

(No Model.)

W. A. MACK.
PRESSER FOOT FOR SEWING MACHINES.

No. 447,252.

Patented Feb. 24, 1891.

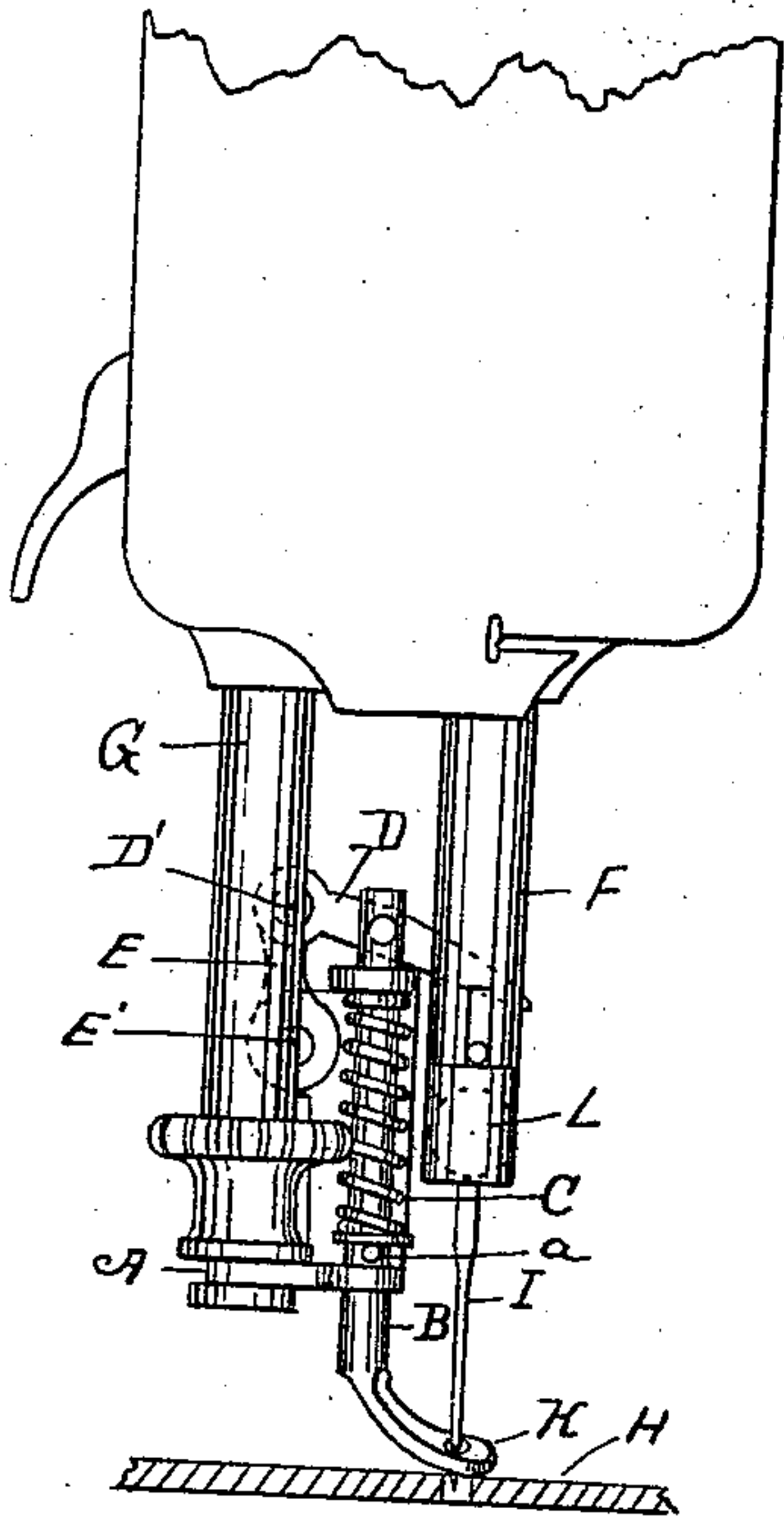


Fig-1-

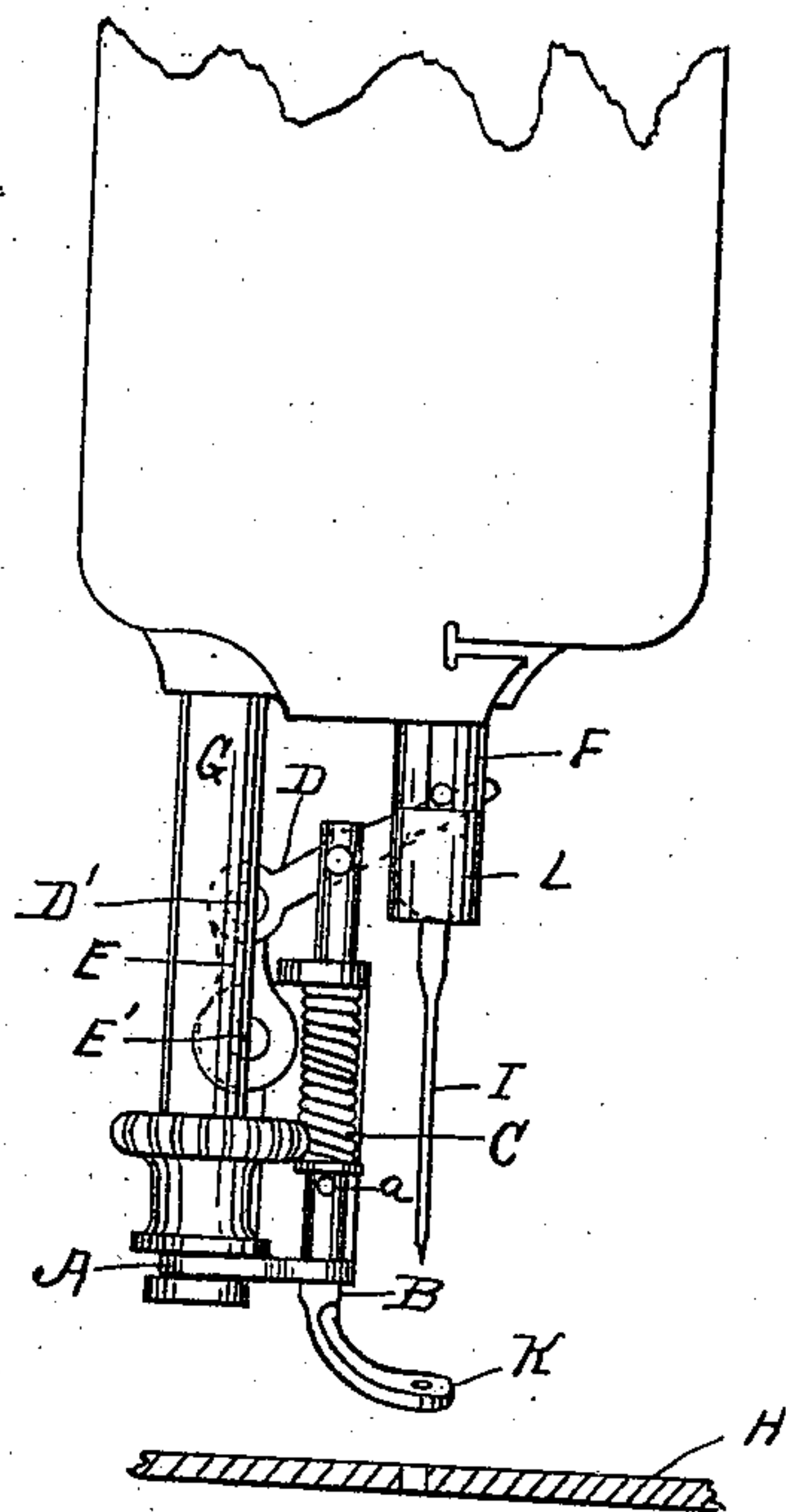


Fig-2-

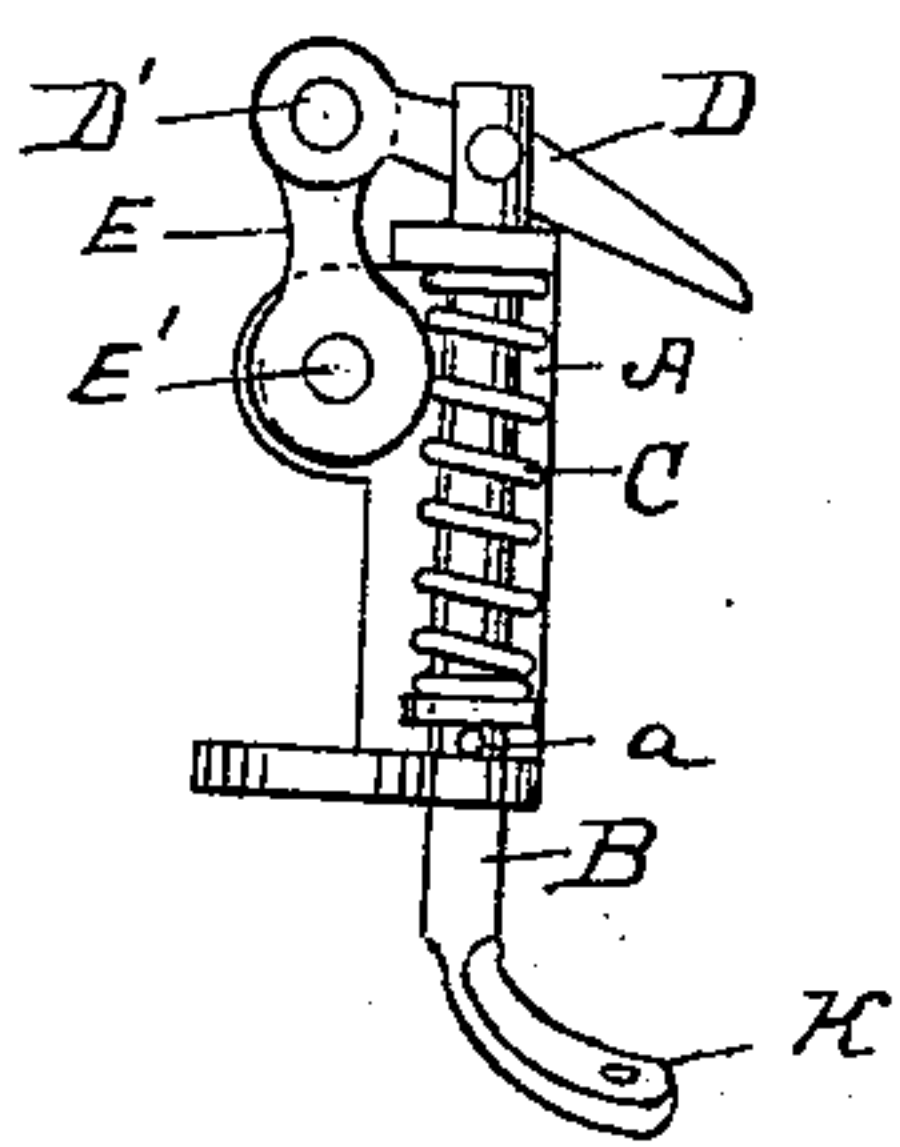


Fig-3-

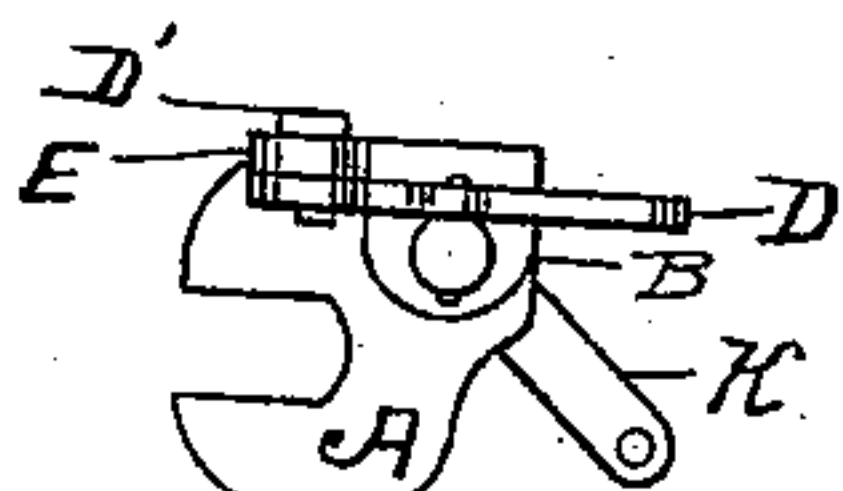


Fig-5-

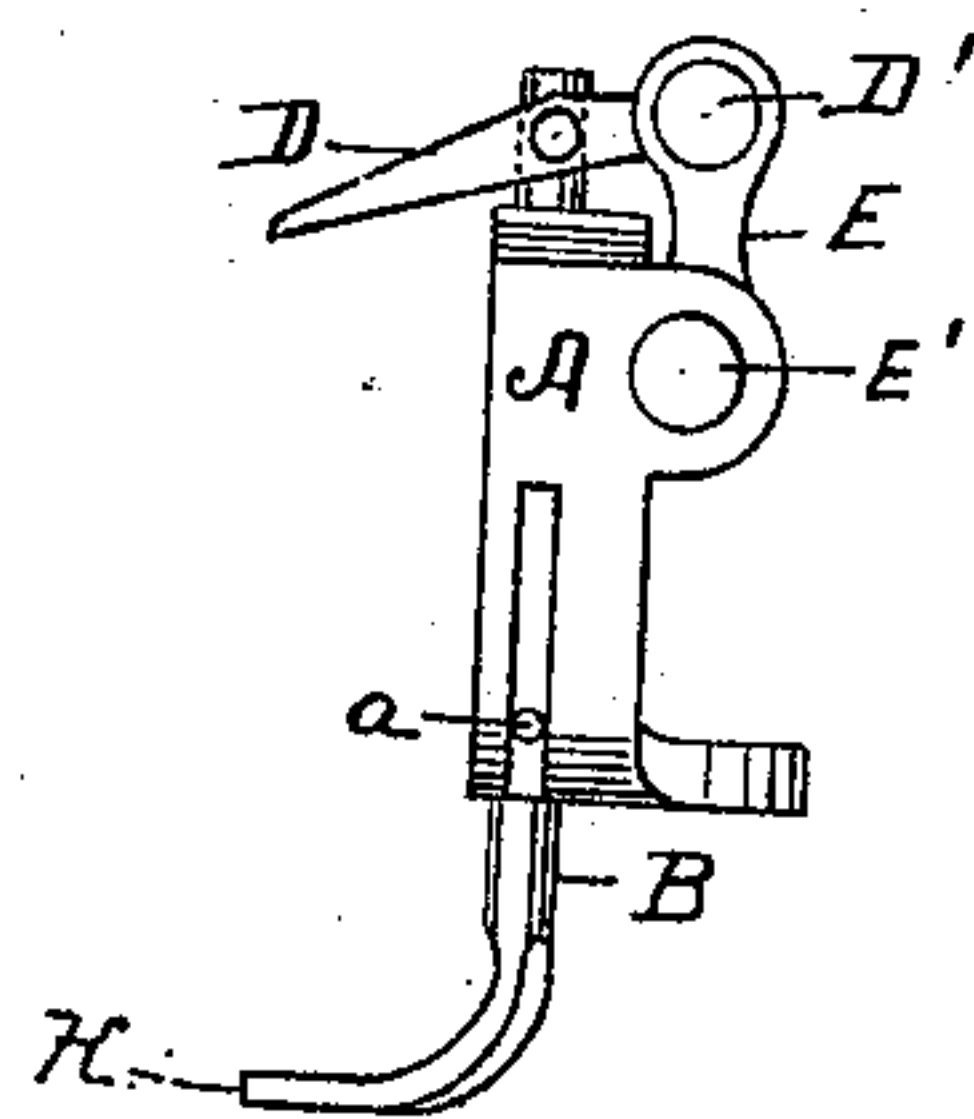


Fig-4-

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PRESSER-FOOT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 447,252, dated February 24, 1891.

Application filed July 26, 1887. Serial No. 245,306. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MACK, a citizen of Norwalk, county of Huron, and State of Ohio, have invented new and useful Improvements in Automatic Vibrating Presser-Foot for Sewing-Machines, of which the following, taken in connection with the drawings, is a specification.

My invention consists in the construction and arrangement of the means employed, in combination with the needle-bar or projection thereon, for operating the presser-foot, forming part of the attachment, as will hereinafter be described in detail, and pointed out in the claims.

The object of my invention is to provide means for connection with the said presser-bar to serve as an automatic vibrating presser, more especially adapted for use in the operation of etching, embroidering, braiding, and other purposes, capable of being supported at a convenient point between the presser and needle bar, operated through the medium of the latter by a lever connected to and held by an attaching frame supporting and carrying the presser-foot, whereby the device may be more perfectly timed with the vibrations of the needle and act with a greater degree of sensitiveness than the ordinary foot directly attached to the end of the presser-bar in common use.

Referring to the drawings, Figure 1 represents my attachment connected to a sewing-machine with the presser bearing upon the cloth-plate thereof. Fig. 2 represents the same invention with the presser-foot elevated above the cloth-plate. Fig. 3 represents the attachment detached from the sewing-machine, representing the same side appearing in Figs. 1 and 2. Fig. 4 represents the same attachment at a side opposite that shown in Figs. 1, 2, and 3; and Fig. 5 is a top view of the attachment.

Referring again to the drawings, A represents the frame to which all the elements forming my improved attachment are held, its entire form being shown more clearly in Figs. 3, 4, and 5.

B represents the post or shaft, supporting or provided with a presser, (indicated at K,) the latter being provided with a needle-hole at a point near its toe.

C represents a coiled spring, although it is obvious that other forms of springs may be employed, the chief object of the spring being to cause the presser-foot to bear with an elastic pressure on the material operated upon on the cloth-plate. In the present instance the spring surrounds the shaft B, and is maintained in position by a pin or projection (represented at *a*) secured to or extending through said shaft, the opposite end being allowed to push against an overhanging projection or flange forming a part of the frame A.

D represents a lever with its fulcrum in the shaft B, one end of which is hinged to a link (represented at E) secured by a pin or rivet, (represented at D',) the other end of the link being pivoted to a flange or projecting part of the frame proper by a pin or other means. (Represented at E'.)

To those skilled in the art it will be understood that the operating device, instead of being connected by a pin to the shaft, may extend through a slot therein, and may also be pivotally connected with the shaft, and the end represented as hinged to the link may intersect an opening provided to support it at the proper point, or various other methods might be suggested which will readily occur to a mechanic skilled in the art without further explanation.

The frame is provided with a slotted flange adapted to be intersected by the end of the presser-bar, by which it is held. The free end of the lever D engages a projection or screw, in the present instance located at a proper point upon the needle-bar F, which projection in its ascent lifts the presser from the material operated upon at a time when the needle (represented at I) has been withdrawn at a distance above it. The spring C by its elasticity and location causes the presser of the attachment to follow the needle-bar in its downward stroke until it again rests and presses upon the fabric, which is done before the needle touches the material operated upon, and thus the operator is enabled to follow a pattern, however delicate and fine, with a degree of precision hitherto extremely difficult. The lifting of the presser by the means in the manner described enables the operator to turn the material at the proper moment for

the next thrust of the needle without difficulty and presses with a firm but an elastic pressure at the proper moment for the formation of the stitch.

5 Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A sewing-machine attachment consisting of a supporting plate or frame provided with
10 means for connection with the presser-bar, an elastically-supported shaft provided with a presser-foot, an actuating-lever pivoted on said shaft and having a link connection with
15 said supporting plate or frame, in combination with the needle-bar provided with a projection thereon for engagement with said actuating-lever, substantially as described, and for the purpose set forth.

2. A sewing-machine attachment consisting of a supporting plate or frame provided with
20 a shank for detachable connection with the presser-bar of a sewing-machine and with a vertical slot therein, a vertically-arranged shaft and foot carried by said supporting plate or frame, provided with a projection
25 adapted to extend within said vertical slot in the supporting-frame, a coiled spring, and an actuating-lever pivoted to said vertical shaft and having a pivotal link connection with said supporting-plate, substantially as and for the
30 purpose set forth.

WILLIAM A. MACK.

Witnesses:

D. E. COLE,
GEO. D. HENDERSON.