

A. L. JAYNES.  
WORKMAN'S TIME RECORDER.

APPLICATION FILED JULY 13, 1901.

NO MODEL.

7 SHEETS—SHEET 1.

Fig. 1.

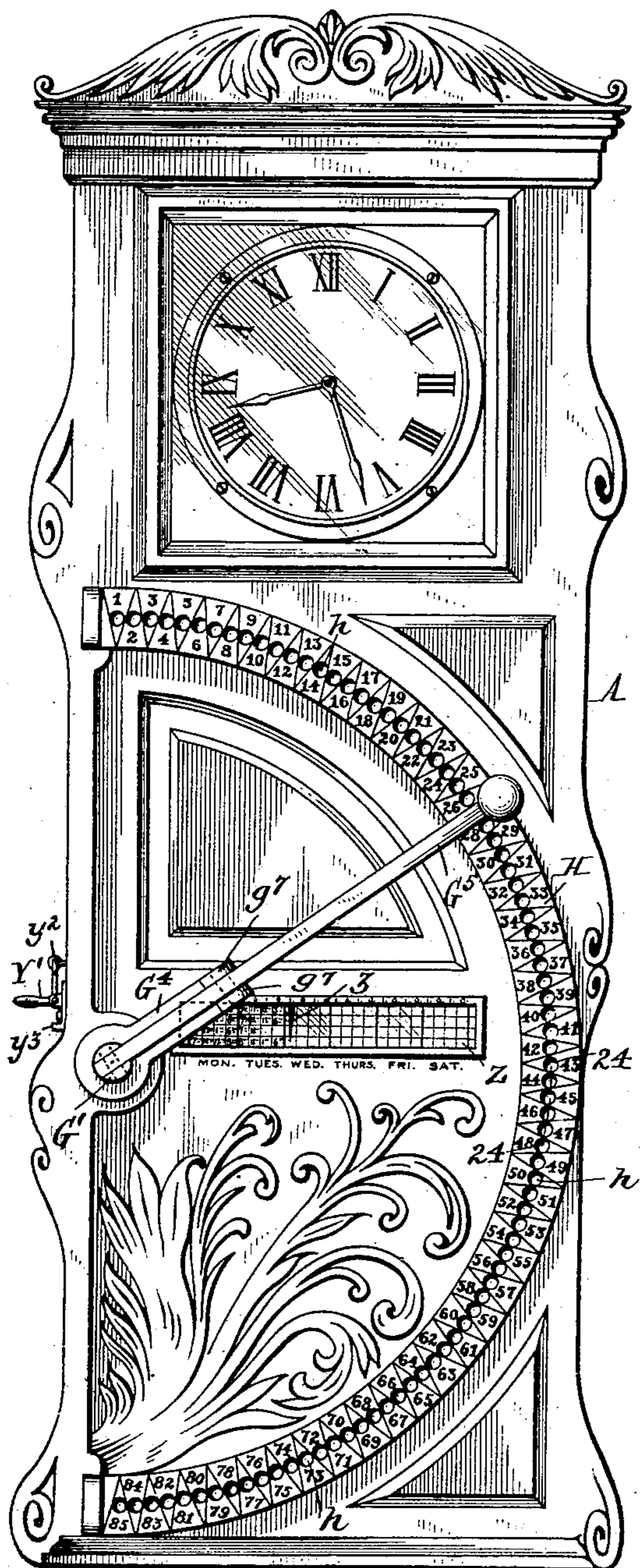
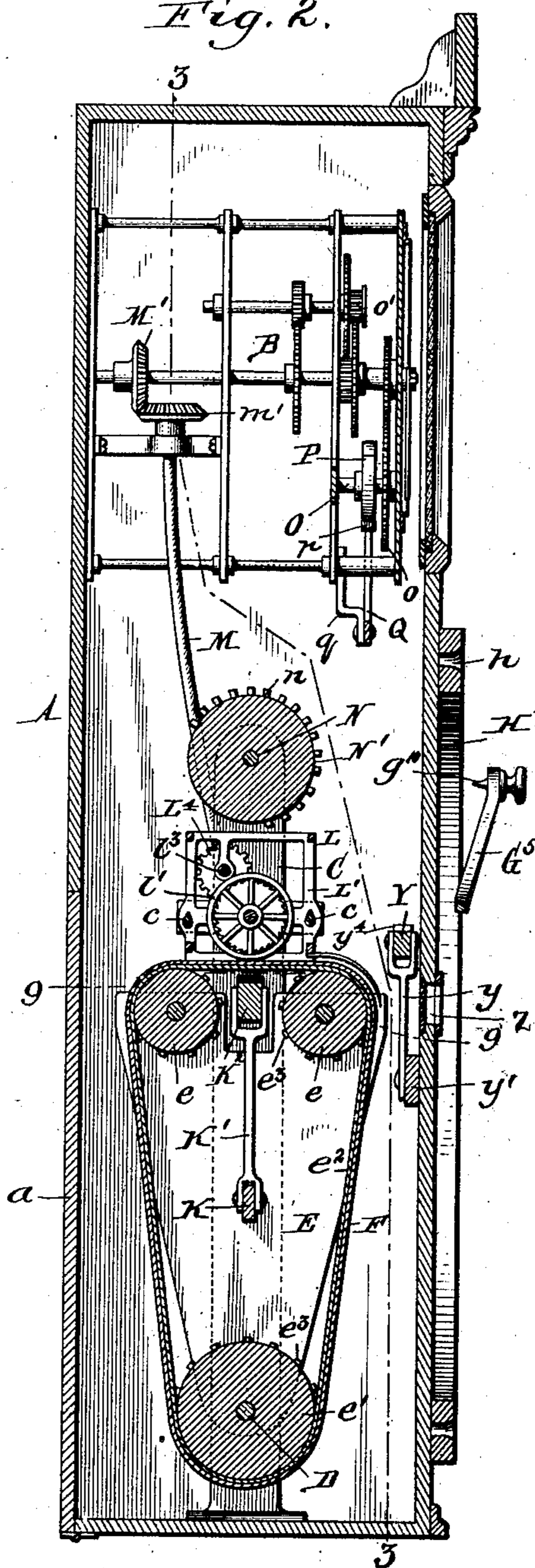


Fig. 2.



Witnesses:

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7 SHEETS—SHEET 3.

Fig. 6.

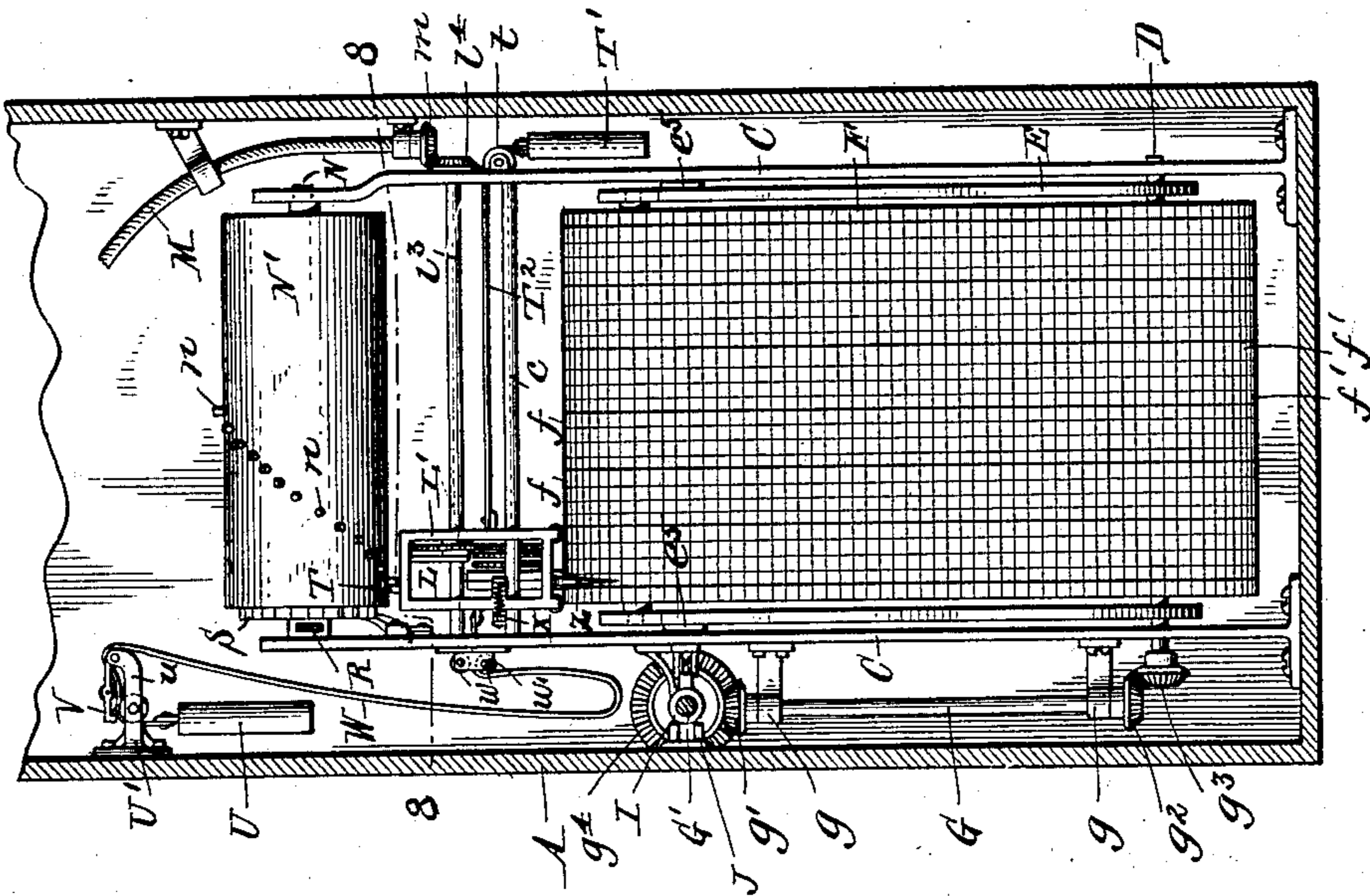
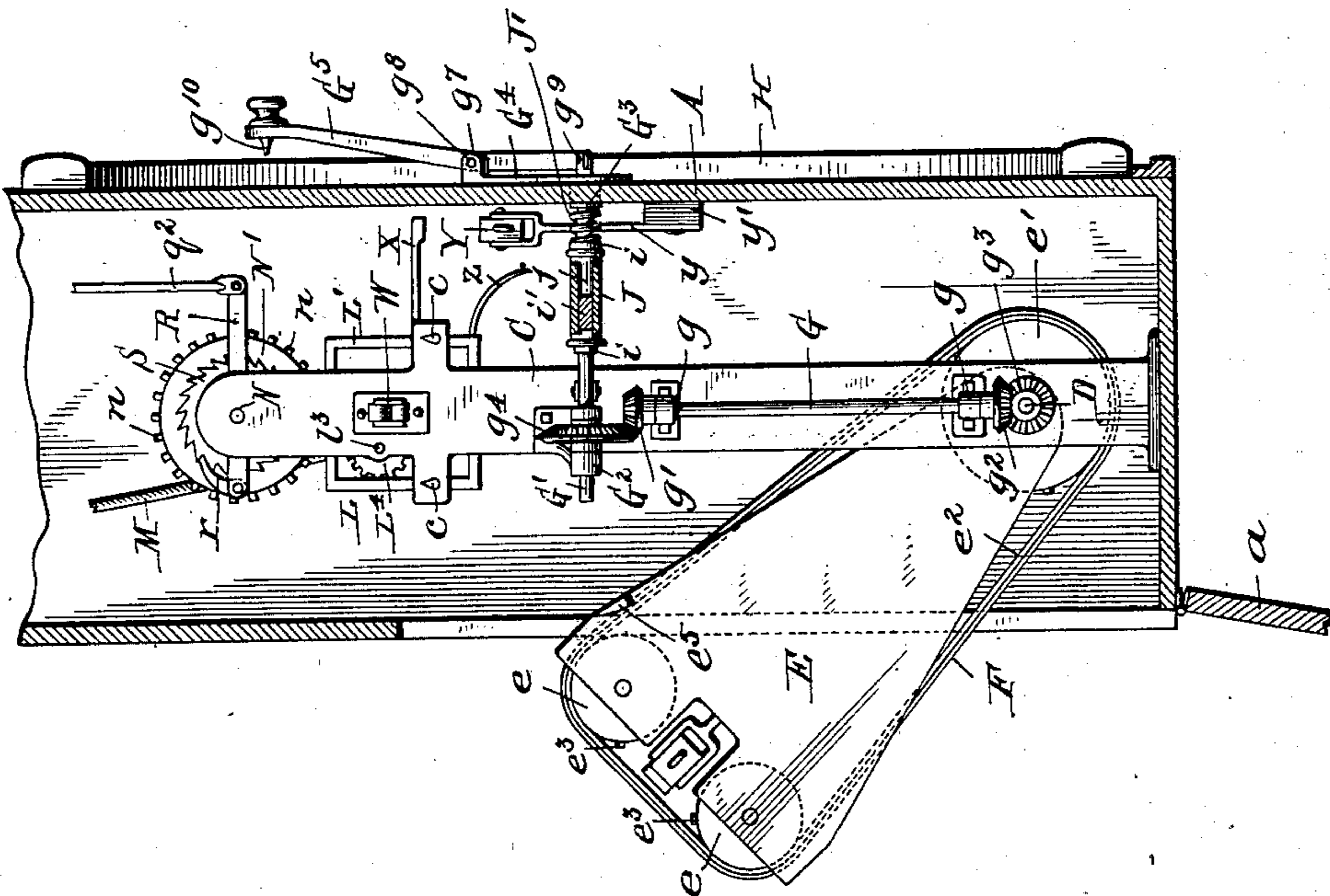


Fig. 5.



Witnesses

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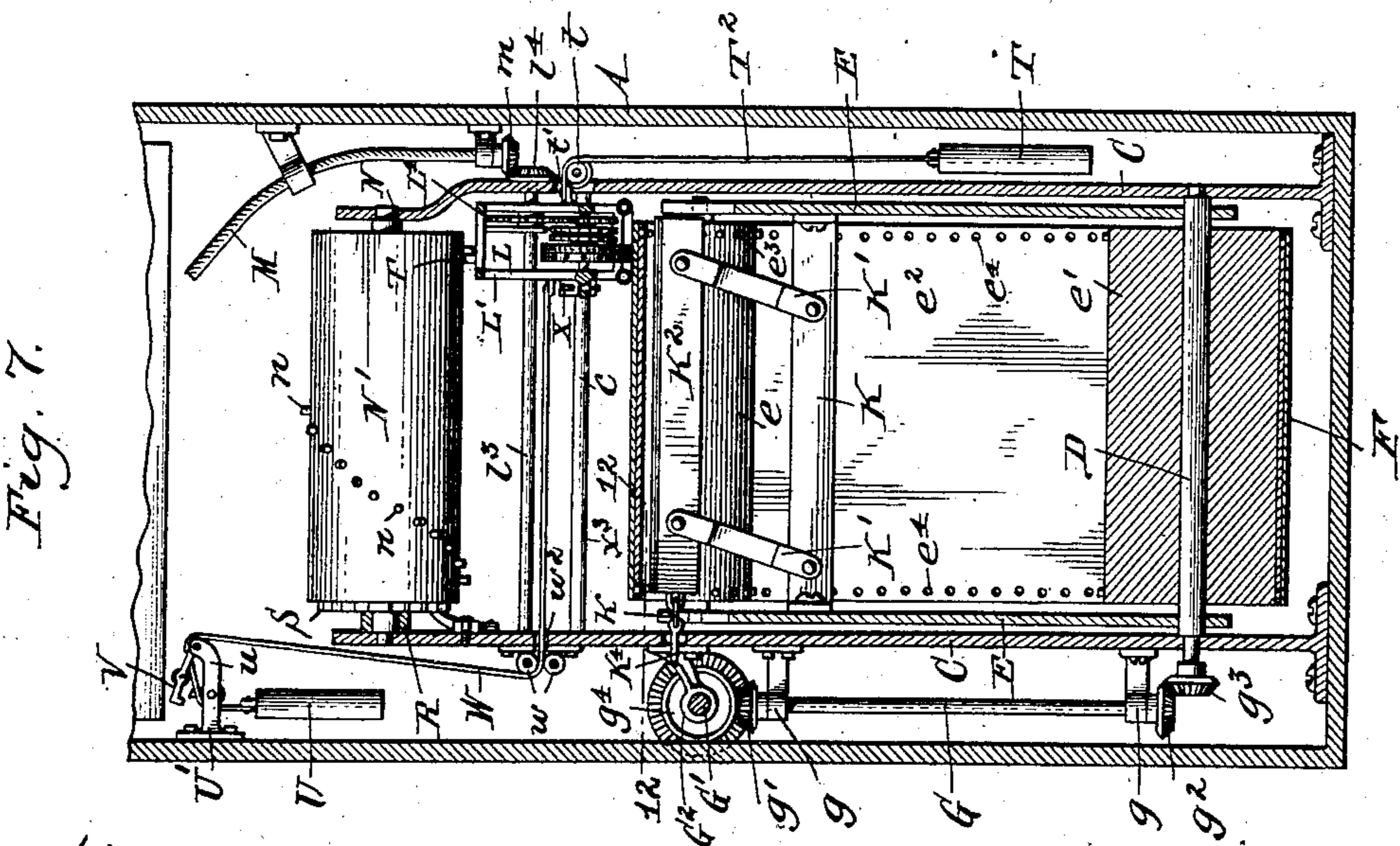
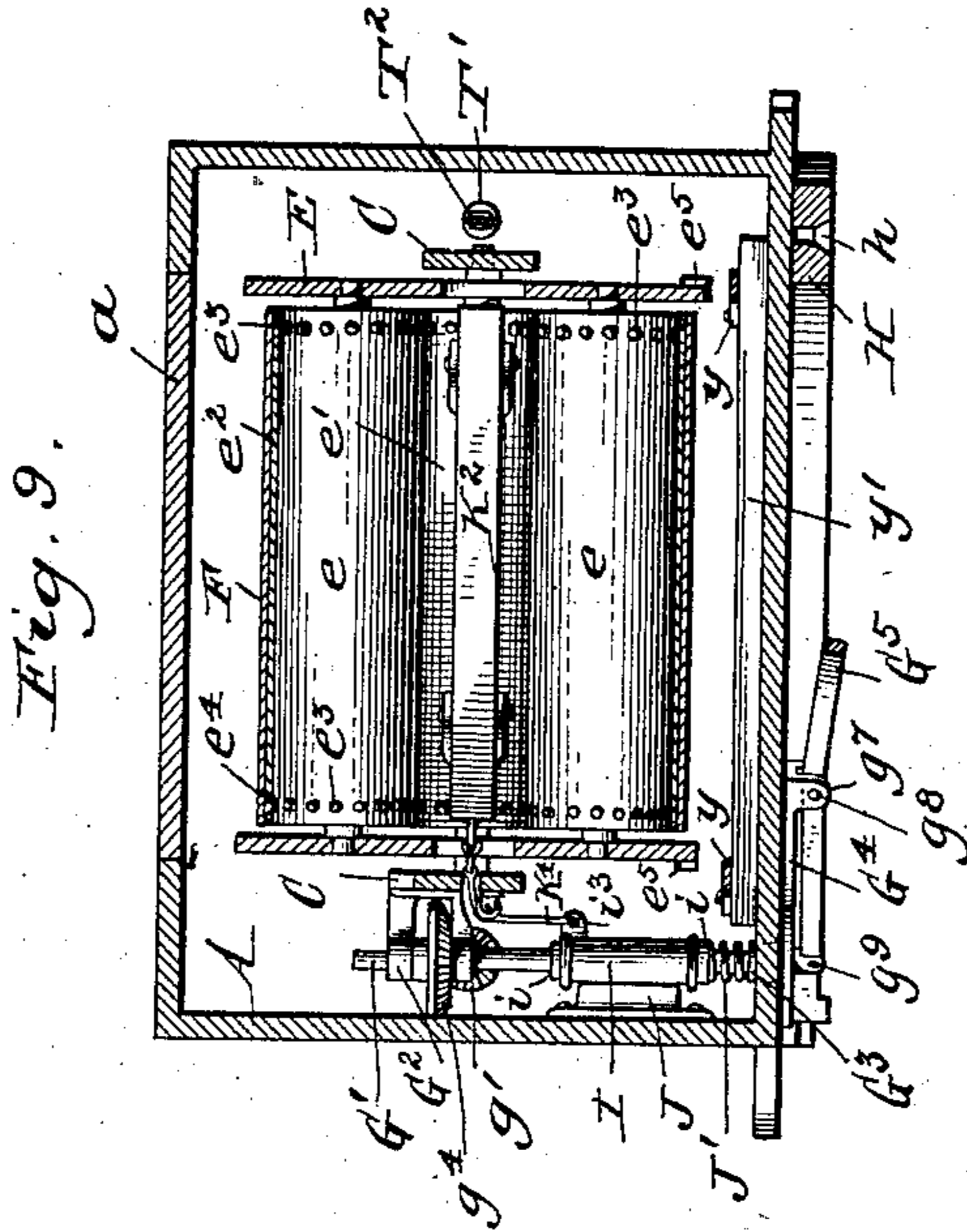
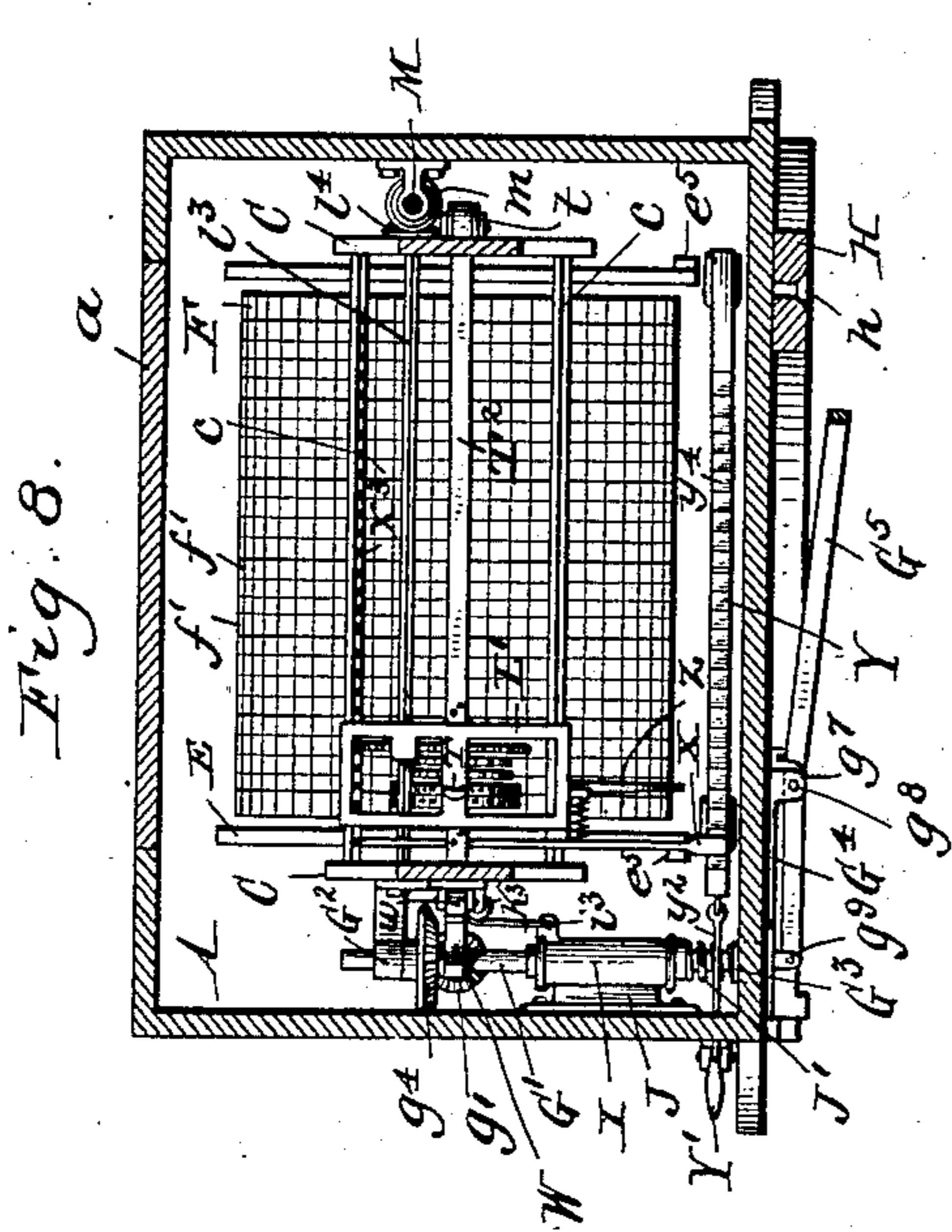
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7 SHEETS—SHEET 4.



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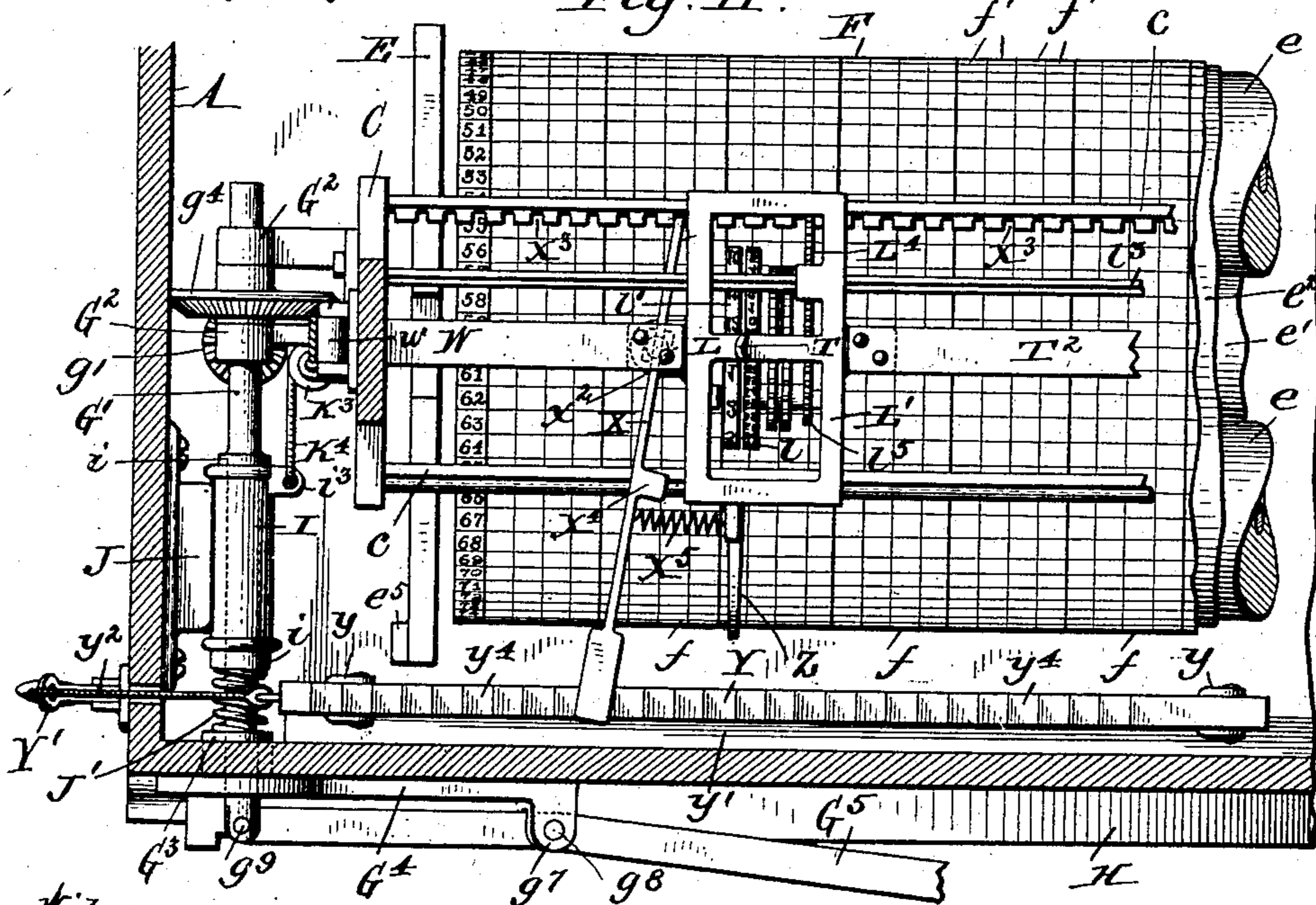
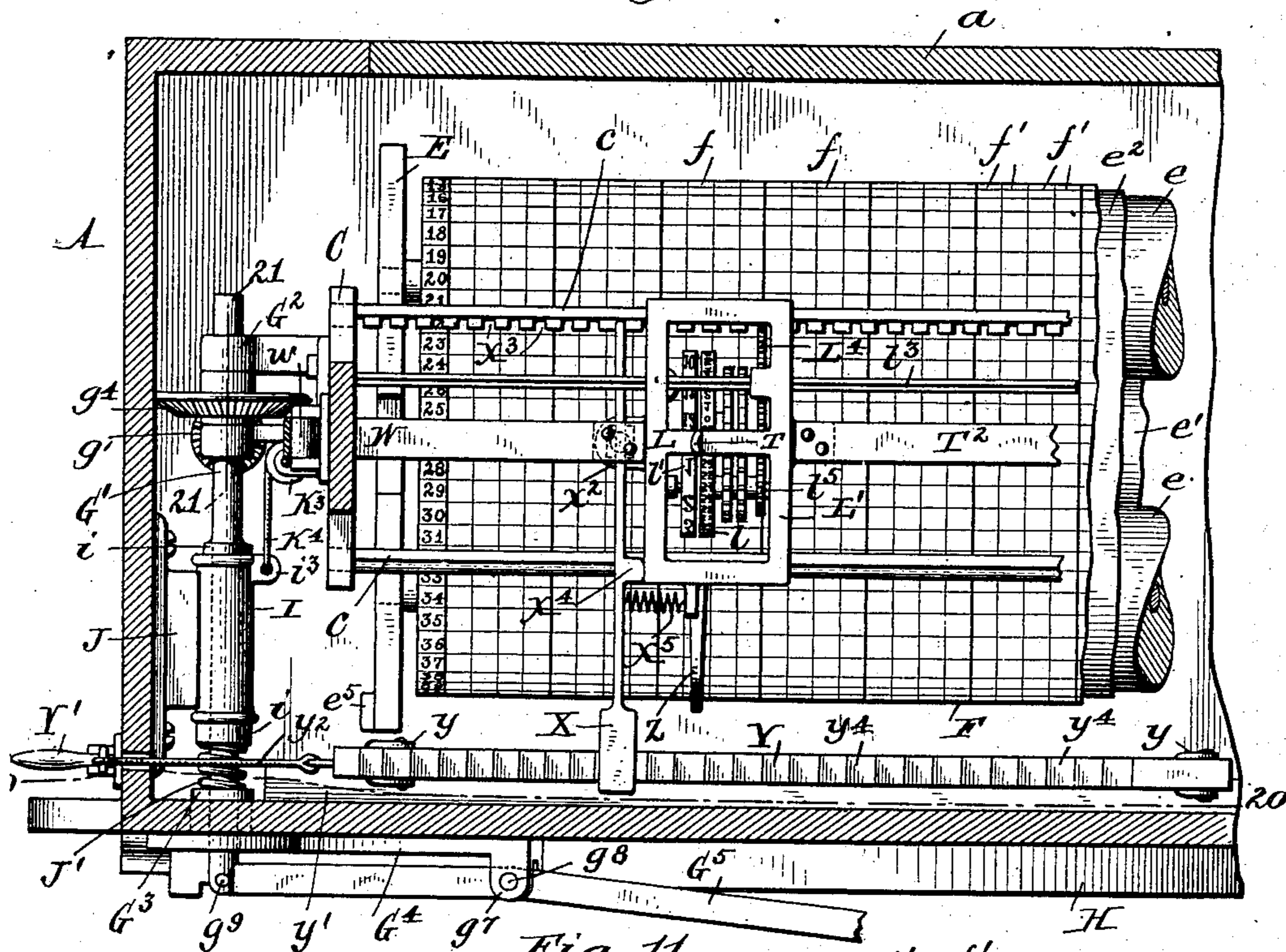
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Fig. 10.

7 SHEETS—SHEET 5.



Witnesses:

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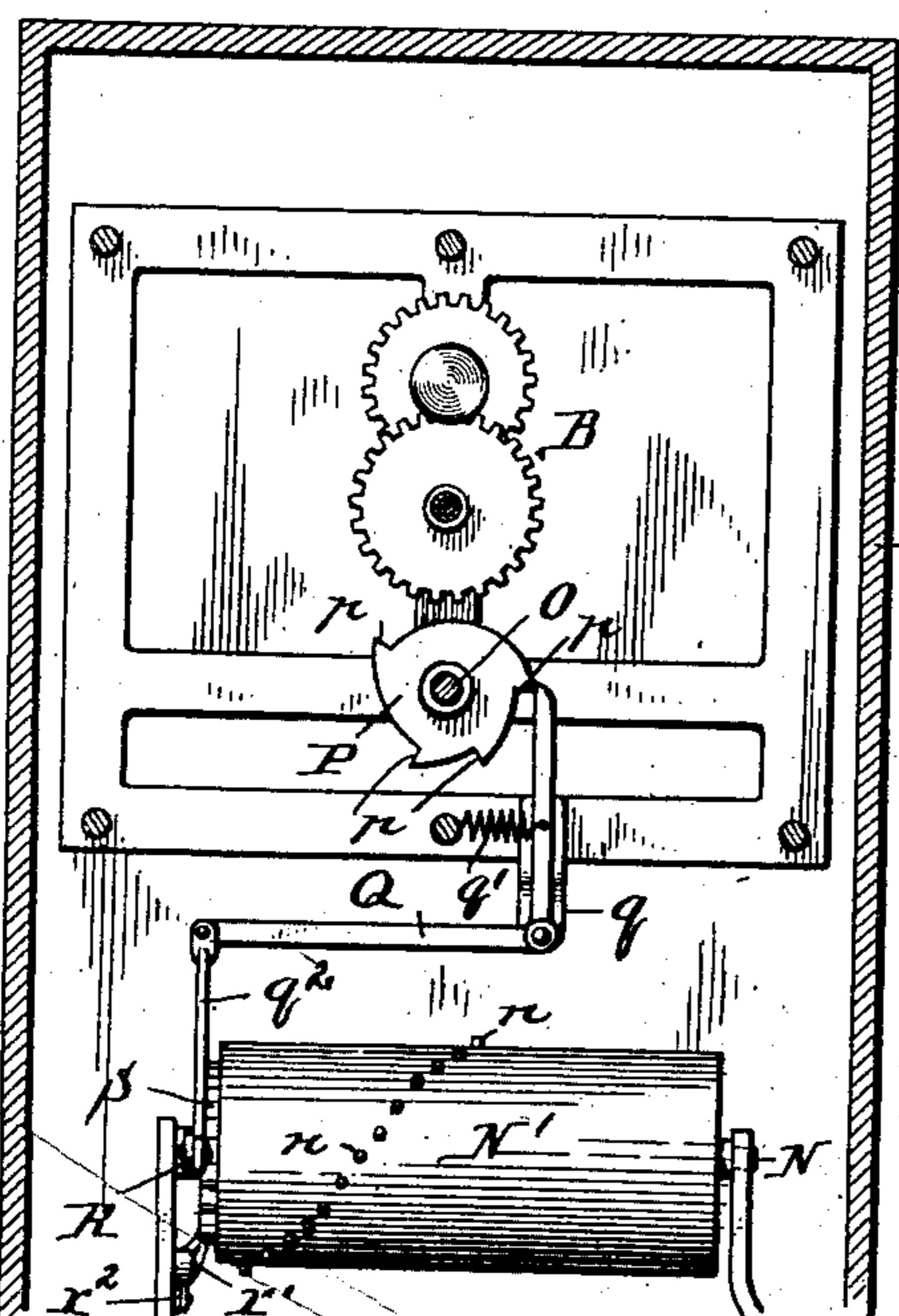
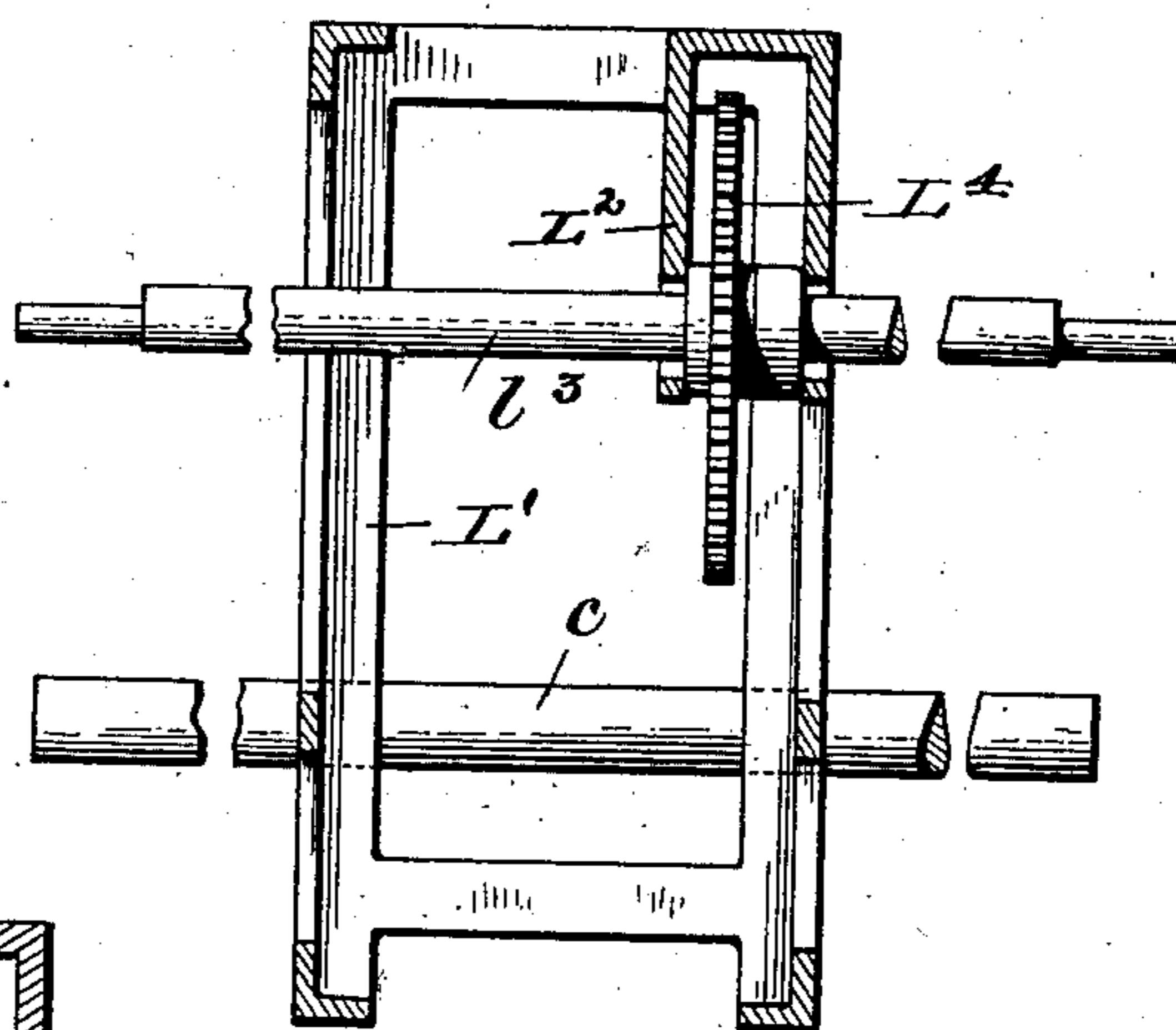
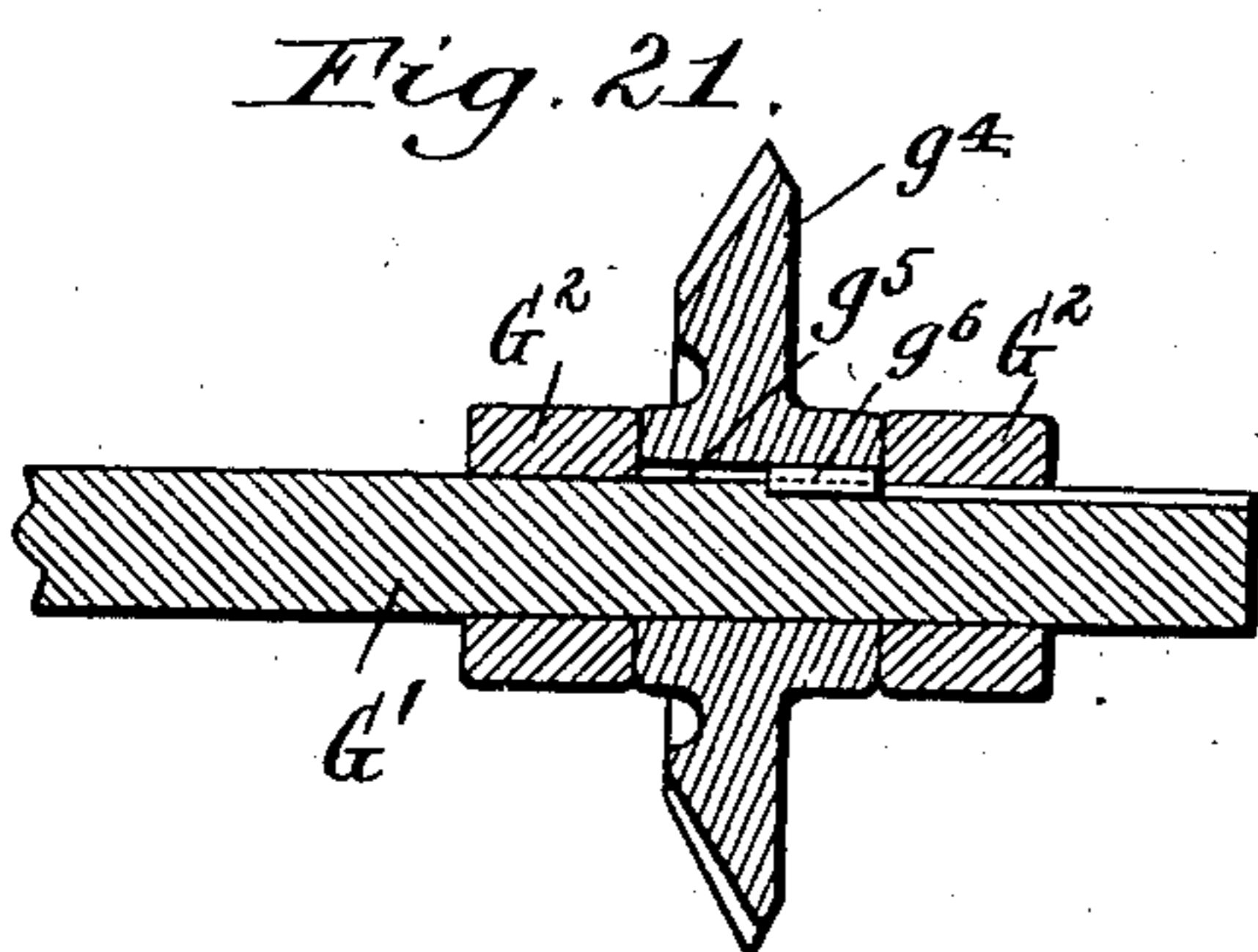
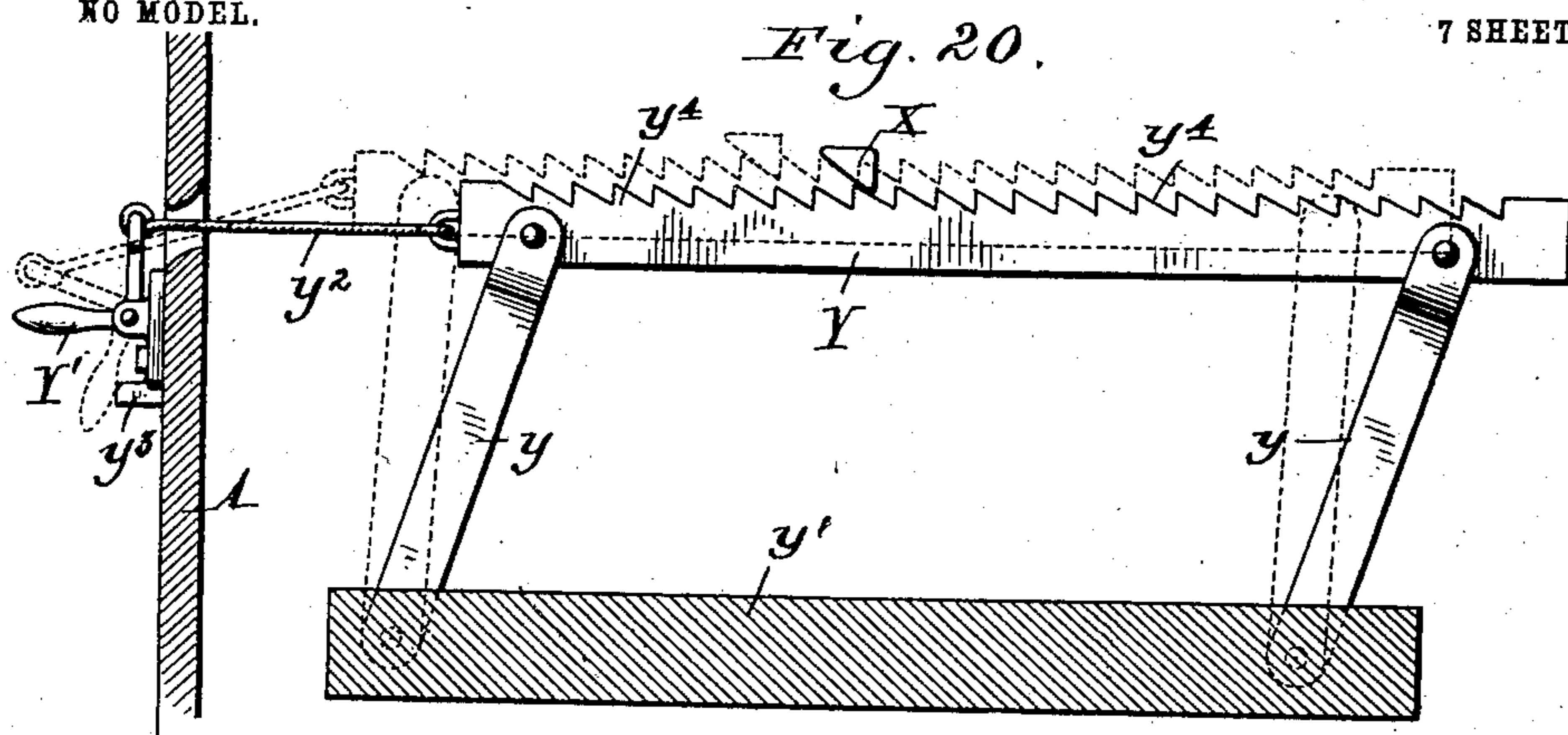


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WORKMAN'S TIME RECORDER.

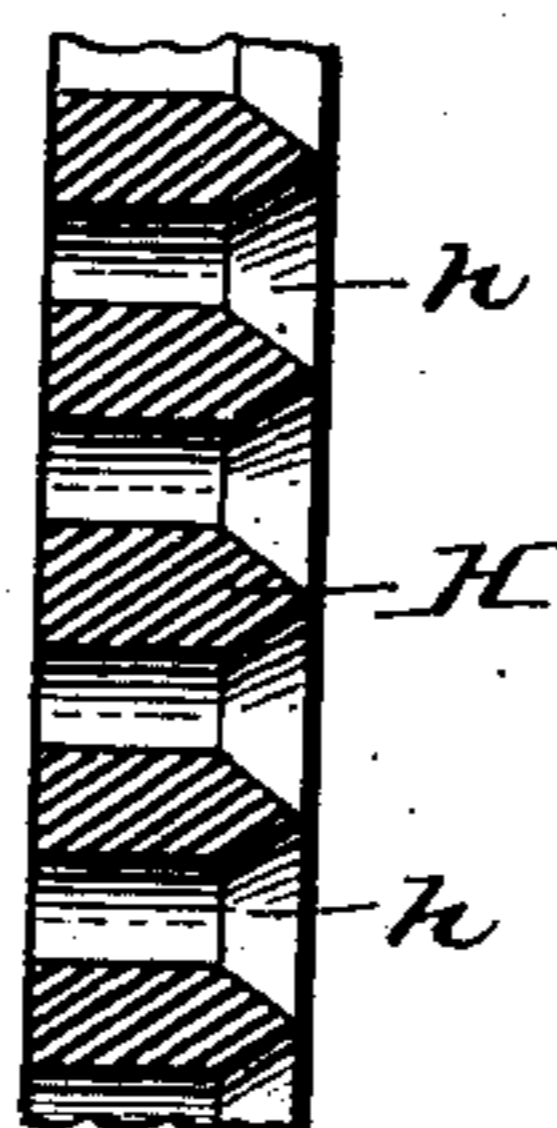
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NO MODEL.

7 SHEETS—SHEET 7.



*Fig. 24.*



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# UNITED STATES PATENT OFFICE.

ALFONSO L. JAYNES, OF BUFFALO, NEW YORK.

## WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 721,374, dated February 24, 1903.

Application filed July 13, 1901. Serial No. 68,178. (No model.)

*To all whom it may concern:*

Be it known that I, ALFONSO L. JAYNES, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Workmen's Time-Recorders, of which the following is a specification-

This invention relates to workmen's time-recorders of that type in which a record-receiving element is provided on which the record of one day or a number of days is to be marked or stamped, a space being provided for the record of each day and each space being subdivided into spaces in which the time of commencement and suspension of each working period is recorded.

The primary objects of my invention are to provide a workmen's time-recorder in which the time-stamp will be caused to automatically change its position with reference to the record-receiving element at predetermined times of each day, so as to successively record the time of commencement and suspension of the working periods of each day, to automatically change the position of the time-stamp at the end of each working day, so as to assume a position registering with the space in which the time of commencement of the first working period of the next day is recorded, and in case the record-receiving element be provided with seven day-spaces denoting the seven days of the week to automatically return the time-stamp at the end of the seventh day to the space in which the time of commencement of the first working period of the first day is recorded.

A further object of my invention is to provide mechanism whereby the time-stamp may be returned to the space next preceding that over which it is positioned to allow an employee entering the place of business for the commencement of a certain working period to record his time in the said preceding space after the stamp has been automatically positioned for recording the suspension of such working period or to allow the time-stamp when positioned to record the commencement of a certain working period to be returned to the preceding space which is adapted to receive the record of suspension of work of the preceding working period.

While the accompanying drawings illus-

trate my invention as used in connection with an endless band having a number of day-spaces thereon, I do not wish to be understood as limiting myself to the application of the invention thereto, as it may be as readily used in connection with a band having only one day-space, or it may be applied to other time-recorders, such as have paper disks on which the time is recorded or individual cards. In fact, it is evident that without departing from the essence of my invention it may be applied to any movable or any independent and individual record-receiving element having thereon day-spaces or a day-space divided into spaces for recording the commencement and suspension of each working period.

Other objects of the invention will appear in the following description and in the novel features thereof, which will be particularly pointed out in the claims.

The arrangement and combination of parts as shown in the accompanying drawings are also susceptible to a wide range of variation without departing from the fundamental features of this invention.

Referring to the drawings, Figure 1 represents a front elevation of my improved time-recorder with the indicator-finger showing the time-stamp positioned to record the time of entering the place of business Wednesday morning. Fig. 2 is a central vertical section of the same. Fig. 3 is a vertical section taken on line 3 3, Fig. 2. Fig. 4 is a vertical section taken on line 4 4, Fig. 3. Fig. 5 is similar section of the lower portion of the recorder, showing the frame supporting the record-receiving band swung out to allow a new paper band to be placed thereon. Fig. 6 is a similar section to Fig. 3, the lower portion of the recorder only being shown, the time-stamp being positioned to record the time of entering the place of business Monday morning. Fig. 7 is a transverse vertical section through the frame supporting the mechanism. Fig. 8 is a horizontal section taken on line 8 8, Fig. 6. Fig. 9 is a horizontal section taken on line 9 9, Fig. 2. Fig. 10 is an enlarged horizontal section taken on part of line 8 8, Fig. 6, the time-stamp being shown in position to record the time of departing from business on the first working period of Wednesday. Fig. 11 is a similar section, the time-stamp return-lever being shown

as having returned the time-stamp to the space in which the time of entering the place of business for the first working period of Wednesday is stamped. Fig. 12 is a horizontal section, on an enlarged scale, taken on line 12 12, Fig. 7. Fig. 13 is a section taken on line 13 13, Fig. 12, on a still further enlarged scale. Fig. 14 is a section on line 14 14, Fig. 13. Fig. 15 is a side elevation of the weight locking or suspending mechanism. Fig. 16 is a plan view of the same. Fig. 17 is a longitudinal section taken on line 17 17, Fig. 16. Fig. 18 is a cross-section on line 18 18, Fig. 15. Fig. 19 is a section through the time-stamp return-lever and the guide-rod with which said lever coacts. Fig. 20 is a section on line 20 20, Fig. 10, the parts in rear of the push or rack bar being omitted. Fig. 21 is an enlarged section taken on line 21 21, Fig. 10. Fig. 22 is an enlarged section through the time-stamp frame, showing the manner of supporting the gear whereby the time-stamp is actuated. Fig. 23 is a vertical section taken on line 23 23, Fig. 4. Fig. 24 is a section on line 24 24, Fig. 1.

Referring now to the drawings in detail, like letters of reference refer to like parts in the several figures.

The letter A designates the casing, in which is located time mechanism B, of any well-known or suitable type. In order to render the mechanism of the time-recorder accessible, I provide a door *a* in the rear of the casing, which is arranged to swing downwardly, as shown in Fig. 5 of the drawings.

C designates standards or supports which are secured to the bottom of the casing and held rigidly together near their upper ends by rods *c*, which act as guide-rods for the time-stamp to travel on, as will appear hereinafter. A shaft D is journaled in the lower end of the said standards, and thereon is supported a frame E, in which are journaled two rollers *e* near its upper end. On the shaft D a roller *e'* is journaled, and around this roller and the rollers *e* an endless apron or band *e<sup>2</sup>* passes. The rollers *e* *e'* are each provided with peripheral pins or teeth *e<sup>3</sup>*, which enter corresponding holes *e<sup>4</sup>*, formed in the apron or band, near the edges of the same, thereby assuring the moving of the apron or band on the slightest turn of the rollers without lost motion. On the apron *e<sup>2</sup>* the record-receiving paper band F is removably secured in any suitable manner. As shown on the drawings, this paper band is divided into day-spaces *f* by lines arranged lengthwise thereof, and these day-spaces are subdivided by parallel lines into four spaces *f'*, in which the time of entrance to and departure from the place of business for the two working periods of the day, morning and afternoon, are recorded. The said spaces are divided into individual spaces by lines arranged cross-wise of the sheet. The spaces thus formed are each numbered, and each individual employed receives a number corresponding to one of the numbers on the band, and in that

space designated by the numeral corresponding to his number he must record the time of entrance to and departure from the place of business.

The paper band may be subdivided into various spaces—such, for instance, as dividing the day-spaces into six or eight subdivisions—which for certain classes of business is particularly necessary, for the reason that the day is divided into three or four working periods, each of which requires two subdivisions to record the time of commencement and suspension thereof, or spaces at the right of the day-spaces to record the rate of wages, the total number of hours worked during the days for which spaces are provided on the paper band, and the amount due for the labor furnished during such time. Other spaces may be provided for further data should the nature of the business require it. These changes or the number of day-spaces used, whether it be one or more, do not affect the working qualities of my invention.

As best illustrated in Fig. 5, the frame E, which carries the endless apron or band *e<sup>2</sup>*, may be swung out to more readily detach the paper band from or attach it to the said apron. The door-opening through which a portion of the frame E projects is slightly wider than the latter, and to prevent said frame from swinging out too far and causing the endless apron to strike the bottom of the casing I provide ears or stops *e<sup>5</sup>* thereon, which strike the rear wall and limit the movement thereof.

G designates a shaft which is journaled in bearings *g*, secured to one of the standards C and which has bevel-gears *g'* *g<sup>2</sup>* secured to the upper and lower end thereof, respectively, the lower bevel-gear *g<sup>2</sup>* being in continual mesh with a bevel-gear *g<sup>3</sup>*, secured to the shaft D.

An operating-shaft *G'* is held slidingly in bearings *G<sup>2</sup>* *G<sup>3</sup>*, secured, respectively, to one of the standards C and the front wall of the casing through which it projects. A bevel-gear *g<sup>4</sup>* is held on the shaft and therein a key-way *g<sup>5</sup>* is formed, in which a key *g<sup>6</sup>*, secured in the shaft *G'*, is made to slide, thus causing the gear *g<sup>4</sup>* to turn with the shaft and permitting the shaft to slide in said gear.

The bearing *G<sup>3</sup>* is allowed to turn in the casing, and has an arm *g<sup>4</sup>* formed thereon which lies outside of said casing. On this arm ears *g<sup>7</sup>* are formed, between which the operating-lever *G<sup>5</sup>* is secured by a pin *g<sup>8</sup>*. The inner end of this lever is secured to the outer end of the operating-shaft *G'* by a pin *g<sup>9</sup>*, while the opposite end thereof extends over an indicator-segment H, arranged concentric with the operating-shaft, and therein a series of consecutively-numbered holes or sockets *h* is arranged. The free end of the operating-lever is adapted to traverse the segment, and it has a pin or finger *g<sup>10</sup>* arranged thereon in line with the sockets, any of which it is adapted to enter.

Formed on or secured to the operating-

shaft G' are collars  $i$ , between which a sleeve I is held. To prevent the turning of this sleeve on or with the operating-shaft, I provide a lug  $i'$ , which is held in a slideway  $j$ , 5 formed in a guide J, secured to one of the side walls of the casing in any suitable manner. This allows the shaft to turn in the sleeve. Surrounding the operating-shaft between the bearing G<sup>3</sup> and the adjacent collar  $i$ , a spiral 10 spring J' is held, which serves to keep the said shaft and the sleeve I in their rearmost position.

Connecting the two sides of the frame E is a cross-bar K, which has pivotally secured 15 thereto two links K', the upper ends of which are bifurcated and pivotally connected to an impression-platen K<sup>2</sup>, located directly under the apron or band  $e^2$  and arranged to extend lengthwise across the same, and which on be- 20 ing moved causes the links to swing on the cross-bar K and elevate the same evenly throughout its length. To one of the standards C, I secure a guide-pulley K<sup>3</sup>, around which a chain or cord K<sup>4</sup> passes, the latter 25 being removably secured with one end by means of a snap-hook  $k$  or the like to the adjacent end of the platen K<sup>2</sup> and with its other end to an ear  $i^3$ , formed on the sleeve I. Owing to the arrangement of the parts, it 30 necessitates the forming of an aperture  $k'$  in the standard through which the cord passes. In swinging the frame E on the shaft D for changing the paper band the snap-hook  $k$  is disengaged from the platen, thus allowing 35 the frame to swing without interfering with other parts of the mechanism. As the platen K<sup>2</sup> is elevated it presses the paper band  $e^2$  against the recording-wheels of the time-stamp, the latter being located over the paper 40 band in close proximity thereto, as will presently appear, and owing to the fact that this platen extends across the full width of the apron or band and that its movement is even throughout its length it assures an even im- 45 pression of the time-stamp irrespective of the position the latter may have.

The time-stamp L may be of any common construction and hardly requires detailed 50 description saving to say that it consists of a frame L' of any suitable construction to permit of its being slidably carried on the guide-rods  $c$ . It is provided with the usual stationary arbor, on which the recording- 55 wheels  $l$   $l'$  are loosely mounted, the latter being so arranged and connected with the time-stamp that when the minute-recording wheel  $l$ , bearing the numbers "0" to "59," makes one revolution the hour-recording wheel  $l'$ , bearing the numbers "1" to "12," is turned 60 to bring the next number thereon in line with the printing-point, any of the well-known methods of accomplishing this being adaptable, the preferred construction, however, being as follows: Extending from the 65 top of the frame L' is an arm L<sup>2</sup>, (see Fig. 22,) through which and the side of the frame a shaft  $l^3$  passes. Carried on this shaft so as

to turn therewith and slide thereon and located between the said arm and the side of the frame is a gear-wheel L<sup>4</sup>, which is in 70 mesh with a gear-wheel L<sup>5</sup>, held loosely on the stationary arbor. Between the gear-wheel L<sup>5</sup> and the recording-wheels any suitable or well-known mechanism is provided whereby the recording-wheels are revolved 75 in accord with the time mechanism. The shaft  $l^3$  has its ends journaled in the standards C, and secured to one end thereof is a bevel-gear  $l^4$ .

M designates a flexible shaft which is jour- 80 naled in suitable bearings and has bevel-gears  $m$   $m'$  secured to opposite ends thereof, the gear  $m$  being held in mesh with the bevel-gear  $l^4$ , while the gear  $m'$  is in mesh with a bevel-gear M', secured to the minute-spindle 85 of the time mechanism.

Journaled in the upper end of the standard C is a shaft N, on which the time-stamp de- 90 tention reel or drum N' is secured and which is provided with peripheral pegs or teeth  $n$ , with one of which an upwardly-extending ear or stop T, formed on the frame of the time- 95 stamp, is adapted to engage. These pegs or teeth are arranged spirally around the reel and spaced to correspond with the subdivi- sion of the day-spaces—that is to say, that a reel used in connection with a band having 100 a certain number of subdivisions must have a corresponding number of pegs or teeth so arranged that the reel must be moved a cor- responding number of times before having 105 made a complete revolution and before the time-stamp has passed over all the spaces, it being held for a predetermined time by each peg, the left peg of the course being in line with the second peg thereof, thus causing 110 the time-stamp by mechanism provided therefor to return to its starting-point on the last partial revolution of the reel for engagement with the first peg of the course, when it is again in position to record the time in the 115 first space on the new paper band, which must be affixed to the endless apron before recording the workmen's time.

O represents a spindle, which is journaled 115 in the frame of the time mechanism, and thereon is secured a gear-wheel  $o$ , which meshes with a gear-wheel  $o'$ , secured to the hour-sleeve of the time mechanism. This spindle is geared to make one revolution every 120 twenty-four hours, and secured thereto is a cam P, with operating-depressions  $p$ , corresponding in number to the number of subdivisions in each day-space. These depres- 125 sions are arranged around the periphery of the cam and spaced to correspond to the length of the intervals during which it is desired to hold the time-stamp over each subdivision of each day-space.

Q represents a bell-crank lever pivotally 130 secured to a hanger  $q$ , arranged on the frame of the time mechanism, one arm thereof being held against the periphery of the cam P by a retractile spring  $q'$ , while the end of the

other arm is connected by a link  $q^2$  to one end of a lever R, fulcrumed between its ends on the shaft N and having a pawl  $r$  secured to its other end, which engages a ratchet-wheel S, secured to one end of the detention-reel N'. To prevent retrograde movement of the reel, a detent-pawl  $r'$  is provided, which is pivotally secured to the adjacent standard C and held against the ratchet-wheel by a spring  $r^2$ .

To hold the time-stamp against one of the pegs or teeth on the reel N' and to carry the same to the next peg when the reel is turned, a weight T' is provided, which is secured to the frame of the time-stamp by a steel band T<sup>2</sup> or similar means passing around a guide-pulley  $t$ , secured to one of the standards C, and through an opening  $t'$ , formed in said standard.

After the time-stamp has reached the end of its movement it is automatically returned to its starting-point by a counterweight U, which is suspended and held inactive on a bracket U', secured to the casing or in any other practical manner. This bracket is provided with two arms  $u$ , between which guide-rolls  $u'$   $u^2$ , loosely mounted on spindles  $u^3$ , are confined. A pawl V, comprising two arms  $v$  and a cross arm or toe  $v'$ , is pivotally held on the spindle  $u^3$ , on which the guide-roll  $u^2$  is supported. Loosely mounted on a spindle between the arms  $v$  is a pressure-roll  $v^3$ , which bears against the flexible band W, on which the counterweight is suspended. This band has an ear or lug W' formed or secured thereon, which engages with the pawl V, thus holding the said counterweight in its inactive position. Normally the band W is slack and passes between guide-rollers  $w$ , journaled in a bracket  $w'$ , secured to one of the standards C, wherein an aperture  $w^2$  is formed to permit the band to pass through, it being secured to the frame of the time-stamp.

The band W is held slack during the progressive movement of the time-stamp, which latter as it reaches the end of its movement causes the band to become taut, and as the time-stamp is disengaged from the last peg on the reel the weight T' pulls it forward suddenly, which elevates the pawl V and disengages it from the lug W', arranged on said band. The weight U being heavier than the weight T' draws the latter up and the time-stamp back to the extreme left, where it is held by the weight U. Before the machine can be operated again the party having charge of the same raises the weight U, slackens the band W, and engages the ear or lug W', formed thereon, with the pawl V. This allows the time-stamp to engage the first peg or tooth on the reel, after which, with a new paper band affixed to the endless apron, the machine is again ready to record the time of the workmen.

In exceptional cases an employee will enter the place of business after the time-stamp has been moved to record departure from busi-

ness or depart after the time-stamp has been moved to record the time of entrance to the place of business of the next working period, and therefore provision must be made to allow such, to return the time-stamp to a position in line with the next preceding space or subdivision, and to accomplish this a return-lever X, capable of vertical and horizontal movement, is secured to the frame of the time-stamp. This lever is pivotally held in the bifurcated head  $x$  of a vertical pin  $x'$ , arranged on the frame of the time-stamp, the pin allowing oscillation of the lever, while the pivotal connection of the latter to the pin allows of vertical movement. The rear end of the lever is adapted to engage any one of a series of notches  $x^3$ , formed in the rear guide-rod  $c$ , the lever, however, being normally held above said guide-rod. The front end of the lever extends to a point near the front wall of the casing, and between said end and its pivotal point a stop  $x^4$  is arranged, which is held against the frame of the time-stamp by a retractile spring  $x^5$ , secured with one end to said lever and with its other end to the frame of the time-stamp, thus holding the rear end of the lever directly over one of the notches  $x^3$ .

Y represents a push-bar which is supported by two links  $y$ , pivotally secured thereto with their upper ends, the lower ends thereof being pivotally secured to a bar  $y'$ , secured to the front wall of the casing.

$y^2$  is a cord which is secured with one end to the push-bar and with its other end to a bell-crank lever Y', pivotally supported on the outside of the casing. On operating said lever, the movement of which is limited by a stop  $y^3$ , the teeth  $y^4$ , arranged on the upper face of the push-bar, engage the front end of the lever X and elevates the same. This engages the rear end of said lever with the notch directly below it, and on further movement of the push-bar the lever is carried with the same and moves the recording-wheels of the time-stamp to the preceding space, as shown in Fig. 11.

The front of the casing is provided with a sight-opening Z, through which an indicating-finger  $z$ , secured to the time-stamp in line with the recording-wheels, may be seen, thus aiding the employee to ascertain whether the time-stamp is in proper position for him to record the time of his entrance to or departure from the place of business, as the case may be.

The operation of the device is as follows: The individual as he enters or departs from the place of business grasps the operating-lever and swings the same to bring the pin  $g^{10}$  thereof directly over the socket  $h$  bearing his number. This turns the operating-shaft G', which in turn through the medium of the gears  $g^4$   $g'$ , shaft G, and gears  $g^2$   $g^3$  turns the record-receiving band  $e^2$ , so as to bring the transverse space bearing a corresponding number under the recording-wheels. Now on forcing the free end of the lever G<sup>5</sup> toward the casing the pin  $g^{10}$  of said lever enters the

said socket. This allows the operating-shaft to slide outwardly in its bearings, whereby the sleeve I, carried thereon, is moved in the same direction, which causes the impression-platen, connected to said sleeve by the cord K<sup>4</sup>, to be elevated against the endless apron with sufficient pressure to cause the paper band affixed thereto to be forced against the recording-wheels of the time-stamp and receive the time impression therefrom.

Having thus described my invention, what I claim is—

1. In a time-recorder, the combination with the time mechanism, of a record-receiving element, a time-stamp actuated by said time mechanism, means for moving said time-stamp in one direction, means for retarding the movement of the time-stamp, and mechanism for causing the record-receiving element to be marked, substantially as set forth.

2. In a time-recorder, the combination with the time mechanism, of a record-receiving element, a time-stamp actuated by said time mechanism, mechanism for automatically moving the time-stamp to record the workmen's time across the face of said record-receiving element, mechanism for retarding the movement of said time-stamp, and means for causing the record-receiving element to be marked, substantially as set forth.

3. In a time-recorder, the combination with the time mechanism, of a record-receiving element, a time-stamp actuated by said time mechanism, mechanism for automatically moving the time-stamp to record the time across the face of said record-receiving element, mechanism for automatically and periodically retarding the movement of said time-stamp, and means for causing the record-receiving element to be marked, substantially as set forth.

4. In a time-recorder, the combination with the time mechanism, of a record-receiving element having record-spaces arranged thereon in which the time of commencement and suspension of the working periods is marked, a time-stamp actuated by said time mechanism, mechanism for automatically moving said time-stamp to cause the same to traverse said record-receiving element, time-controlled mechanism for periodically retarding the movement of the time-stamp, and mechanism for causing the record-receiving element to be marked, substantially as set forth.

5. In a time-recorder, the combination with the time mechanism, of a record-receiving element having record-spaces thereon in which the time of commencement and suspension of the working periods is marked, a time-stamp actuated by said time mechanism, mechanism for automatically moving said time-stamp in one direction, mechanism for periodically retarding the movement of the time-stamp, to allow the time to be marked in the successive record-spaces within predetermined periods, means for automatically returning the time-stamp to its starting-point

after having traversed the record-receiving element, and mechanism for causing the record-receiving element to be marked, substantially as set forth.

6. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and being subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon or band having consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, mechanism for moving the time-stamp across the record-spaces to allow the time to be recorded therein, means for automatically and periodically retarding the movement of the time-stamp to allow the time to be marked in the successive record-spaces within predetermined periods, means for automatically returning the said time-stamp to its starting-point after having traversed said record-spaces, and mechanism for causing the record-receiving ribbon or band to be stamped by the time-stamp, substantially as set forth.

7. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and being subdivided into record-spaces to receive the time of commencement and suspension of the working periods of each day, said ribbon or band having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, means for automatically moving the time-stamp to cause the same to traverse the record-spaces, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, time-controlled mechanism adapted to engage the said stop on the time-stamp to retard the movement of the same periodically whereby it is held for predetermined periods over the successive record-spaces, and mechanism whereby the said record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

8. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and being subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon or band having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism, and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum

having pegs or teeth arranged spirally thereon, and with one of which the said stop on the frame of the time-stamp is adapted to engage, means for turning said reel or drum so as to  
 5 disengage the peg or tooth holding the time-stamp from the stop formed on the frame thereof and engage the same with the next peg or tooth of the course, and mechanism whereby the said record-receiving ribbon or band is  
 10 caused to be marked or stamped by the time-stamp, substantially as set forth.

9. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged  
 15 crosswise thereon and having said day-spaces subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual  
 20 spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces  
 25 in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon with one of which the said stop on the frame of the time-stamp is adapted to engage, time-controlled mechanism for turning said  
 30 reel or drum to disengage one peg thereof and engage another, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

35 10. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and having said day-spaces subdivided into record-spaces for recording  
 40 the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism  
 45 and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon  
 50 on and with one of which the said stop on the frame of the time-stamp is adapted to engage, a cam operated by the time mechanism, mechanism intermediate of said cam and the reel or drum whereby the latter is turned to allow the time-stamp to advance to the succeeding  
 55 space when it is held by the succeeding tooth in the course, and mechanism whereby the record-receiving element is caused to be marked by the time-stamp, substantially as set forth.  
 60

11. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and having said day-spaces  
 65 subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon

having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism  
 70 and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon  
 75 on and with one of which the said stop on the frame of the time-stamp is adapted to engage, a ratchet-wheel secured to said reel, a cam operated by the time mechanism, a bell-crank lever operated by said cam, a ratchet-arm carrying a pawl which is adapted for engagement  
 80 with said ratchet-wheel, a link connecting one arm of said bell-crank lever with the ratchet-arm, and mechanism whereby the record-receiving ribbon or band is caused to be marked  
 85 or stamped by the time-stamp, substantially as set forth.

12. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged  
 90 crosswise thereon and having said day-spaces subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual  
 95 spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces  
 100 in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon with one of which the said stop on the frame of the time-stamp is adapted to engage, a cam operated by the time mechanism and having  
 105 a number of operating sections or faces which correspond to the number of record-spaces of each day-space, said sections being spaced to correspond to the length of intervals it is desired to hold the time-stamp over each of the  
 110 record-spaces, mechanism intermediate of said cam and the reel or drum, and means for causing the record-receiving ribbon or band to be marked by the time-stamp, substantially as set forth.  
 115

13. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces arranged crosswise thereon and having said day-spaces subdivided into record-spaces for recording  
 120 the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism  
 125 and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum having a series of pegs or teeth  
 130 arranged thereon with one of which the said stop on the frame of the time-stamp is adapted to engage, means for turning said reel or drum so as to disengage the peg or tooth

holding the time-stamp from the stop formed on the frame thereof and engage the same with the next peg or tooth of the series, a weight connected to the frame of the time-stamp by a cord or band passing around a pulley, said weight serving to advance the time-stamp so as to engage the pegs of the series successively, and means for causing the record-receiving ribbon or band to be marked by the time-stamp, substantially as set forth.

14. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon and with one of which the said stop on the frame of the time-stamp is adapted to engage, means for turning said reel or drum so as to disengage the peg or tooth holding the time-stamp from the stop formed on the frame thereof and engage the same with the next peg or tooth of the series, a weight connected to the time-stamp by a cord or band passing around a pulley, said weight serving to advance the time-stamp so as to engage the pegs of the series successively, means for returning the time-stamp to its starting-point as it is disengaged from the last peg of the series, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

15. The combination with the time mechanism, of a movable record-receiving ribbon or band having a number of day-spaces subdivided into record-spaces for recording the time of commencement and suspension of the working periods of each day, said ribbon having also consecutively-numbered individual spaces arranged lengthwise thereon, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, means for moving said ribbon or band so as to bring any one of the individual spaces in line with the printing-point, a reel or drum having a series of pegs or teeth arranged thereon and with one of which the said stop on the frame of the time-stamp is adapted to engage, means for turning said reel or drum so as to disengage the peg or tooth holding the time-stamp from the stop formed on the frame thereof, and engage the same with the next peg or tooth of the series, a weight connected to the time-stamp by a cord or band passing around a pulley, said weight serving to advance the time-stamp so as to engage the pegs of the series succes-

sively, a counterweight connected by a cord or band to the time-stamp, means for suspending the counterweight and holding the same in an inactive condition, and also for holding the cord or band in a slack condition, which slackness is gradually taken up as the time-stamp traverses the record-receiving ribbon or band, said weight being released as the band is drawn taut whereby the time-stamp is returned to its starting-point, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

16. The combination with the time mechanism, of a movable record-receiving ribbon or band, means for moving said ribbon or band lengthwise, a time-stamp actuated by the time mechanism and having an ear or stop formed on the frame thereof, a reel or drum having a series of pegs or teeth arranged thereon and with one of which said stop on the frame of the time-stamp is adapted to engage, means for turning said reel or drum so as to disengage the peg or tooth holding the time-stamp from the stop formed on the frame thereof and engage the same with the next peg or tooth of the series, a weight connected to the time-stamp by a cord or band passing around a pulley and which serves to advance the time-stamp so as to engage the pegs of the series successively, a counterweight, a band having an ear or lug formed thereon and being connected with one end to the time-stamp and with its other end to said counterweight, guide-pulleys over which said band passes, a pawl engaging said ear or lug on the said band whereby the counterweight is held elevated and inactive and the band held slack, which slackness is gradually taken up as the time-stamp engages the pegs or teeth on the reel successively, thus drawing the band taut as the time-stamp is released from the last peg of the series and disengaging the pawl from the ear or lug formed on said band whereby the counterweight is allowed to drop and draw the time-stamp back to its starting-point, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

17. The combination with the casing, of standards secured to the bottom thereof, guide-rods connecting the upper ends of said standards, a time-stamp held to move laterally on the guide-rods, a record-receiving ribbon or band located below the time-stamp and arranged to move in a direction opposite to that of the time-stamp, time mechanism to which said time-stamp is connected, a shaft journaled in the standards, mechanism for transmitting motion from the time mechanism to said shaft, means for transmitting motion from said shaft to the recording-wheels of the time-stamp, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

18. The combination with the casing, of

standards secured to the bottom thereof, guide-rods connecting the upper ends of said standards, time mechanism, a time-stamp actuated by the time mechanism and arranged to move laterally on said guide-rods, a record-receiving band or ribbon located below the time-stamp and arranged to move in a direction opposite to that of the time-stamp, a shaft journaled in said standards, means for transmitting movement from the time mechanism to said shaft, a gear-wheel held on said shaft to slide thereon and also to turn therewith and being adapted to engage with the mechanism of the time-stamp, and mechanism whereby the record-receiving band or ribbon is caused to be marked by the time-stamp, substantially as set forth.

19. The combination with the time mechanism, of a record-receiving element having record-spaces for recording the time of commencement and suspension of each working period, a time-stamp actuated by the time mechanism, automatically-operated mechanism whereby the relative position of the time-stamp and the record-receiving element is changed to allow the time to be marked in the record-spaces successively, mechanism for changing the relative position of the time-stamp and the record-receiving element so as to bring that record-space preceding the record-space over which the time-stamp is held in line with the printing-point, and means for causing the record-receiving element to be marked by the time-stamp, substantially as set forth.

20. The combination with the time mechanism, of a record-receiving element having record-spaces for recording the time of commencement and suspension of each working period, a time-stamp actuated by the time mechanism, mechanism whereby the relative position of the time-stamp and the record-receiving element is changed to allow the time to be marked in the successive record-spaces, mechanism for returning the time-stamp from the record-space over which it is held to the next preceding space, and means for causing the record-receiving element to be marked by the time-stamp, substantially as set forth.

21. The combination with the time mechanism, of a record-receiving element having record-spaces for recording the time of commencement and suspension of each working period, a time-stamp actuated by said time mechanism, time-controlled mechanism whereby the relative position of the time-stamp and the record-receiving element is changed to allow the time to be marked in the successive spaces, manually-operated mechanism for momentarily returning the time-stamp from the record-space over which it is held to the next preceding space, and mechanism for causing the record-receiving element to be marked by the time-stamp, substantially as set forth.

22. The combination with the time mechanism, of a record-receiving ribbon or band hav-

ing record-spaces for recording the time of commencement and suspension of each working period, a time-stamp actuated by the time mechanism, time-controlled mechanism whereby the relative position of the time-stamp and the record-receiving ribbon or band is changed to allow the time to be marked in the successive record-spaces, a lever secured to the frame of the time-stamp whereby the latter may be returned momentarily from the record-space over which it is held to the next preceding space, and mechanism whereby the record-receiving ribbon or band is caused to be marked by the time-stamp, substantially as set forth.

23. The combination with the casing, of standards secured to the bottom of said casing, guide-rods connecting the upper ends of said standards together, the rear guide-rod being provided with a series of notches, a time-controlled stamp held to slide on said guide-rods, a record-receiving band or ribbon having record-spaces for recording the time of commencement and suspension of each working period, time-controlled mechanism whereby the relative position of the time-stamp and the record-receiving band or ribbon is changed to allow the time to be marked in the successive record-spaces, a lever pivoted between its ends to said time-stamp in a manner to permit of horizontal and vertical movement, a spring for holding the rear end of said lever directly over one of the notches in the rear guide-rod, a push-bar pivotally held on two pivotally-supported links whereby the said lever is adapted to be operated to cause the rear end thereof to enter the notch directly below it and whereby the front end of the lever is swung laterally, thus causing the time-stamp to move from the record-space over which it is held to the next preceding space, and mechanism whereby the record-receiving band or ribbon is caused to be marked by the time-stamp, substantially as set forth.

24. The combination with the time mechanism, of a time-stamp actuated thereby, an impression-platen movable to and from said time-stamp, rollers arranged to rotate in unison, a record-receiving band or ribbon carried on said rollers and arranged to pass between said platen and the time-stamp and also having arranged thereon a series of characters or numbers, an indicator having characters or numbers corresponding to the characters or numbers on the record-receiving band or ribbon, an operating-lever pivoted between its ends and arranged to traverse the indicator with its free end, a manually-operated and slidable shaft to which said lever is secured with its other end, mechanism intermediate of the operating-shaft and the said rollers whereby the record-receiving band or ribbon is moved when the operating-lever is moved over the indicator and whereby that number or character on the band or ribbon corresponding to the number or character over which

the free end of said lever is placed is brought in line with the printing-point, and mechanism intermediate of said shaft and the impression-platen to cause the latter to force the record-receiving band or ribbon against the recording-wheels of the time-stamp when the free end of the operating-lever is forced against the indicator, substantially as set forth.

25. The combination with the casing and the time mechanism located therein, of a time-stamp actuated by said time mechanism, an impression-platen movable to and from said time-stamp, rollers arranged to rotate in unison, a record-receiving ribbon or band carried on said rollers and arranged to pass between said platen and the time-stamp and also having arranged thereon a series of numbers or characters, an indicator having numbers or characters corresponding to those on the record-receiving ribbon or band, a shaft supported in bearings to revolve and slide therein and having one end thereof extending out through the casing, an operating-lever pivoted between its ends and being pivotally secured to the end of said shaft, said lever being adapted to traverse the said indicator with its free end, mechanism intermediate of the said shaft and the above-mentioned rollers whereby the latter are revolved by said shaft when rotated by the operating-lever and whereby the number or character on the record-receiving ribbon or band corresponding with the number or character over which the free end of the operating-lever is held, is brought in line with the printing-point, a sleeve carried on the said shaft in a manner to prevent turning thereon but permit lengthwise movement with said shaft, and a cord connecting said sleeve with the impression-platen whereby the latter is caused to force the record-receiving band against the recording-wheels of the time-stamp when the free end of the operating-lever is forced against the indicator, substantially as set forth.

26. The combination with the casing and time mechanism located therein, of a time-stamp actuated by the time mechanism, rollers arranged to rotate in unison, a record-receiving ribbon or band having a series of consecutively-numbered spaces arranged lengthwise thereon, an operating-shaft journaled in bearings and arranged to rotate and slide therein, one end thereof being arranged to extend out through the casing, an arm car-

ried on said shaft and lying outside of the casing, an operating-lever pivoted between its ends on said arm, with an inwardly-projecting pin arranged on its free end and having its inner end secured to the projecting end of the operating-shaft, an indicator having a series of consecutively-numbered holes or sockets over which the free end of the operating-lever is to be moved and in the sockets of which the said inwardly-projecting pin is adapted to be forced for causing the operating-shaft to slide outward in its bearings, mechanism intermediate of said shaft and the above-mentioned rollers whereby the record-receiving ribbon or band is moved when the operating-lever turns the shaft and whereby that number on the record-receiving band corresponding to the number on the indicator over which the free end of the operating-lever is held, is brought in line with the printing-point, a sleeve having a laterally-projecting lug held between collars on the operating-shaft, a guide in which said lug is held to prevent turning of the sleeve but permit its sliding with the operating-shaft, a spring for keeping the latter in its normal position with reference to its movement lengthwise, and a cord connecting the said sleeve with the impression-platen whereby the latter is caused to force the record-receiving ribbon or band against the recording-wheels of the time-stamp, when the free end of the operating-lever is forced against the indicator, substantially as set forth.

27. The combination with the casing having a sight-opening and time mechanism located therein, of a record-receiving ribbon or band having record-spaces for recording the time of commencement and suspension of each working period, mechanism for moving said ribbon or band lengthwise, a time-stamp actuated by the time mechanism and having an indicating-finger pointing to the record-space in line with the recording-wheels of the same, said indicating-finger being visible through said sight-opening, means for automatically moving the time-stamp over the record-spaces successively at predetermined intervals, and mechanism for causing the record-receiving ribbon or band to be marked by the time-stamp, substantially as set forth.

ALFONSO L. JAYNES.

Witnesses:

CHAS. F. BURKHART,  
EMIL NEUHART.

It is hereby certified that in Letters Patent No. 721,374, granted February 24, 1903, upon the application of Alfonso L. Jaynes, of Buffalo, New York, for an improvement in "Workman's Time-Recorders," an error appears in the printed specification requiring correction, as follows: In line 105, page 3, the word "left" should read *last*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of March, A. D., 1903.

[SEAL.]

F. I. ALLEN,  
*Commissioner of Patents.*