

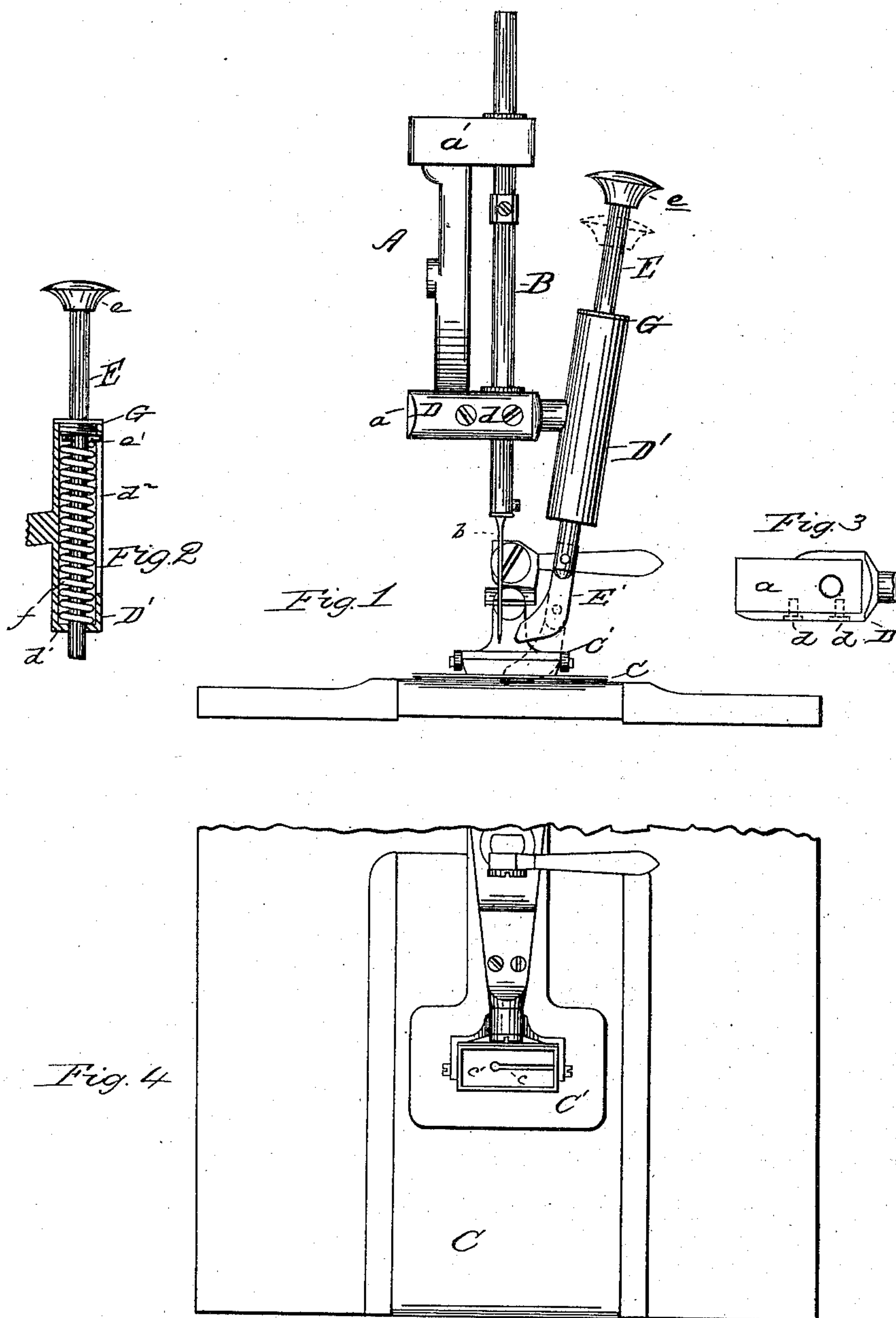
(No Model.)

J. D. ULMER.

BUTTON HOLE CUTTING ATTACHMENT FOR SEWING MACHINES.

No. 330,943.

Patented Nov. 24, 1885.



WITNESSES:

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BUTTON-HOLE-CUTTING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 330,943, dated November 24, 1885.

Application filed September 17, 1884. Serial No. 143,317. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. ULMER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Button-Hole-Cutting Attachments for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a front elevation of a sewing-machine with my attachment applied thereto. Fig. 2 is a vertical detail section. Fig. 3 is a horizontal section of machine-head with attachment. Fig. 4 is a plan of cloth-plate and clamp, showing position of slot through which the knife cuts.

My invention has for its object to provide a simply-constructed and efficient button-hole-cutting attachment for sewing-machines.

My invention consists of a cutting device comprising a bracket adapted for attachment to the head of a sewing-machine, and holding a spring-plunger adapted and designed to be actuated manually, and carrying a knife or cutter blade, said plunger being set in a slanting or inclined position, whereby when fitted on the machine it will be oblique with reference to the needle-bar, so that when depressed to effect its cut the point of the knife will coincide vertically with the line of movement of the needle, while when raised and inactive the knife or cutter will stand away at some distance from said line, as hereinafter fully set forth.

My improvements still further consist in the combination, with a sewing-machine, of a cutter carried on an inclined spring-plunger supported in a bracket attached to the head of the machine, substantially as hereinafter fully set forth.

Referring to the accompanying drawings, which represent a sewing-machine head with my improvements applied thereto, A is said head, having two branches, *a* and *a'*, respectively, in which is supported and moves a needle-bar, B.

C is the cloth-plate of the machine, and *c'* a hole therein for the passage of the needle *b*.

Said hole is prolonged to form or is made confluent with a straight slot, *c*.

C' is a button-hole clamp.

D represents a bracket securely and rigidly attached to the lower branch, *a*, of the machine-head A by means of screws *d d*. Said bracket is formed with a tube or sleeve, D', having a longitudinal axial bore for the reception of a rod, E, which latter has at its upper end a knob, *e*, and carries at its lower end a cutter or blade, E'. The bore of the tube D' is inclined or slanting, so that the rod E sets obliquely with reference to the needle-bar, in order that when said rod is moved downwardly it will bring the point of the cutter to the needle-hole *c'*, while when said rod is raised the cutter will stand out some distance from the needle-bar, as shown in the drawings.

To raise the cutter, the rod E is encircled by a spiral spring, *f*, which fits in the bore of the tube D', resting upon the shoulder *d'* at the lower end of said boss, its upper end bearing against a transverse pin, *e'*, which passes through the rod E, and moves and is guided in a straight slot, *d''*, in the side of said tube.

G is a nut screwed into the upper end of the tube D', forming a guide for the rod E, and keeping the latter and the spring *f* in place in said tube. The rod E, with its encircling spring, forms a plunger which may be depressed by a blow on the knob *e*, and which after such depression will be automatically raised by the reaction of the said spring.

The operation is simple and obvious. After a button-hole has been stitched on the machine and the needle raised out of the fabric the plunger E is depressed by striking the knob *e* with the hand. This moves the knife or cutter toward the needle and downwardly into the fabric between the two lines of stitching, passing through the slot *c* in the cloth-plate. The spring *f* then reacts and raises the plunger, with its attached cutter. Owing to the inclination of the plunger, when the stitching is proceeding the knife or cutter is out of the way, and when the stitching of a button-hole is completed the depression of the plunger will cause the knife to cut exactly at the right place, the fabric needing no adjustment for the purpose.

The device is simple and comparatively in-

expensive in construction, and may be readily applied to an ordinary sewing-machine by making holes in the head of the latter for the screws and forming the slot *c* in the cloth-plate.

- 5 To cut a button-hole with this device, but a single motion—viz., a downward blow or hand-thrust—is required on the part of the operator, which may be readily made, as the attachment is located on that side of the machine
10 nearest to the operator's position.

When the sewing-machine is stitching, the cutting device is inert, out of the way, and not carried upon any of the moving parts of the machine.

- 15 In lieu of the special form of cutter shown in the drawings, a shear-blade may be attached to the plunger and another one on the under side of the cloth-plate on a line with the slot *c* in said plate.

- 20 If desired, the bracket *D*, with its sleeve or tube *D'*, may be made integral with the head of the sewing-machine, which would dispense with the fastening-screws *d d*.

What I claim as my invention is as follows:

1. The combination, with a sewing-machine, 25
of a button-hole-cutting attachment comprising a bracket, *D*, with tube or sleeve *D'*, and inclined spring-plunger *E*, fitted in said tube or sleeve, and set obliquely with reference to the needle-bar of the machine, said plunger 30
carrying a cutter or blade, *E'*, substantially as shown and described.

2. The combination, with a sewing-machine, of a button-hole-cutting attachment secured to the head of the machine on the side adjacent 35
to the operator's position, said attachment comprising a blade attached to a rod or support, and means which move the same in an inclined plane, substantially as shown and described, and for the purpose set forth. 40

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of September, 1884.

JOHN D. ULMER.

Witnesses:

ISAIAH MATLACK,
M. D. CONNOLLY.