

No. 656,400.

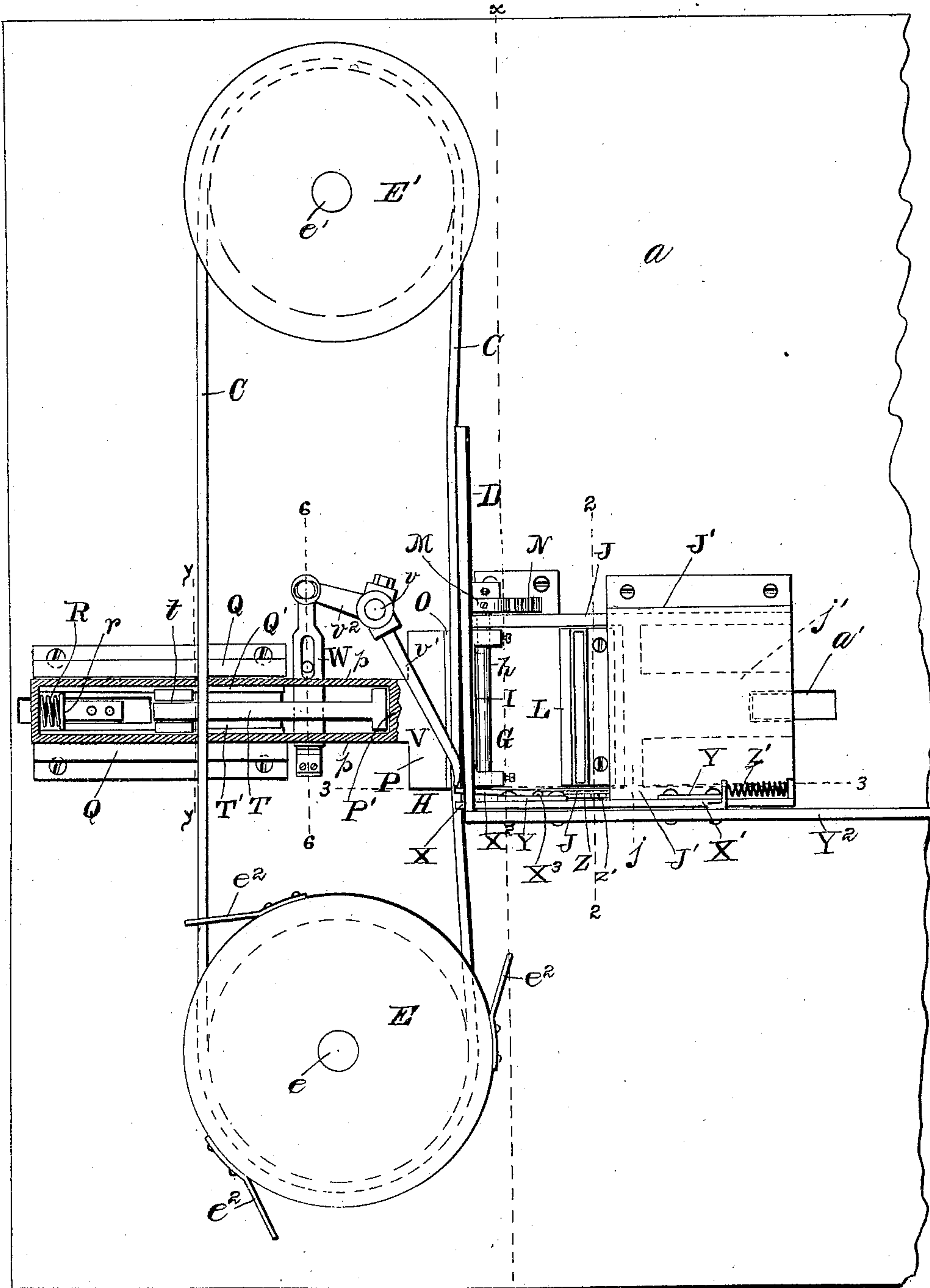
Patented Aug. 21, 1900.

C. V. FYKE & J. H. BARR.
STAMP CANCELING AND PRINTING MACHINE.

(Application filed Apr. 27, 1898.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses
Marcus L. Byng
J. W. Cuddeback

Fig. 1.

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By W. H. Bliss Attorney

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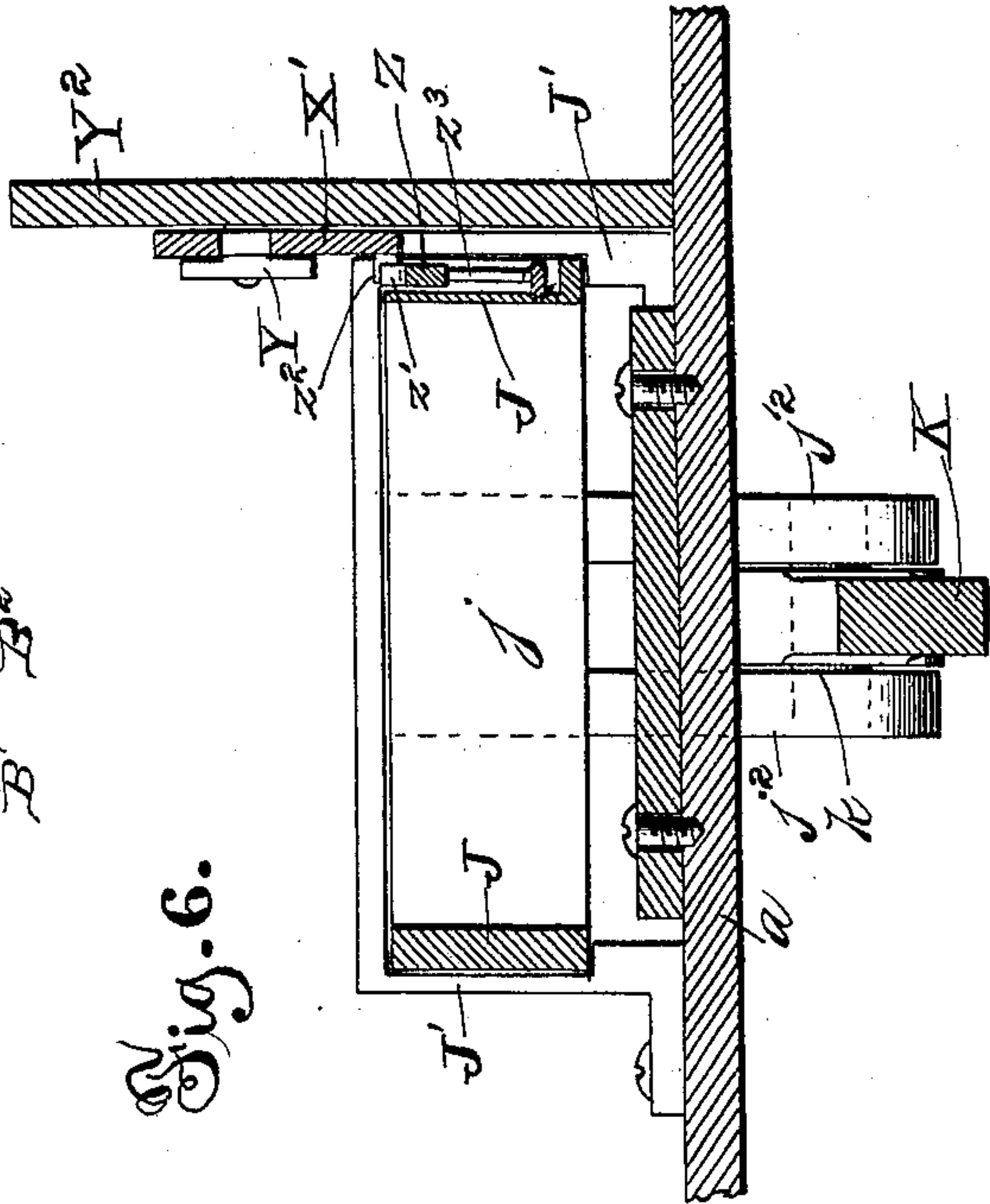
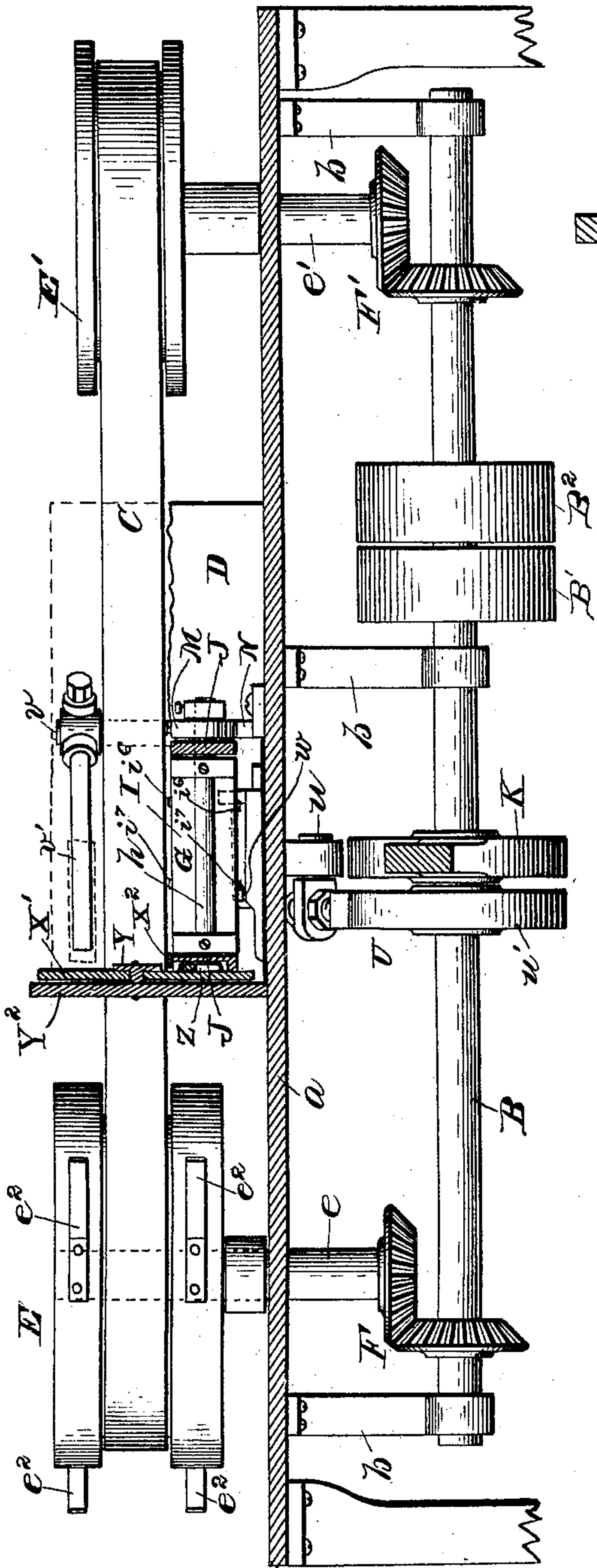


Fig. 6.

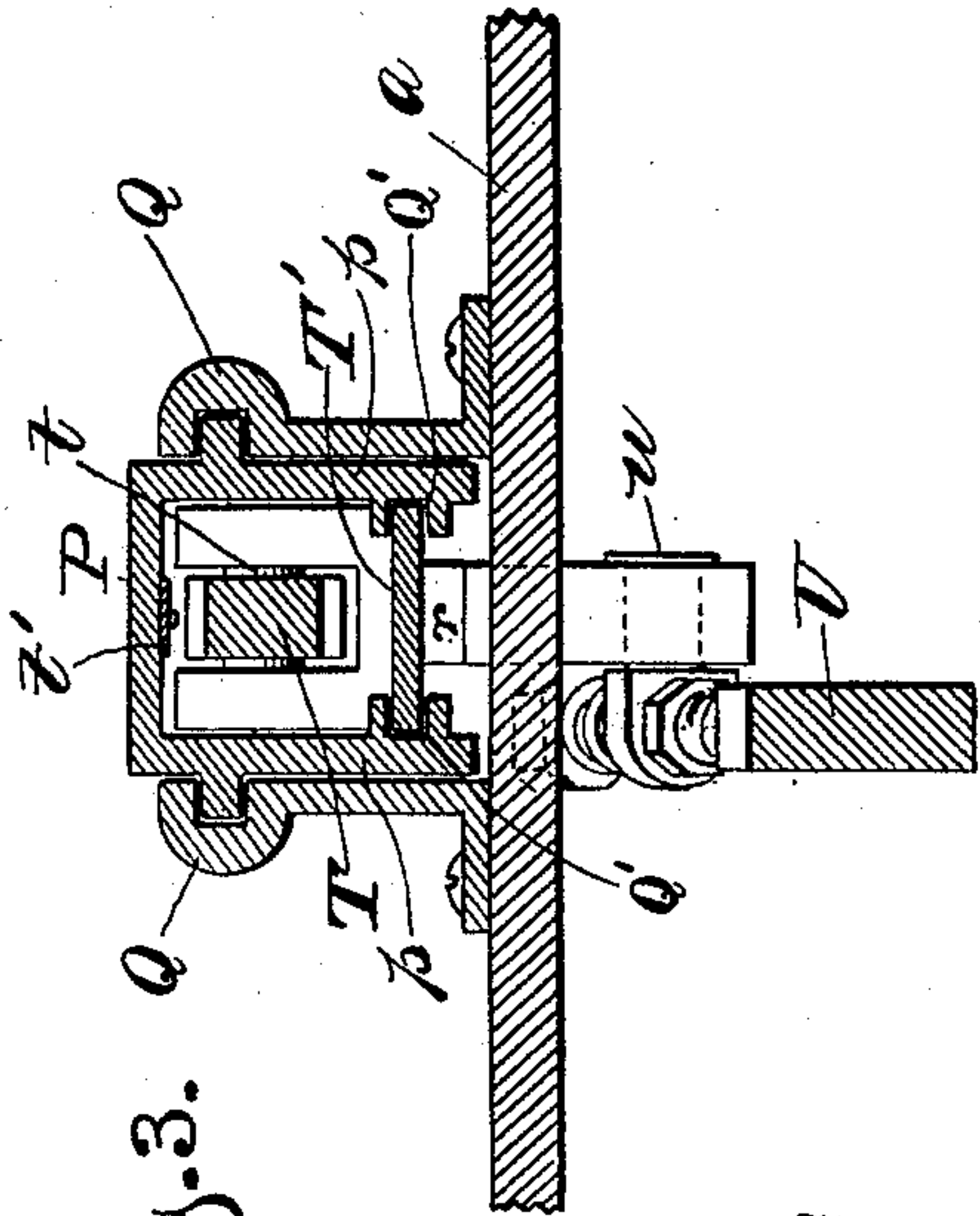


Fig. 3.

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Fig. 2.

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Fig. 4.

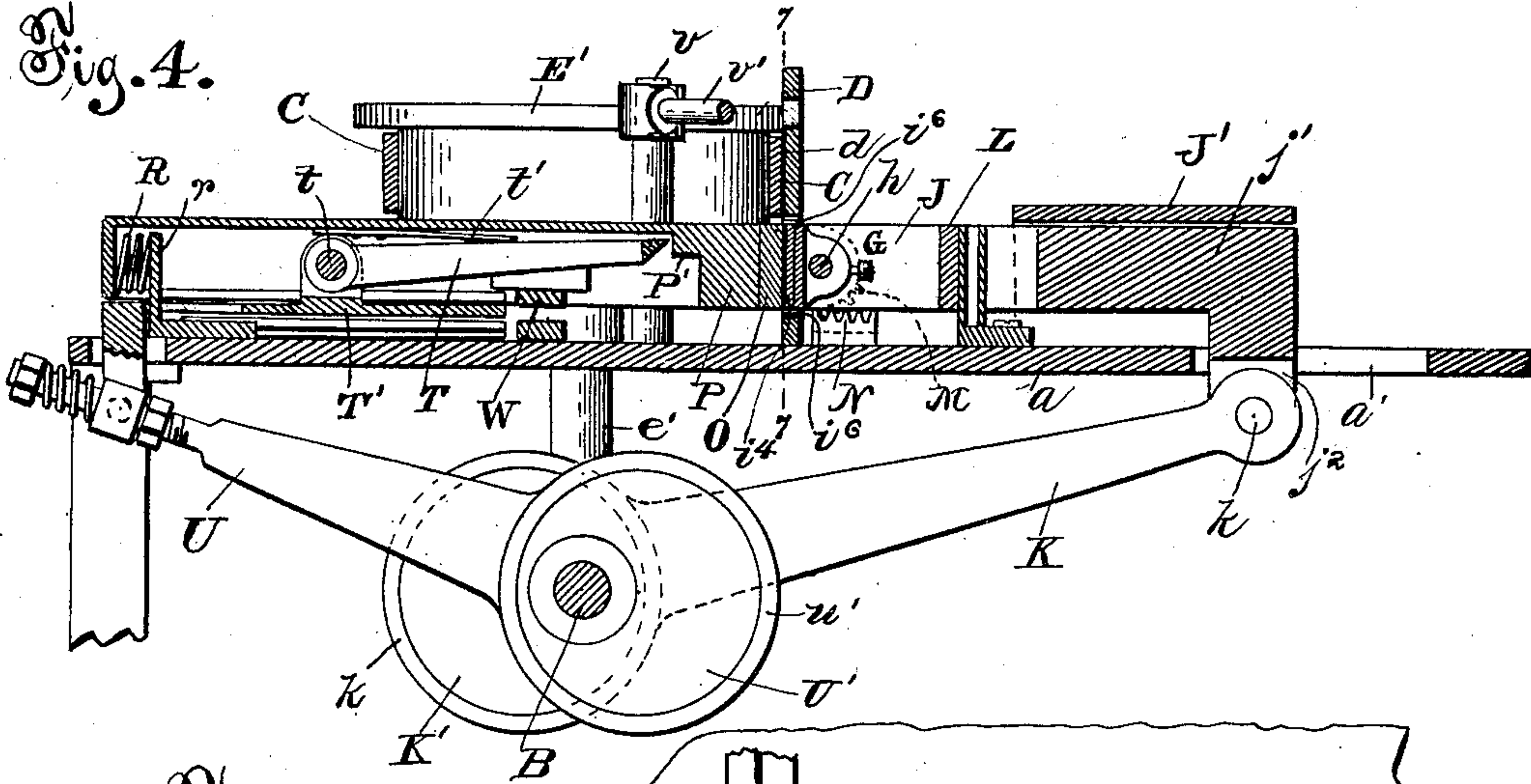
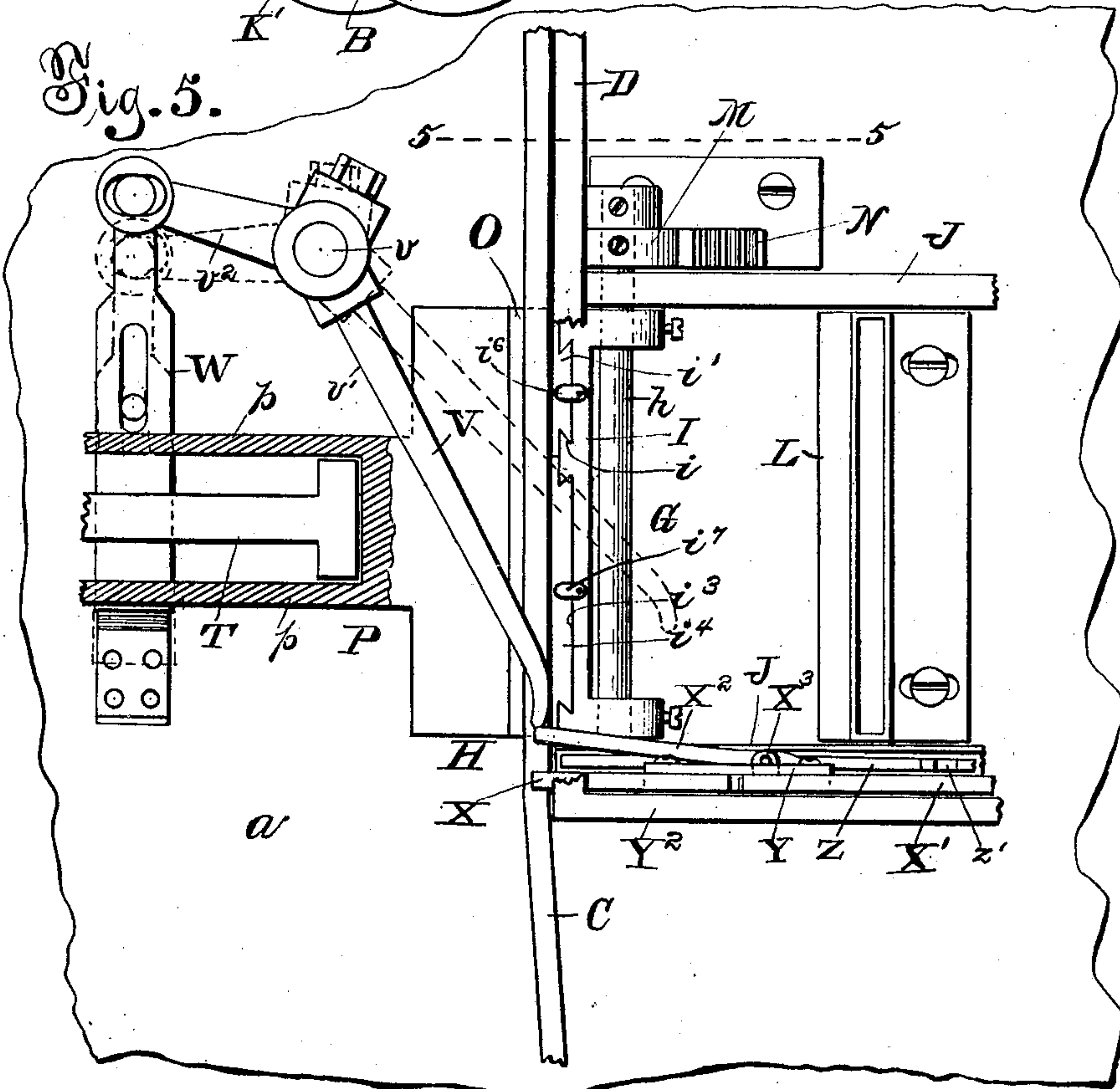
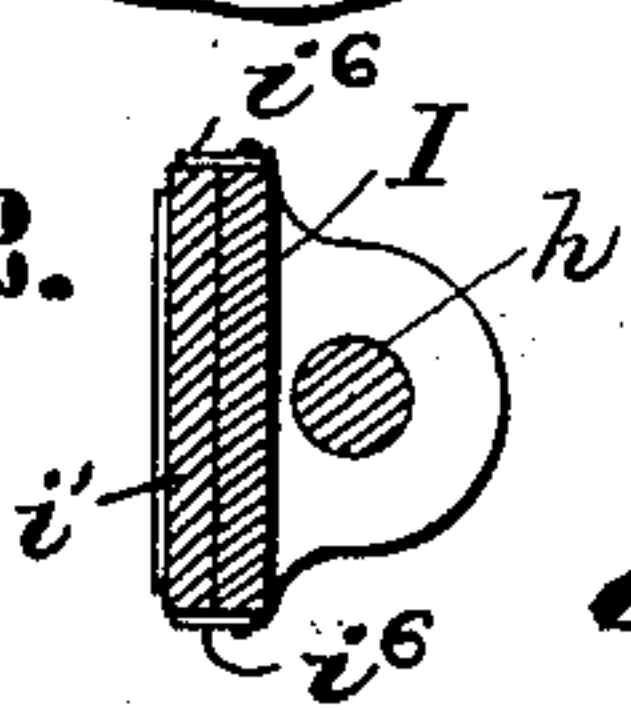


Fig. 5.



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Fig. 12.



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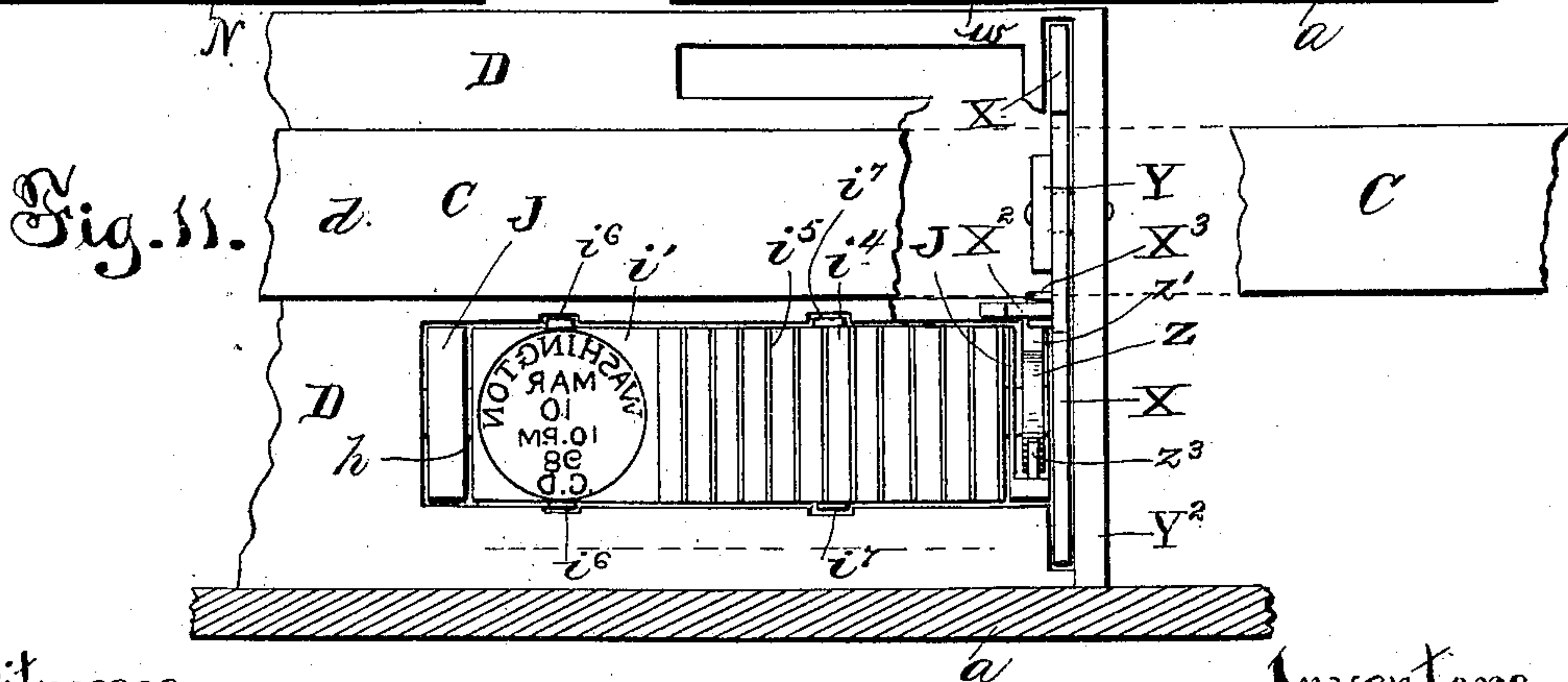
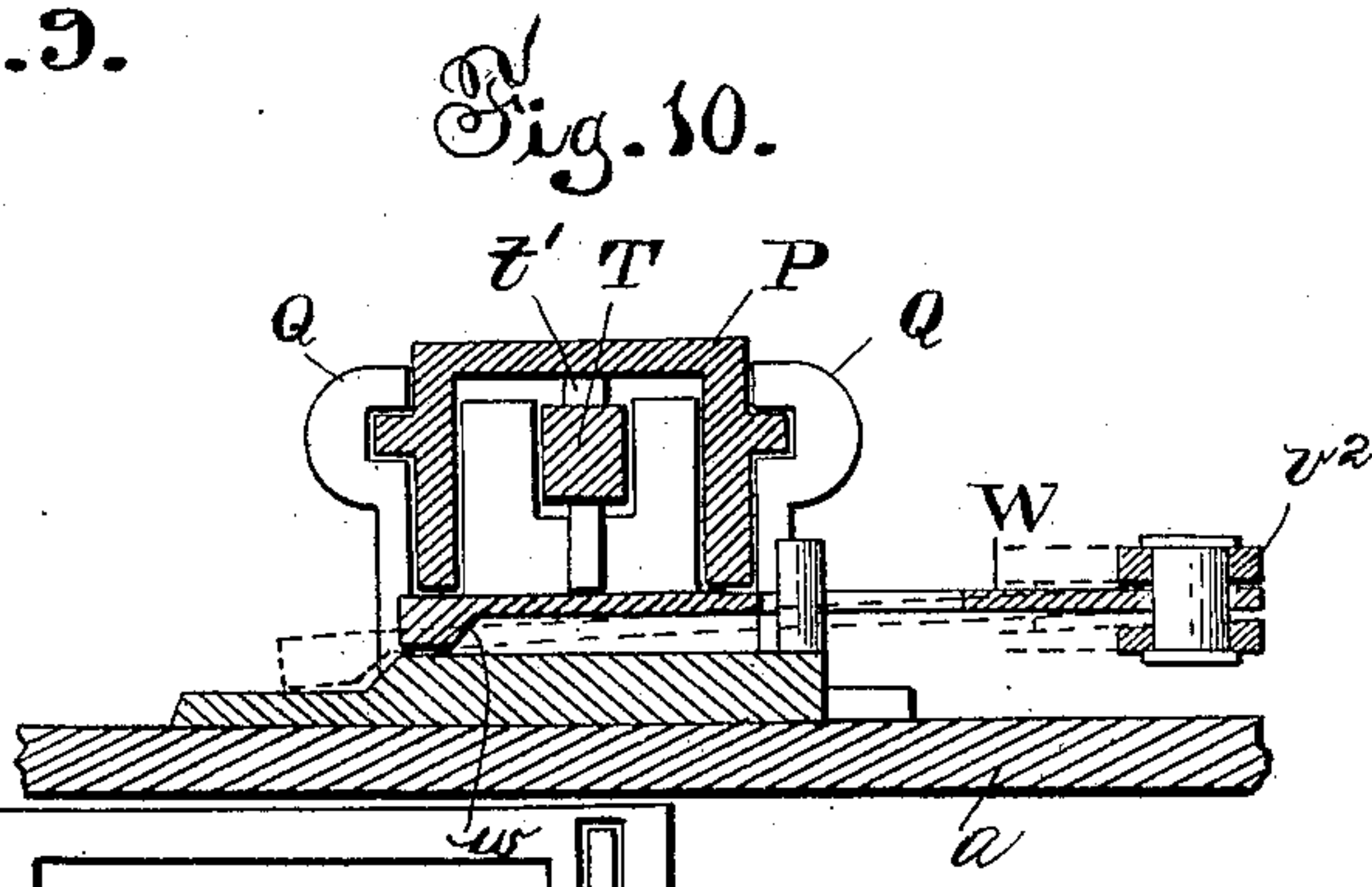
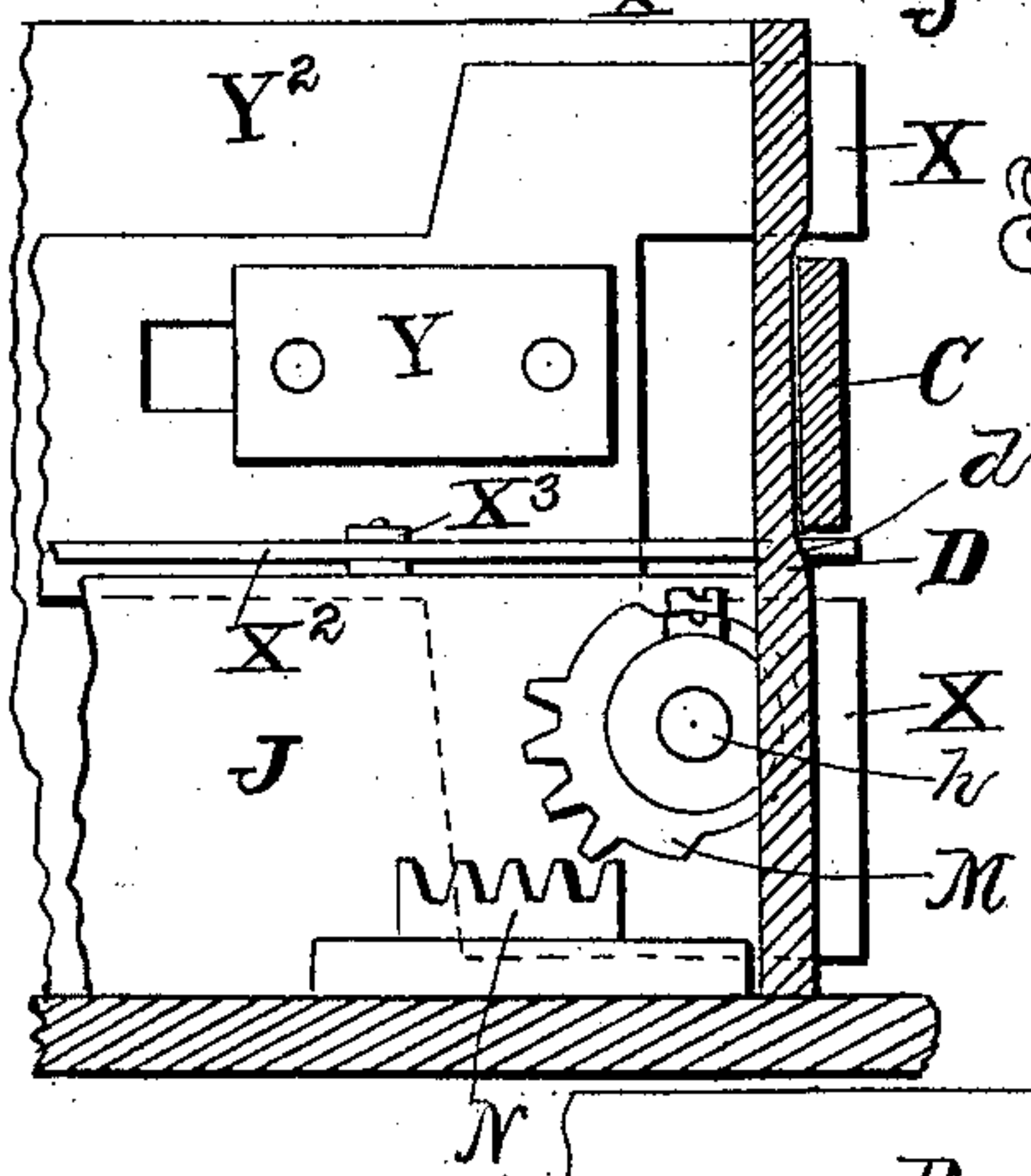
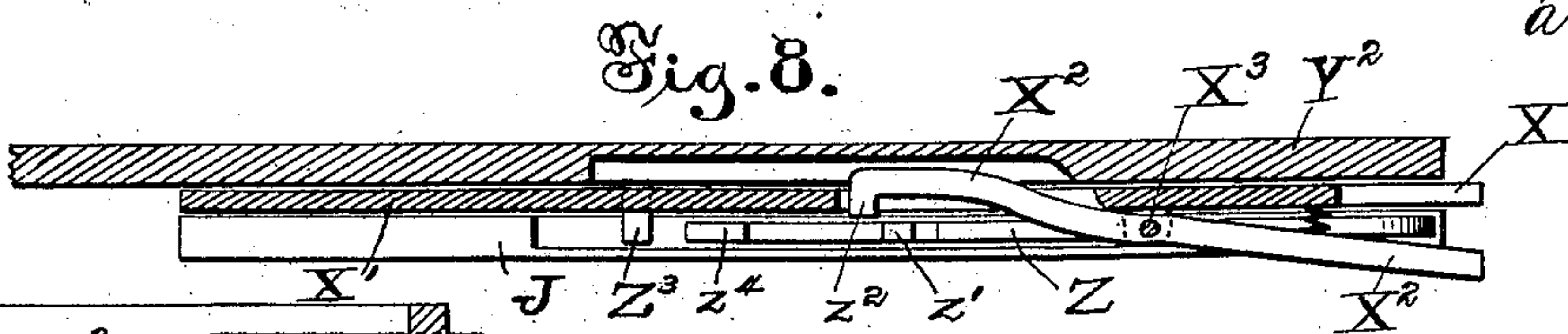
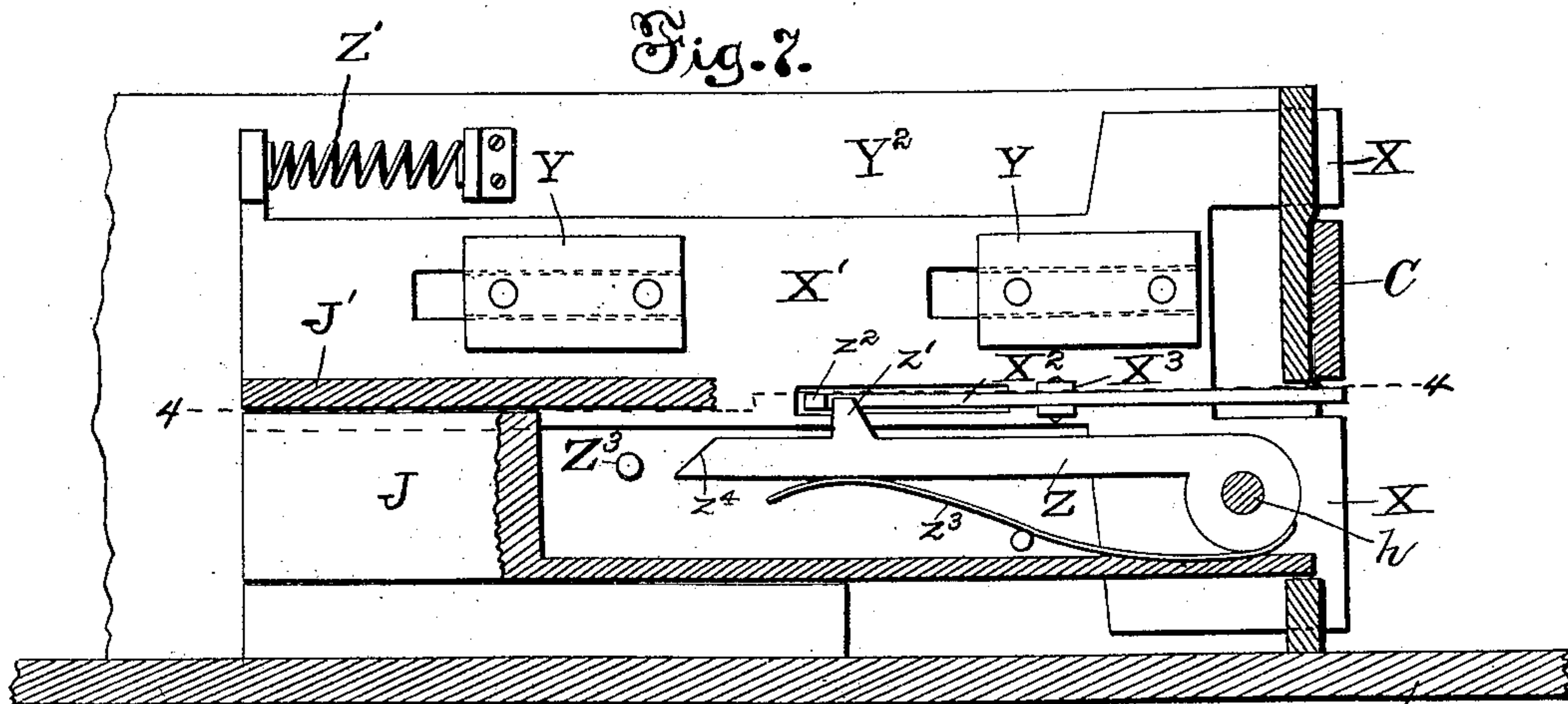
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(Application filed Apr. 27, 1898.)

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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

CHARLES V. FYKE, OF KANSAS CITY, MISSOURI, AND JOHN H. BARR, OF
KANSAS CITY, KANSAS.

STAMP-CANCELING AND PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 656,400, dated August 21, 1900.

Application filed April 27, 1898. Serial No. 679,009. (No model.)

To all whom it may concern:

Be it known that we, CHARLES V. FYKE, residing at Kansas City, in the county of Jackson and State of Missouri, and JOHN H. BARR, residing at Kansas City, in the county of Wyandotte and State of Kansas, citizens of the United States, have invented certain new and useful Improvements in Stamp-Canceling and Printing Machines; and we 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 the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a plan view of a machine embodying our improvements. Fig. 2 is a vertical section on the line xx of Fig. 1. Fig. 3 is a vertical section on the line yy of Fig. 1. Fig. 4 is a central transverse section. Fig. 5 is a partial plan view on a larger scale. Fig. 6 is a vertical section on the line 22 of Fig. 1. Fig. 7 is a section on the line 33 of Fig. 1. Fig. 8 is a section on the line 44 of Fig. 7. Fig. 9 is a section on the line 55 of Fig. 5. Fig. 10 is a section on the line 66 of Fig. 1. Fig. 11 is a section on the line 77 of Fig. 4. Fig. 12 is a section of the type and type-carrier.

In the drawings the operative parts of the mechanism are illustrated as being supported upon a frame or table. This may be of any suitable sort. That shown has a main bed-plate at a , to which are attached the essential parts of the mechanism, some being situated above and some below.

The prime-shaft mechanism is indicated by B, it being shown as arranged horizontally below the bed-plate and longitudinal of the machine and is mounted in bearings carried by the downward hangers b . From this shaft B power is taken for actuating the moving parts of the mechanism, and power is imparted to it by means of suitable devices, such as a tight belt-wheel B' , it also having a loose wheel at B^2 for the belt when the machine is out of action. The parts to be driven by this shaft are principally in two sets, one set comprising those which separate the letters or other equivalent bodies one from an-

other and which advance them in series past the printing mechanism, and the other set comprises those which constitute the means for applying to each letter in turn the characters or marks which are desired—as, for instance, characters substantially similar to those used in postmarking and canceling.

The letter separating and advancing or propelling devices consist, essentially, of a traveling belt having opposed to it any suitably-acting surface, either moving or stationary, such as a vertical wall or plate D, lying above and supported upon the bed-plate a . The belt is carried or supported by two pulleys or wheels E and E', respectively connected to the shafts e and e' . These pulleys or wheels are grooved, by preference, for several reasons, including the proper supporting and guidance of the belt and the permitting of the surface of the belt to be depressed to or below the surface of one or both of the pulleys. Power is imparted to one or both of the shafts e and e' from the prime or line shaft B either directly or through suitable mechanism. As shown, it is directly connected by bevel-gears at F and F'. The belt is arranged in relation to the opposing pressure surface or wall at D, substantially as illustrated in plan view in Figs. 1 and 5—that is to say, so that the said opposing surface or wall acts to slightly deflect the operative strand of the belt from its normal line, the dragging or propelling action of the belt in this way being increased to any extent desired. The abutting or opposing plate at D is preferably grooved, as shown at d , so as to permit the belt to depress or tend to depress itself beyond the outer surface of the part D, thereby greatly increasing the bite or grip of the belt upon the letters or similar articles. The opposing surface instead of being provided by a stationary wall or belt, as that at D, may be furnished by one or more opposing traveling belts or equivalents; but in a machine of the character of that described we have found it better in attaining all of the several ends at which we aim to have one of the opposing surfaces stationary, depending for transmitting force upon the frictional action of the surface of the traveling belt. The above-mentioned pulley or wheel E is also used as the stacking device for the stamped and canceled letters,

it being situated at a point somewhat beyond the printing mechanism and being preferably provided with catching and stopping fingers e^2 , so situated as to have the delivered letters 5 impinge thereon and check their lateral throw, stopping them at the proper points for forming the stack-pile, which moves on a line transverse to the belt-path and away from the wheel E.

- 10 Turning to the devices which apply to each of the letters or articles in turn the desired marks or characters, (such as those for canceling and stamping them,) it will be seen that they are composed, essentially, of a re- 15 ciprocating form or type-carrier (indicated as a whole by G) and a platen or impression-bed, (indicated as a whole by H.)

Heretofore machines of this class have generally been constructed with rotary type-carriers or printing-rolls and also with rotary impression rolls or beds or platens. It has been well known to designers of such machines that serious disadvantages are incident to them when the printing and impression mechanisms are rotary in character. 25 The machines to be economical in use must impart to these rotary parts exceedingly-high speeds. It is difficult under such speeds to advance the letters to the printing device in 30 correct time relations because of the large number of parts necessary to feed, stop, and accurately start again the articles prior to reaching the printing-dies and do it in such way as to have them register properly with 35 the letter. The high speed of rotation interferes with obtaining the desirably clear and exact delineation of the characters which is desired, the effect in a large percentage of imprints being the production of a blurring 40 or indistinctness. Again, the rotary machine depending upon a rotary carrier for the dies and for the platen material has compelled an expensive construction of the die and carrier and a construction to which has been inci- 45 dent difficulty in changing the dies easily and quickly. In the present mechanism we have devised a method of bringing into play in this peculiar class of machines the fact well known in printing that superior effects 50 are obtainable where the act of impression is performed when the printing parts are moving or being pressed in a rectilinear or substantially-rectilinear path. We maintain the same rapidity of operation, but have so reor- 55 ganized the feeding and stopping devices that a rectilinearly-acting printing mechanism can be utilized and brought to its work not while the letter is rapidly advancing, but while it is standing still, and therefore susceptible of 60 a perfect imprint.

A machine embodying our improvements can be made in any of several ways, and we do not limit ourselves to the exact construction or arrangement herein illustrated and 65 described, but for some reasons we at present prefer one substantially such as shown.

I is a plate or form piece adapted to have

type or marking devices secured thereto permanently or detachably. It is secured to a shaft or bar h and is adapted to rotate or rock 70 therewith. The shaft is mounted in a movable support, that shown consisting of bars or bearers J J, mounted to slide in a guideway. The guideway illustrated is formed by means of bars or plates at J'. 75

j is a cross-bar connecting the bars J J, and j' is a rearward-projecting bar to which the bar device is attached. The latter consists of a pitman K, pivoted at k to the bar j' or ears j^2 , projecting downward therefrom 80 and passing through a slot a' in the table a . The pitman K is actuated by the main shaft B through an eccentric K', the latter fitted in a strap k , carried by the pitman. When the shaft B is rotating, it will, through the 85 eccentric K' and the pitman K, impart a reciprocatory movement to the carriage J $j j'$, and the latter will impart similar movement to the type-carrier I. The parts are so adjusted that the type-carrier advances to the vertical plane of the surface of a letter as it 90 travels in a normal path or to a plane slightly—say one-sixteenth of an inch—remote from that of the letter-surface.

Ink may be applied to the type at each re- 95 ciprocation of the carrier I in any suitable manner, as by a stationary pad and means for moving the type thereto operating as follows: As the carrier I moves backward it has at the proper time a rocking or rotary mo- 100 tion imparted to it. As shown, it is rocked through one-half of the circle around the axis at h . At L there is a stationary inking-pad arranged in a vertical plane. Just before the type-carrier has reached this pad it 105 has been swung around, so that the type are drawn squarely against the pad and are neatly and completely inked. This is accomplished by a wheel or segment M engaging with a rack at N, and when the reverse 110 movement is occurring the rack and pinion throw the type-carrier back into operative position—that is, projecting forward ready to apply the ink to the article.

We provide means or arrange the parts so 115 that at both ends of the movement of the die-carrier the latter shall be without rotary motion and be moved through a fraction of an inch rectilinearly first at the place where it 120 impinges on a letter and then at the place where it contacts with the pad. To accomplish this, we have the teeth of the wheel M and the racks N so disposed that rotary engagement is stopped before the carrier reaches 125 either end of the movement of the carrier J j .

The platen portion or impression-receiving part of the machine is constructed and operated as follows: The platen proper is indicated by O, it being a plate or block with felt, rubber, or other suitable face material of the sort 130 generally employed for such purpose. It is supported by a carrier having a cross-head P, with guide-bars p extending backward or outward and fitted in guideways provided by

stationary plates Q, secured to the bed-plate. This carriage P *p* is normally held backward or away from the working position by means of a spring R, interposed between a part of the carriage and a stop or abutment *r*. This carriage, and with it the platen O, can be positively moved toward the letter-path as follows: T is a pushing finger or arm connected to a sliding plate T' by a hinge at *t*. The sliding plate is also mounted in a guideway at Q' and is connected to a pitman U by a hinge *u*. The pitman U is connected to eccentric U' on the power-shaft B by means of a strap *u'*, carried by the pitman U. When the shaft B is rotating, it will, through the eccentric U', the pitman U, sliding bar T', and the finger or arm T, cause the platen-carriage P *p* to advance toward the letter-path, provided that the finger or arm T is in engagement with the shoulder P' on the cross-head P; but the said finger or arm T is not always in engagement with the shoulder P', as it is normally held in its lower position by the stress of the spring *t'*, and when in this lower position it will advance toward the letter-path without engaging with the shoulder P' or other part of the platen-carriage, and consequently the latter will be held in its rear position by the spring R and the platen will remain remote from the letter-path.

To cause the engagement of the arm T with the shoulder P' or other suitable part of the platen-carriage, and thus cause the advance of the latter, we employ tripping mechanism having the following parts:

V is a lever pivoted at *v* to the bed-plate and having one arm *v'* normally lying across the letter-path, as shown. The other arm *v''* is pivotally connected to a trip-bar W, which slides transversely to the platen-carriage P *p* and is situated below it. This bar W has a wedge at *w*, adapted to slide in contact with the under side of the finger or arm T. When moving in one direction, the wedge thereon lifts the finger or arm T up to the above-described position, where it can contact with the shoulder P' on the platen-carriage. When the wedge is in its inactive position, the spring *t'* causes the arm or finger T to immediately drop to its lowest position and remain there until again lifted by the wedge. As the letter approaches the position for printing it impinges on the lever V, moving it away from the letter-path, and in doing so it draws the wedge-bar W under the arm or finger T and raises the latter. Consequently by the time the letter has reached the proper position on the lines between the platen and the printer the platen is advanced so as to lie against one side of the letter, and in an instant thereafter the die-carrier has been advanced in the way above described and is pressed against the opposite side of the letter, the pressure thus brought to bear transmitting from the newly-inked type the ink to the letter to produce the desired character. When no letter is advancing to the printing

position, even though the machine is in operation, the platen will be held away from the letter-path, inasmuch as at such time the lever V is inactive and the wedge *w* is in its inactive position and the pushing-finger T is out of engagement with the shoulder at P' on the platen-carriage. Therefore the transfer of ink from the type-carrier I to the platen will be avoided. If no such provision be made and if the type-carrier and the platen at all times move to their operative positions, there would result such transfer of ink to the platen, (no letter being between,) and then on the approach of the next letter the ink on the platen would be impressed against the back of the letter and soil and besmirch it. Each letter is in turn stopped in the printing position by the stops at X. These are situated one above and the other below the belt C and are preferably integral with or secured to a carrying-bar X', which is adapted to slide back and forth, and governed by guides at Y Y, secured to a guide-plate Y². The sliding frame J *j* carries a pivot finger or arm Z, pivoted to shaft *h* and having a lug *z'* engaging with a lug *z''* on the stop X'. *z'''* is a spring normally tending to press the pivoted arm Z upward, so that its lug will engage with that at *z''*. When the sliding carrier J *j* moves backward, it also draws backward the letter-stop X X through the medium of the lugs *z'* *z''*. When the pivoted arm Z reaches the cam-stop Z³, this cam-like wedge at *z''* striking said lug Z³ causes the arm Z to move downward and disengage the lugs *z'* and *z''*. As soon as this occurs the stops X X are returned to their active position by means of the spring Z'. As soon as the backward movement of the stops X X has been effected the letter just printed is allowed to pass. When the lugs *z'* *z''* are disengaged, the spring at Z' returns the stops X X in sufficient time to catch and stop the next letter which is being advanced by the belt C.

The type-carrier I is illustrated as having at *i* a dovetailed guideway, and into this a dovetailed plate *i'* is adapted to fit and move rectilinearly, this plate carrying one of the dies—as illustrated, that one which imprints upon the letter the post-office and the time of mailing or receiving it. At *i''* there is a guideway which receives another set of type or marking device—such as a die *i'''*, with lines thereon—for canceling a stamp. At *i''''* and *i'''''* there are stops or supports for the dies. With the construction shown the dies can be very quickly and easily put into place, it only being necessary to slide the movable part vertically along the dovetailed guides.

Means can be employed for preventing the stops X X from being drawn out of the letter-path. A device for this purpose is shown at X², it consisting of a trigger-like finger or lever pivoted at X³ and having its projecting arm in the letter-path and slightly in advance of the stop X and carrying at its inner end the above-described lug *z''*. When the projecting

arm of this lever is in its normal position, it holds the lug z^2 out of the path of the lug z' on sliding frame Jj , and at such times the sliding frame can move toward and from the letter-path without withdrawing the stops $X X$; but as soon as the letter approaches the stops it first strikes the arm of the lever X^2 and throws the lug z^2 out, so that at the next advance of the carrier Jj , and the type-carrier with it, the lugs will be in position to engage with each other and effect a connection between the stops $X X$ and the carriage Jj . Therefore immediately after the type-carrier has effected an impression on the letter and begins to recede its carrier Jj also draws back the stops, and the letter is instantly passed to the stacker. At the next instant the stops X and the carrier J are disengaged by the cam-stop Z^3 , and the spring Z' quickly throws stops X again across the letter-path and holds them there until the next letter strikes the lever X^2 . This insures that every letter shall receive the stamping and canceling marks at the proper place.

While we have above described the mechanism particularly with reference to its use as a postmarking and stamp-canceling machine, yet it will be understood that there are many uses to which one can be put having more or less of the parts of this mechanism—for instance, the printing of cards, tickets, and other articles. Hence when we herein use the term "letters" we mean to include not only such articles as ordinary letters, but small articles of other sorts which are capable of being printed in a similar manner; and, again, there can be modifications of the present machine in many respects without departing from the spirit of the invention. As it is the letters are carried by the advancing mechanism past the printer from the receiving side to the delivery side thereof on a horizontal line; but it is well known that machines of this class can be constructed with the parts so arranged as to carry the articles on vertical or inclined lines, suitable changes in the relative disposition of the parts being made to permit this.

What we claim is—

1. In a machine for canceling or printing, the combination of means for advancing the letters or other articles, movable printing and platen mechanisms, a stop movable with the printing mechanism for holding the article stationary in the printing position, and a trip actuated by the letter or other article to control the movement of the platen mechanism, substantially as set forth.

2. In a machine for canceling or printing, the combination of means for advancing the letters or other articles, rectilinearly-reciprocating printing mechanism, rectilinearly-reciprocating platen mechanism, a stop movable with the printing mechanism for holding the article stationary in the printing position, and a trip actuated by the letter or other ar-

ticle to control the movement of the platen mechanism, substantially as set forth.

3. In a machine for canceling or printing, the combination of means for advancing the letters or other articles, reciprocating printing mechanism, a stop movable with said printing mechanism but normally disengaged therefrom, and means operated by the letters for connecting the two whereby said stop will be withdrawn by the reciprocation of the printing mechanism only after a letter has been printed, substantially as set forth.

4. In a machine for canceling or printing, the combination of means for advancing the letters or other articles, a stop normally lying in the path of travel of said articles to retain them in the printing position, reciprocating printing and impression mechanisms, and means operated by the advance of the articles to the impression position for causing the withdrawal of said stop after each article has been printed, substantially as set forth.

5. In a machine for canceling or printing, the combination of the means for advancing the letters, the movable stop for the letters, the printing mechanism, and the tripping device actuated by the letters for causing the stop to be moved out of the letter-path, substantially as set forth.

6. In a machine for canceling or printing, the combination of the means for advancing the letters, the stop for the letters, the printing mechanism, the means for withdrawing the stop from the letter-path, and devices actuated by the advancing letter for connecting the stop to the stop-withdrawing devices, substantially as described.

7. In a machine for canceling or printing, the combination of the printing mechanism, the letter-advancing mechanism moving the letters from the receiving side of the machine to the delivery side, and an intermittingly-acting letter-stop on the delivery side of the printing mechanism, substantially as set forth.

8. In a machine for canceling or printing, the combination of the printing mechanism, the letter-advancing mechanism moving the letters from the receiving side to the delivery side of the printer, an intermittingly-acting letter-stop, on the delivery side of the printer, a letter-actuated mechanism for bringing into action the stop-withdrawing devices, substantially as set forth.

9. In a machine for canceling or printing, the combination of the reciprocating printer, the letter-advancing means for moving the letters from the receiving side to the delivery side of the printer, and an intermittingly-acting stop on the delivery side of the printer, substantially as set forth.

10. In a machine for canceling or printing, the combination of the reciprocating printer, the opposing platen or impression mechanism, means for moving the impression mechanism toward and from the printer, and an

intermittingly-acting stop on the delivery side of the printer, substantially as set forth.

11. In a machine for canceling or printing, the combination of the reciprocating printer, the letter-advancing devices for carrying the letters from the receiving side to the delivery side of the printer, the letter-controlled impression-receiving device movable toward and from the letter-path, and the letter-controlled stop on the delivery side of the printer, substantially as set forth.

12. In a machine for canceling or printing, the combination of the reciprocating print-

ing mechanism, the opposing letter-controlled impression-receiving mechanism, and the letter-controlled stop, substantially as set forth.

In testimony whereof we affix our signatures in presence of witnesses.

CHARLES V. FYKE.

JOHN H. BARR.

Witnesses to signature of Charles V. Fyke:

GEORGE BUCKLER,

H. H. BLISS.

Witnesses to signature of John H. Barr:

A. G. NOTEMAN,

M. A. FYKE.