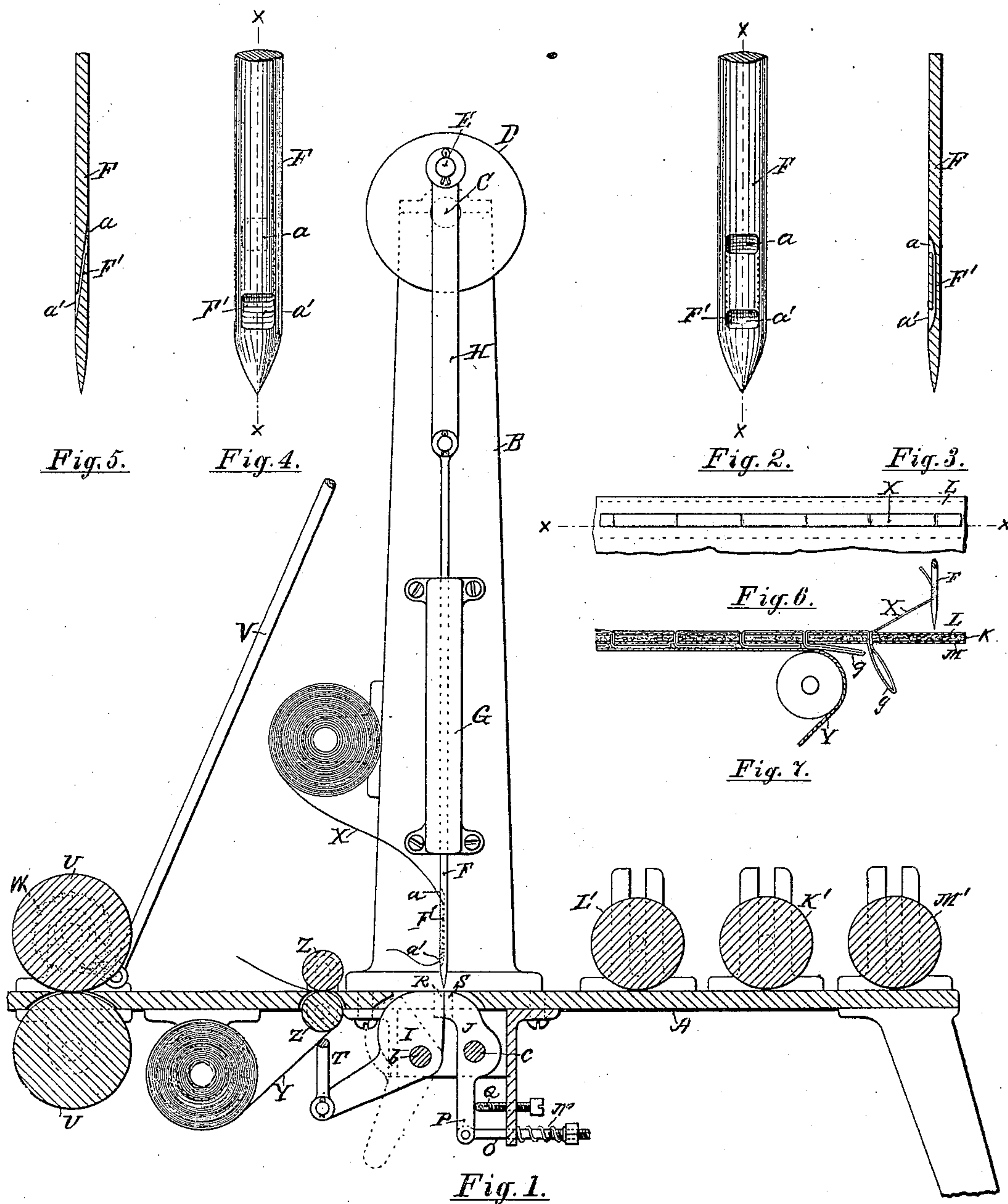


(No Model.)

B. G. LUTHER.  
CARPET LINING MACHINE.

No. 246,325.

Patented Aug. 30, 1881.



Witnesses.

H. W. Hubbard.  
S. Scholfield

Inventor.

Benjamin G. Luther.



# UNITED STATES PATENT OFFICE.

BENJAMIN G. LUTHER, OF HEBRONVILLE, MASSACHUSETTS.

## CARPET-LINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,325, dated August 30, 1881.

Application filed April 19, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN G. LUTHER, of Hebronville, in the county of Bristol and State of Massachusetts, have invented an Improvement in Carpet-Lining Machines, of which the following is a specification.

My invention relates to an improved machine for the manufacture of carpet-lining, and especially adapted to the manufacture of the carpet-lining described in the patent of Charles H. Bradley, No. 237,474; and it consists in the improved construction of the needle employed to carry the loop of the connecting-strip through the fabric, and also in the combination of the needle with elastic movable jaws for preventing the cotton filling between the paper sheets from being forced through the lower sheet by the downward movement of the needle, and for properly holding the bight of the loop until released by the backward movement of one of the jaws at the proper moment for the forward feeding of the fabric.

Figure 1 represents a vertical longitudinal section of the machine. Fig. 2 represents a side elevation of the point of the needle. Fig. 3 represents a central longitudinal section of the needle, taken in the line *xx* of Fig. 2. Fig. 4 represents a side elevation of a modification of the needle. Fig. 5 represents a central longitudinal section of the same, taken in the line *xx* of Fig. 4. Fig. 6 represents a plan view of one side of a fragment of the carpet-lining. Fig. 7 represents a longitudinal section, taken in the line *xx* of Fig. 6, also showing the pasting-strip and needle.

In the drawings, Fig. 1, A is the bed-plate of the machine; B, an upright standard supporting the shaft C, to the front end of which is secured the face-plate D, carrying the crank-pin E.

The needle F is held in a guide, G, attached to the standard B, and is connected to the crank-pin E by means of the connecting-bar H. The eye F' of the needle F is either made entirely upon one side of the needle, as shown in Figs. 2 and 3, or passing obliquely from one side to the other, as shown in Figs. 4 and 5, the receiving-aperture *a* being made above the delivering-aperture *a'* of the eye.

The jaws I and J move upon their pivots *b*

and *c*, and are faced with elastic india-rubber cushions R and S, in order to clasp the needle so closely that the loose cotton filling K between the sheets of paper L and M, Fig. 7, will not be forced by the penetrating-point of the needle through the hole made in the lower sheet, M. The jaw J is held to its forward position by the spring N, placed upon the rod O, attached to the end of the arm P. The screw Q serves to adjust the forward position of the jaw J, so that the point of the needle F may strike just at the forward surface of the elastic cushion S, and the incline of the side of the point of the needle will force the jaw J back against the action of the spring N. The jaw I is similarly held by means of a spring and stop, (not represented in the drawings,) and in addition thereto is thrown back by means of the connecting-bar T, as shown by the dotted lines, in order to release the loop *g* of the connecting-strip, just previous to the forward movement of the fabric, by means of the rolls U U, operated from the shaft C by means of the connecting-bar V and ratchet-wheel W.

X is the connecting-strip of paper employed to secure the carpet-lining together.

L' is the roll of paper forming the upper sheet, L.

M' is the roll of paper forming the lower sheet, M, and K' is the intermediate roll of cotton filling.

Y is the paper strip to be pasted over the loops *g*, being pressed against the surface of the lining by means of the rolls Z Z.

The operation of the machine will be as follows: The rolls of paper L' and M', and the roll of cotton filling K', being placed in the machine, and the ends of the respective webs carried along past the needle F and between the rolls Z Z and the feeding-rolls U U, and the needle F properly threaded, then upon the rotation of the shaft C the needle will be thrown down through the three parts of the fabric, the point of the needle, striking between the two elastic cushions R and S of the jaws, will force the jaws I and J apart and carry the loop *g* down to the lower limit of the movement of the eye F' of the needle. The elastic cushions R and S will then clasp the loop *g* and hold it until the point of the needle has been raised from



the upper surface of the fabric. The jaw I will then be thrown back by means of a suitable cam on the shaft C to the position shown by the dotted lines, thus releasing the loop *g*, and at the same time the feeding-rolls U U will be operated by means of the ratchet-wheel W, carrying the fabric forward to the proper point for the insertion of the following loop, when the needle will again descend, and the operation will be continuously repeated until the looping of the fabric is completed. The strip Y is made to run over a paste-roll previous to entering between the rolls Z Z, thus serving to cover the folds *g* and paste them to the side of the sheet M.

I am aware that the needles of sewing-machines have heretofore been made with two or more eyes extending from one side of the needle to the other, whereby a single thread, by being made to pass from side to side through the eyes of the needle, may be delivered at a point lower than the point of its entrance at the upper eye; but such devices are not adapted to the purposes of my improvement, for the reason that the connecting thread or strip employed to form the loops must pass through an eye so constructed that at the lower posi-

tion of the needle the jaw I will clasp one side of the bight of the strip against the smooth side of the needle, while at the same time the needle can move upward free from the action of the opposite jaw, J, upon the strip, and to accomplish this successfully I employ a needle with a single eye, constructed to carry the bight of the lacing-strip to a lower point on the side acted upon by the jaw I, so that the strip will be protected from the similar action of the jaw J on the opposite side by the intervening face of the needle on that side.

I claim as my invention—

1. In a machine for uniting fabrics by loops, the needle F, provided with an eye, F', having its external apertures, *a a'*, one above the other, substantially as and for purpose specified.

2. In a machine for uniting fabrics by loops, the combination of mechanism for passing the loop through the fabric with elastic or yielding jaws for claspings the sides of the penetrating-instrument and holding the loop, substantially as described.

BENJAMIN G. LUTHER.

Witnesses:

H. S. BABCOCK,  
H. W. HUBBARD.