No Model.)

5 Sheets—Sheet 1.

J. N. MASKELYNE.

REGISTERING TILL.

No. 436,500. Patented Sept. 16, 1890.

Fig. 1.

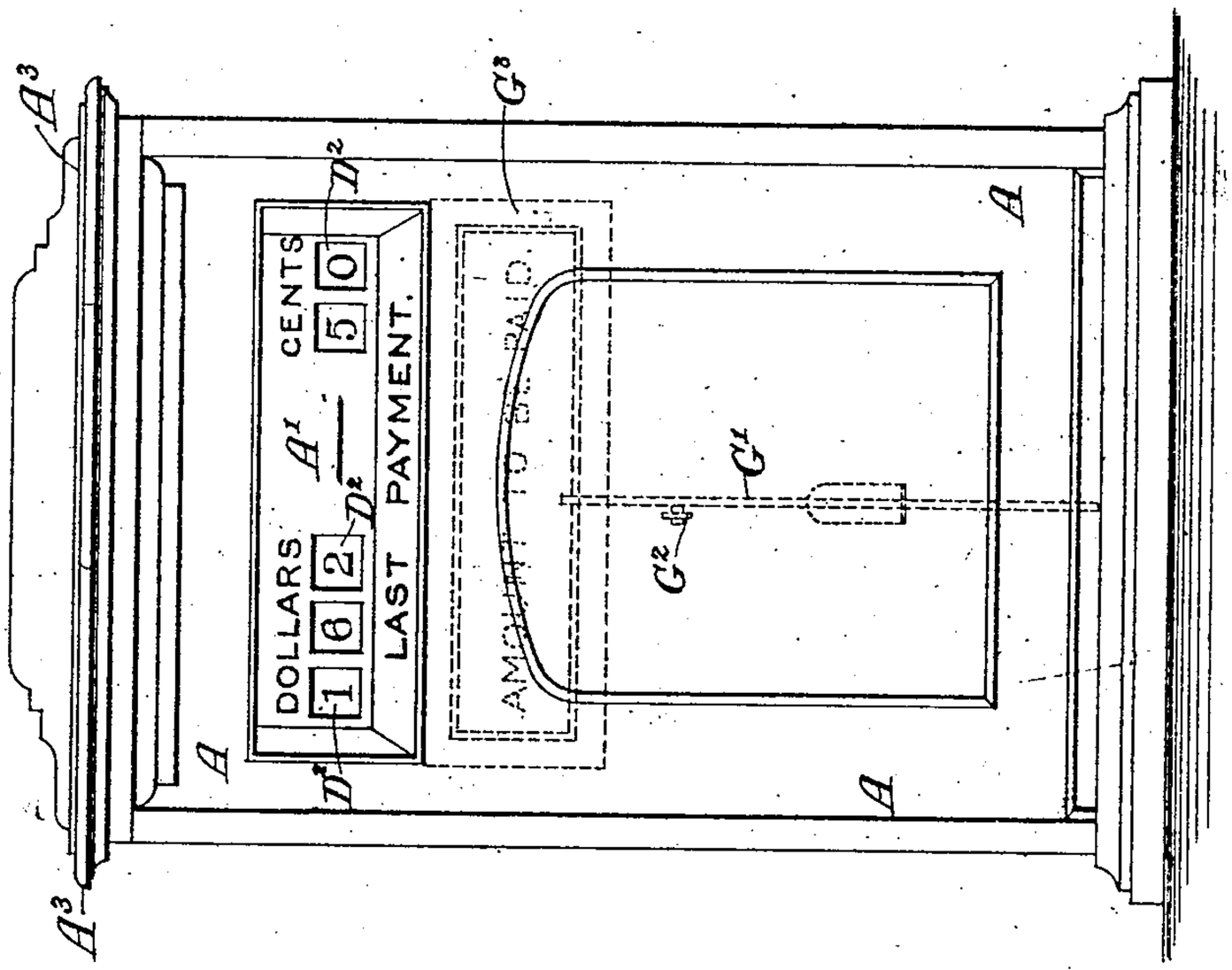
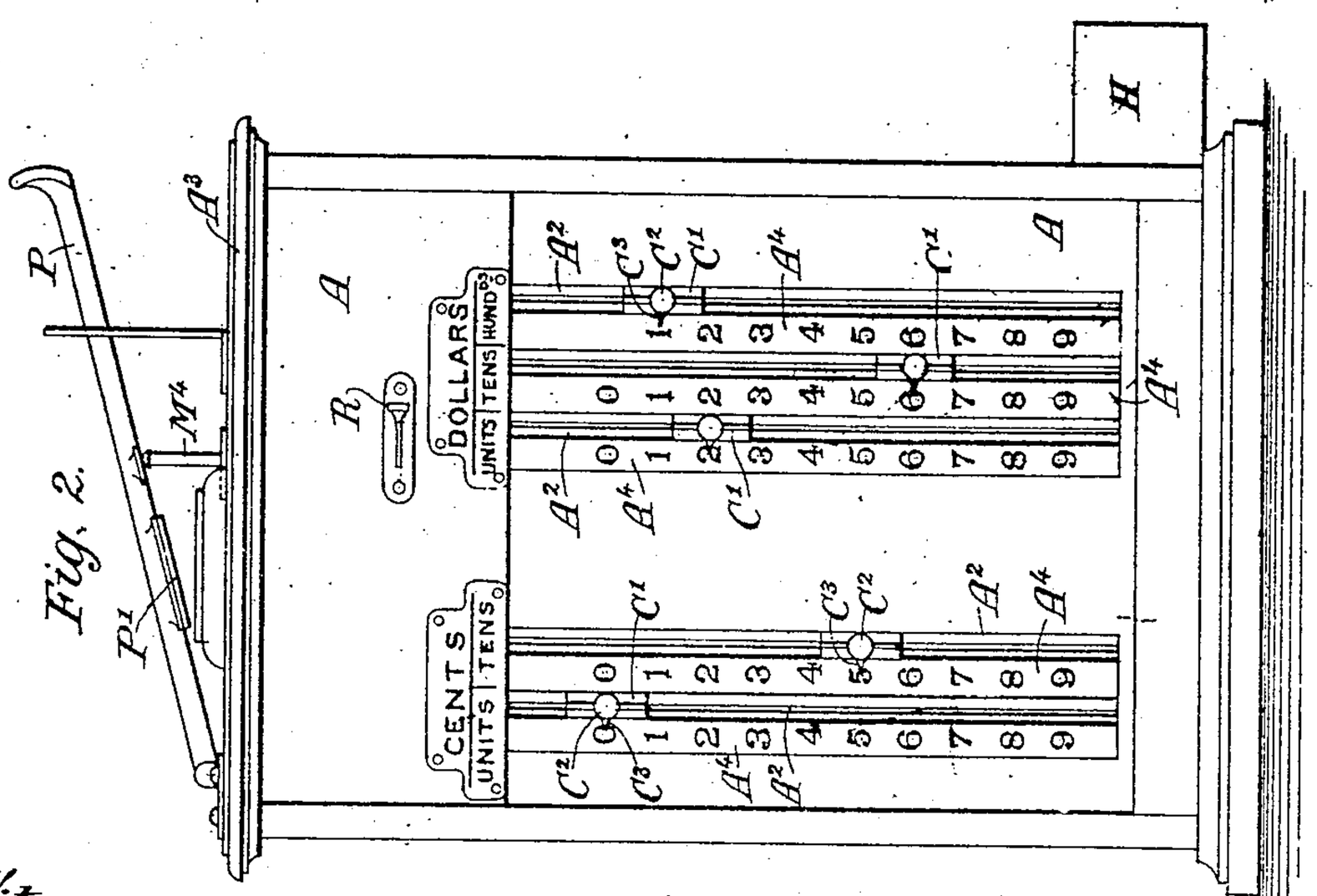


Fig. 2.



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(No Model.)

5 Sheets—Sheet 2.

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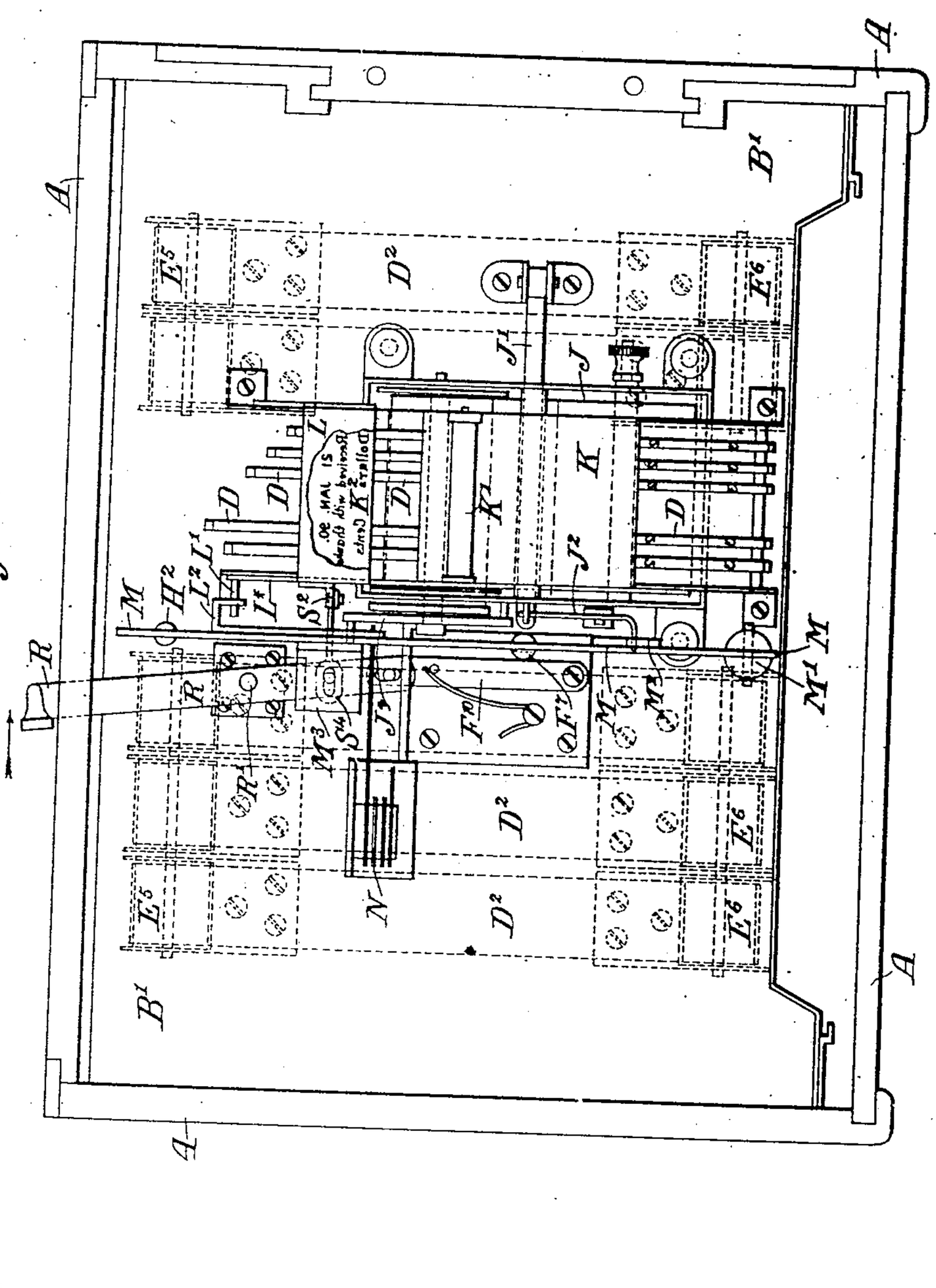
Fig. 3.



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5 Sheets—Sheet 3.

J. N. MASKELYNE.

REGISTERING TILL.

No. 436,500. Patented Sept. 16, 1890.

Fig: 4.

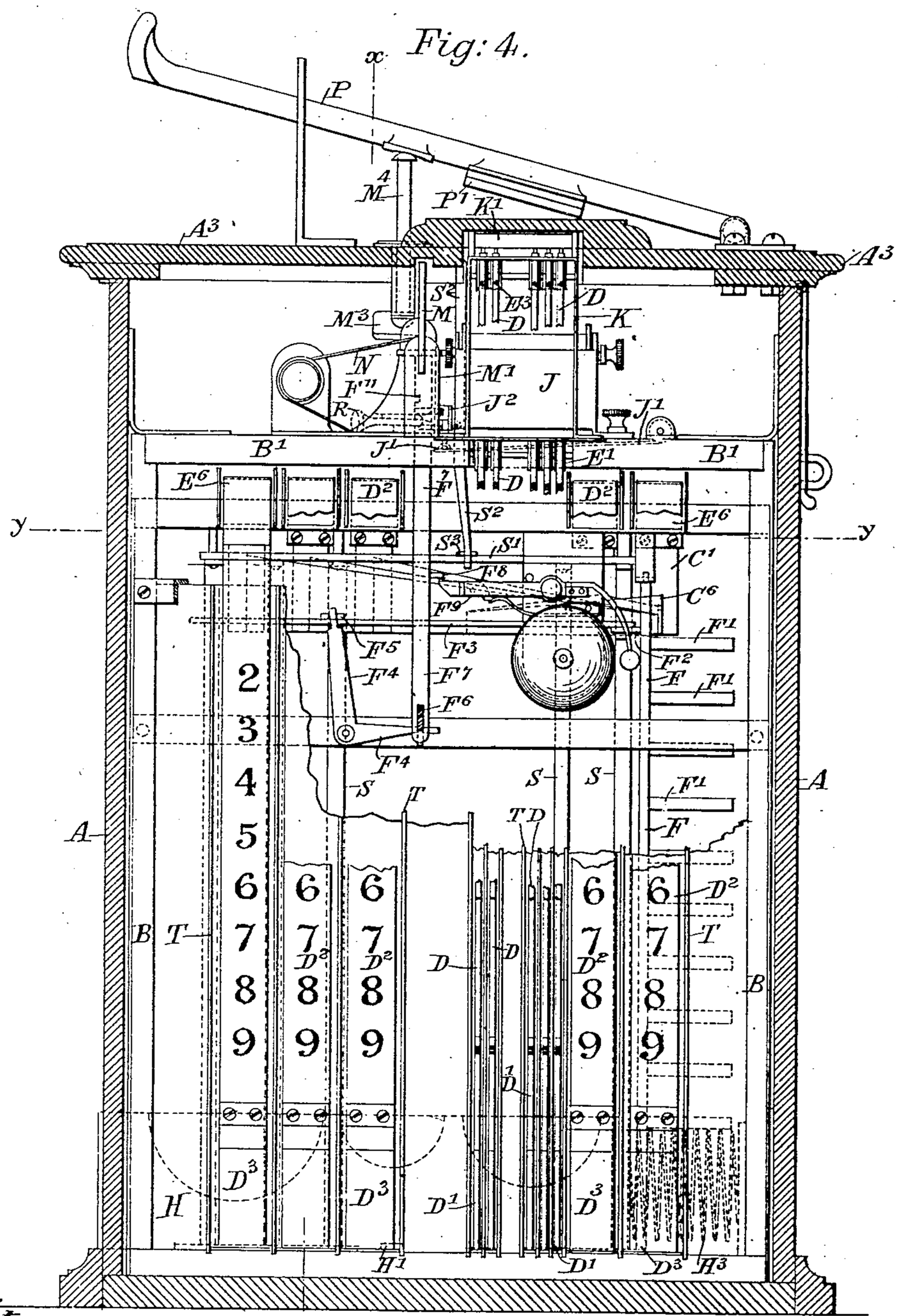

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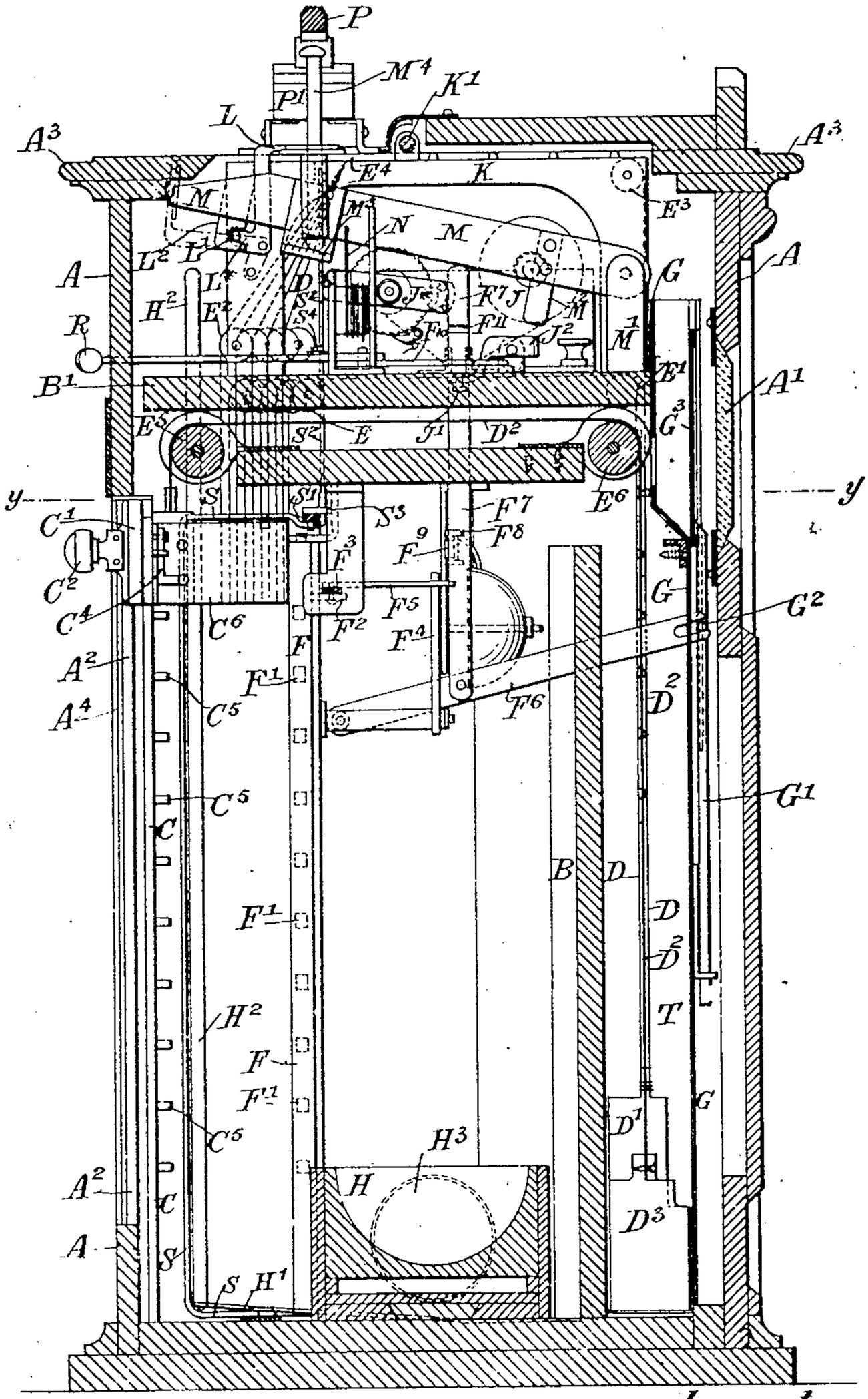
Fig: 5.



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(No Model.) 5 Sheets—Sheet 5.

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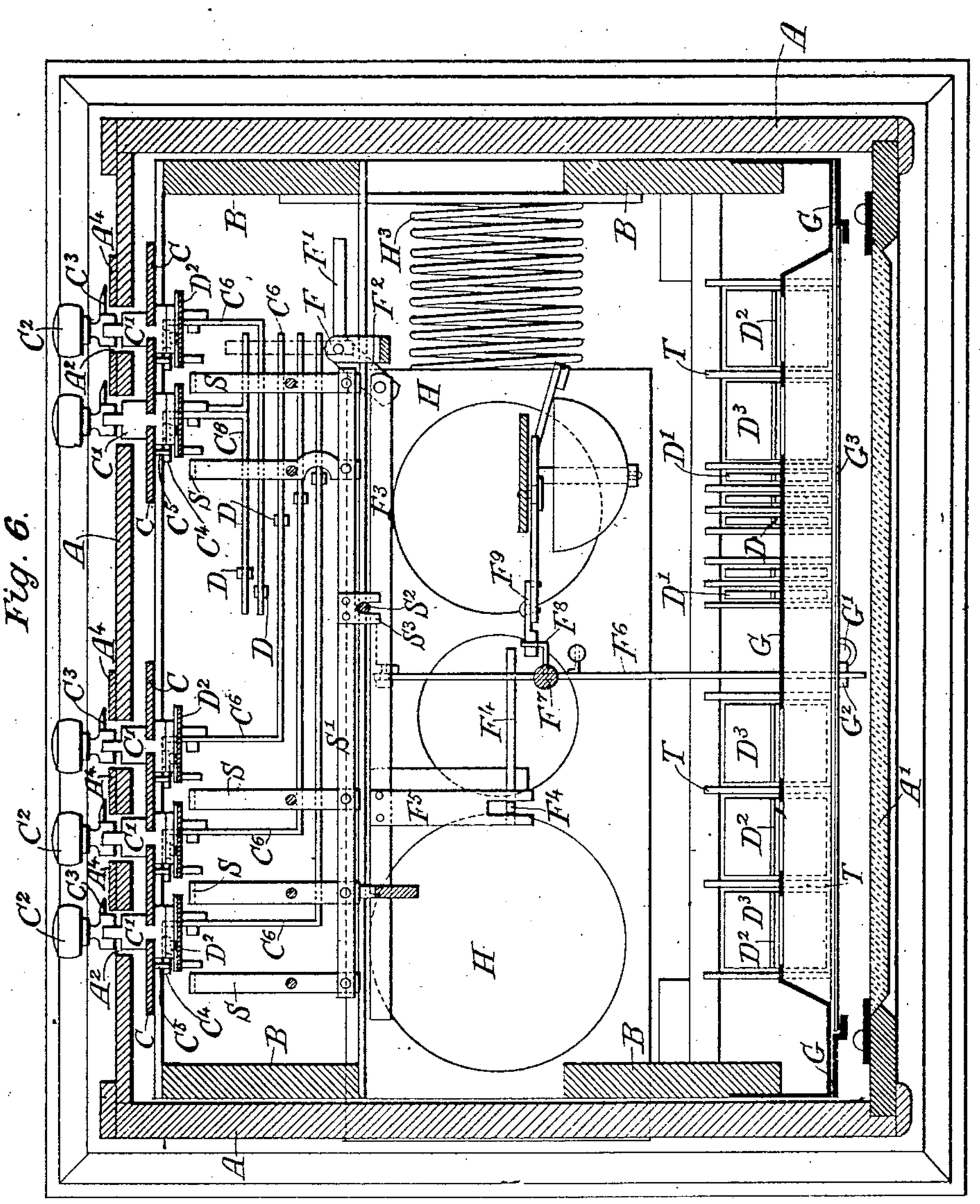
REGISTERING TILL.

No. 436,500. Patented Sept. 16, 1890.

Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN NEVIL MASKELYNE, OF LONDON, ENGLAND.

REGISTERING-TILL.

SPECIFICATION forming part of Letters Patent No. 436,500, dated September 16, 1890.

Application filed March 18, 1890. Serial No. 344,286. (No model.)

To all whom it may concern:

Be it known that I, JOHN NEVIL MASKELYNE, of the Egyptian Hall, Piccadilly, London, in the county of Middlesex, England, have invented certain new and useful Improvements in Registering-Tills, of which the following is a specification.

This invention relates to that class of tills for receiving moneys taken by attendants in shops and elsewhere, in which the amount taken is simultaneously printed on the bill and on a recording-strip, and is also legibly indicated to the customer, so that he may see that the amount recorded is correct; and the invention consists in a novel arrangement of apparatus, whereby the desired results are obtained in a more effectual manner than heretofore.

In the accompanying drawings, Figure 1 is a view of the front or the customer's side of a registering-till constructed according to the present invention. Fig. 2 is a view of the back or attendant's side. Fig. 3 is a plan view with the cover or lid removed. Fig. 4 is an elevation with the front boards removed, partly in section, and with some of the mechanisms broken away. Fig. 5 is a sectional elevation on the line *x x*, Fig. 4, and Fig. 6 is a sectional plan on the line *y y*, Figs. 4 and 5.

A is the casing, which may be of wood, with a window A′ in front and vertical slots A^2 at back. A^3 is a cover or lid, which is hinged to the casing A. The slots A^2 represent units and tens of cents and units, tens, and hundreds of dollars, and each slot is provided with a number-plate A^4, as shown in Figs. 2 and 6.

B is a frame for carrying the mechanism, and is secured in the casing A in any convenient manner. On the top board B′ of this frame the printing mechanism and registering-web of paper (to be more fully described) are mounted.

To the back of the frame are secured guides C, Figs. 5 and 6, in which slides C′ work. These slides C′ project through the slots A^2 and are provided with knobs C^2 and pointers C^3. Inside the frame the slides are provided with spring-catches C^4, which take against pins or into notches C^5 at the back of the guides C, such pins or notches corresponding in position to the numbers on the number-plates A^4, one to each number.

The slides carry bars or arms C^6, to which the printing-type bands D are secured. These type-bands D may consist of india-rubber bands, on which the type are formed at the requisite distances apart, mounted upon tape or other suitable material that will not stretch, and secured in duplicate (one for printing on the bill and the other for printing on the registering-strip) at one end to a weight D′ and at the other end to the arms C^6.

Secured by one end to the slides C′ are tapes D^2, on which numbers corresponding to those on the printing-bands D, and also on the number-plates A^4, are printed. The other ends of these tapes are attached to weights D^3. One of the pair of printing-bands D passes over the guide-pulleys E E′ for printing on the registering-web and the other over the guide-pulleys E^2 E^3 and the plate E^4 for printing on the customer's bill. The bands D^2 pass over guide-pulleys E^5 E^6, which are suitably carried by the frame-work B. When the knobs C^2, with the slides C′, are pushed down, motion is communicated to both the printing-bands D and registering-tapes D^2, and the types on the former corresponding to the numbers on the number-plates A^4, at which the knobs are stopped, are brought into position for printing from, while the corresponding number on the registering-tape D^2 is brought opposite the window A′ in the case A.

When the knobs and slides are set or fixed at the required figures by means of the spring-catches C^4, before referred to, the arms C^6 are to be locked in that position.

The locking mechanism consists of a vertical bar F, provided with pins or projections F′, and mounted on pivots, so that it can be rocked. The bar will be rocked, so that the pins or projections F′ will be swung round into the dotted position of Fig. 6, in which position they will overlie the ends of the arms C^6, which are depressed, and these arms will thereby be prevented from moving. The top pin F′ will come under any of the arms that have not been depressed, and they also will be prevented from moving until the locking mechanism is released. The vertical bar F

carries an arm F^2, pivoted to a horizontal bar F^3, which can be slid backward and forward by means of the bell-crank lever F^4, Figs. 4, 5, and 6, one end of which works in the slot of the projecting arm F^5, attached to the bar F^3. The other arm of the bell-crank is connected with a lever F^6, which is actuated by depressing the rod F^7, as will be hereinafter explained. The rod F^7 has a pin F^8, which strikes against the tail of the gong-lever F^9 as the rod is pushed down, the said rod F^7 being held down by means of a spring-catch F^{10}, which takes into a notch F^{11} in the side thereof. The lever F^6 projects forward through a slot in a plate G, Fig. 5, which closes in the mechanism, and its forked end takes onto a pin G^2 on a spindle or rod G'. This rod works in guides secured to the plate G, and carries at its upper end a shutter G^3, which when in its normal position is between the number-tapes D^2 and the window A' in the case A, so that until the lever F^6 is depressed the figures on the band will be hidden by the shutter.

H is the till, which when pushed in is held by the spring-catch H'. This spring-catch is released by the rod H^2, which will be depressed, as hereinafter to be explained. When released, the till is pushed out by the spring H^3.

J is the registering-web of paper mechanism, which consists of a spindle on which the web is mounted, and a drawing-off roller worked by a pawl-and-ratchet movement J^*, actuated as hereinafter described. Between the drawing-off roller and the spindle is fixed a pad, under which the web passes. The type on the lower type-band pass under an inking-roller, and are pressed up against the paper and the pad by a spring presser-bar J', the free end of which is attached to the lever J^2, which is actuated as hereinafter described.

Above and spanning the web mechanism J is a bridge K, on the top of which is carried an inking-roller K', for the top type-band and type K^2 (see Fig. 3) for acknowledging receipt with the date. These latter are, under normal conditions, covered by a pad carried by a plate L, which is pivoted to the bridge K. This plate L is capable of being rocked to one side by means of an arm L^*, fixed on one pivot, and provided with a pin L', against which a finger L^2 strikes, as will be hereinafter described.

M is a lever, which is pivoted to a post M' carried by the frame-work. This lever M carries the finger L^2. It overlies the rods F^7 and H^2. It is provided with a finger M^2, which tips the lever J^2. It is also provided with a laterally-projecting plate M^3, on which rod M^4 rests, and it has also a lateral projection which works the pawl-and-ratchet mechanism J^*. It will thus be seen that this lever M, when it is depressed, will actuate the mechanisms for forwarding the paper web, printing the amount thereon, and removing the pad L. It will also actuate the locking mechanism, withdraw the shutter, and strike the gong, and finally will release the till. It will be returned to its normal position by a spring N. (See Fig. 4.) The rod M^4 and the lever M will be depressed by the hand-lever P, fulcrumed on the cover of the case A. This lever P is provided with an impression-pad P', which presses the customer's bill (placed under it) down onto the type, whereby the amount is printed on the bill. The spring N, acting through the lever M and rod M^4, serves to return the hand-lever P and maintain it in the normal or raised position.

When using the apparatus, the knobs C^2 are first brought down to the numbers representing the amount to be paid, in which position they will be held by their catches C^4. The several types and the numbers on the tapes will thus be brought into position. The bill is next placed under the pad P' and the hand-lever P is depressed. The parts will thus become locked, as before described, and the shutter withdrawn, so that the customer will be able to see that the proper amount of the bill is being registered. No further sum can be registered until the parts are unlocked and have returned to their normal position.

The unlocking is effected by means of the lever R. (See Fig. 3.) This lever, which is fulcrummed at R', is pivoted to the catch F^{10}, so that as the lever is pushed in the direction of the arrow it will move the catch in the opposite direction and withdraw it from the notch F^{11} in the rod F^7. The lever F^6 will then be free to return to its normal position under the influence of a suitable spring, (not shown in the drawings,) and the bar F will be swung on its pivots, so that the pins F' are clear of the arm C^6.

The slides C' are next released from the pins or notches C^5 by means of the pivoted bent bars S. At the top the bars S project beyond their pivots, and are connected to a bar S', which receives longitudinal motion from a pendent lever S^2, pivoted to the bridge K, and which takes into a forked piece S^3 on the bar S'. This lever S^2 is connected by a link S^4 with the lever R, the motion of which is thus communicated to the bar S', and by it to the bent bars S. The vertical portions of the bars S, when the bars are rocked on their pivots, strike against the pins of the catches C^4 and push them back from the notches or pins C^5 on the guides C, and the slides, under the influence of the weights D' D^3, are brought back to the normal position, ready to register another amount.

I prefer that the weights D' D^3 shall work in separate compartments formed by plates T, secured to the frame, or in any other convenient manner, so that they may not get jammed against one another.

It will be seen by following out the working of the parts that the same number cannot be twice exposed to the customer's view without being registered, as is the case in

some known apparatus of this class, and I have therefore provided a perfect check on the amounts received.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In apparatus for simultaneously printing upon a bill and on a recording-slip, and for visibly indicating the amount of money taken in a transaction, the combination of series of slides C′, provided with catches, weighted indicating number-bands D^2, projecting arms C^6, duplicate weighted type-bands D, and means for pressing the bill and a web of paper against the type, substantially as specified.

2. The combination of series of slides C′, provided with catches, weighted indicating number-bands D^2, a shutter arrangement, a series of rods and levers for actuating the shutter, and means for operating said rods and levers, substantially as specified.

3. The combination, with slides C′, having arms C^6, and weighted number and type bands, of an oscillating locking-frame F F′, an arrangement of actuating levers and bars in connection with the frame, and means for operating said levers and bars, substantially as specified.

4. The combination of series of slides provided with catches, weighted number-bands, arms C^6, duplicate type-bands, locking devices, shutter arrangement, unlocking devices R S, arrangement of rods, levers, and bars for actuating the various parts, and means for operating the said rods, levers, and bars and for pressing the bill and a web of paper against the types, substantially as specified.

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