M. T. FITCH.

Sewing Machine.

No. 67,183.

Patented July 30, 1867.

FIG. 1

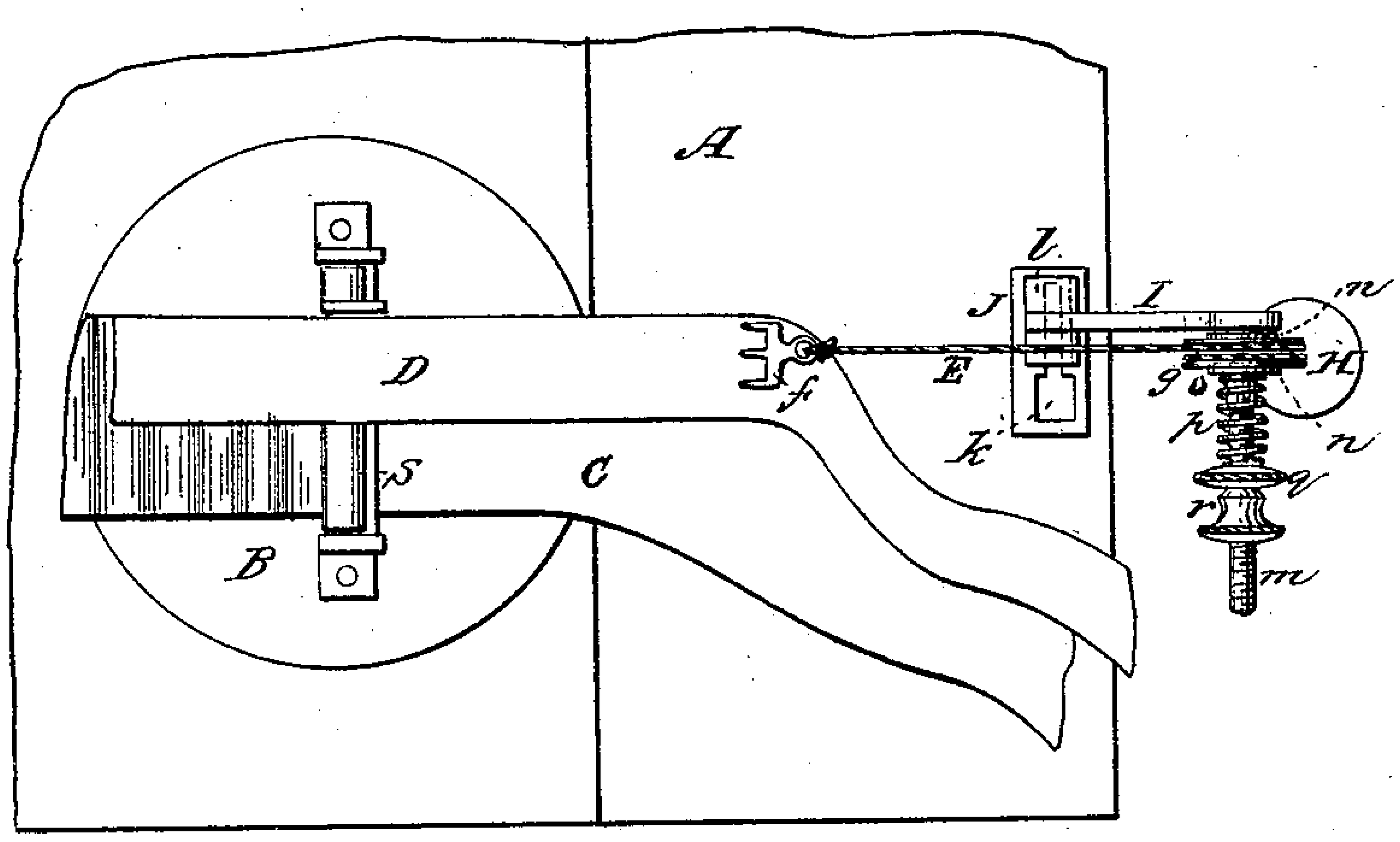
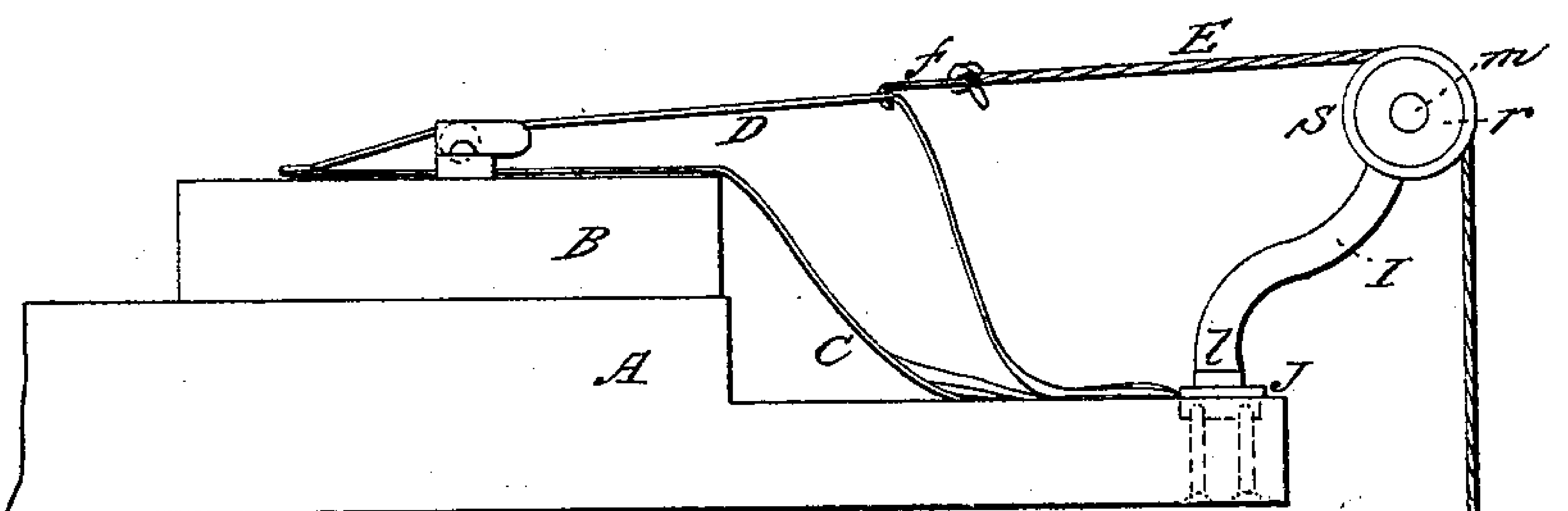


FIG. 2



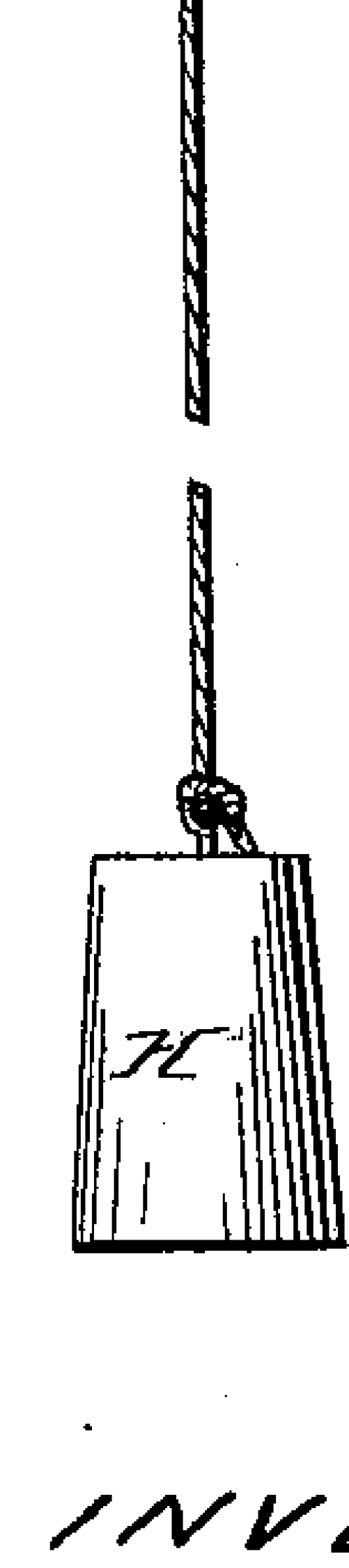
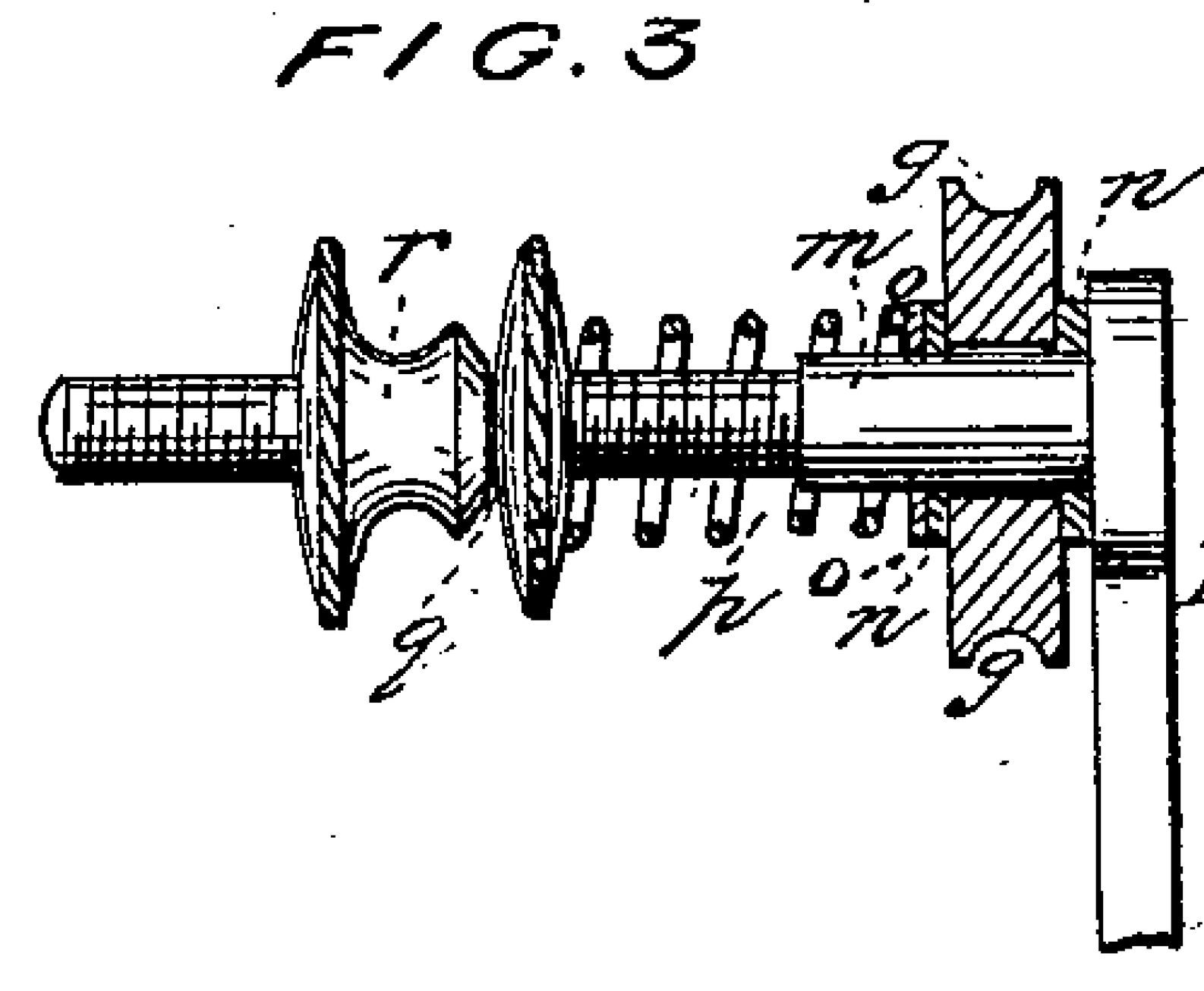


FIG. 3



WITNESSES:

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United States Patent Office.

MARY T. FITCH, OF LOCKPORT, NEW YORK.

Letters Patent No. 67,183, *dated July* 30, 1867.

IMPROVEMENT IN RUFFLING-ATTACHMENT FOR 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 I, MARY T. FITCH, of Lockport, in the county of Niagara, and State of New York, have invented a certain new and improved Ruffling-Attachment for Sewing Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of my improvement.

Figure 2 is a side elevation; and

Figure 3 is a sectional detached view of the device for regulating the degree of tension.

Like letters of reference indicate corresponding parts in all the figures.

My improvement is designed to be attached to a sewing machine, when the latter is employed in making ruffling, for the purpose of holding and regulating the tension of the straight piece of cloth to which the gathered portion of the ruffle is to be attached, which has heretofore been held and regulated by the hand.

The invention consists in attaching to the said straight piece of cloth, by means of a suitable hook or clamp, a cord, which passes over a pulley or rigid bearing, with a weight at the end, by which the cloth is held with a uniform degree of tension, so essential to the manufacture of a uniform ruffle; it also consists in the employment, in combination therewith, of a roller for keeping the two pieces of cloth separate, and a suitable device for regulating the degree of tension, which must vary according to the relative amount of cloth required to be gathered.

In the drawings, A represents the top or main bed-plate of any ordinary sewing machine, suitable for making ruffling; B, the raised work-table upon which the cloth to be sewed is held and guided under the needle; C D, the two pieces of cloth from which the ruffle is to be made, the former being the piece to be ruffled, and the latter the straight piece to which the ruffle is sewed. E is a cord connected at one end to the cloth D, by means of a hook, *f*, or other suitable device that may be readily attached and detached, and which, after passing over a bearing or pulley, *g*, is fastened at the other end to a weight, H, of sufficient size to produce the requisite tension of the cloth. I is a standard, which may be secured to the bed-plate A in any suitable manner that will enable it to be easily detached when required. It is represented in the drawing as fastened to a base-plate, J, countersunk flush with the face of the table, and secured by screws from beneath, which is provided with an enlarged opening, *k*, at one end, into which is inserted the dove-tail base *l* of the standard, which is then slid in the slot connecting therewith, (shown in dotted lines, fig. 1,) by which it is fastened, and in which it can be adjusted to one side or the other, as may be required. The upper end of this standard is formed with a horizontal arm, *m*, on which is loosely mounted the pulley *g*, having on each side a friction-ring, *n*, of chamois or other suitable material, with a washer, *o*, and spiral spring *p* on the outer side, and a nut, *q*, and set-screw *r*, by which the spring is compressed, and the pulley clamped with greater or less force by the friction-rings, as the degree of tension may require. By this device the tension of the cloth D may be regulated at will, by simply turning the nut *q*, compressing or relaxing the spring, which permits the pulley to turn with greater or less freedom, according to the amount of gathers required in the ruffle. Although I prefer to employ the pulley *g*, and the friction device just described, still their use is not absolutely essential to the successful working of my improvement. The pulley alone, or a rigid bearing, may be employed, and the tension varied by adding to or diminishing the weight H, by separate auxiliary weights, or the weight H may be made with a cup or cavity in its top, in which shot or other articles can be placed, by which the tension can be regulated. Near the needle, on the work-table, I employ a small roller, S, as shown, secured to the table in any suitable manner, so as to be readily detached when not required for use; or the roller may be mounted on an arm of a bearing or plate, provided with a slot and set-screw for adjusting and fastening to the table, so as to enable the under piece to be more readily adjusted in place, which could then be accomplished by simply sliding it under the unsupported end of the roller. The function of this roller is to separate the two pieces of cloth so as to leave the lower one free to be drawn in by the feed mechanism, while the upper piece is held back by the tension of the cord attached thereto. Without this roller the upper piece, by its pressure on the lower, would cause such an adhesion and friction of the latter as to produce an irregularity and obstruction to its movement forward, which should be perfectly free and uniform.

The use of my improvement dispenses with the extremely difficult and laborious operation of holding the straight piece D by hand, and accomplishes the desired result in a more perfect and uniform manner than the most experienced and skillful operator can by the hand method. The device for regulating the degree of tension enables ruffling of any desired amount of gathers to be readily and evenly made, the function of the set-screw being to render the adjustment of the device more secure against accidental displacement. The roller S not only keeps the two pieces separate, but also operates as a guide to the cloth as it is fed through the machine.

My attachment is cheap and simple in construction, and can be readily attached to and detached from the machine, as the occasion may require.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the weight H, cord E, bearing *g*, and hook *f*, or equivalent, substantially as and for the purpose set forth.

I also claim, in combination therewith, the roller S, arranged and operating substantially in the manner and for the purpose specified.

I also claim the special combination of the spiral spring *p*, washer *o*, friction-rings *n*, nut and set-screw *q r*, and loose pulley *g*, with the weight H, cord E, hook *f*, and roller S, the whole arranged and operating as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MARY T. FITCH.

Witnesses:

M. L. BURRELL,

EDWARD D. AUSTIN.