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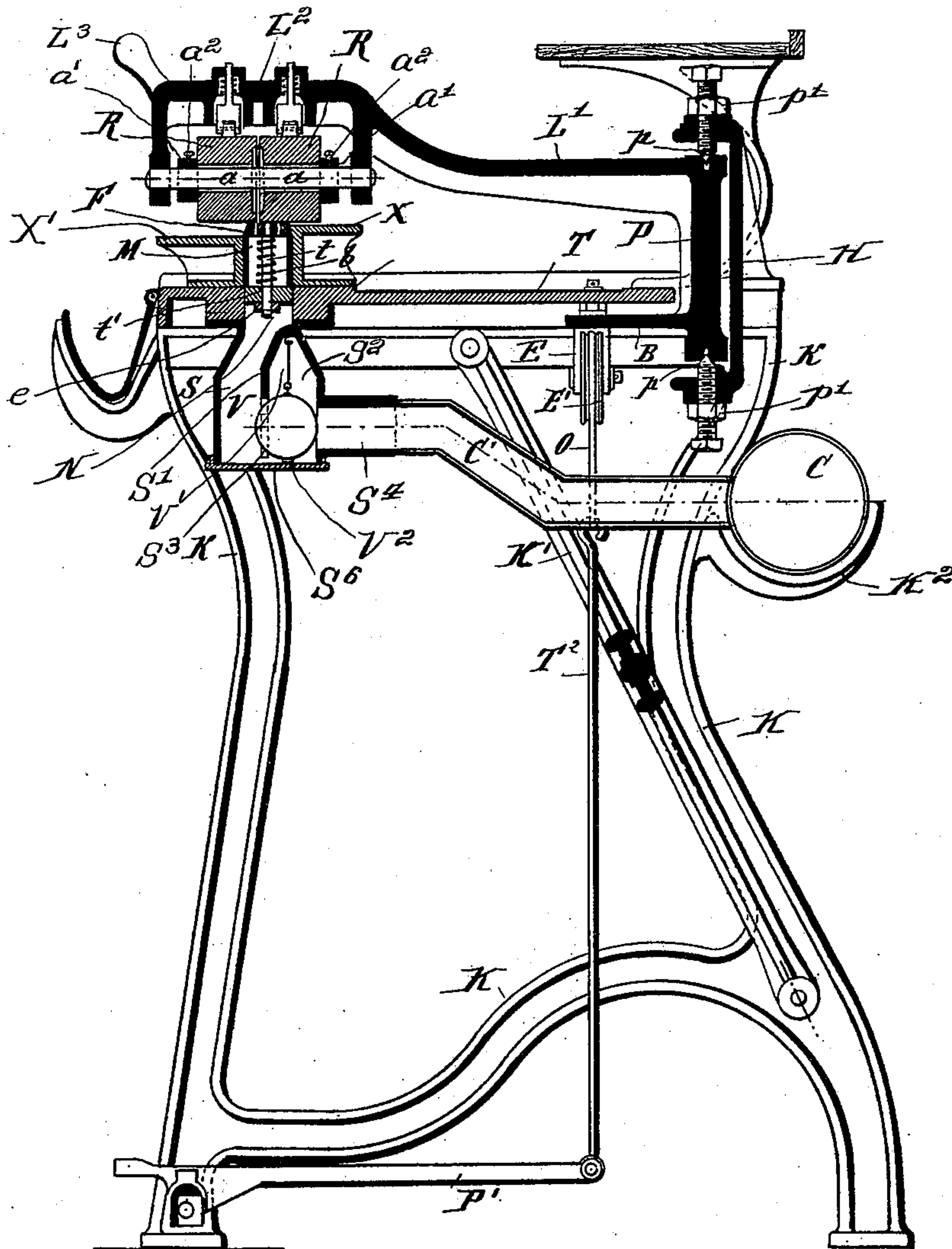
4 Sheets—Sheet 1.

P. VERACI.  
CIGAR WRAPPER CUTTING MACHINE.

No. 594,835.

Patented Nov. 30, 1897.

Fig. 1.



Witnesses:

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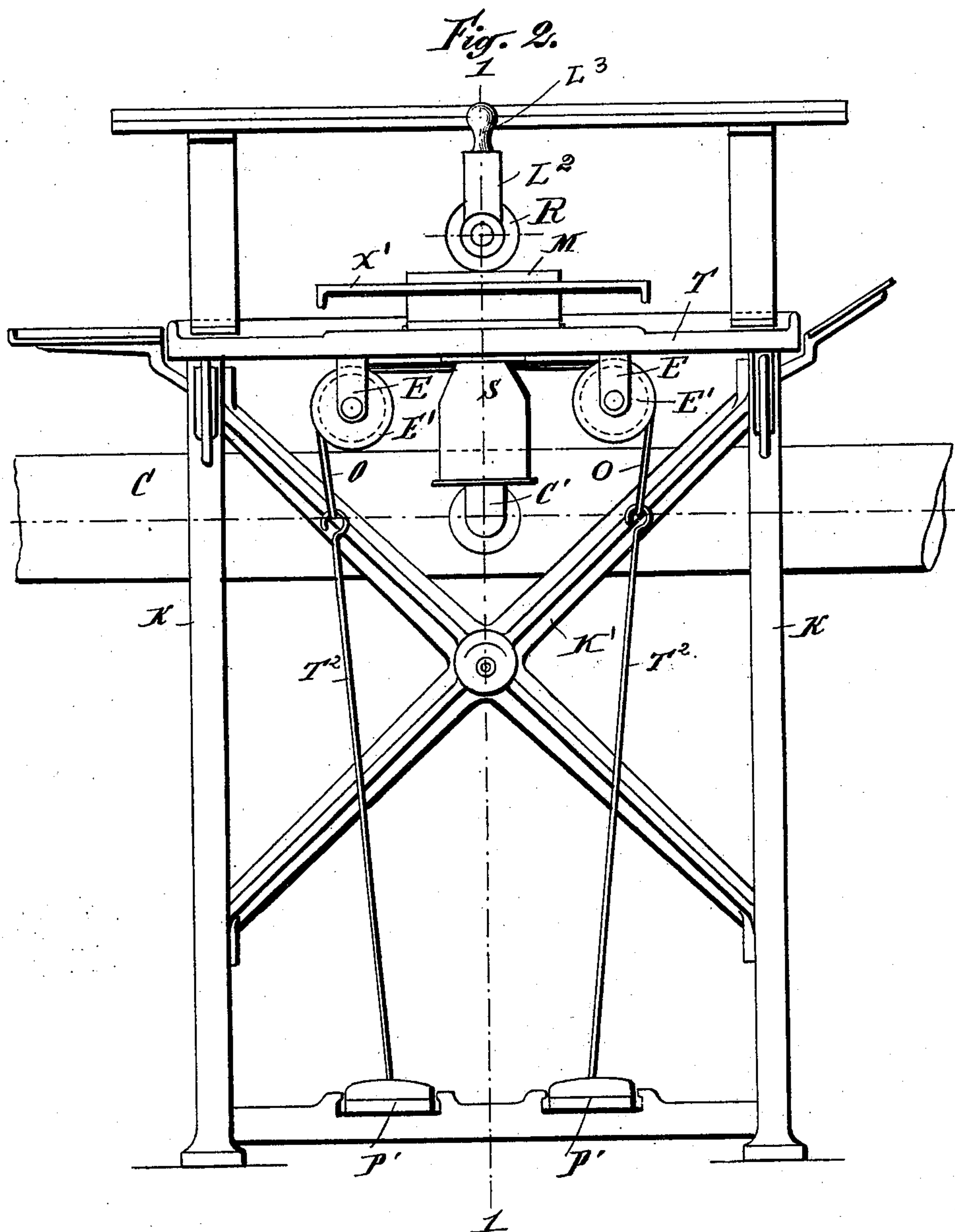
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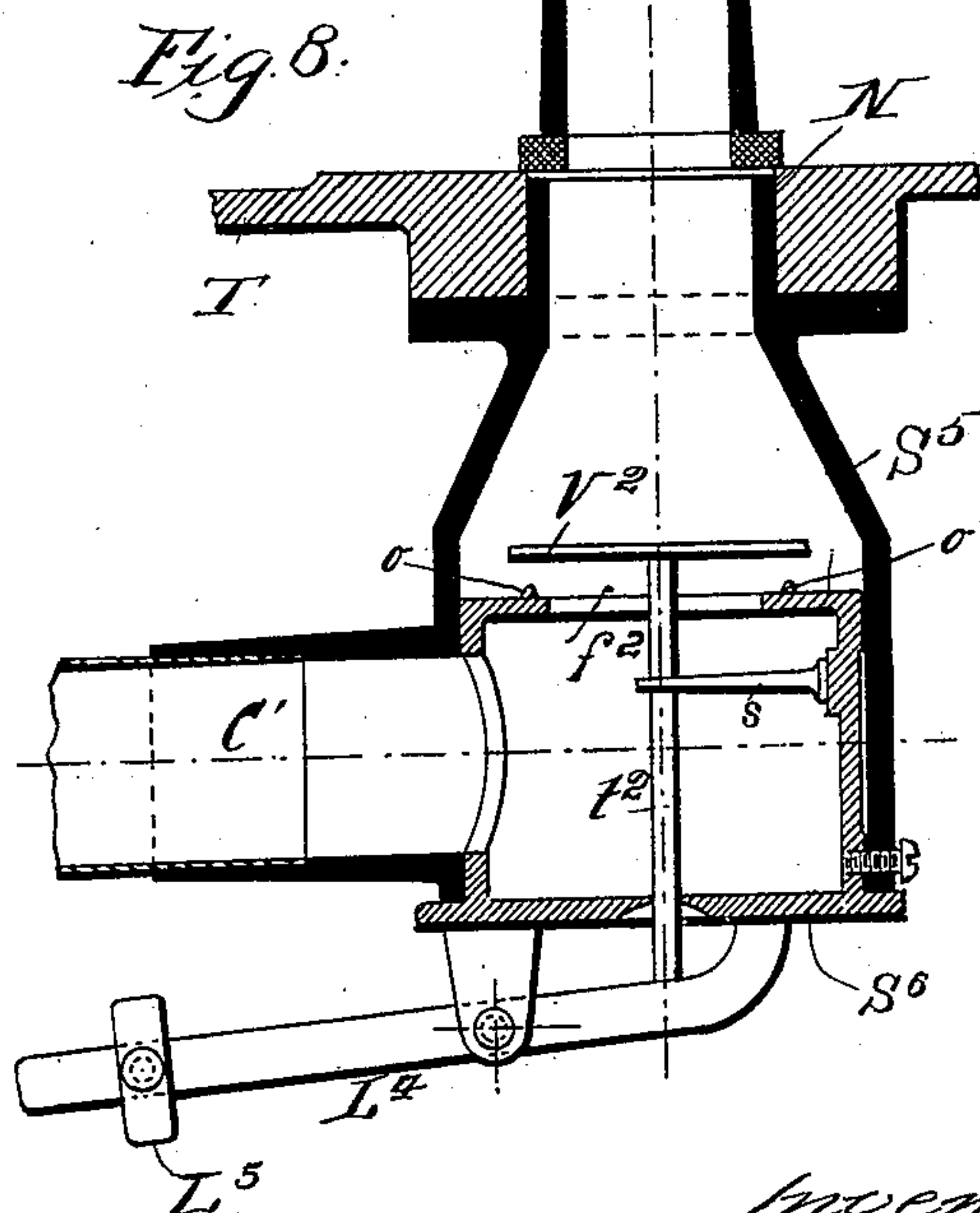
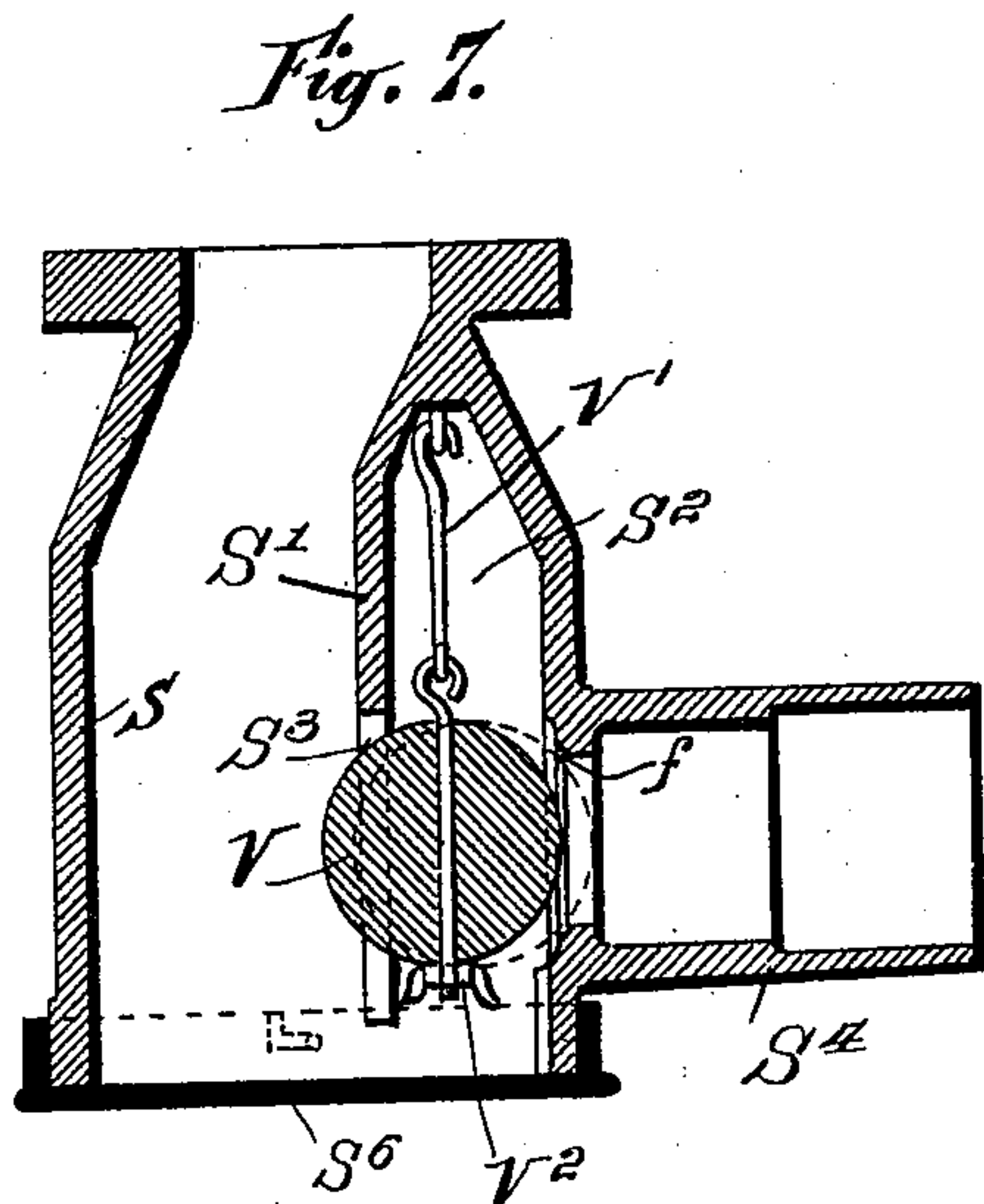
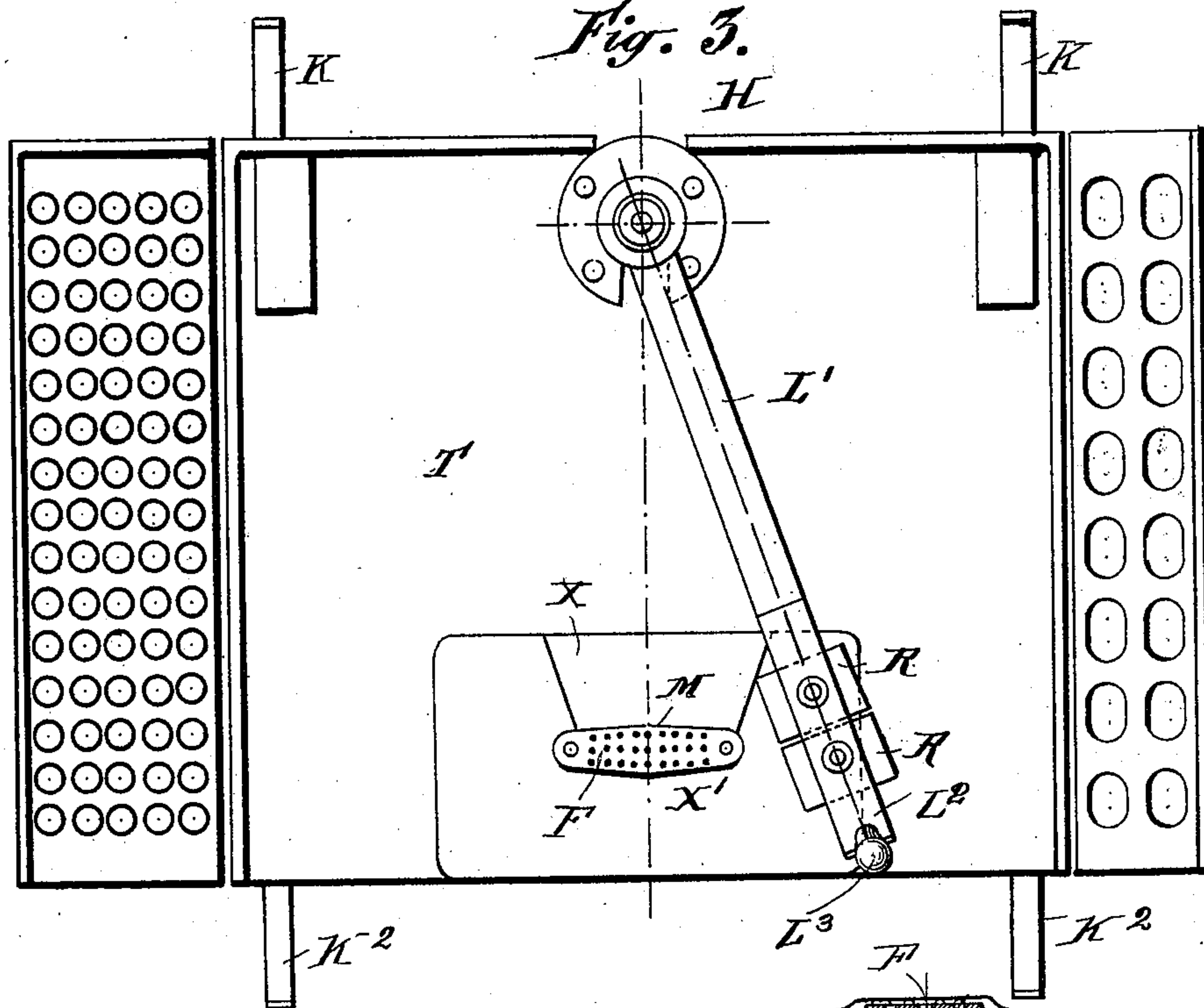
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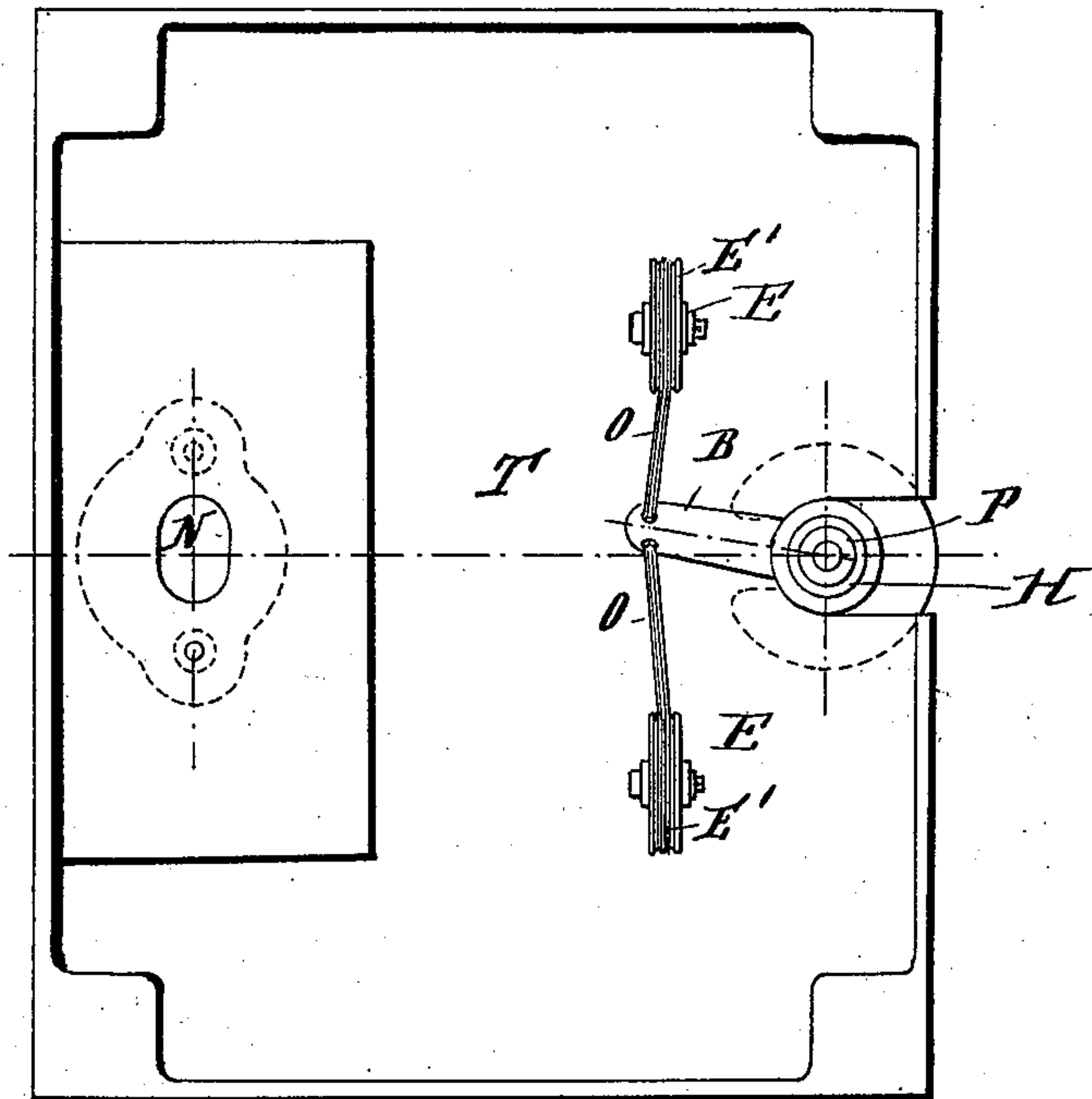
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P. VERACI.  
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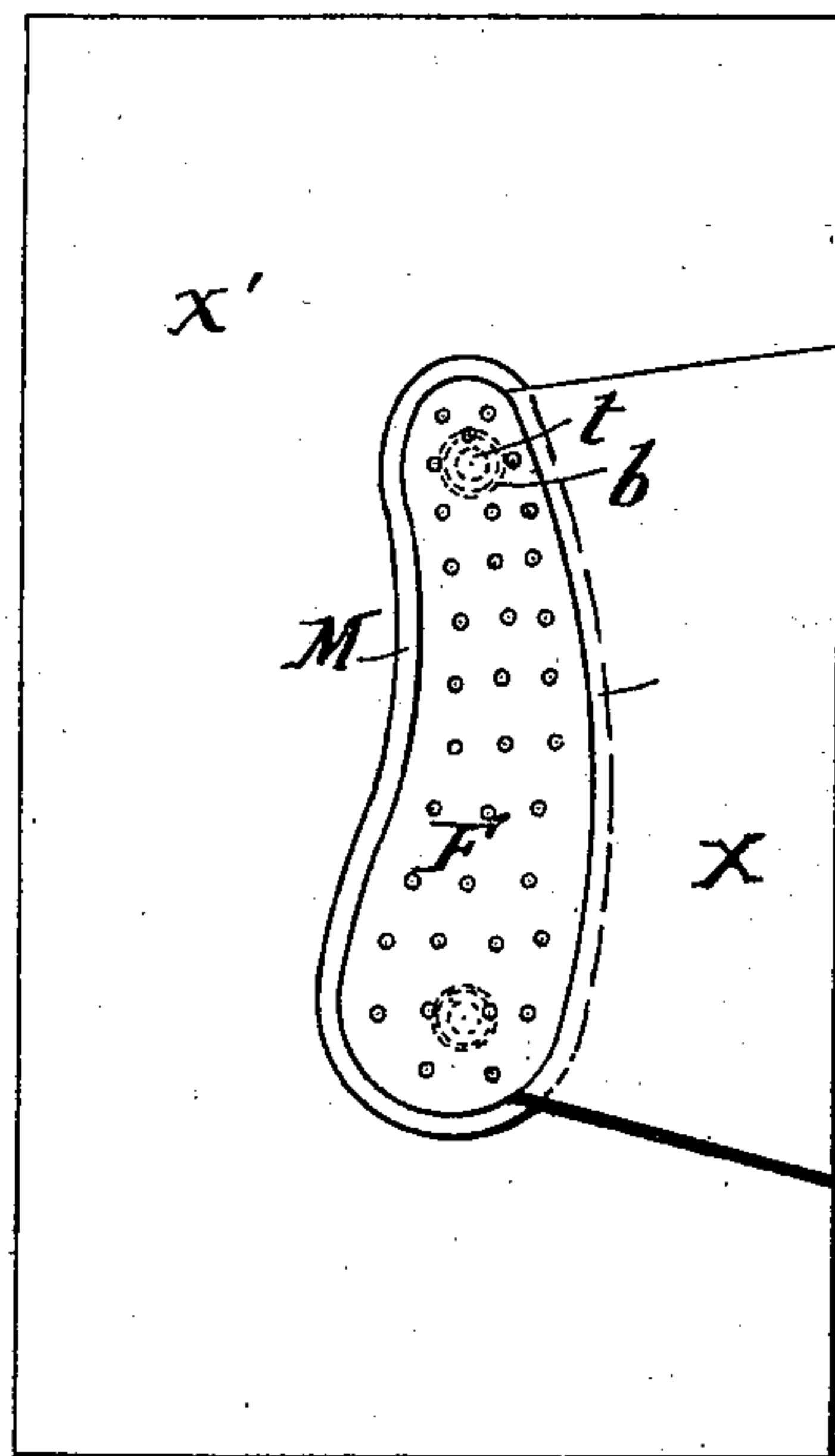
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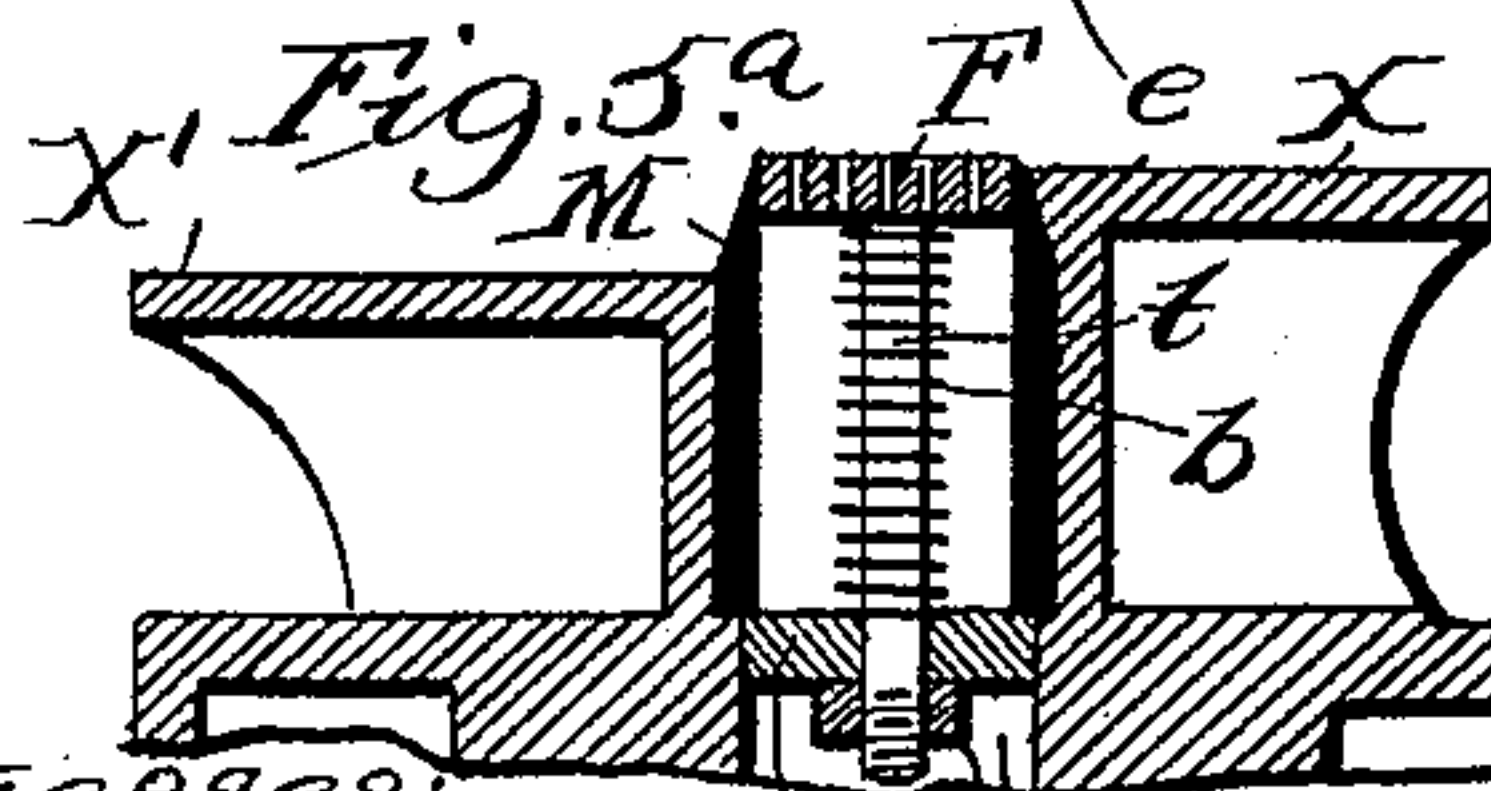
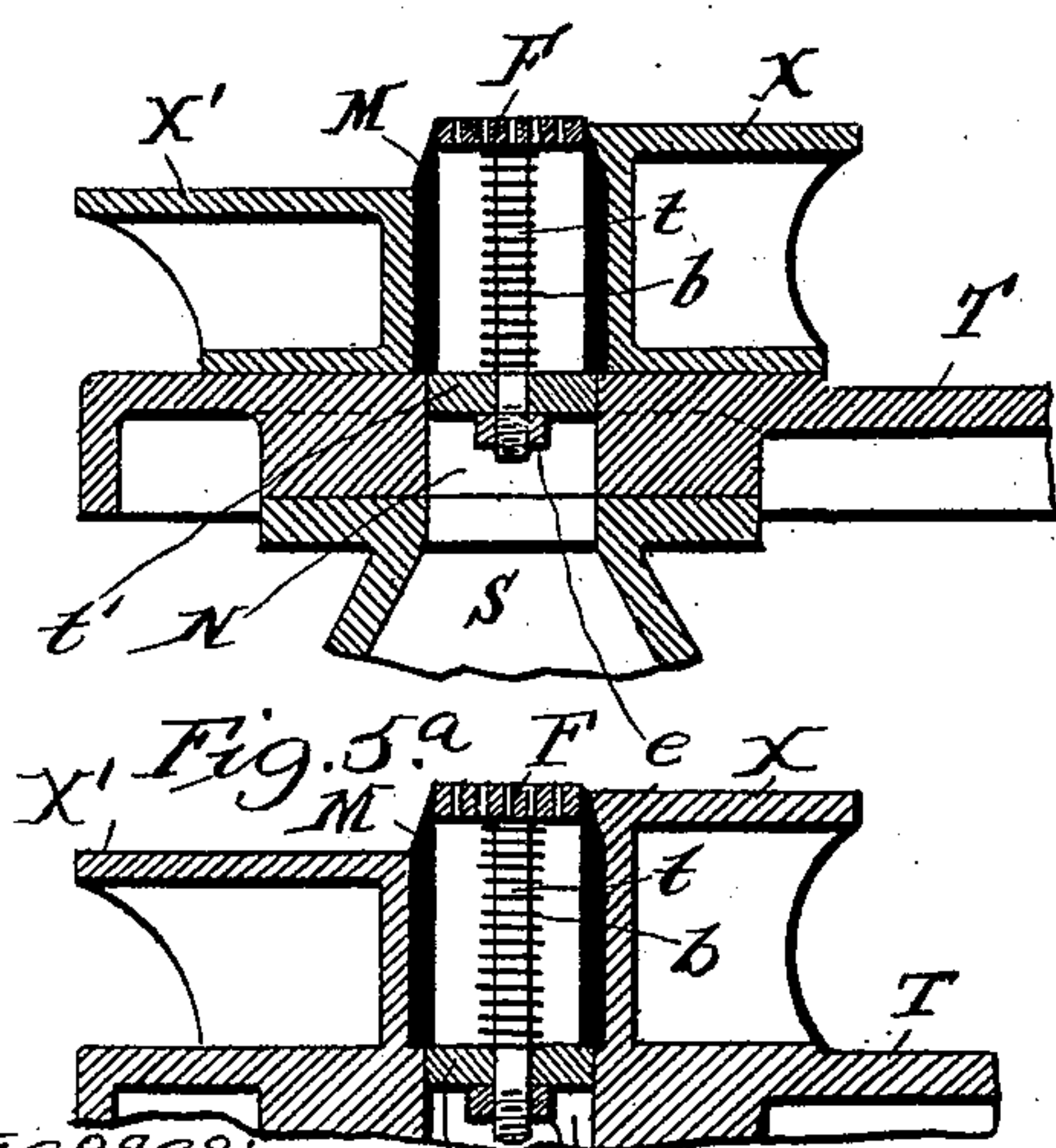
*Fig. 4.*



*Fig. 6.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

PIETRO VERACI, OF FLORENCE, ITALY.

## CIGAR-WRAPPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,835, dated November 30, 1897.

Application filed December 12, 1896. Serial No. 615,537. (No model.)

*To all whom it may concern:*

Be it known that I, PIETRO VERACI, engineer, a subject of the King of Italy, and a resident of the city of Florence, in the Kingdom of Italy, have invented certain new and useful Improvements in Cigar-Wrapper-Cutting Machines, of which the following is a specification.

My invention is an improvement on those cigar-wrapper-cutting machines in which a leaf is laid on a hollow cutting-die and wrapper-supporting plate, over which a roller is reciprocated to cut the wrapper out of the leaf, the wrapper being held in position by air-pressure while it is applied by the operator to the cigar-bunch.

My improvement consists in novel features of construction, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a vertical transverse section of my improved cigar-wrapper-cutting machine on the line 1 1, Fig. 2. Fig. 2 is a front elevation thereof. Fig. 3 is a plan view of the same. Fig. 4 is a bottom view of the bench. Fig. 5 is a detail vertical transverse section of the fixed platen, on a larger scale. Fig. 5<sup>a</sup> is a detail vertical transverse section of the fixed platen, showing a modification in which the platen is formed in one piece with the table. Fig. 6 is a plan view thereof. Fig. 7 is a detail vertical section of the valve, on a larger scale. Fig. 8 is a detail vertical section of a modified form of valve.

The frame of my table is constructed with legs or standards K, having a cross-brace K'. On this frame is mounted a bench T, provided with an air-opening N, extending through the bench. Located on the bench T and surrounding the air-opening N is a hollow cutting-die M, made of a sheet of steel sharpened at the upper edge and bent so as to take the approximate shape of the wrapper of the cigar. Within this die is fitted a wrapper-supporting plate F, which may be either vertically sliding or fixed slightly below the cutting edge of the die. The wrapper-supporting plate may be perforated or may have any other well-known

means of exhausting the air in order to hold the leaf. This wrapper-supporting plate is normally about level with the cutting edge of the die, whereon is placed the leaf from which the wrapper for the cigar-bunch is to be cut. The wrapper-supporting plate F is supported by and fastened to guide-rods *t*, passing through cross-pieces *t'* within the air-opening N. Surrounding the guide-rods *t* are coil-springs *b*, which rest on the cross-pieces *t'* and press the plate upward. The height of the plate is adjusted as desired by means of nuts *e*.

X is a fixed or stationary platen located to the rear of the cutting-die M, and whose surface is slightly beneath the cutting edge of the die M.

X' is a fixed or stationary platen or work-table to the front of the cutting-die M, having its surface at a lower level than the surface of the rear platen X. These platens may be independent and may even, as shown in Fig. 5<sup>a</sup>, be parts of the table or bench to which the die M is fastened. Further, this arrangement of the front platen X' lower than the rear platen X may extend around the ends of the cutting-die M, as shown in Fig. 6, so that the ends as well as the front of the cutting-die M may be more exposed and form a prominent offset down to platen X'. When the leaf from which the cigar-wrapper is to be cut is applied to the die, this offset allows the operator to pass his hands over and around the cutting edge and give the leaf a downward pull over the cutting edge and thereby quickly stretch it. The leaf may thus be cut by the passage of a roller R over the cutting edge of the die, which, as above stated, projects above the platens X and X'. The vertically-sliding wrapper-supporting plate F is thus pressed downward by as much as the thickness of the leaf when the roller R is passed over the die. This downward movement of the plate F exposes the cutting edge of the die from the inside; but this movement of the plate F is not essential, since good results may be obtained from a fixed plate located slightly below the cutting edge. After the passage of the roller R the springs *b* force the plate F back to its approximate level with the cutting edge. From



the plate F the cigar is then rolled up over to the platen X. The platen X being only slightly below the edge of the cutting-die permits of the proper cutting of the wrapper and yet does not interfere with the rolling up of the cigar.

The advantages arising from having the rear platen for rolling approximately on a level with the cutting-die and the front platen at a much lower level than the cutting-die for the stretching of the leaf will be readily apparent.

At the rear part of the bench and extending therethrough is a bracket H, in which is mounted by means of a pivot P and adjusting-screws  $p$ , secured by jam-nuts  $p'$ , a swinging arm  $L'$ , formed with a housing  $L^2$  and extending over the bench and die and with a short arm B, extending beneath the bench. Within the housing is a shaft  $a$ , on which is loosely mounted a two-part roller R, adjustable lengthwise of the shaft and secured in desired position by means of collars  $a'$ , having set-screws  $a^2$ .

I will now describe my means for operating the swinging arm. E are hangers secured to the bench, in which are journaled grooved pulleys  $E'$ . To the base of the frame are pivoted two treadles  $P'$ , connected with the short arm B by means of vertical pull-rods  $T^2$  and cords O, passing over the pulleys  $E'$  to the short arm B. By this provision the swinging arm is vibrated by the short arm from beneath the bench. Instead of this treadle mechanism I may employ simply a handle  $L^3$  to operate the moving arm. At the rear part of the frame are brackets  $K^2$ , in which is supported an air-conduit C, connecting with an exhaust-fan. (Not shown.) To the under side of bench T is attached a valve-chest S, connected with the air-opening N and having a pendent partition  $S'$ , providing a valve-chamber  $S^2$  on the inner side thereof. The partition is formed with an opening  $S^3$  into the valve-chamber. The inner side of the valve-chest is provided with a tube  $S^4$ , connected with the main air-conduit C by means of a branch conduit  $C'$ . Suspended in front of the tube  $S^4$ , within the valve-chamber  $S^2$ , by means of a rod  $V'$ , is a ball-valve V, of any suitable material, located slightly eccentrically to the passage in the tube  $S^4$ , so as to leave a small opening  $f$  when the valve is seated by air-suction against the seat of the tube, as indicated in dotted lines in Fig. 7. The valve is adjustably supported on the rod  $V'$  by means of a thumb-nut  $V^2$ , so as to regulate the size of the opening for the leak.

$S^6$  is a removable cover to the valve-chest by which access can be gained to the valve-chamber.

In Fig. 8 I show a modified form of automatic valve which consists of a removable valve-box  $S^5$  and a valve-disk  $V^2$ , having a rod  $f^2$ , guided by an arm  $s$ , and supported on a lever  $L^4$ , having an adjustable counterweight  $L^5$ . In this instance small points  $o$

are formed on the valve-seat, so as to leave a small opening  $f^2$ . By the provision of these valves the operation of opening and closing the suction-conduit is accomplished at the proper moment without any manipulation on the part of the operator. It follows that if the wrapper-supporting plate F of the cutting-die is covered by a leaf of tobacco the suction of the conduit rarefies the air in the valve-chest S and in the cutting-die, so that there is a practical equality of pressure on both sides of the valve, and the valve remains open under the action of its own weight. This condition will exist so long as the leaf is kept on the wrapper-supporting plate of the die; but when the leaf has been cut and the operator rolls therein the cigar-bunch the leaf in rolling up uncovers the plate. The external air then entering into the box exerts on the valve a pressure which pushes it toward the conduit and partly closes the conduit in such manner as to leave at the edge a small opening, as hereinbefore referred to. This opening has for its object the reestablishment of the equilibrium of pressure in the box S and in the hollow die M as soon as the operator applies on the supporting-plate and die a fresh leaf of tobacco. This done the valve opens and the suction is again exerted on the leaf covering the die.

The operation will be readily understood from the foregoing description. The operator places the leaf of tobacco on the die and stretches it over the edges thereof, the swinging arm  $L'$  being at its initial position at one side of the machine. He then presses alternately on the treadles, causing the roller R to pass over the leaf, which is held down by suction on the die, thus cutting out the wrapper. The wrapper remains held to the wrapper-supporting plate F until it is rolled around the cigar-bunch by the operator, when the valve closes. The cigar is then finished and loosened by rolling back and forth with the hand or a block on the platen  $X'$ . The same operation is repeated, the valve opening again through the continuance of the suction by means of the small opening. It will thus be seen that the only manipulations required from the operator are the placing and cutting of the leaf and the rolling of the bunch, the other operations of opening and closing the suction being effected automatically. Thus the operator can roll cigars with fewer operations, and so effect a saving in time and cause consequent increase of product. Furthermore, the simplicity of the construction and operation of this machine greatly facilitates the teaching and learning of unskilled labor in applying the wrappers to cigar-bunches.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A cigar-wrapper-cutting machine comprising a cutting-die, a wrapper-support located within the cutting-die, a fixed or stationary rear platen on which the cigar is



rolled, and a fixed or stationary front platen having its surface located at a lower level than the surface of the rear platen to provide room for the manipulation of the leaves; substantially as described.

2. A cigar-wrapper-cutting machine comprising a cutting-die, a wrapper-support located within the cutting-die, a fixed or stationary rear platen having its surface on which the cigar is rolled located beneath the edge of the cutting-die and a fixed or stationary front platen having its surface located at a lower level than the surface of the rear platen to provide room for the manipulation of the leaves; substantially as described.

3. A cigar-wrapper-cutting machine comprising a cutting-die, a wrapper-support located within the cutting-die, a fixed or stationary rear platen X on which the cigar is rolled, and a fixed or stationary front platen X' having its surface located at a lower level than the surface of the rear platen and extending around the ends of the cutting-die to provide a prominent offset down to the front platen; substantially as described.

4. A cigar-wrapper-cutting machine comprising a bench, a cutting-die, a wrapper-supporting plate within the die, a pivoted swinging arm having a roller at its outer end, a short arm extending from the pivoted end beneath the bench and treadle mechanism for operating the swinging arm by means of the short arm consisting of hangers secured to the bench, grooved pulleys journaled in the hangers, the treadles, the vertical pull-rods, and the cords, substantially as described.

5. A cigar-wrapper-cutting machine comprising a cutting-die, a valve-chest, an air-conduit, an air-suction device, and a valve within the valve-chest and arranged to leave

a small opening into the conduit when the valve is seated; substantially as described.

6. A cigar-wrapper-cutting machine comprising a cutting-die, an air-suction device connected with the cutting-die, and a valve located between the cutting-die and air-suction device and arranged so as to leave a small leak between the valve and its seat to permit a slight suction after the valve is seated; substantially as described.

7. A cigar-wrapper-cutting machine comprising a cutting-die, an air-suction device connected with the cutting-die, a valve-chest located between the cutting-die and the air-suction device, and a valve located within the valve-chest and adapted to be seated when the leaf is applied to the cutting-die; substantially as described.

8. A cigar-wrapper-cutting machine comprising a cutting-die, an air-suction device connected with the cutting-die, and a ball-valve suspended between the cutting-die and the suction device; substantially as described.

9. A cigar-wrapper-cutting machine comprising a cutting-die, an air-suction device connected with the cutting-die, and a ball-valve suspended eccentrically to its seat between the cutting-die, and the air-suction device; substantially as described.

10. A cigar-wrapper-cutting machine comprising a cutting-die, an air-suction device connected with the cutting-die and a ball-valve having a rod by which it is suspended between the cutting-die and the air-suction device, and means for adjusting the ball-valve on its rod; substantially as described.

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Witnesses:

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