 .

The presser-foot d is attached to the standard d' by set-screw d^2 in the ordinary manner or in any other suitable way. When the presser-foot is in working position, its right-hand or binder side flange d^3 bears against the straight-edge b^2 of the top-braid-guide plate b , and inasmuch as the position of this plate b must be varied relative to the needle n interchangeable presser-feet must be provided, with binder side flanges of different widths, as shown at d^{3a} and d^{3b} in Figs. 8, 9, 10, and 11.

The bottom of the presser-foot is shouldered, as shown at d^4 , in Figs. 8, 9, 10, and 11, and the part above called the "binder-flange" d^{3a} , &c., is of less thickness than the body portion d^5 of the presser-foot. Hence when the presser-foot is in position the shoulder d^4 may be properly located with respect to the needle-passage d^6 to serve as an inner-edge guide for the braid after it has passed the needle. The part d^5 will bear on the cloth or face of the garment p , while the binder-flange portion d^{3a} , &c., will bear on the face of the braid. The shoulder d^4 will be of the proper depth to give substantially-equal pressure on the braid and the cloth by the two parts of the pressure-foot of unequal thickness.

Having further regard to the action, suppose it be desired to employ two braid strips, which are to be felled together to close the same over the edge of the cloth or garment. In that event both of the braid-guide plates b b' would be employed, and the parts might be arranged as shown in Figs. 1, 2, 3, 4, and 5. By reference to these views it will be seen that the cloth-guide plate a is so set with respect to the braid-guide plates b b' that its guiding straight-edge a' projects beyond the guiding straight-edges b^2 of the plates b b' ,

and that the loops c c' project beyond the respective plates b b' a distance equal to the width of the braid strips ff' . With the parts of the binder proper thus set relative to each other and the binder secured in working position relative to the needle, presser-foot, and feed the two strips of braid ff' are introduced through the respective loops c c' and the edge of the cloth or garment p is introduced between the strips of braid and the loops c c' , with its outer edge bearing against the guiding straight-edge a' of the plate a . The machine is then operated in the ordinary way, and both the cloth b and the braid strips ff' will be moved forward together under the action of the feed r . The garment or cloth p will then be guided by the straight-edge a' of the plate a , and the braid strips ff' will have their outer edges guided by the straight-edges b^2 of the plates b b' and their inner edges guided by the outer ends of the loops c c' . At the same time the loops c will separate the braid strips from the cloth p along the line of travel, where accurate guiding is required, so as to prevent the movement of the cloth or garment p from interfering with the proper straight-line movement of the braid strips. The said loops also serve to hold the braid strips flatwise throughout the line of travel where subject to the guiding and the sewing action, thereby preventing any rolling or twisting of the braid.

In virtue of the special construction of the presser-foot above noted, with its parts d^3 and d^5 of unequal thickness, the shoulder d^4 on the bottom thereof will operate, as shown in Fig. 5, as inner-edge guide for the upper braid strip f' and the corresponding shoulder-fold in the cloth or garment p , caused by the presser-foot part d^5 and the under loop c' , over which the garment is passing, will serve as a guide for the inner edge of the lower braid strip f' after the braid strips have passed the needle. The two braid strips are therefore subjected to a straight-line guiding action for some distance before they reach the needle and for some distance after they pass the same, and these straight-edge guiding-surfaces for the braid strips are parallel with the straight-edge guiding-surface a' , against which the edge of the garment or cloth p is made to run. Hence, as the loops c c' are set with respect to the plates b b' , according to the width of the braid, and the presser-foot binder-flange d^3 bears against the straight-edge b^2 of the plate b and is of a width varying according to the width of the braid, to bring the needle-passage d^6 to the exact position required the braid strips ff' and the cloth or garment p must be uniformly gaged with respect to each other and the needle, and hence the stitching produced by the needle must run true on the exact line desired. As the cloth-guide plate a is set with respect to the braid-guide plates b b' to give any desired projection for its straight-edge or guiding surface A' , the projecting or lap margins of the two

strips of braid ff' must be of exactly the same width. Hence the said lap margins may be of any desired width in order to permit the same to be joined and felled together in the smoothest possible way. The plate a will, of course, be set with respect to the plates b and b' , so as to project more or less, according to the thickness of the cloth or garment p , so as to give the required width of braid-lap margins for felling purposes.

When it is desired to employ a single braid, which is to be lapped over the edge of the cloth or garment, the lower braid-guide plate b' and the lower loop c' are dispensed with, or, otherwise stated, the device is used as shown in Fig. 6. When thus used, the cloth-guide plate a is made to project beyond the braid-guide plate b sufficiently far to afford a lap margin to the braid for folding over the edge of the cloth. When thus used, the under stitching will have to be made by hand or by another action of the machine.

It should, perhaps, be noted that the seat c^2 for the loop c is formed in the plate b , and that the said loop c telescopes wholly within the said seat c^2 in the said plate, while the seat c^3 for the lower loop c' is cut in the face of the lower plate b' , so that the top of the loop c' works flush with the top of the plate b' . The relation of the loops c c' to their respective plates b and b' is such, as must be clear from the previous description, that the braid strips cannot slide sidewise in the said loops.

Of course it will be understood that modifications may be made in the details of my construction without departing from the spirit of my invention.

What I claim, and desire to secure by Let-

ters Patent of the United States, is as follows:

1. A binder, for use on sewing machines, comprising a pair of braid guide-plates and a cloth guide-plate between said braid guide-plates, all of which guide-plates are engageable with the outer edge of the material to be guided, and are independently adjustable with respect to each other, the loops seated in said braid guide-plates, for transverse adjustment, at right angles to the guiding surfaces of said plates, and means for securing all of said parts together, in any desired adjustment with respect to each other, substantially as described.

2. The combination with the binder proper having a cloth guide-plate provided with an offset portion a^2 and a pair of braid guide plates, all of which plates are securable together in any desired adjustment of a presser foot having a binder side flange bearing against the straight edge of the top braid guide-plate, substantially as described.

3. The combination with the binder proper, the parts of which are adjustable with respect to each other, for different widths of braid or hem, and the cloth guide member of which is provided with the offset straight edge a^2 , of a series of interchangeable presser-feet having binder side flanges d^3 of different widths, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK E. TALLANT.

Witnesses:

EMMA F. ELMORE,
JAS. F. WILLIAMSON.