

(No Model.)

P. HOWE.
CLOTH CUTTING MACHINE.

No. 359,570.

Patented Mar. 15, 1887.

Fig. 1.

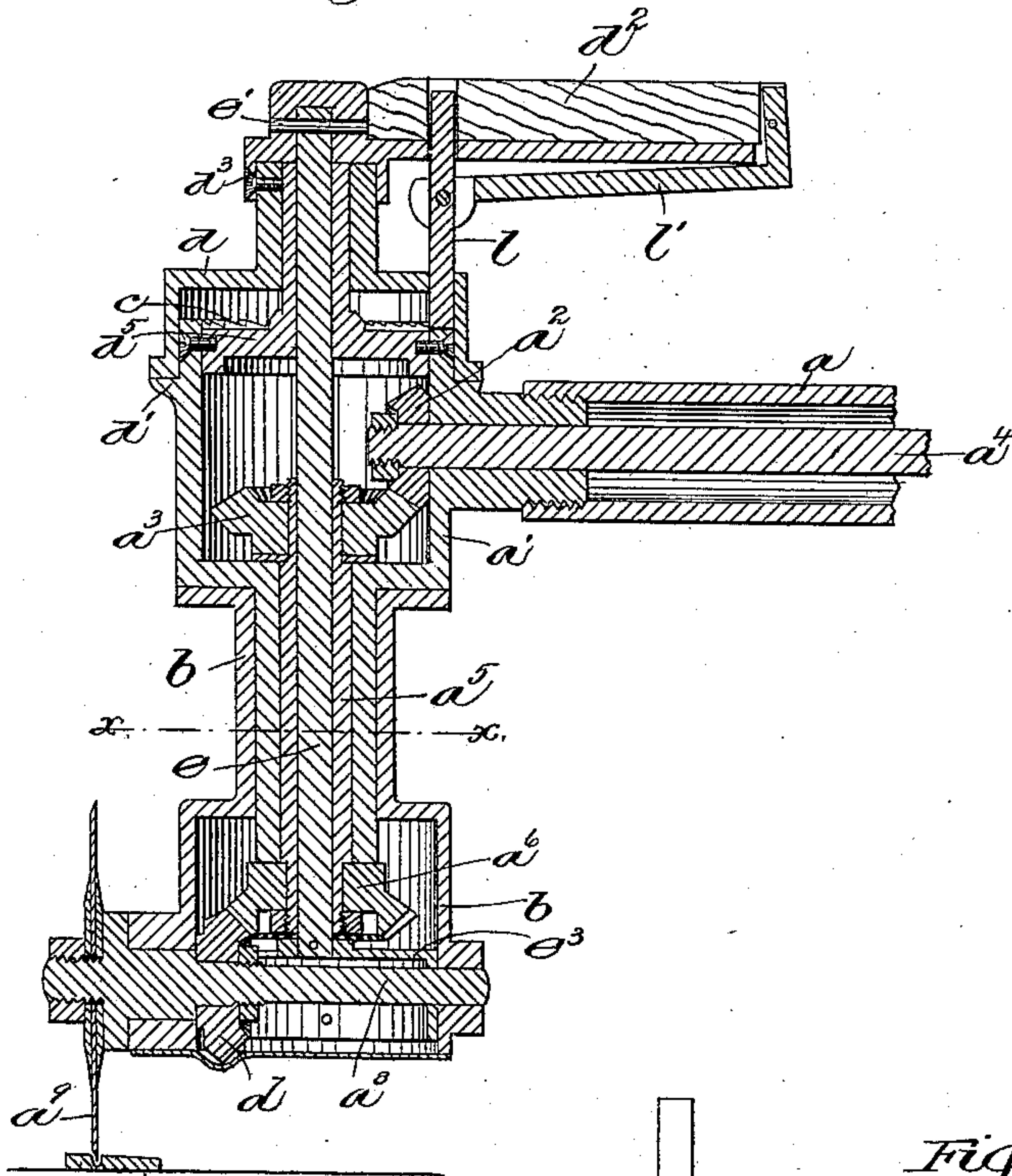


Fig. 2.

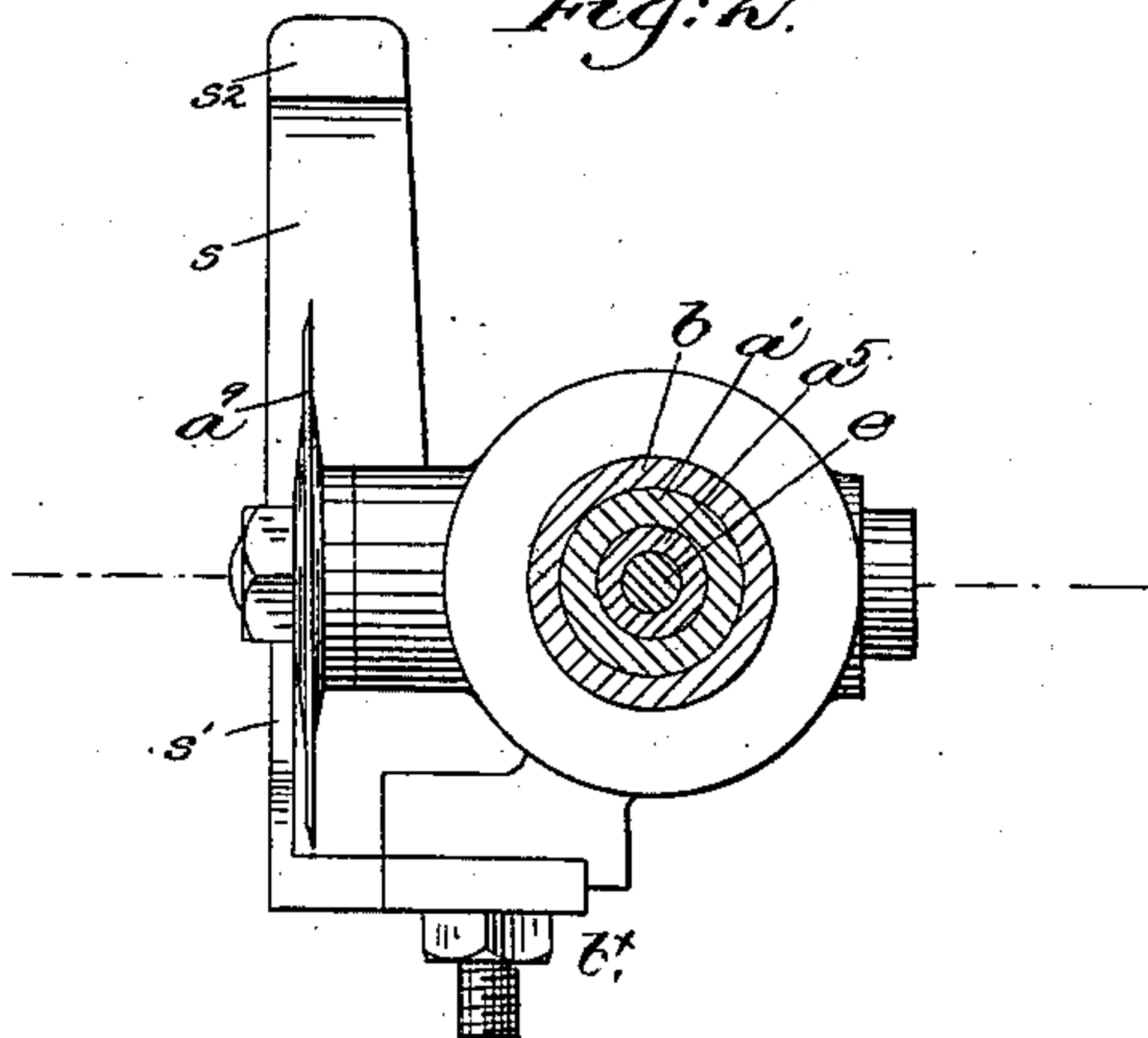
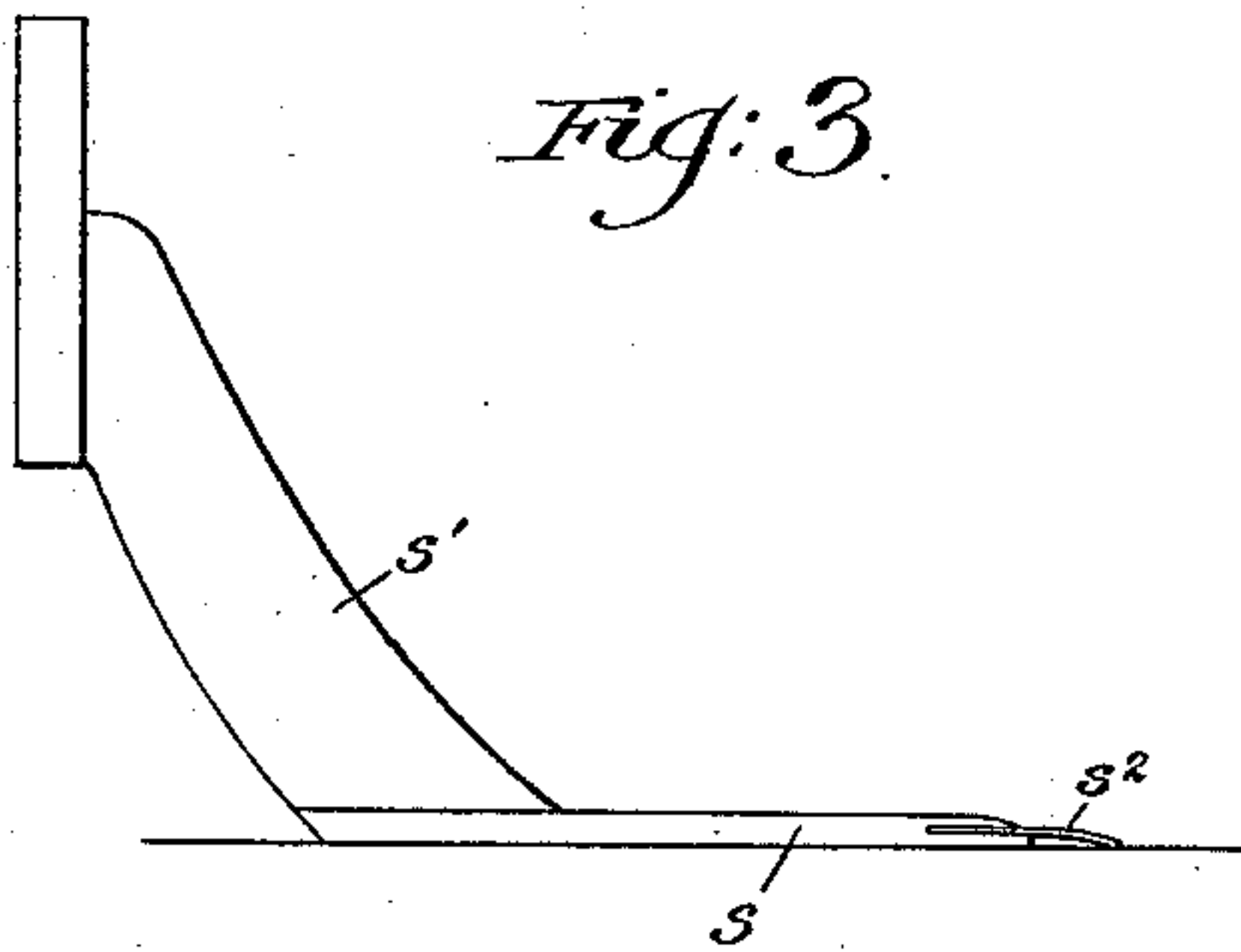


Fig. 3.



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UNITED STATES PATENT OFFICE.

PATRICK HOWE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO I. FENNO, R. D. GOODWIN, AND C. M. BLAKE, OF SAME PLACE, AND A. K. TOLMAN, OF NEWTON, AND H. G. HARTSHORNE, OF WAKEFIELD, MASSACHUSETTS.

CLOTH-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 359,570, dated March 15, 1887.

Application filed January 15, 1887. Serial No. 224,422. (No model.)

To all whom it may concern:

Be it known that I, PATRICK HOWE, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Cloth-Cutting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is an improvement upon Letters Patent of the United States No. 355,086, dated December 28, 1886, and has for its object to improve the construction of the rotatable cutter-carrying head and its attached parts, whereby the said head may be revolved manually and without lost motion on an axis at right angles to the axis of the shaft carrying the cutter.

This invention in cloth-cutting machines consists of a frame moved by the swinging arms and a rotatable cutter-carrying head carried by the said frame, the cutter and its shaft, and means for rotating the cutter-carrying shaft, combined with a rod passing vertically through the said frame and positively connected at its lower end with the said head, and means for manually rotating the rod, whereby the said head supporting the cutter and its shaft may be rotated positively.

The invention also consists in the combination, with the rotatable head and cutter carried by it, of a shoe having a yielding lip, which lip bears upon the table as said head is moved, the said lip compensating for inequalities in the surface of the table.

Figure 1 shows in vertical section the frame, the rotatable head and cutter, and attached parts of a cloth-cutting machine, sufficient to illustrate this present invention; Fig. 2, a cross-section of the parts shown in Fig. 1, taken on the dotted line $x x$; and Fig. 3, a side elevation of the shoe detached.

The tubular swinging arm a has a hollow frame, a' , screwed into it, said hollow frame containing the two intermeshing beveled gears $a^2 a^3$, one of which, as a^2 , is secured to a rotating shaft, a^4 , contained within the tubular swinging arm a , while the other, as a^3 , is secured to a tubular shaft, a^5 , which latter passes vertically through the frame a' . The lower

end of the tubular shaft a^5 has secured to it a beveled gear, a^6 , which meshes with a beveled gear, a^7 , secured to a shaft, a^8 , having its bearings in a head, b , rotatable upon the frame a' , the said shaft a^8 having fixed to it the rotary cutter a^9 .

The parts thus far described are quite analogous to the parts represented in the patent referred to.

A cap, d , rests upon a flange, d' , projecting laterally from the upper end of the frame a' , and a handle or bar, d^2 , is secured to the shank of the said cap d by a screw, d^3 , so that the said cap may be rotated freely upon the frame. A suitable latch or dog, l , is attached to an arm, l' , located at the under side of the handle-bar d^2 , which latch or dog engages one or another tooth of a series of teeth, as c , cut in the upper side or end of the frame a' when the hand is removed from the handle or bar d^2 . A rod, e , is secured to the bar d^2 by a pin, e' , said rod extending downward vertically through the end plate, d^5 , of the frame a' , the frame, and also through the tubular shaft a^5 , the lower end of the said rod e being secured to a plate, e^3 , which is rigidly attached to the interior of the rotatable head b , so that as the rod e is rotated by the handle or bar d^2 the head b will be rotated, thereby rotating the cutter about the shaft e as an axis.

By the employment of the rod e a positive connection is made with the head b , so that the said head may be rotated without material loss of motion, thus overcoming a difficulty which has been found somewhat objectionable in the patent referred to.

A shoe, s , having a shank, s' , secured to the rotatable head b by a set-screw, b^x , (see Fig. 2,) has a yielding lip, s^2 , secured to its forward end, the said lip bearing upon the table upon which the cloth is laid, the yielding action of the lip enabling it to compensate for the many inequalities of tables, so that the shoe will not in passing over the table occasionally leave one or two thicknesses of cloth, as now sometimes happens with shoes of ordinary construction.

It is obvious that instead of joining the rod e with the head in the manner herein shown it

may be joined in any other way, directly or indirectly.

I claim--

1. In a cloth-cutting machine, the swinging
5 arm, the frame carried by it, the rotatable
head turning on the frame, the cutter, the cut-
ter-carrying shaft supported by the rotatable
head, and means for rotating the said shaft,
combined with the rotatable rod *e*, extending
10 vertically through the frame and connected
with the head, whereby rotation is imparted
to the head, substantially as described.

2. In a cloth-cutting machine, the arm, the
frame carried by it, the rotatable head, the
15 cutter, and the cutter-carrying shaft supported
by the rotatable head, a rotating tubular shaft,
*a*⁵, for rotating the cutter-carrying shaft, com-
bined with the rotatable rod *e*, passing verti-

cally through the shaft *a*⁵ and connected with
the head for turning the head on an axis at 20
right angles to the axis of rotation of the cut-
ter-carrying shaft, substantially as described.

3. In a cloth-cutting machine, the head and
cutter and cutter-carrying shaft, combined
with the shoe *s*, connected with the head, and 25
a lip, *s*², composed of a flexible piece of metal
fixed to the forward end of the shoe, all sub-
stantially as and for the purpose set forth.

In testimony whereof I have signed my name
to this specification in the presence of two sub- 30
scribing witnesses.

PATRICK HOWE.

Witnesses:

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