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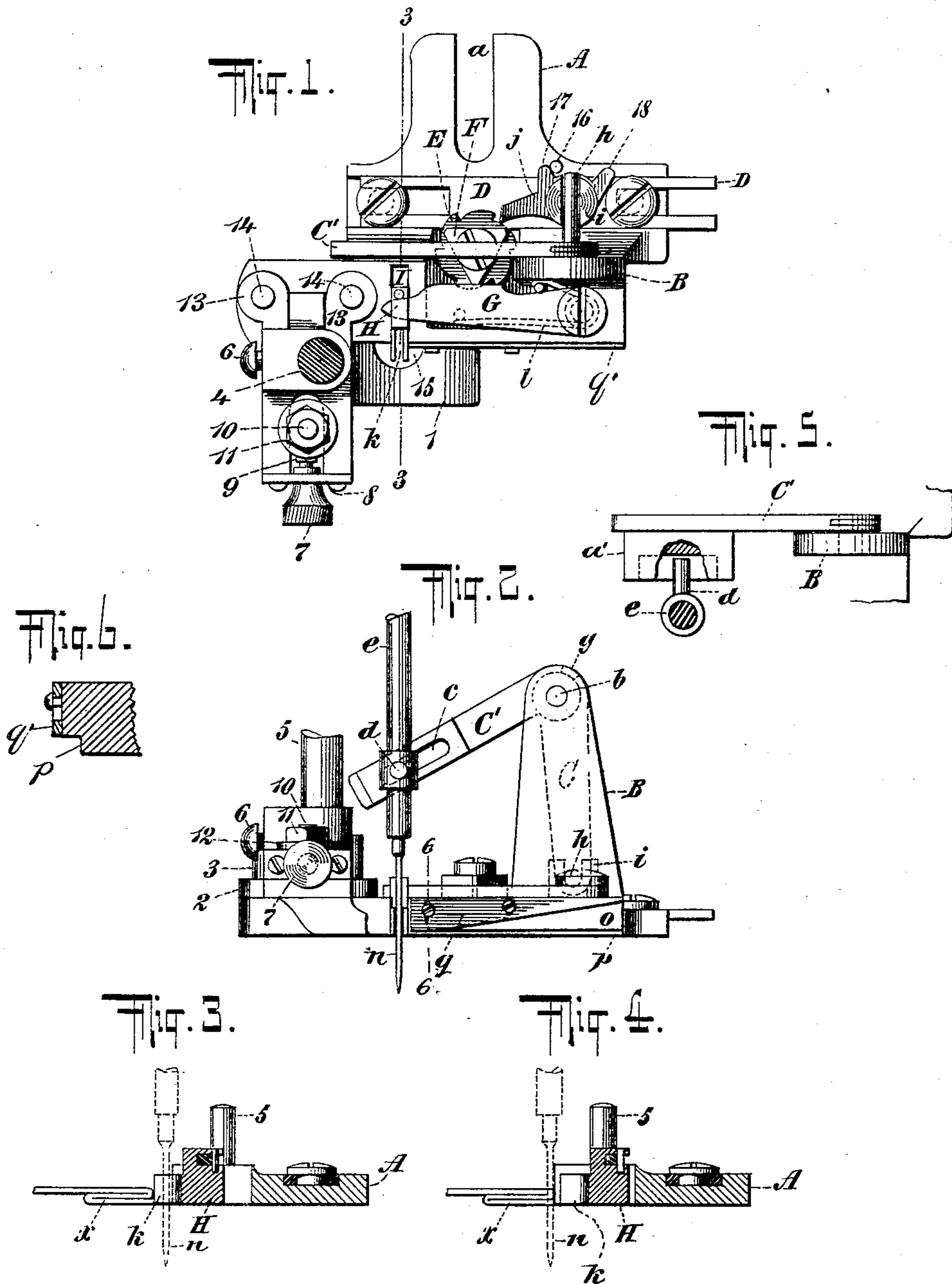
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W. D. BEAM.

OVERSEAMING AND BLINDSTITCHING ATTACHMENT FOR SEWING MACHINES.

(Application filed Apr. 7, 1900.)

(No Model.)



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OVERSEAMING AND BLINDSTITCHING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 704,291, dated July 8, 1902.

Application filed April 7, 1900. Serial No. 11,959. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DEMUND BEAM, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Overseaming and Blindstitching Attachments, of which the following is a specification.

My invention relates to sewing-machine attachments, especially to those used for blindstitching and overseaming. Its object is to provide a blindstitching and overseaming device which shall be capable of easy and rapid attachment to any existing sewing-machine, economical in construction, much less noisy than those at present known, and which shall obviate many of the disadvantages under which present devices suffer.

This device is not claimed as a basic invention, but as an improvement on United States Patent No. 666,876, of January 29, 1901, differing therefrom in the form of the operating-lever and in obviating the use of springs, liable to break at any time.

In the accompanying drawings, Figure 1 is a plan view of my improved blindstitching and overseaming attachment; Fig. 2, a side elevation of the same. Fig. 3 is a vertical transverse sectional view of the same on the line 3 3 of Fig. 1 and showing the path of the needle at one portion of the stitch. Fig. 4 is a similar view showing the parts in a different position with the needle passing through the edge of the material. Fig. 5 is a top view of the rule-jointed lever, a portion being cut away to show the method of its control by the needle-bar; and Fig. 6 is a detail sectional view on the line 6 6 of Fig. 2.

Similar reference characters indicate similar parts in all the figures.

Referring to the drawings, A is the base-plate, resting when in use upon the sewing-plate of the machine, to which it can be fastened by means of a screw passing through the slot *a* and screwed into the sewing-plate. Attached to the base-plate A and projecting upwardly therefrom is the standard B, which supports a jointed lever C' C, pivoted on the upright standard B at *b*. The upper portion

of the jointed lever carries at its outer end a projecting lug *a'*, having a slot *c*, which engages with the pin *d*, attached to the needle-bar *e*. The arm C' actuates the arm C by means of the rule-joint *g*. The two parts of the rule-joint lever are pivoted at *b*, so that when the arm C' is operated by the needle-bar the two parts work on the pivot *b*, and while on the downstroke the part C' moves without affecting the part C, on the upstroke of the needle-bar the joint *g* closes up, and then the further upward movement on the needle-bar forces the lever-arm C forward, operating the pusher. On the downstroke the needle-bar moves the lever-arm C' on the joint *g* without disturbing the arm C. The arm C at its lower part carries a projecting pin *h*, which engages with the slotted lug *i*, attached to the slide D, working in a groove in the top of the base-plate A. To the slotted lug *i* is attached the pawl *j*, engaging with the ratchet-wheel E, which is rotatably fastened to the base-plate A and has integral with itself the cam-piece F. The ratchet-wheel E has double the number of teeth that the cam has sides. This cam-piece F actuates the cam-lever G, which at its outer end engages with the pusher H, working in a rectangular slot I in the base-plate A perpendicular to the edge along which the fabric is fed. The pusher H has a slit *k*, through which passes the needle *n*.

l is a spring for restoring to its original position the cam-lever G. On the front edge *o* of the base-plate A, along which the fabric is fed to the needle, there is cut a groove *p* for insuring that the cloth when released by the pusher H will go close enough in to insure engagement with the needle in its descent. On the outer edge *o* there is also arranged a guide *q*, adjustable, for example, by means of slots and screws, Fig. 2. This is to provide for fabrics of various degrees of thickness and is so shaped that when the fabric comes under the needle it shall be of the right thickness and under the desired pressure.

The presser-foot 1 projects laterally from a plate 2, mounted to slide transversely to the length of the presser-foot on the under side of a forked block 3, provided with a

socket 4 for receiving the lower end of the presser-bar 5, which is held in position by a binding-screw 6.

A headed screw 7 is mounted in a cross-piece 8 on the forked piece 3 in such a manner that the said screw can turn axially, but cannot move lengthwise.

The screw 7 is screwed through a block 9, located between the shanks or prongs of the forked piece 3 and extending up between the said prongs from the sliding plate 2. A screw 10 extends upward from said block 9, and on the same a nut 11 is screwed, which rests upon a washer 12 on the upper edges of the prongs of the forked block 3. By turning the screw 7 the plate 2 can be shifted on the under side of the block 3 in relation to the needle *n* and after having been shifted can be locked in place by means of the nut 11. The plate 2 has apertured wings 13, through which two pins 14 extend upward from the base-plate A. Hence when the plate 2 is adjusted by means of the screw 7 the plate A is adjusted or shifted with it.

The presser-foot 1 has a recess 15 on the side next to the base-plate and facing the pusher H, the object being to allow the pusher to extend beyond the edge of the base-plate A and push the fabric out of the path of the needle.

The fabric *g* is folded, for example, as shown in Figs. 3 and 4, and placed under the presser-foot 1, which has been previously adjusted so as to bring the edge of the base-plate A the proper distance from the needle.

The essential features of my improvements on existing devices are shown in Figs. 1, 2, and 3. The action of the pawl *j* on the ratchet-wheel E has been controlled by springs; but these soon become weak and broken, especially in high-speed power-machines. I have consequently provided the pawl with the two lips 17 and 18 and connecting them by the properly-curved bearing-surface, the pin 16, attached to the base-plate A, insures the pawl engaging the ratchet-wheel as the slide D works backward and forward. It has also been customary to make the lever C' C in one piece and use a spring in the standard B to restore it to its original position. This is impracticable in rapidly-running machines and is, besides, too noisy. I have remedied this by the use of the rule-joint lever C' C, attached to and moving in both directions with the needle-bar *e*. The groove *p* at the base of the outer edge of the base-plate A and the adjustable guide *q* are important and practically useful improvements on existing devices.

The operation is as follows: The fabric being placed as shown in Figs. 3 and 4, the machine is worked. When the parts are as shown in Figs. 1 and 3, the fabric is forced outward by the pusher H and the needle passes down through the slit *k*. On the next stroke up of the needle-bar the slotted lever-

arm C' rises until the rule-joint *g* closes up, and on the further ascent of the lever-arm C' it forces the arm C to the left. This by means of the pin *h* and the slotted lug *i* works the slide D and the pawl *j*, attached thereto. The pawl controlled by the pin 16 and the lips 17 and 18 acts on the ratchet-wheel E and the cam F, which in turn operates the cam-lever G and the pusher H, causing it to reciprocate in the slot I. The pusher H is retracted by the action of the spring *l* on the cam-lever G, and the slide D is retracted or moved toward the right by the lever-arm C, which is acted on by the downwardly-moving lever-arm C', the latter having a shoulder which meets a corresponding shoulder on the arm C. The fabric is carried forward by the feed, and the alternate pushing the fabric out of the way of the needle and its restoration under its own tension to the track of the needle produces the results desired.

I do not herein claim the construction of the above-described apparatus as a whole, that not being my invention; but,

Having fully described and illustrated my invention, what I claim is—

1. In an overseaming and blindstitching attachment for sewing-machines, the combination of a base-plate, a slide working therein, a rule-jointed lever operated by the needle-bar and actuating the slide, a ratchet-wheel journaled on the base-plate, a fixed pin on the base-plate, a pawl attached to the slide and having, in addition to the engaging point thereof, two lips at opposite sides of the pawl-pivot contacting with the pin on the base-plate, whereby the pawl is thrown noiselessly into and out of contact with the teeth of the ratchet-wheel without the aid of a spring, a reciprocating pusher, and operating connections between the ratchet-wheel and the pusher, as and for the purpose set forth.

2. In an overseaming and blindstitching attachment for sewing-machines, the combination of a base-plate, a needle-bar, a pin attached to the needle-bar, a rule-jointed lever, one arm of which is provided with a slot in which said pin works, a fixed pin on the base-plate, a reciprocating slide, a pawl carried thereby and having, in addition to the engaging point thereof, two projecting lips arranged to come in contact with the pin on the base-plate, an intermittently-operated cam actuated by the pawl, a cam-lever operated by the cam, and a reciprocating slitted pusher operated by the cam-lever, as and for the purpose set forth.

Signed at New York, in the county of New York and State of New York, this 26th day of March, A. D. 1900.

WILLIAM DEMUND BEAM.

Witnesses:

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