

J. J. STOCKALL, JR.  
WORKMAN'S TIME RECORDER.

(Application filed Jan. 15, 1901.)

(No Model.)

3 Sheets—Sheet 1.

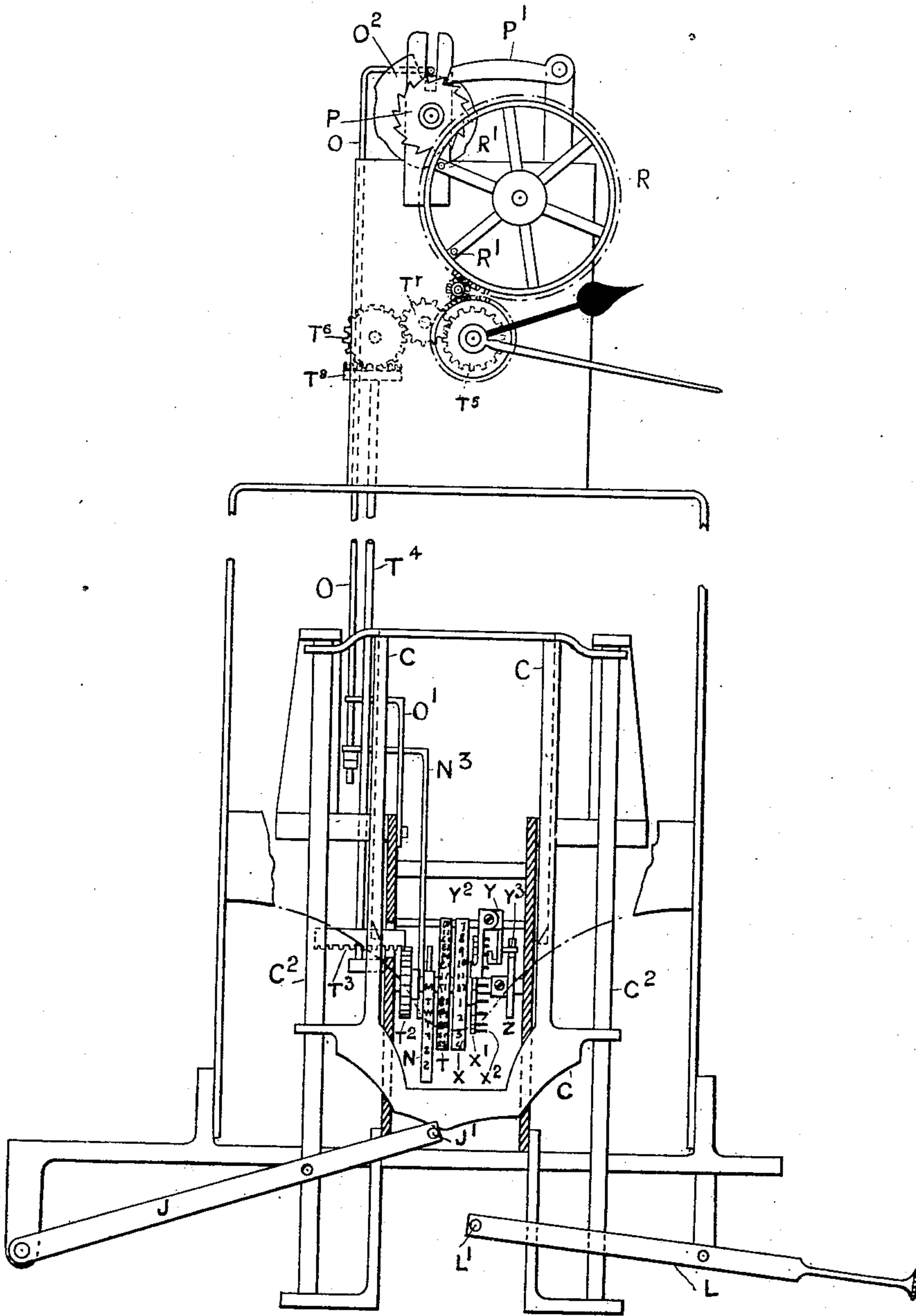


FIG. 1

*Witnesses.*

*Charles Septimus Berthou*

*Stephen Edwards Gwynn*

*James John Stockall Jr.*  
*Inventor*

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3 Sheets—Sheet 2.

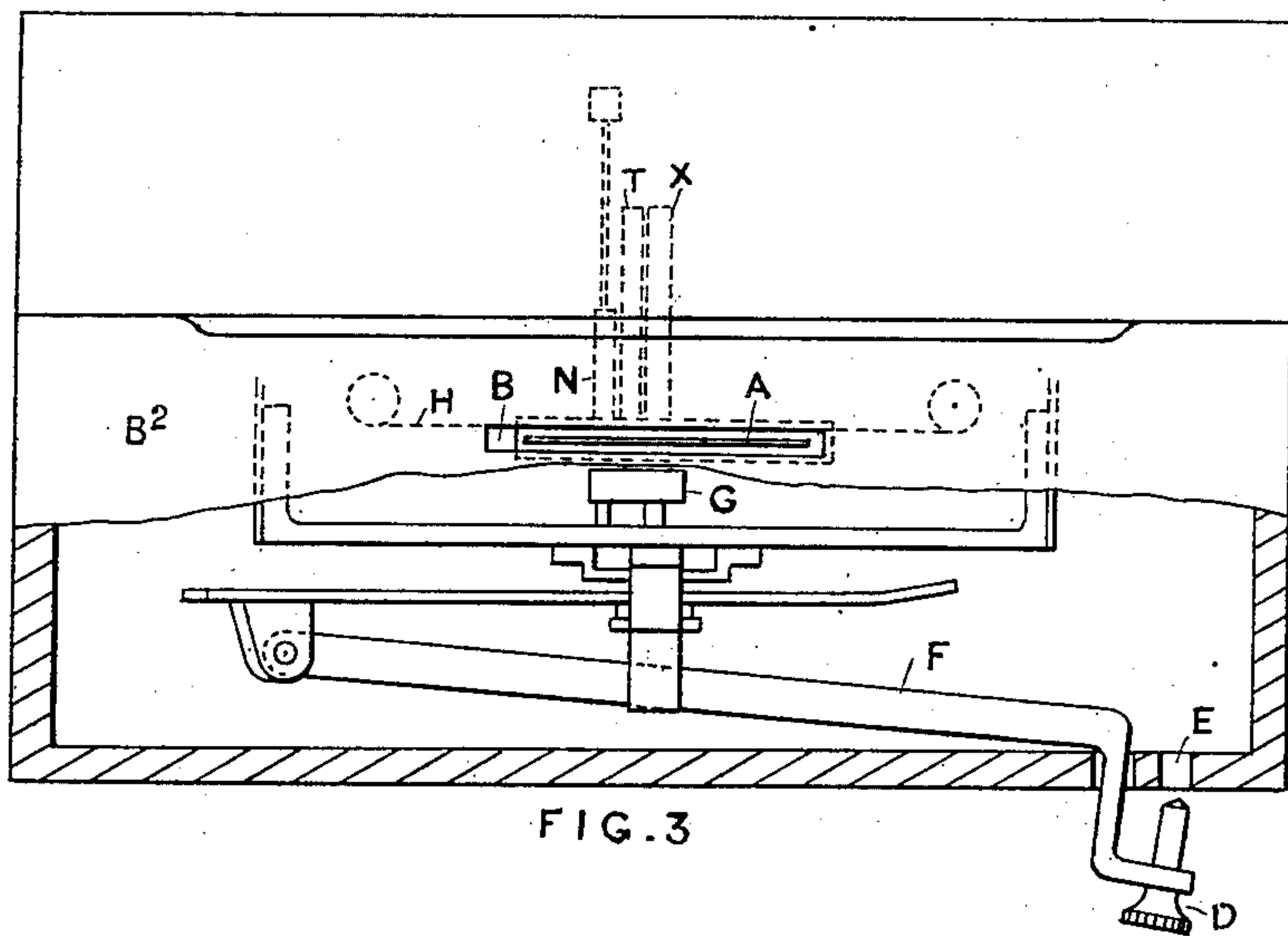


FIG. 3

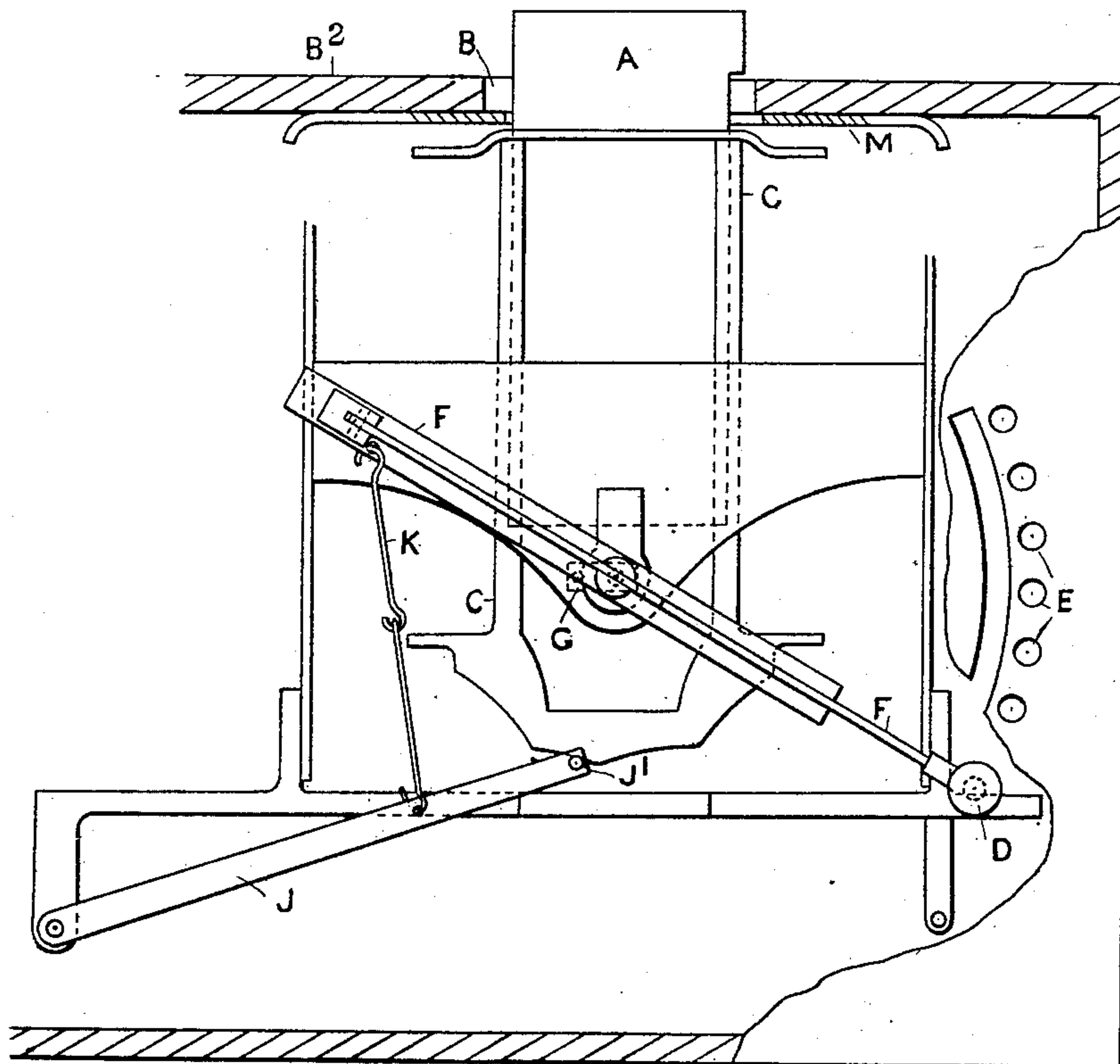


FIG. 2

Witnesses.

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3 Sheets—Sheet 3.

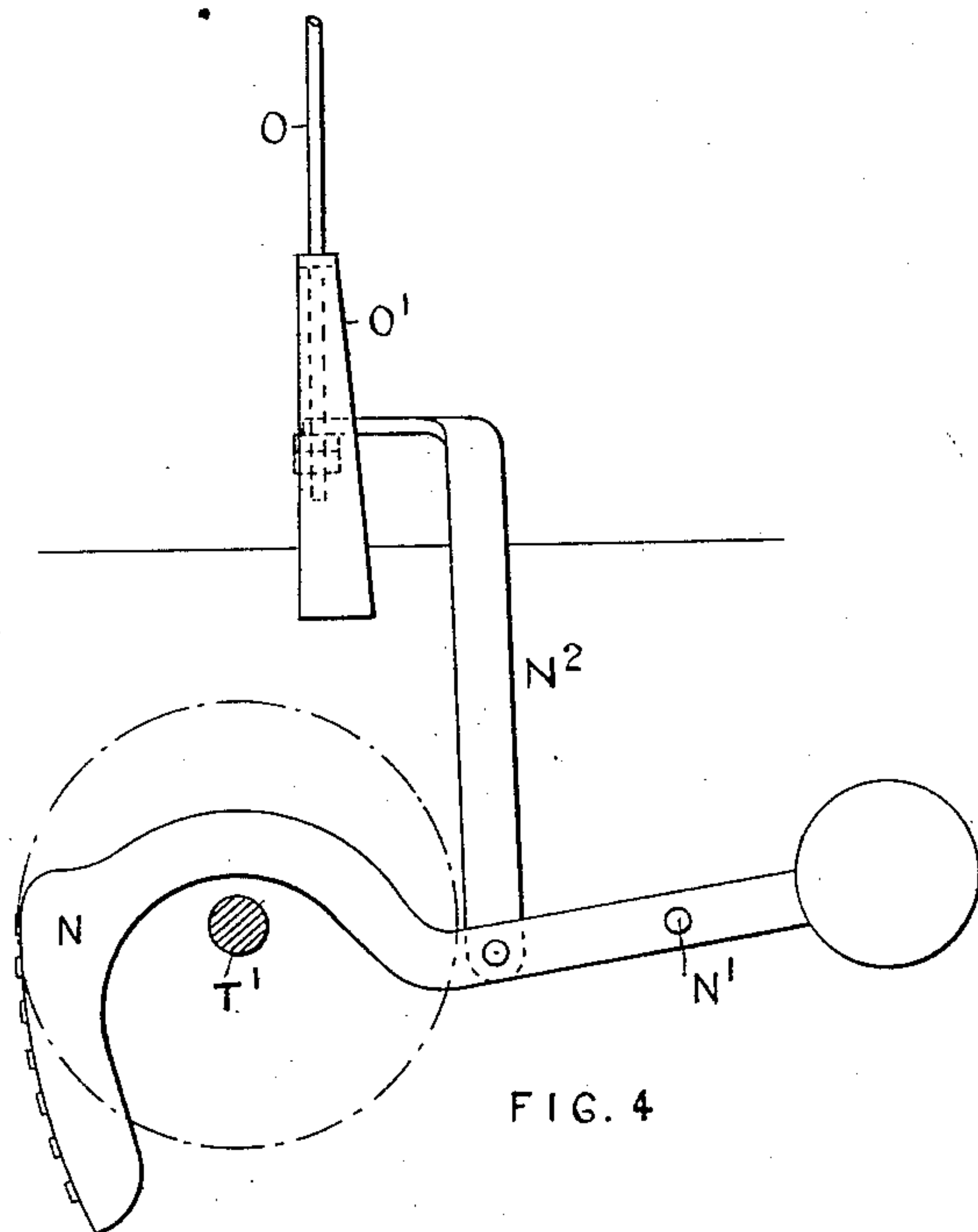


FIG. 4

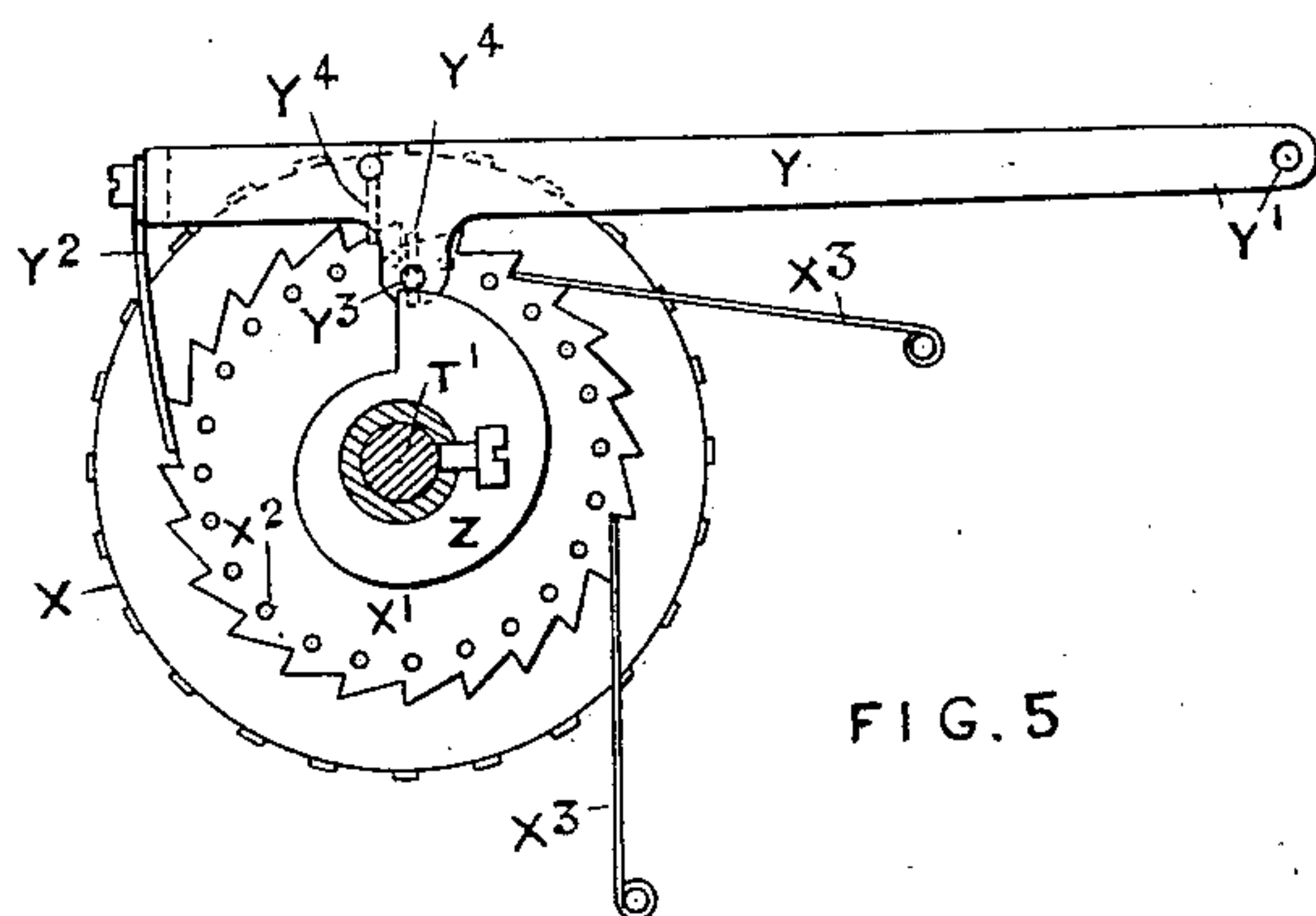


FIG. 5

Witnesses.

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Stephen Edward Gunzow

James John Stockall Jr.  
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# UNITED STATES PATENT OFFICE.

JAMES JOHN STOCKALL, JR., OF LONDON, ENGLAND.

## WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 714,964, dated December 2, 1902.

Application filed January 15, 1901. Serial No. 43,312. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES JOHN STOCKALL, Jr., watch manufacturer, a subject of the Queen of Great Britain, residing at 10 Clerkenwell road, London, England, have invented certain new and useful Improvements in or Relating to Apparatus for Recording and Checking Workmen's Time and for other Similar Purposes; and I do hereby 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.

This invention relates to time recorders or apparatus for recording and checking workmen's time and the like, and has for its object to provide, first, means whereby the time-card is automatically removed out of sight and out of control of the workman during the operation of recording the time thereon and is then automatically returned on completion of such recording, thus preventing fraud; secondly, means whereby the cards may be recorded upon both sides, first on one side and then on the other, without any chance of being put in the recorder the wrong way about, and, thirdly, means whereby the type-wheels and type are automatically controlled by direct communication with the mechanism of the clock.

According to this invention I employ a movable time-card carrier actuated by a lever controlled by the registering push-handle, so that when the time-card has been placed in the slot and has dropped into the carrier beneath and the registering push-handle has been brought opposite the required hole the carrier containing the time-card is automatically lowered out of sight and brought to the required position opposite the type-wheels. The push-handle having been then pressed home, the time-card is brought into contact with the type, and the time and date are thereby recorded in the required position thereon. On the push-handle then being lowered to its normal position the lever raises the time-card carrier and brings the top of the time-card again through the slot, so that it may be removed from the recorder, and in order to prevent the time-card from being placed in the slot the wrong way about I furnish such cards with a projection on one side

of the top and I correspondingly extend each end of the slot in the recorder to an amount equal to the width of the said projection on the time-card. These extended portions of the slot I provide with slides or covers, so that if the card is required to be placed in the recorder with the projection to the right the extended portion of the slot must be uncovered by removing the slide on that side, and vice versa, thus insuring that only the desired side of the card can be presented to the type. In order that the type-wheels may bring the required type in contact with the card, I drive the type-wheel spindle direct from the mechanism of the clock by means of a vertical rod geared thereto. The type-wheel carrying the type for printing the minutes is fixed on the said type-wheel spindle, and the type-wheel carrying the hours-type is loose thereon, being actuated by a ratchet feed device operated by a cam fixed to the type-wheel spindle in order that the type may be moved around to the desired extent at each complete revolution of the type-wheel carrying the minutes-type, thereby bringing the type into the requisite position for printing the time as indicated on the clock. I also provide a sector carrying the type for printing the days of the week, which sector is actuated by means of a rod and cam, also direct from the mechanism of the clock. Thus the day of the week, the hour p. m. or a. m., and also the minutes are all printed upon the card by the one impression.

In order that my invention may be better understood, I will now describe the same with reference to the drawings, throughout which like letters denote like parts.

Figure 1 illustrates the general arrangement of the recorder in elevation, the clock-face, recorder-casing, and printing arrangement being omitted. Fig. 2 is an elevation, and Fig. 3 a plan, of the time-card carrier, showing the lowering and lifting arrangements thereof, also of the printing-lever, push-handle, and of the slide for permitting the reversal of the time-card. Fig. 4 is an elevation of the day-of-week sector and its lifting-gear, drawn to an enlarged scale. Fig. 5 is an elevation of the locking-escapement for changing the hours-type, also drawn to an enlarged scale.



The time-card A, which is provided with a projection on one side at the top thereof, is inserted in the slot B and is allowed to drop into the card-carrier C, leaving a small portion of the card projecting outside the casing B<sup>2</sup>. To register the time at the desired position upon the time-card, the push-handle D is raised until it comes opposite the hole E, which represents and determines the desired position on the time-card. The push-handle D is then pushed in, causing the printing-lever F to press the printing-pad G against the time-card, which is in turn forced against the type, the printing-ribbon H intervening. In this operation the card is lowered into the recorder-casing, out of sight and out of control of the person registering the card, in the following manner: When the push-handle is raised, the opposite end of the printing-lever falls, allowing the card-carrier C to fall, taking the card with it and bringing the desired locality on the card immediately opposite the type, the hole into which the push-handle enters determining the desired locality, the lowering-lever J being suspended from the printing-lever F by the links K and the time-card carrier resting upon the projection J'. The time-card carrier rises and falls in the guides C<sup>2</sup>. The position to which the time-card carrier is required to fall may also be controlled by the said time-card carrier coming into contact with the projection L' on the lever L, which may be operated in connection with notches or steps representing the days of the week on the casing of the apparatus or otherwise.

The desired side of the time-card to be printed upon is determined by the slide M, Fig. 2, showing the said card placed in the carrier with the projection to the right, the slide M having been previously pushed to the right in order to permit the projection to pass downward. Should the time-card be placed in the slot the wrong way about, the projection on such card will catch on the slide M and remain suspended thereon, the card-carrier falling without it, in which case no printing will result. The slide is pushed over to the left if the opposite side of the time-card to that above indicated is required to be printed or recorded upon.

The day-of-the-week type are fixed upon the type-sector N, pivoted at N' and suspended from the lifter N<sup>2</sup>, the cam-rod O passing through the guide O' to the cam O<sup>2</sup>. The ratchet-wheel P is fixed on the same spindle on which the cam O<sup>2</sup> is fixed. The cog-wheel R is provided with two projections R', which engage the teeth of the ratchet-wheel P and revolve the cam so that a fresh letter on the sector N is brought up into the printing-line every twenty-four hours, the cog-wheel R being actuated by the mechanism of the clock.

The minutes-wheel T is fixed on the spindle T' and is revolved by the cog-wheel T<sup>2</sup> through the crown-wheel T<sup>3</sup> and the vertical rod T<sup>4</sup> direct from the mechanism of the clock, and

in this manner the time indicated by the wheel-hands of the clock is printed on the card, the minutes-type wheel making one complete revolution each hour.

The hours-type wheel X, carrying the hours-type for the complete twenty-four hours—namely, twelve hours a. m. and twelve hours p. m.—is loose upon the spindle T' and is actuated by the mechanism shown in Fig. 5, which consists of the following devices: Y is a lever pivoted at Y' to some fixed part of the apparatus. X' is a ratchet or feed wheel. X<sup>2</sup> represents pins or projections thereon, and Z a snail-cam. The action is as follows: The snail-cam Z, which is fixed to the spindle T', revolves once every hour, lifting the arm Y by engaging the projection Y<sup>3</sup>, which is allowed to fall as soon as it reaches the gap in the snail-cam Z, and the spring feed-pawl Y<sup>2</sup> engages a tooth of the ratchet-wheel X', and in order to insure the exact amount being fed forward at each revolution of the snail-cam Z the arm Y is provided with two stops Y<sup>4</sup> Y<sup>4</sup>, which allow one only of the pins or projections X<sup>2</sup> to pass at each revolution of the snail-cam Z. X<sup>3</sup> X<sup>3</sup> are retaining-pawls.

The shaft T<sup>4</sup> is driven from the clockwork through a gear-wheel T<sup>5</sup>, fixed friction-tight on the minutes-hand spindle of the clock.

T<sup>6</sup> is a gear-wheel of the same size as T<sup>5</sup>.

T<sup>7</sup> is an idler-wheel connecting gear-wheels T<sup>5</sup> and T<sup>6</sup>.

T<sup>8</sup> is a crown-wheel fixed to the spindle T<sup>4</sup>.

I claim—

1. In combination, the casing, the printing mechanism, means for holding the time-card within the casing of the apparatus out of the control of the workman and for projecting the time-card so that it may be taken by the workman, substantially as described.

2. In combination, the casing, printing mechanism, means for carrying the time-card into the casing out of reach of the workman and for projecting it from the casing into reach of the workman, and controlling devices for the printing mechanism for making the impression, said controlling devices operating the said carrying means, substantially as described.

3. In combination, the casing, a carrier for the time-card and means for operating the said carrier to draw the time-card into or project it out from the casing, said means comprising a push-handle D adapted to be inserted in either of a series of openings E in the casing, a printing-lever connected with the push-handle, connections leading to the carrier to be operated when the push-handle is operated and means for taking the impression controlled by the printing-lever, substantially as described.

4. In combination in a workman's time-recorder, printing mechanism, a casing having an opening through which the time-card is introduced or withdrawn, and a slotted slide adjustable in relation to the said opening and



adapted to present a shoulder at either end of said opening to obstruct the inward movement of the time-card by striking a shoulder thereon, substantially as described.

5 5. In combination, the printing mechanism, a casing having an opening for the introduction of the time-card within the case and adjustable means for presenting a shoulder at either one or the other end of said opening to contact with a shoulder on the time-card, substantially as described.

15 6. In combination in a workman's time-recorder, a carrier for the time-card, a push-handle arranged to engage any one of a series of openings E, connections from said push-handle to the carrier to control the position of the same, said connections including the printing-lever F, means for taking the impression connected to and operated by said  
20 lever, the type-wheels T, X, means for operating the same and a type-sector N carrying the characters for the days of the week and means for operating the said type-sector, substantially as described.

25 7. In combination in a time-recorder, means

for taking the impression, and type mechanism comprising a type-sector N, a toothed wheel R, means for driving the same, a ratchet-wheel, pins carried by the wheel R for turning the said ratchet-wheel, the cam O<sup>2</sup> connected with the ratchet-wheel, and having a series of steps, a cam-rod O operated by the cam O<sup>2</sup> and a lifter N<sup>2</sup> connected with the cam-rod and with the sector, substantially as described.

35 8. In a workman's time-recorder, the combination of means for taking the impression, type mechanism including the type-wheel, devices for regulating the type-wheel which consist of the snail-cam Z mounted on the spindle T', the lever Y' with projection Y<sup>3</sup>, stops Y<sup>4</sup>, and pawl Y<sup>2</sup>, the ratchet-wheel X' with pins or projections X<sup>2</sup>, and the retaining-pawls X<sup>3</sup>, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JAMES JOHN STOCKALL, JR.

Witnesses:

CHARLES SEPTEMA BERTHON,  
STEPHEN EDWARD GUNNISON.