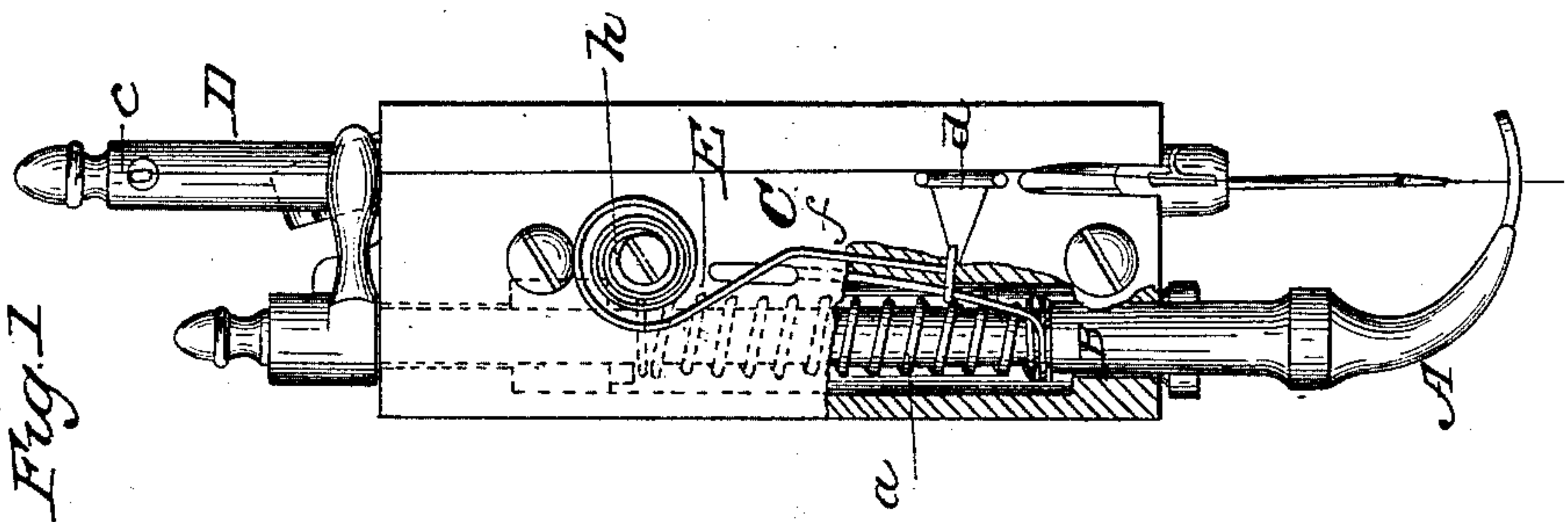
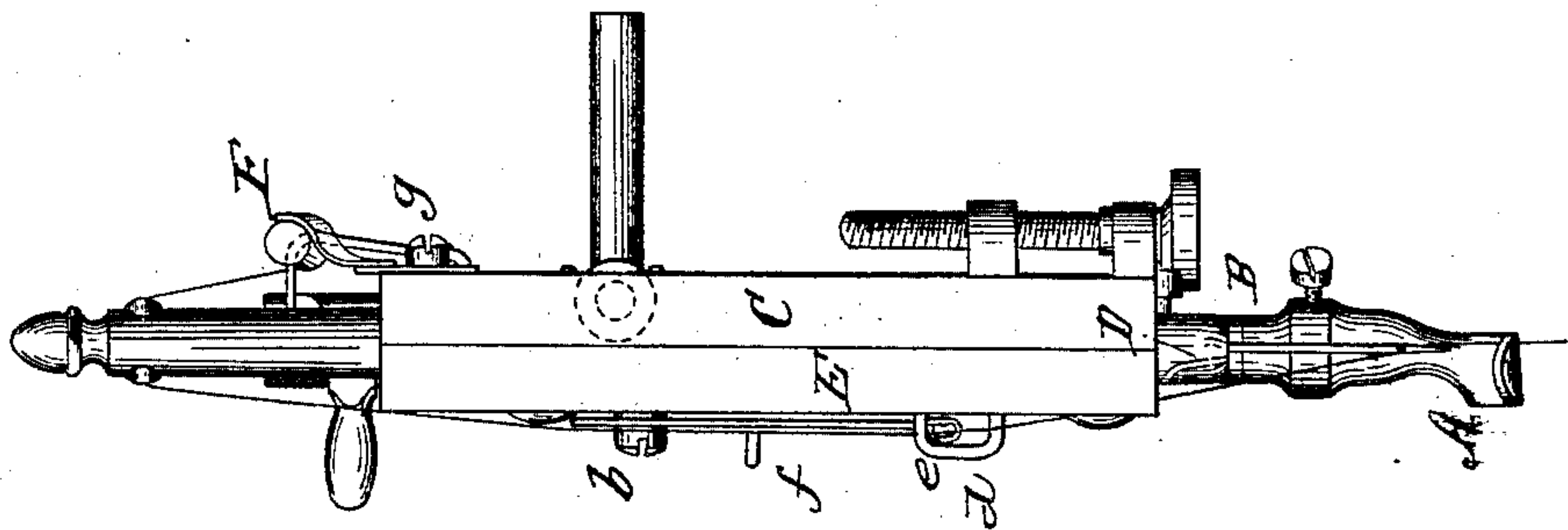
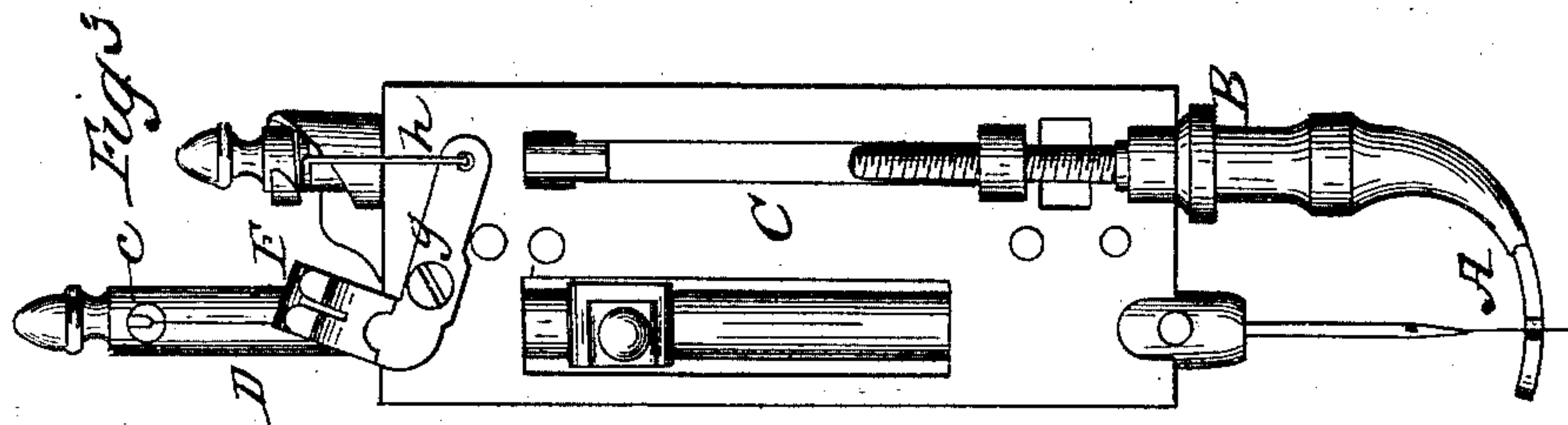


DARLING & HOWE, Jr.  
Sewing Machine.

No. 63,483.

Patented April 2, 1867.



Witnesses  
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# United States Patent Office.

GEORGE S. DARLING, OF BRIDGEPORT, CONNECTICUT, AND ELIAS HOWE, JR., OF FAIRFIELD, CONNECTICUT.

*Letters Patent No. 63,483, dated April 2, 1867.*

## IMPROVEMENT IN SEWING MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, G. S. DARLING, of Bridgeport, and ELIAS HOWE, Jr., of Fairfield, both in the county of Fairfield, and State of Connecticut, have invented a new and useful Improvement in Sewing Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a front elevation of this invention partly in section.

Figure 2 is a side elevation of the same.

Figure 3 is a rear view of the same.

Similar letters of reference indicate like parts.

This invention consists in connecting the presser-foot with the take-up or with the thread-controller; or with both, in such a manner that the delivery of needle-thread is regulated according to the thickness of the material being sewed or the amount of thread let off from the spool is proportionately increased or diminished.

A represents the presser-foot of a sewing machine, which is secured to the bar B, that slides up and down in the head C, being subjected to the action of a spring, *a*, which has a tendency to depress the same in the ordinary manner. The head C also forms the bearing for the needle-bar D, which is made to move up and down in the same by any suitable mechanism. E is the take-up, which is attached by a screw, *b*, to the front side of the head C, and the needle-thread, which passes from the eye *c* in the top of the needle-bar down in front of the head C, is passed through the open staple *d* and through the loop *e* of the take-up E, as indicated in red outlines in figs. 1 and 2 of the drawing. As the needle descends the slack is taken in by the take-up E so as to prevent the needle from passing through or getting entangled in its own thread, and it is proper that the needle-thread shall be relieved of the tension produced by the take-up as soon as the point of the needle strikes the material to be sewed. This object is obtained by arranging the loop *e* so that its position is regulated automatically according to the thickness of the material to be sewed, a pin, *f*, being provided, which is connected to the rod B, carrying the presser-foot A, and which bears on the take-up E, as shown in figs. 1 and 2 of the drawing. If thick material is sewed the presser-foot is raised and the distance between the loop *e* and the open staple *d* is decreased, and *vice versa*, so that the take-up will strike the pin *f* as soon as the point of the needle comes in contact with the surface of the material to be sewed.

The varying amount of thread required for the stitches of the varying thicknesses of the material to be sewed is obtained by connecting the thread-controller F with the rod B, which carries the presser-foot. Usually said thread-controller is connected to the back of the head C by a set-screw, so that it can be adjusted up and down according to the thickness of the material to be sewed.

Instead of adjusting the thread-controller by hand, we have rendered the same self-adjusting by making it in the form of an elbow-lever, which has its fulcrum on the screw-pivot *g*, and which connects by a wire, *h*, with the top end of the rod B that carries the presser-foot. If thick material is sewed the presser-foot rises and the thread-controller is turned down, and its distance from the eye *c* in the top of the needle-bar is increased and thereby the amount of thread required for the varying thicknesses of the material to be sewed is supplied.

We do not claim regulating the tension and the amount of thread delivered by the change of position of the presser-foot caused by the varying thickness of goods; but what we claim as new, and desire to secure by Letters Patent, is—

1. The pin *f*, or its equivalent, projecting from or connecting with the bar or any other part of the presser-foot to act in combination with the take-up E, substantially as and for the purpose described.

2. The pivoted elbow-lever F, operating in combination with the presser-foot, substantially as described for the purpose specified.

GEO. S. DARLING,  
ELIAS HOWE, Jr.

Witnesses:

FRANCIS IVES,  
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