

WILLIAM T. SMITH.

Improvement in Binder for Sewing Machines.

No. 121,014.

Patented Nov. 14, 1871.

Fig. 1.

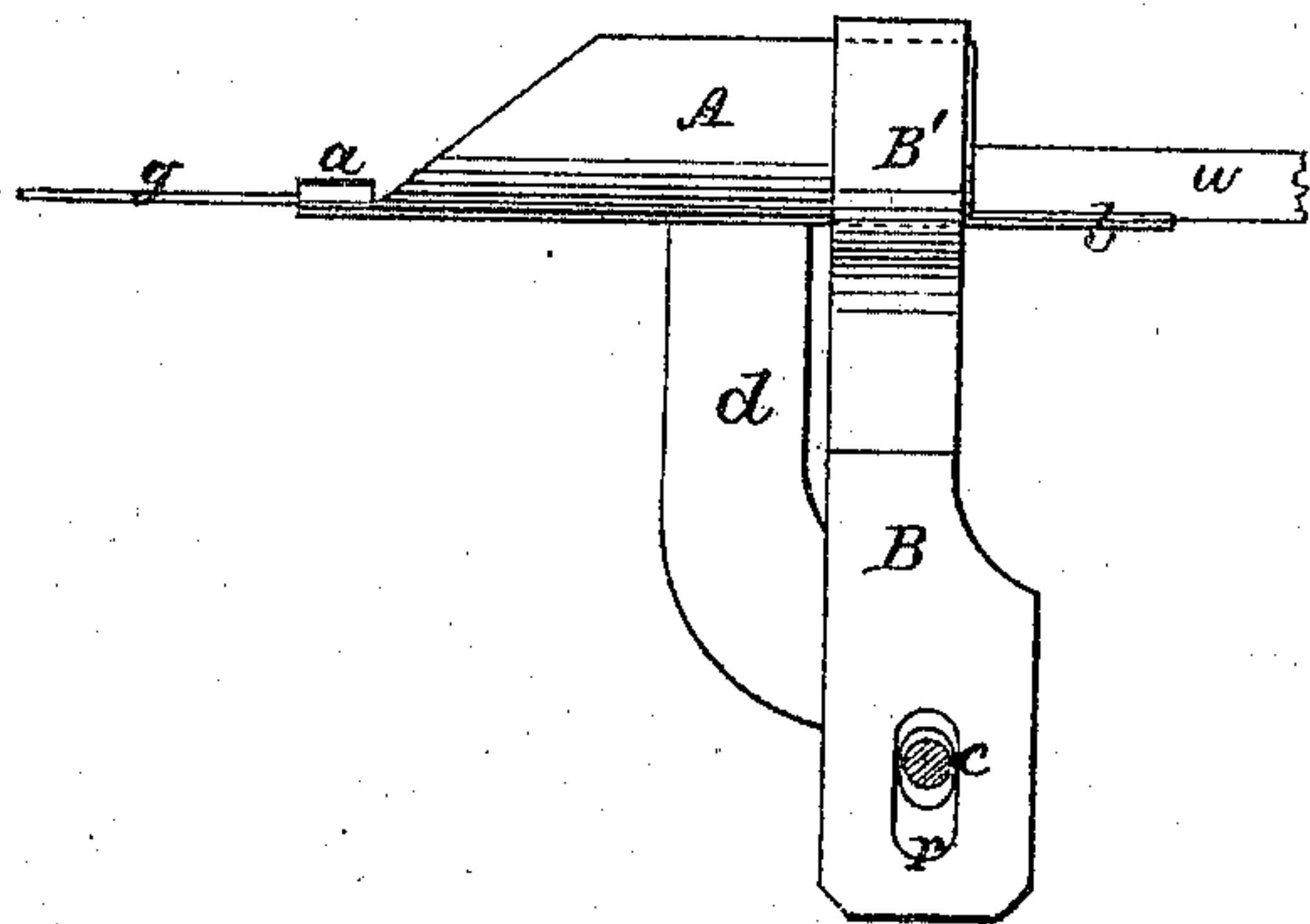


Fig. 2.

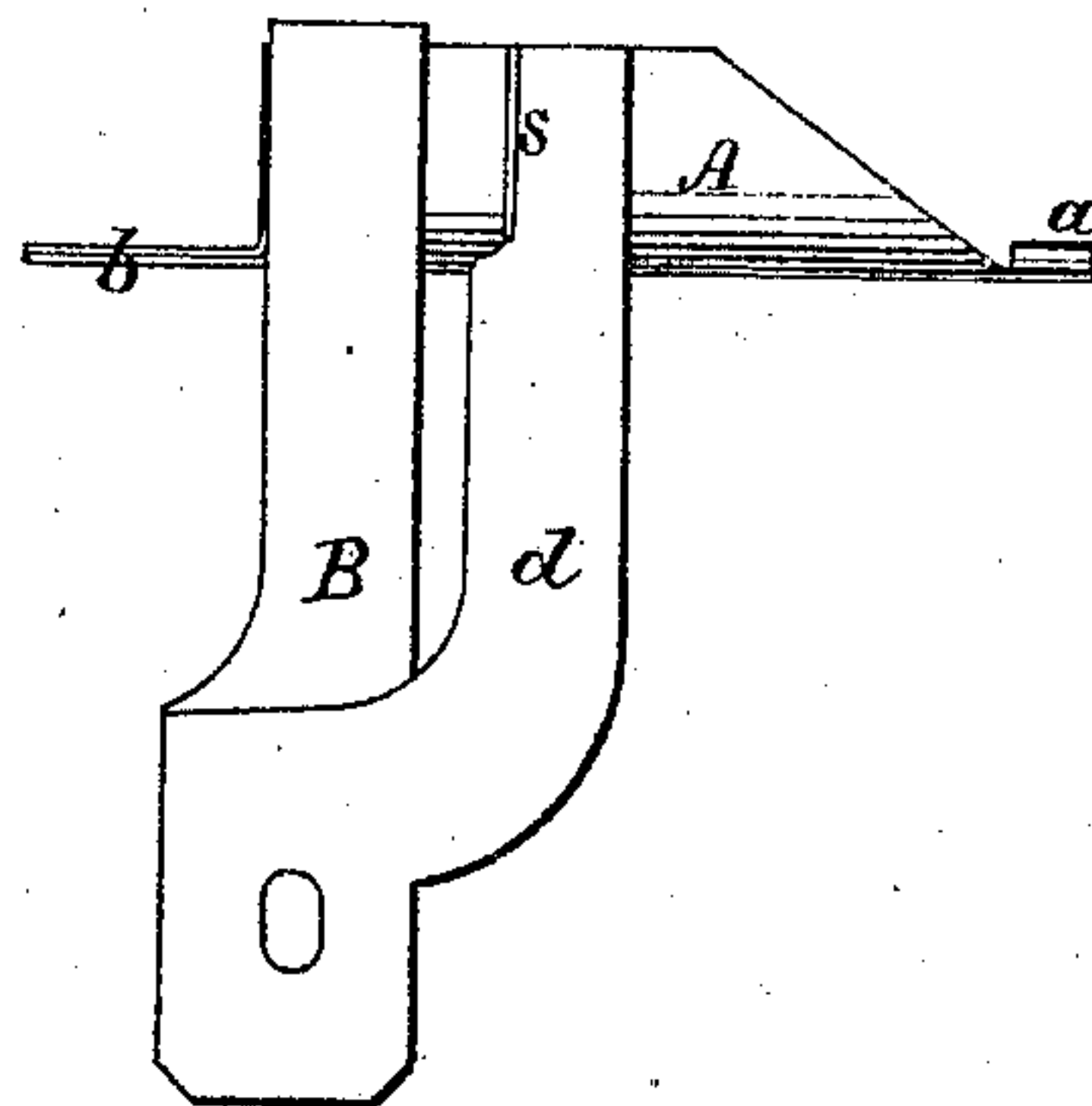


Fig. 3.

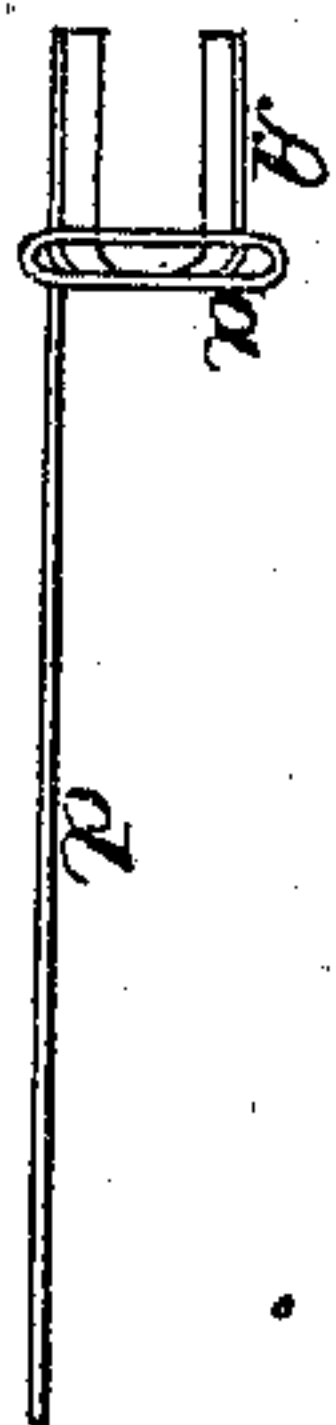


Fig. 4.

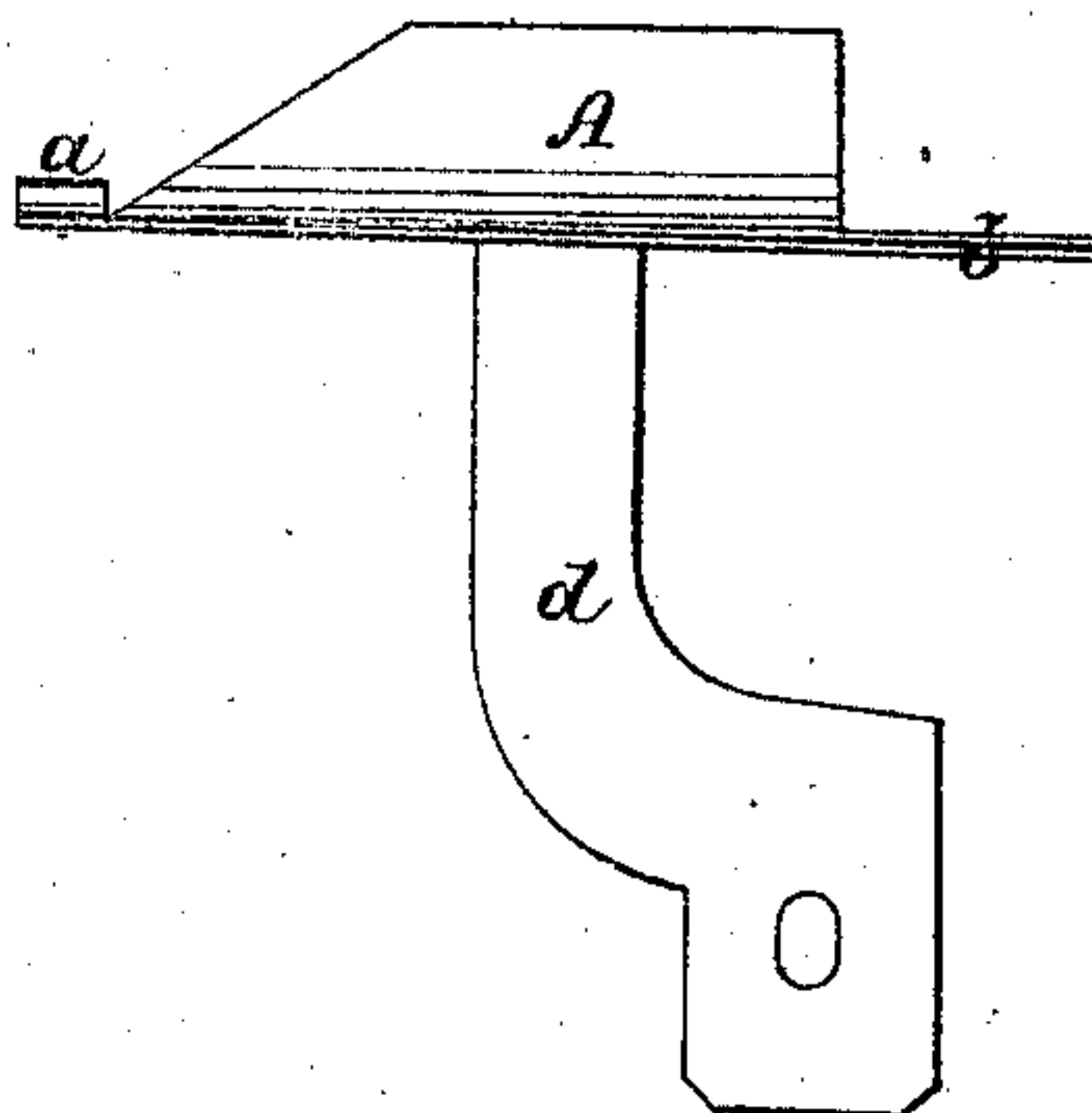


Fig. 5.



Fig. 6.

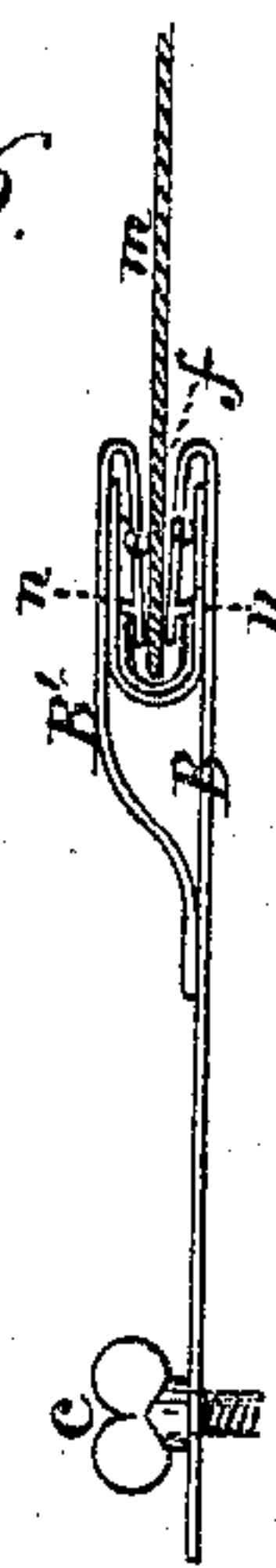


Fig. 7.

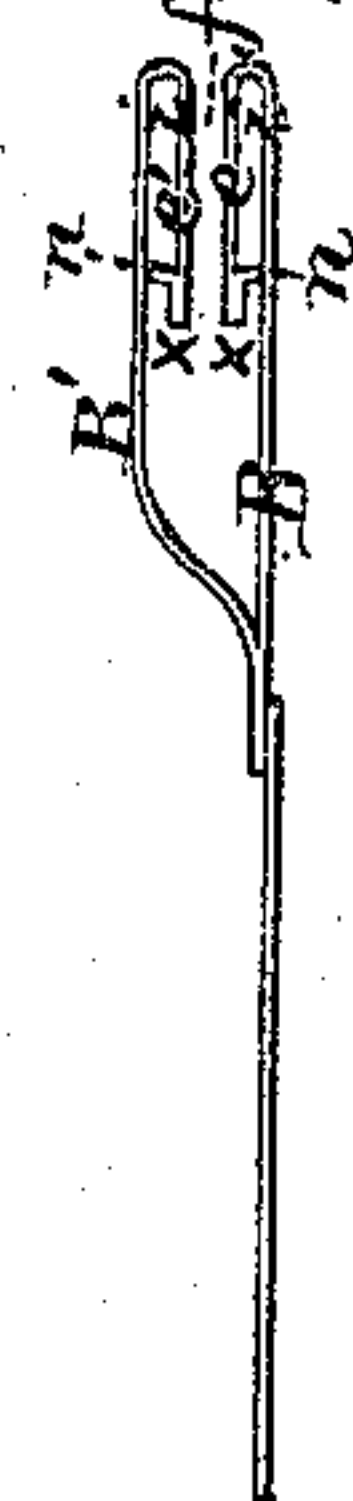
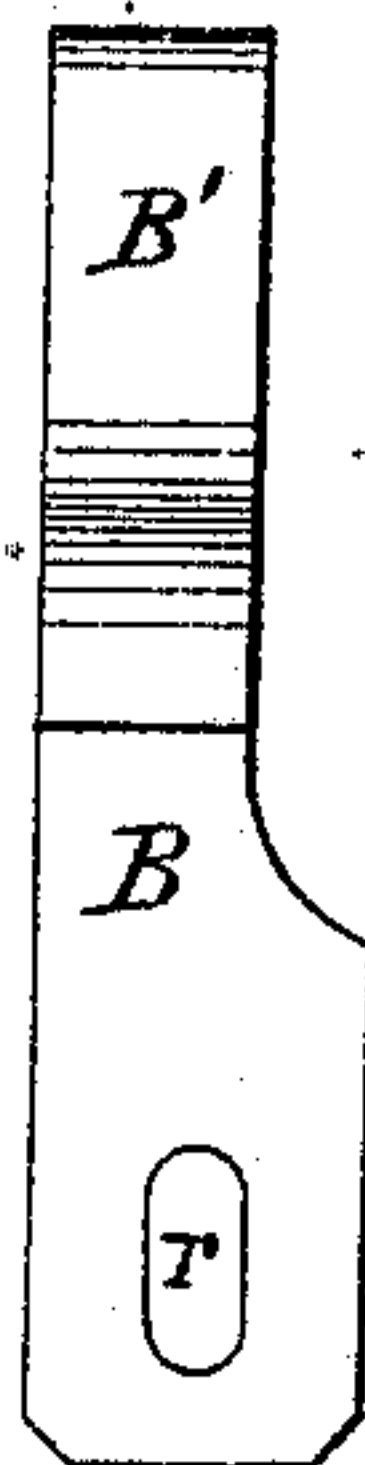


Fig. 8.



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H. H. Phillips

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his attorneys

UNITED STATES PATENT OFFICE.

WILLIAM T. SMITH, OF WEST ZANESVILLE, OHIO.

IMPROVEMENT IN BINDING-GUIDES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 121,014, dated November 14, 1871.

To all whom it may concern:

Be it known that I, WILLIAM T. SMITH, of West Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Binder Attachment for Sewing-Machines, of which the following is a specification:

My invention relates to attachments for sewing-machines for folding and adjusting braid for binding the edges of fabric; and the said invention consists in the construction and arrangement, in connection with each other, of the forming-shoe and adjustable braid-gauge operating to form, guide, and hold the binding-braid to the action of the needle.

In the accompanying drawing, Figure 1 represents a top or plan view of a braid-binder, embracing my invention. Fig. 2 represents a bottom view of the same. Fig. 3 represents the looped end of the guide-shoe. Fig. 4 represents a side view of the looped guide-shoe and its holding-arm. Fig. 5 represents a view of the inner or guide side of the looped shoe. Fig. 6 represents an end view of the guide-shoe and adjustable braid-gauge. Fig. 7 represents an end view of the adjustable braid-gauge, and Fig. 8 a top view of the same.

The guide A consists of a plate bent in the form of the letter U, of suitable length, having at its front end a flat guide-loop, *a*, through which the braid is fed, and at its rear end a back extension-stem, *b*, for the purpose of supporting and holding the braid close to the edge of the fabric while passing under the needle. This shoe lies flat upon the fabric plate, and is secured thereto by means of a clamp-screw, *c*, passing through an arm, *d*, extending from the back of the shoe, as shown in Figs. 1, 2, 3, and 4. The braid-gauge consists of a plate, B, bent over and lapped at its front end, *e*, in a horizontal position upon the upper side of the plate, and a similar under-bent lapped end, *e'*, is formed immediately above the first, upon a short plate, B', secured to the plate B, and these bent portions *e e'* form, first, narrow spaces *i* between each bent lapped end and their plates B B', to receive the flat open sides of the shoe and hold the two parts together; second, a guide-opening, *f*, for the edge of the fabric being bound; and third, guides *x x*, to hold the folded edges of the braid equally against the inner sides of the shoe, as shown in Fig. 6. These

bent lapped portions *e e'* are of less depth than the sides of the shoe, and each is provided, just back of its end *x*, with a gauge-lip, *n*, parallel with the back of the shoe, for the purpose of retaining the edges of the braid in proper position within the guide-shoe, in order that its folds will be equal, and its upper and lower edges always in a position to receive the needle as the braid is fed from the shoe. These gauging-lips *n* bear directly upon the inner flat sides of the shoe and serve, in addition, to guiding the folded edges of the braid, also to give spring to the bent lapped portions to cause them to bear against the sides of the shoe, and thus automatically hold the braid-gauge in proper position with the end of the forming-shoe. This gauging-plate is secured by the same screw *c* that secures the shoe, and is made adjustable by means of a slot, *r*, through which the set-screw *c* passes to increase or diminish the space between the gauging-lips *n* and the back of the shoe to suit different widths of braid. The shoe also has a slight adjustment upon its clamp-screw *c* to bring the edge of the braid always just beneath the needle, whether the braid be narrow or wide. It will be seen that the shoe is flat at its front end, where the guide-loop is formed and curved at its back to give the necessary fold to the braid, between which the fabric is introduced in the space *f* between the bent lapped portion of the braid-gauge, and the stem *b* holds and supports the braid as it issues from the shoe close to the edge of the fabric while passing under the needle, as shown in Fig. 1. The shoe-plate has a lip, *s*, on its under side near its smaller or needle end, to hold it in a horizontal position upon the cloth plate, as shown in Fig. 5.

When applied for use the binder is properly adjusted beneath the needle, the braid *g* is passed through the flat guide-loop *a* and against the curved back of the shoe, where its edges are turned and folded, and then passed over the ends *x x* of the lapped portions *e e'*, and against the lips *n n*, in such manner as to hold the folded edges of the braid apart as it issues from the shoe. The fabric *m*, Fig. 6, is then inserted in its guide *f*, between the lapped portions *e e'*, and held against the bend of the braid and the flat guide-loop *a*, as shown in Fig. 6, in which position the lips *n* serve to constantly keep the folded edges of the braid equal to receive the action

of the needle. The binder can be applied to any sewing-machine in use.

Having described my invention, I claim—

1. The combination of the forming-shoe with the adjustable braid gauge-plate, both constructed and arranged in connection with each other, substantially as described.

2. In a braid-binder for sewing-machines, the combination of the shoe A, guide-loop *a*, holding-stem *b*, and arm *d* with the adjustable gauge-

plate B B', with its gauge-lips *n n* and holding ends *xx*, the several parts being constructed and arranged to operate as described.

In testimony whereof I have hereunto subscribed my name this 21st day of September, A. D. 1871.

WM. T. SMITH.

Witnesses:

WM. MILHOUS,

H. HAVMEYER.

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