

(No Model.)

2 Sheets—Sheet 1.

E. T. THOMAS.  
Sewing Machine.

No. 234,628.

Patented Nov. 16, 1880.

Fig:1.

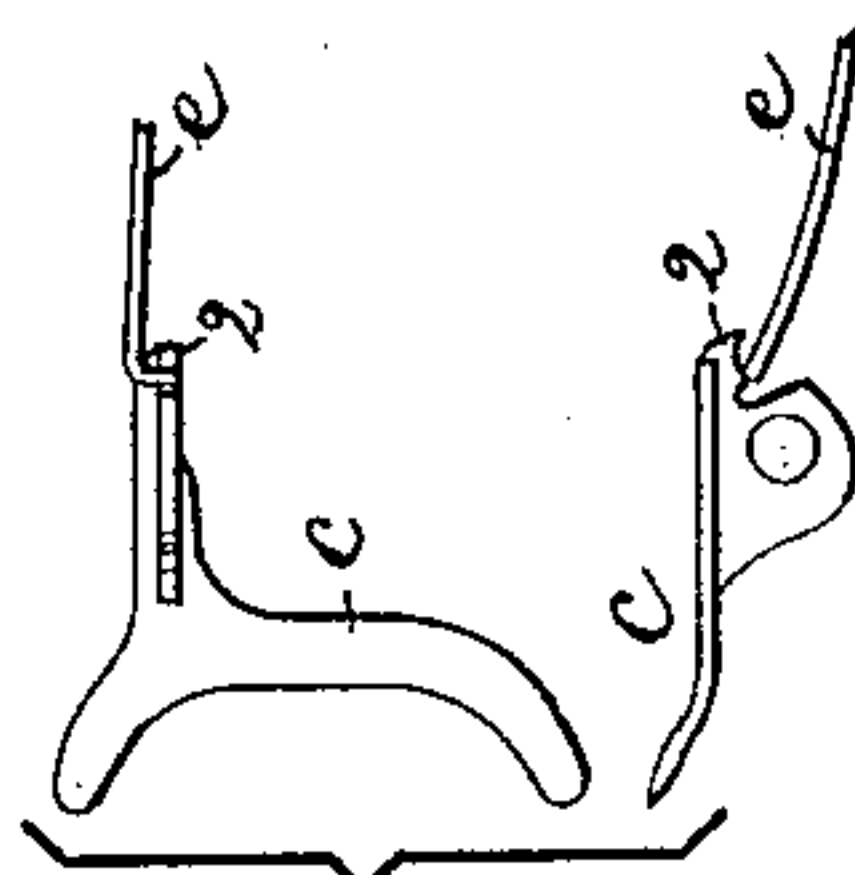
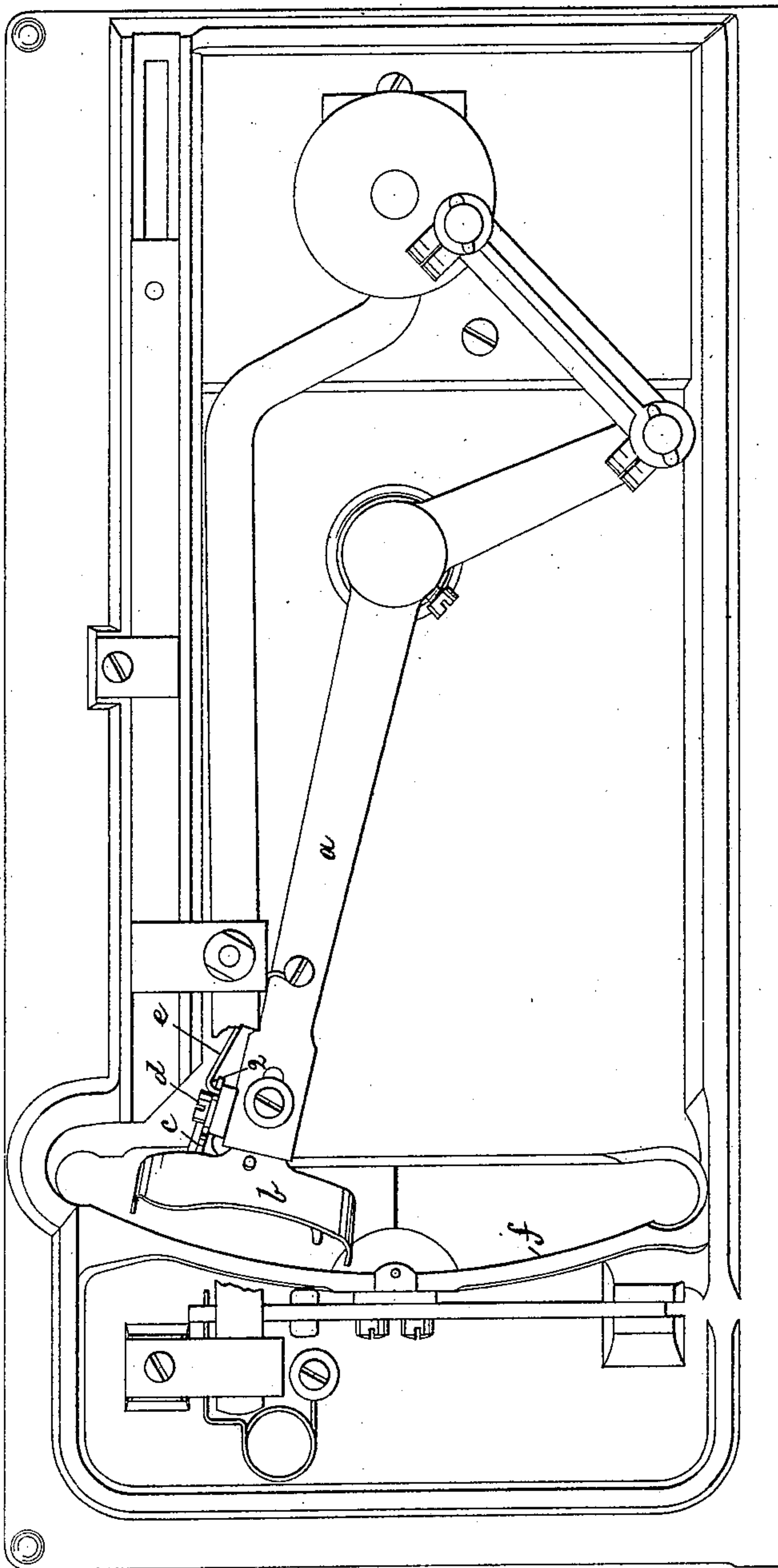


Fig:2.

Witnesses.

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by Crosby & Gregory Attys

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2 Sheets—Sheet 2.

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Fig:3.

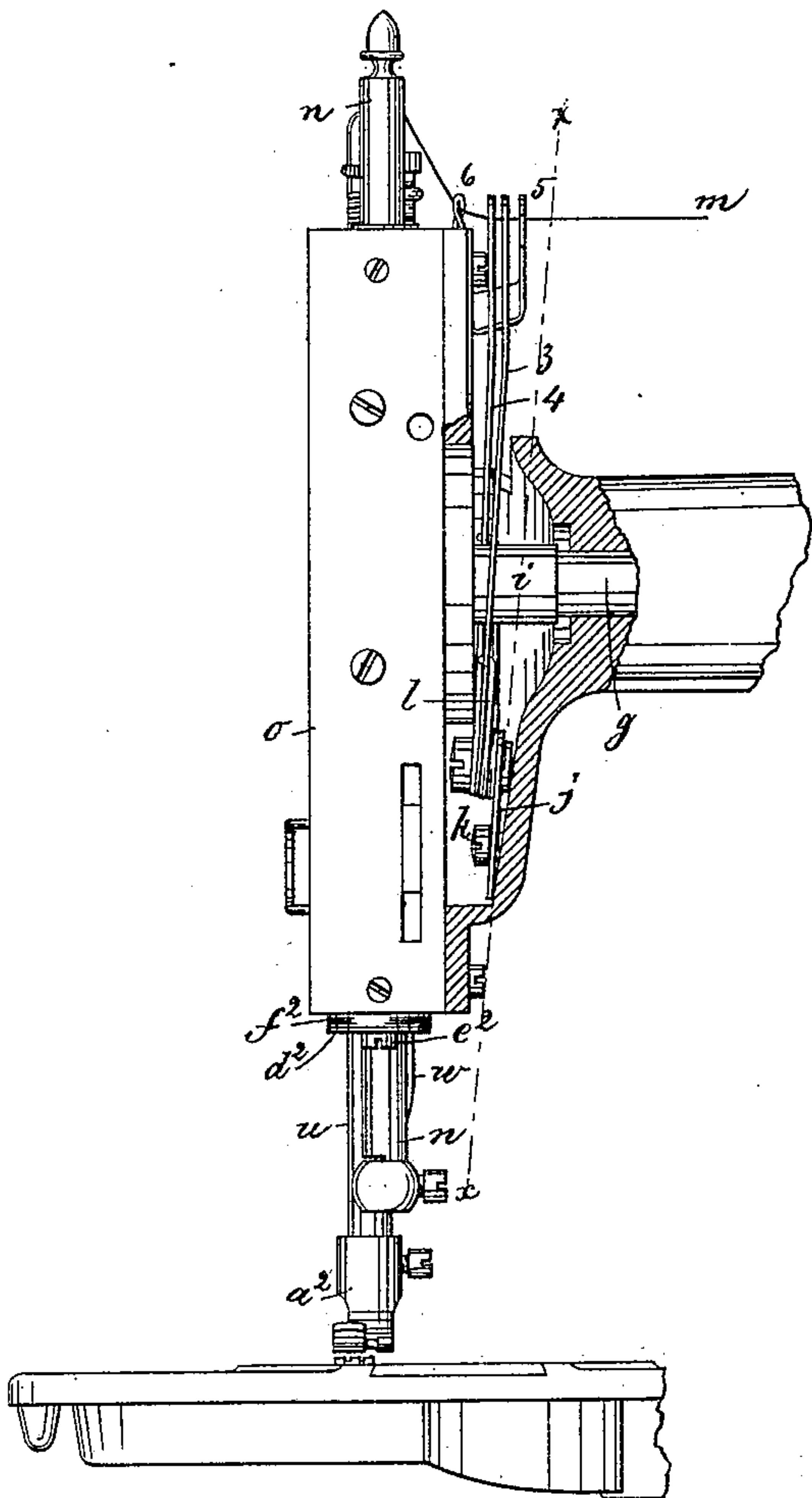


Fig:4.

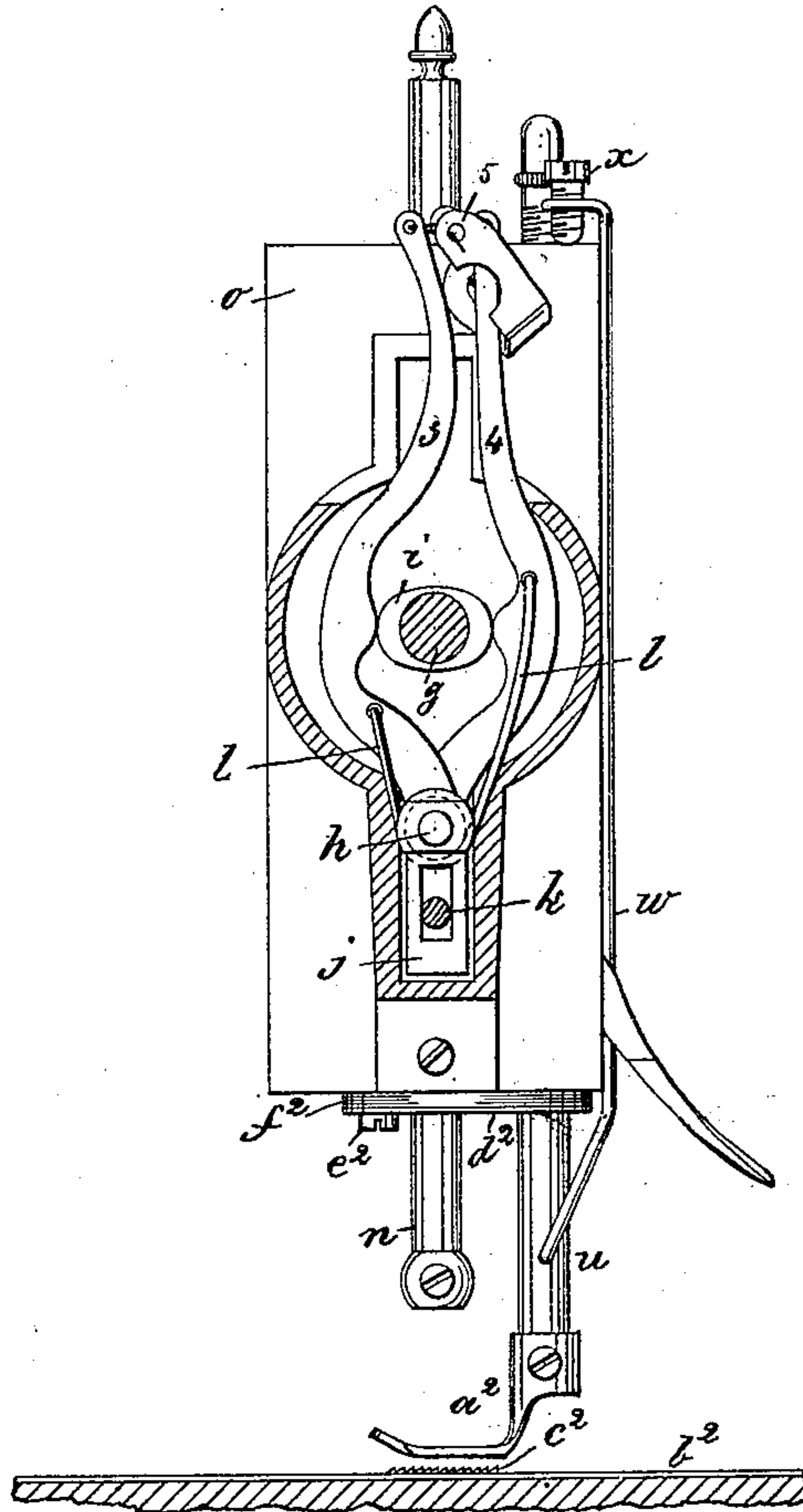


Fig:5.

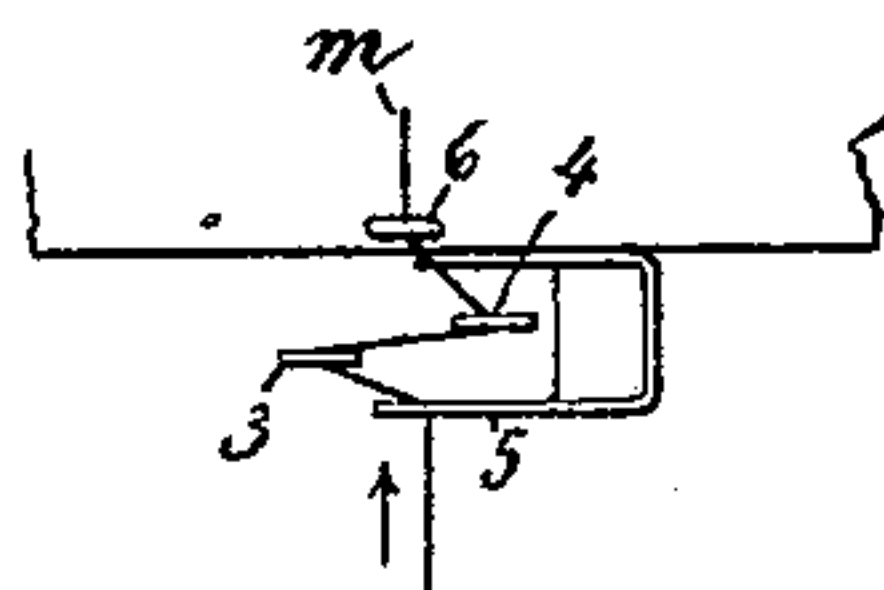


Fig:6.

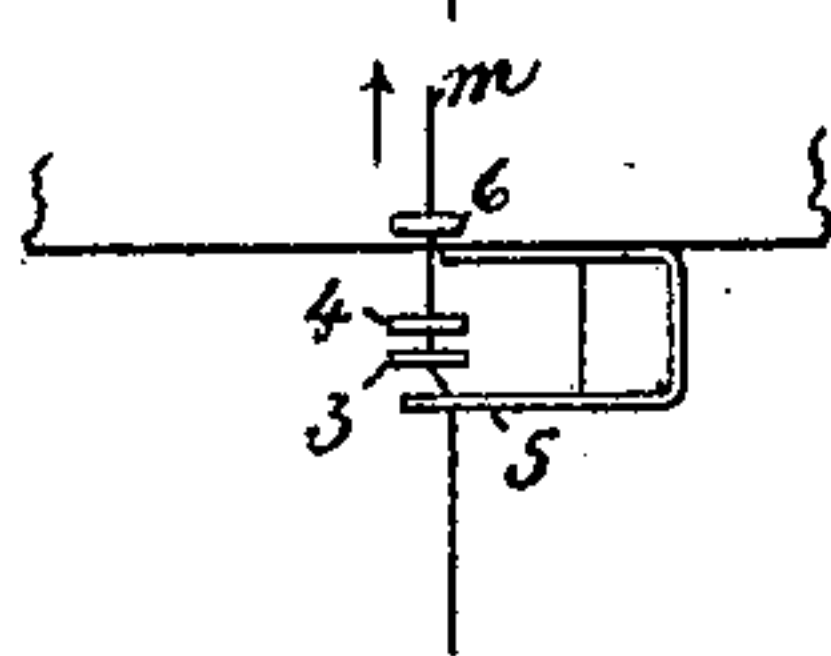
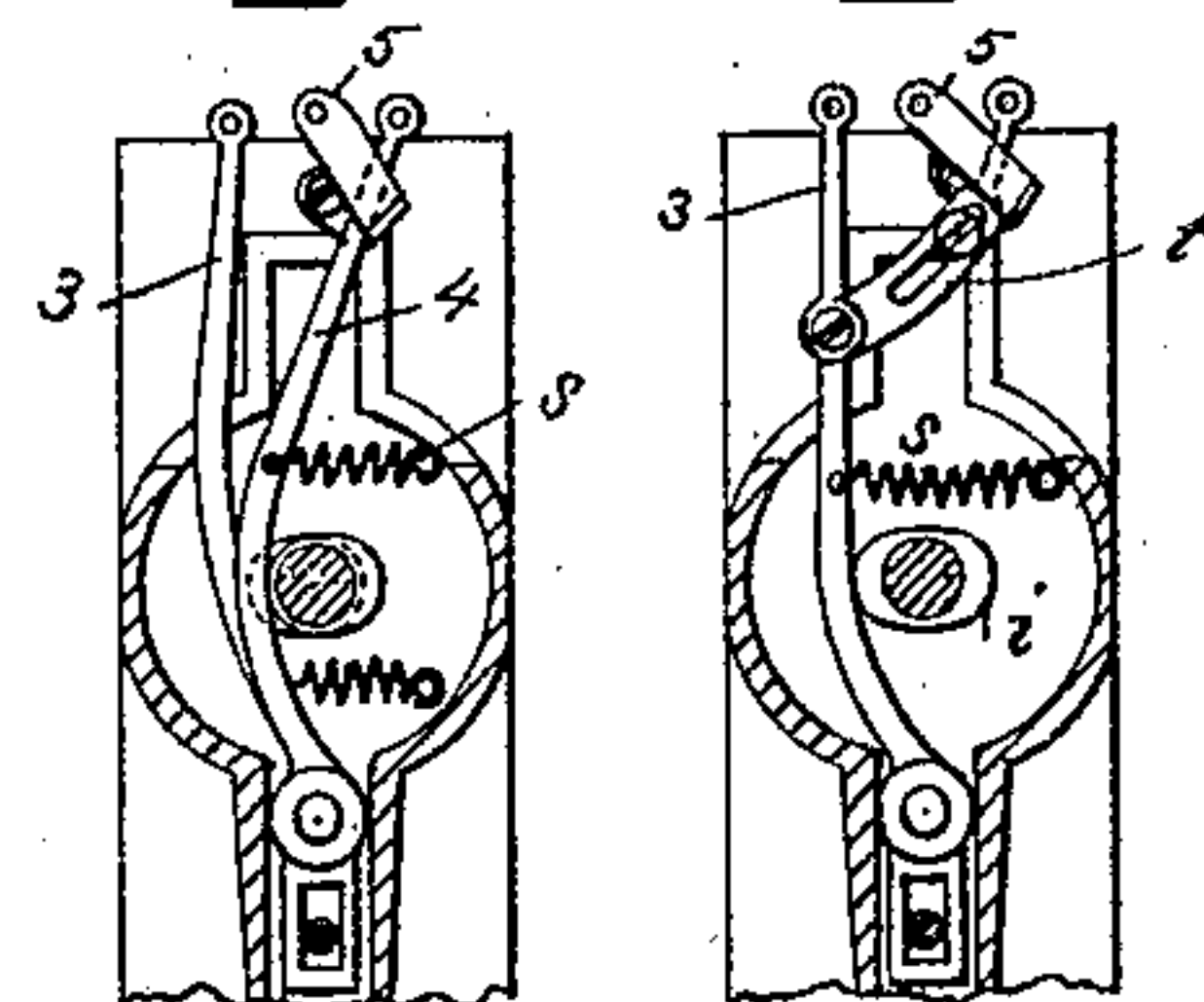


Fig:7. Fig:8.



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# UNITED STATES PATENT OFFICE.

EDDY T. THOMAS, OF NEW YORK, N. Y.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 234,628, dated November 16, 1880.

Application filed May 13, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, EDDY T. THOMAS, of the city, county, and State of New York, have invented an Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to sewing-machines, and is herein shown as embodied in the so-called "Home" sewing-machine.

One part of my invention relates to the take-up; and it consists, essentially, in a double-acting take-up, or one wherein two thread-controlling arms or levers on a block are moved simultaneously in opposite directions from certain stationary thread-guiding eyes, so as to enable the loop or slack of the needle-thread to be quickly taken up, the take-up arms each moving through but substantially half the distance that would be the case were but one arm employed; also, in the combination, with the presser-foot bar, of an adjustable suspending device to elevate and keep the bottom of the presser-foot bar above the throat-plate for a distance substantially equal to the thickness of the goods to be moved under the presser, thus enabling the material to be moved backward and forward or sidewise by hand for what is known as "darning."

Figure 1 represents an under-side view of a sewing-machine containing my improvements; Fig. 2, a detail showing the shuttle-holder; Fig. 3, a side elevation of the head of the machine, partly broken away to show the take-up; Fig. 4, a section on the line  $x x$ , Fig. 3; Figs. 5 and 6, details showing the take-up arms in their two extreme positions; Figs. 7 and 8, modifications of the take-up devices on a scale half the size of the other figures.

The machine herein selected upon which to illustrate my improvements is that known as the "Home;" but it is obvious that my improvements are equally applicable to other well-known shuttle-machines.

The shuttle-actuating lever  $a$ , having at its end the usual carrier,  $b$ , is provided with a shuttle-holder,  $c$ , shaped as shown in Fig. 2, and pivoted upon the said lever by the screw  $d$ . The front end of this holder (see Fig. 2) is forked to leave two prongs—one to bear on the

upper side of the shuttle near its heel and the other near its point, as the said shuttle rests in the said carrier as usual. The rear end, 2, of the holder is extended backward, where it is acted upon by a spring,  $e$ , which causes the holder to keep the shuttle down in the carrier and against the face of the race  $f$ , so as to avoid rattling or the shuttle being lifted from any cause by the loop of the needle-thread.

Upon the usual needle-actuating rotating shaft,  $g$ , I make, in the form of my invention shown in Figs. 3 and 4, a double-throw cam,  $i$ , the opposite points of which (see Fig. 4) act simultaneously upon the two levers or arms 3 4, which constitute the movable members of my duplex take-up mechanism, the said levers being pivoted at  $h$  upon a vertically-adjustable slide or block,  $j$ , held in adjusted position by a set-screw,  $k$ , a suitable spring,  $l$ , connected with each arm or lever, 3 4, keeping the said arms or levers against the said cam. These levers are operated positively to take up the loop.

The needle-thread  $m$  is led through the stationary eye 5, thence through the eyes at the top of the arms 3 4, thence through the stationary eye 6, from which it will be led through the usual eye at the top of the needle-bar  $n$ , thence down in front of the head  $o$  to the needle-eye, as usual. Adjusting the block  $j$  vertically enables the arms 3 4 to be moved more or less at each rotation of the cam.

When the needle-thread is to be slack, or is to be delivered freely for the formation of a stitch, the arms 3 4 and their eyes are in line with the eyes 5 6, as in Fig. 6; but when the slack in the needle-thread is to be taken up the two arms 3 4 are simultaneously thrown away from each other, and the eyes 5 6, as in Fig. 5, drawing half the slack thread in one and half in the other direction, thus making it necessary to move the take-up lever through but half the usual space to take up a like amount of slack thread.

Instead of operating both arms of the take-up positively by a single double-throw cam, as shown in Fig. 4, I may employ two separate cams oppositely placed, as shown in Fig. 7, so that as one cam operates upon arm 3 the spring

s, connected with arm 4, operates it in the opposite direction, and vice versa. So, also, if desired, one of the take-up arms may be pivoted to the other arm, as shown, by the arm *t*, and  
5 turn on a different fulcrum in opposition to the arm moved by the cam *i*.

The presser-foot bar *u* has attached to it an adjustable suspending-rod, *w*, having at top a screw, *x*, that is herein shown as rested upon  
10 the top of the head *o*. By this suspending-rod the presser-foot *a*<sup>2</sup> may be lifted above the cloth-plate *b*<sup>2</sup> and retained there, as in Fig. 4, to enable the work to be moved in any direction under the presser-foot and for the desired  
15 distance to darn a hole in the fabric.

When sewing regularly, and the feed *c*<sup>2</sup>, of usual construction, is effective in moving the fabric, the presser rests upon the fabric in the usual manner.

20 If desired, I may employ more than two arms, adding mechanism on the shaft *g* to move them at the proper times, each addi-

tional arm taking up its proper proportion of the slack thread or loop.

I claim—

1. The take-up arms and adjustable block or slide *j*, upon which they are pivoted, combined with the eyes 5 6, the cam and springs for operating the take-up arms, and the shaft to operate the cam, as and for the purpose set  
25 forth. 30

2. The head *o* and the presser-bar and its foot, combined with the suspending-rod and means to adjust it to hold the presser more or less elevated above the work-supporting sur-  
35 face *b*<sup>2</sup> for darning, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. T. THOMAS.

Witnesses:

I. SPENCER SMITH,  
JAMES GROWER.