

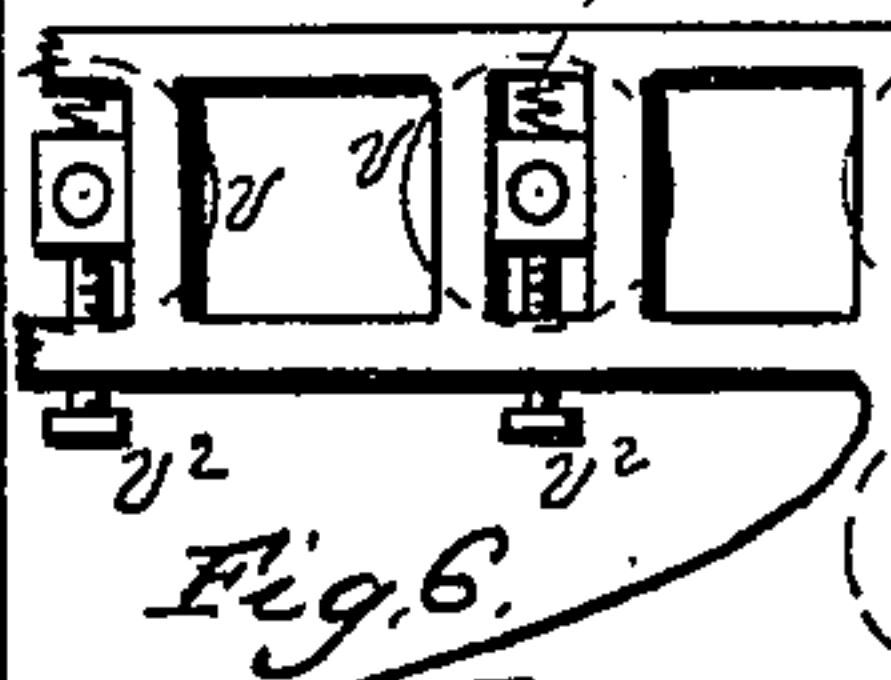
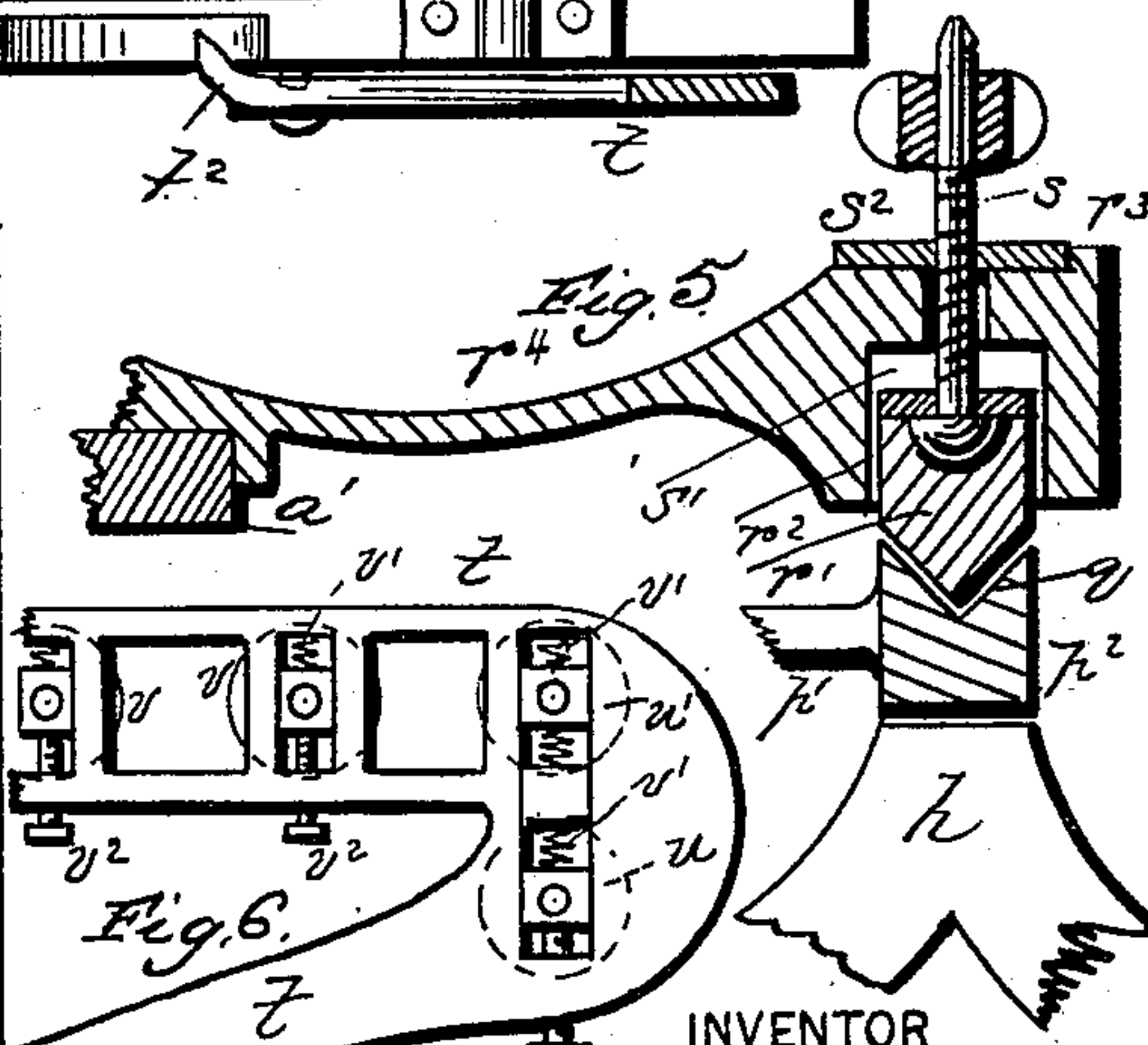
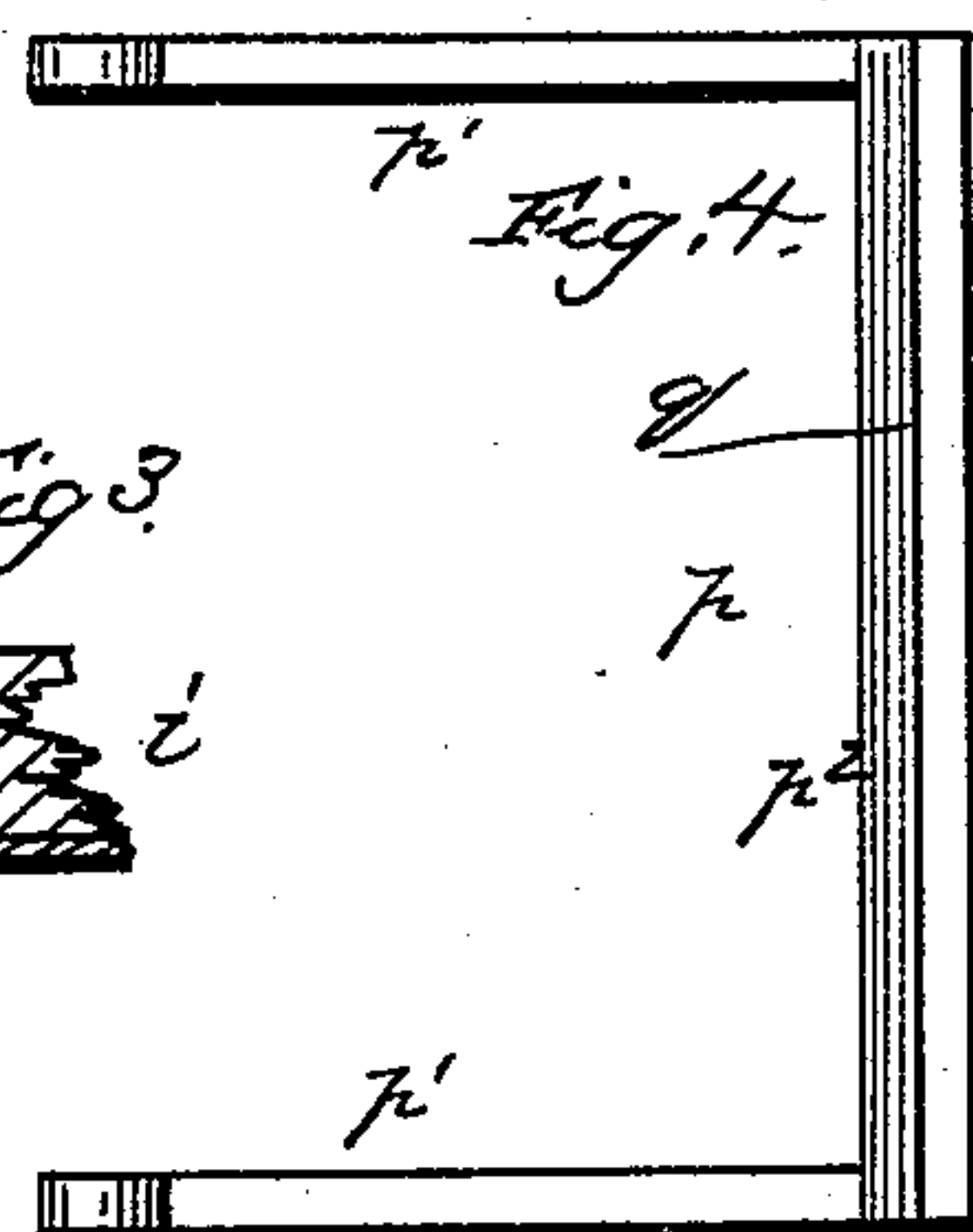
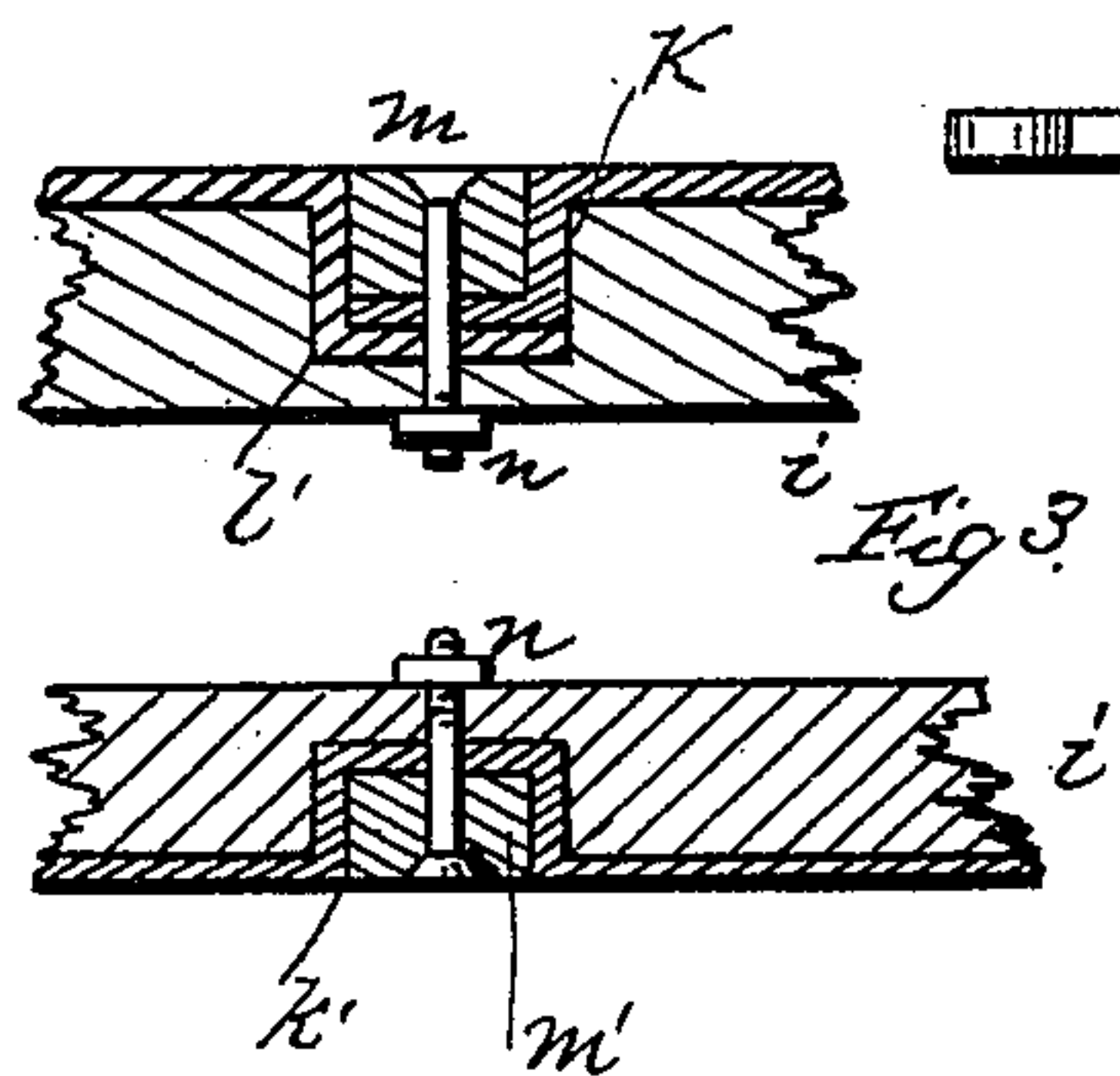
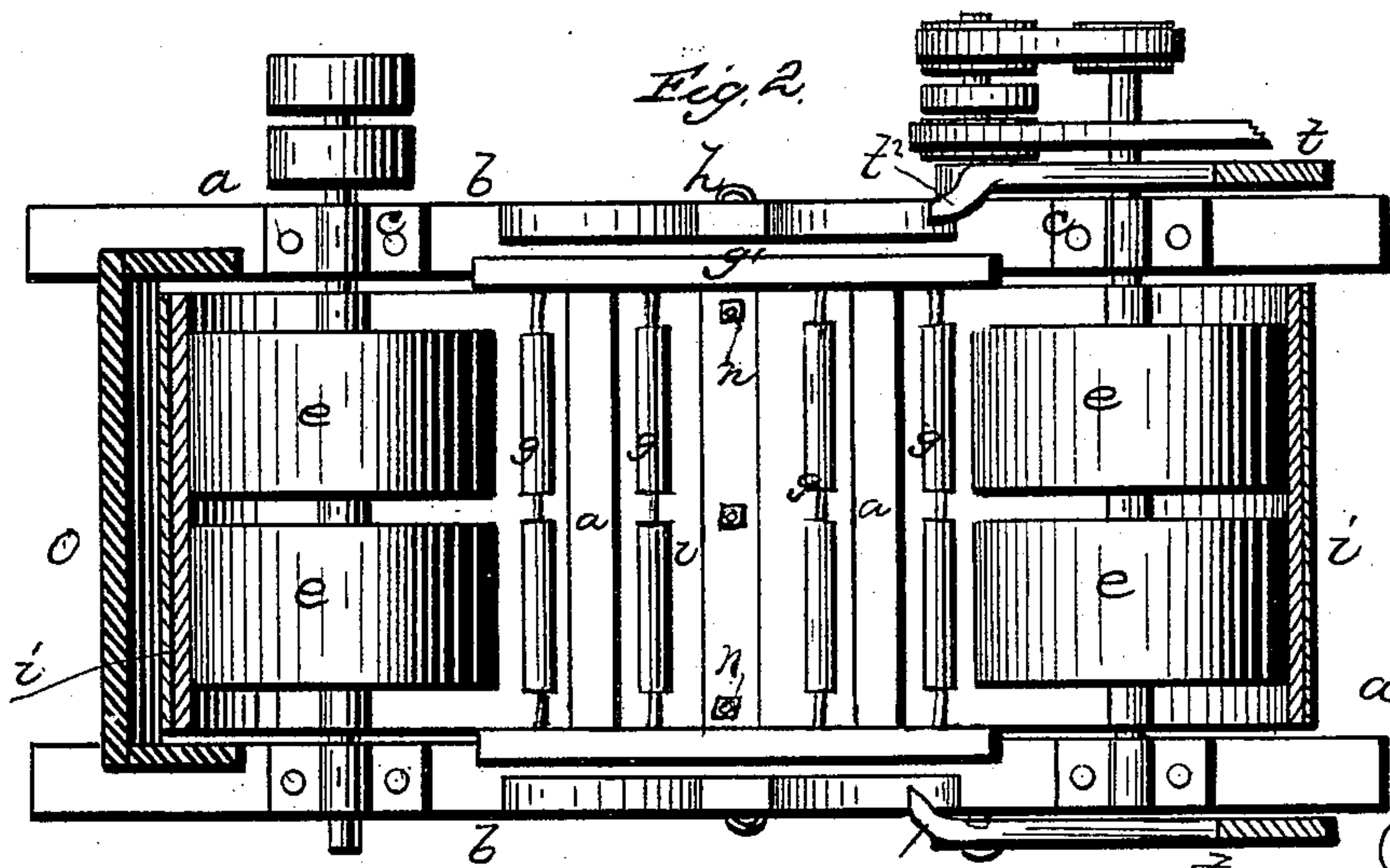
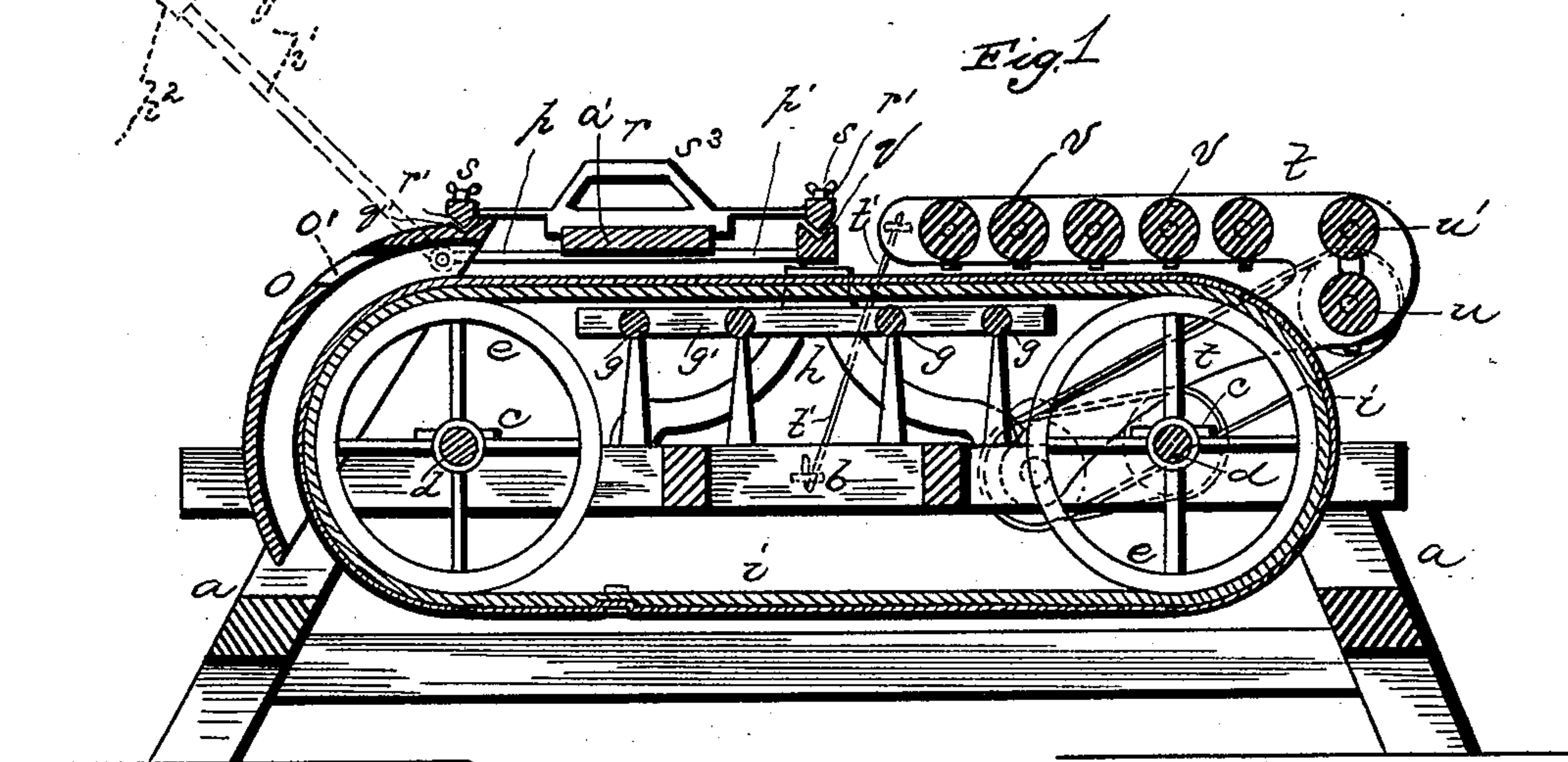
(No Model.)

J. CASEY.

WOOD POLISHING MACHINE.

No. 800,844.

Patented June 24, 1884.



WITNESSES
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JEREMIAH CASEY, OF NEW YORK, N. Y.

WOOD-POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 300,844, dated June 24, 1884.

Application filed September 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH CASEY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Wood-Polishing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a vertical longitudinal sectional view. Fig. 2 is a horizontal sectional view above the tension-rollers. Fig. 3 is a section of the belt and sand-paper connections. Fig. 4 is a detail of the hinged grooved frame, and Figs. 5 and 6 are detail views.

This invention has relation to wood-polishing machines; and it consists of the construction and arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Referring by letter to the accompanying drawings, *a* designates the frame of the machine, which is made substantial, and is suitably braced. Near the ends of the frame *a*, and on its top rails, *b b*, are the bearings *c c* for the journals of two transverse shafts, *d d*, each carrying two pulleys, *e e*, having spaces between them. Six or more tension-rollers, *g*, are journaled in uprights *g'*, rising from the top rails, *b*. These rollers are aligned with the rollers *e*, and the bolts *n* pass them in the same manner that they pass the rollers *e*, as will be hereinafter explained. Brackets *h* also rise from the top rails, *b b*, from the outer sides thereof and near the middle of the frame, and extend slightly above the endless apron *i* on the pulleys *e e*. The endless apron *i* is made of leather, having a sand-paper surface removably secured thereto. An abrading-surface formed on the leather itself may be employed; but I prefer the removable sheet of sand-paper, as it may be readily renewed when worn away. The leather portion of the endless apron is fastened at the meeting ends in any well-known manner of fastening belts; but I employ an original means of removably

securing a single sheet of sand-paper large enough to cover the exterior face of the leather apron. I make, preferably, two transverse channels, *k k'*, in the outer face of the leather apron, although more may be made, if necessary. In one of the channels *k* the meeting edges *l l'* of the sheet of sand-paper are depressed and lapped. The leather portion of the apron and the lapped edges of the sheet of sand-paper are perforated near the ends and midway of the channel *k*, and a flat transverse perforated bar, *m*, of metal is let into the channel *k* upon the sand-paper, and is secured in place in the channel by three nut-bolts, *n n n*. The sand-paper and leather are also perforated in the channel *k'*, and a perforated metal bar, *m'*, is similarly secured in said channel by nut-bolts. The perforations in the metal bars *m m'* should be countersunk in the outer faces to receive the heads of the securing-bolts *n*. The metal bars should be flush or nearly flush with the sand-paper face of the endless belt. The two outer nuts of the securing-bolts pass the outside ends of the pulleys *e e* when the endless apron is revolved, and the intermediate nuts and bolt-points pass between the inner ends of the pulleys *e e*.

o designates a cap-piece at one end of the machine to catch the dust arising from polishing articles and directing it to any suitable receptacle.

Hinged to the sides of the cap-piece *o* near its upper edge is a metal frame, *p*, consisting of two side arms, *p' p'*, and a connecting cross-arm, *p²*, having a V-shaped groove, *q*, lengthwise in its upper face. The cap-piece also has a parallel transverse V-shaped groove, *q'*, in its outer face near its upper edge. When the frame *p* is swung down ready for use, its front or cross arm *p²* is supported by the brackets *h h*. When not in use it may be swung up out of the way, its arms being pivoted to the ends of the cap *o*, as shown in dotted lines in Fig. 1. The cap-piece *o* is provided with a transverse recess, *o'*, extending entirely across it just above the line of the upper horizontal surface of the endless belt, through which the large material passes when leaving the belt after having been polished.

In connection with the grooved cap-piece and grooved hinged frame *p*, I employ a transversely-reciprocating holder, *r*, having V-

shaped end points, r' , which work in the V-shaped grooves $q q'$. The ends of the holder r are sectional, the V-point castings r' fitting in recesses r^2 in the under faces of the end portions r^3 . Swivel-screws s are connected to the V-point castings, which are recessed in their upper faces to receive the points of the screws, by plates s' , secured to the upper faces of the V-point pieces. These swivel-screws s are passed up through screw-holes in the end portions r^3 , and plates $s^2 s^2$ are screwed down over their projecting upper ends, and secured to the upper faces of the end portions r^3 . A thumb-nut or permanent wrench is secured to the upper end of each screw s , by which to adjust the V-point pieces r' vertically. The holder r has spring portions r^4 near the ends, and has a handle, s^3 , intermediately of the ends, and a rubber or other frictional surface, a' , below the handle. The reciprocating holder is intended for holding articles down upon the rotating endless belt, and at the same time imparting lateral motion to the article by reciprocating the holder to and fro in the grooves $q q'$. The adjustable sectional ends are to permit the guide-holder to be adjusted to articles of different thicknesses. The holder is removable, and may be lifted from the grooves $q q'$ and laid aside when not in use. A hinged frame, t , is provided at the opposite end of the machine, and carries the feed-rollers $u u'$ and the pressure-rollers v . The pressure-rollers v have bearings in the sides of the frame t , and are provided with tension-springs v' above and set-screws v^2 below their journals, to permit them to be adjusted to articles of different thicknesses. The feed-roller u is adjustable in its bearings for a similar reason. The roller u' is simply a tension-roller, and has no means of adjustment. The set-screws v^2 are intended to prevent the pressure-rollers v from coming in contact with the moving abrasive belt when there is nothing between them for either to act upon. The frame t , which is provided with hooks t' to engage eyes on the main frame, and has stops t^2 , which engage the main frame and prevent the frame t from coming too near the abrasive belt, should also be

turned back out of the way when not in use, and the belt that drives the lower feed-roller, u , should be shifted onto an idle-pulley before the frame is turned back, as there is no need to run the feed-rollers at this time. It will be understood, of course, that the frames p and t are not used at the same time.

The operation of the machine is very simple. Where small articles—such as cigar-box material and other thin or short material—are being polished, the reciprocating holder is employed to hold and reciprocate the piece, thus obviating the danger of having the fingers injured by the sand-paper. In larger articles the feed-rollers and pressure-rollers are employed to feed the material to the machine and hold it in contact with the abrasive belt.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a polishing-machine, the endless belt of leather, having channels cut transversely in its outer face, in combination with a single sheet of sand-paper covering the outer surface of the leather belt, and the transverse metal bars perforated near the ends and the middle, and the nut-bolts for securing them in place, and the four pulleys $e e e e$ on the shafts $d d$ for driving the belt, substantially as specified.

2. In a polishing-machine, the combination, with the grooved cap-piece and the supporting-bracket extending above the abrasive belt, of the hinged metal frame having its connecting cross-bar grooved longitudinally in its upper face, and the guide-holder having adjustable V-point castings at its ends, and elastic portions and an under friction-face between its ends, substantially as specified.

3. In a polishing-machine, the hinged frame carrying the feed-rollers and the adjustable pressure-rollers, in combination with the endless abrasive belt, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JEREMIAH CASEY.

Witnesses:

THEO. MUNGEN,
JOHN D. MORROW.