

No. 682,573.

Patented Sept. 10, 1901.

B. W. SCOTT.
COIN CONTROLLED VENDING MACHINE.

(Application filed June 7, 1900.)

(No Model.)

3 Sheets—Sheet 1.

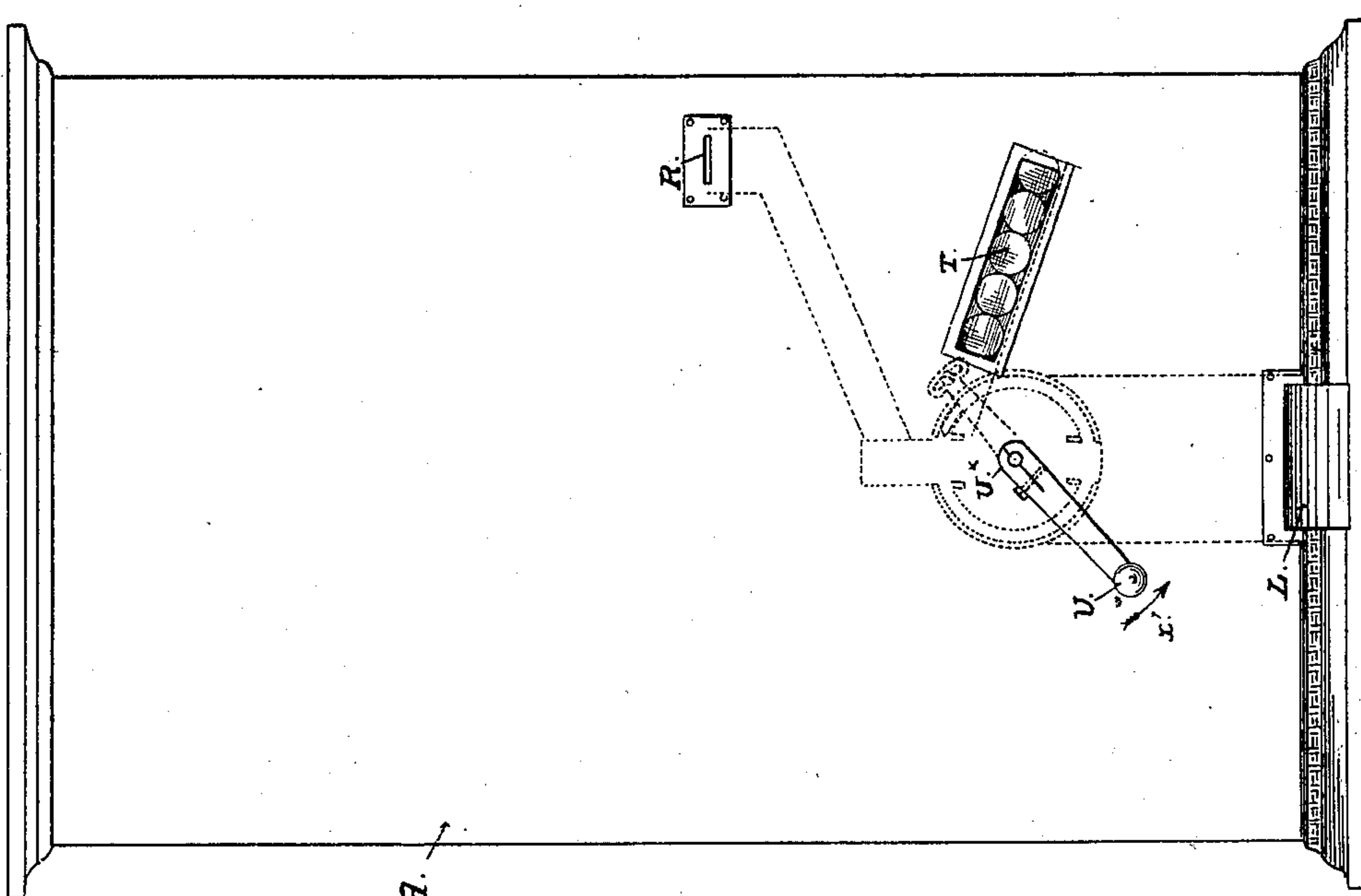


Fig. 1.

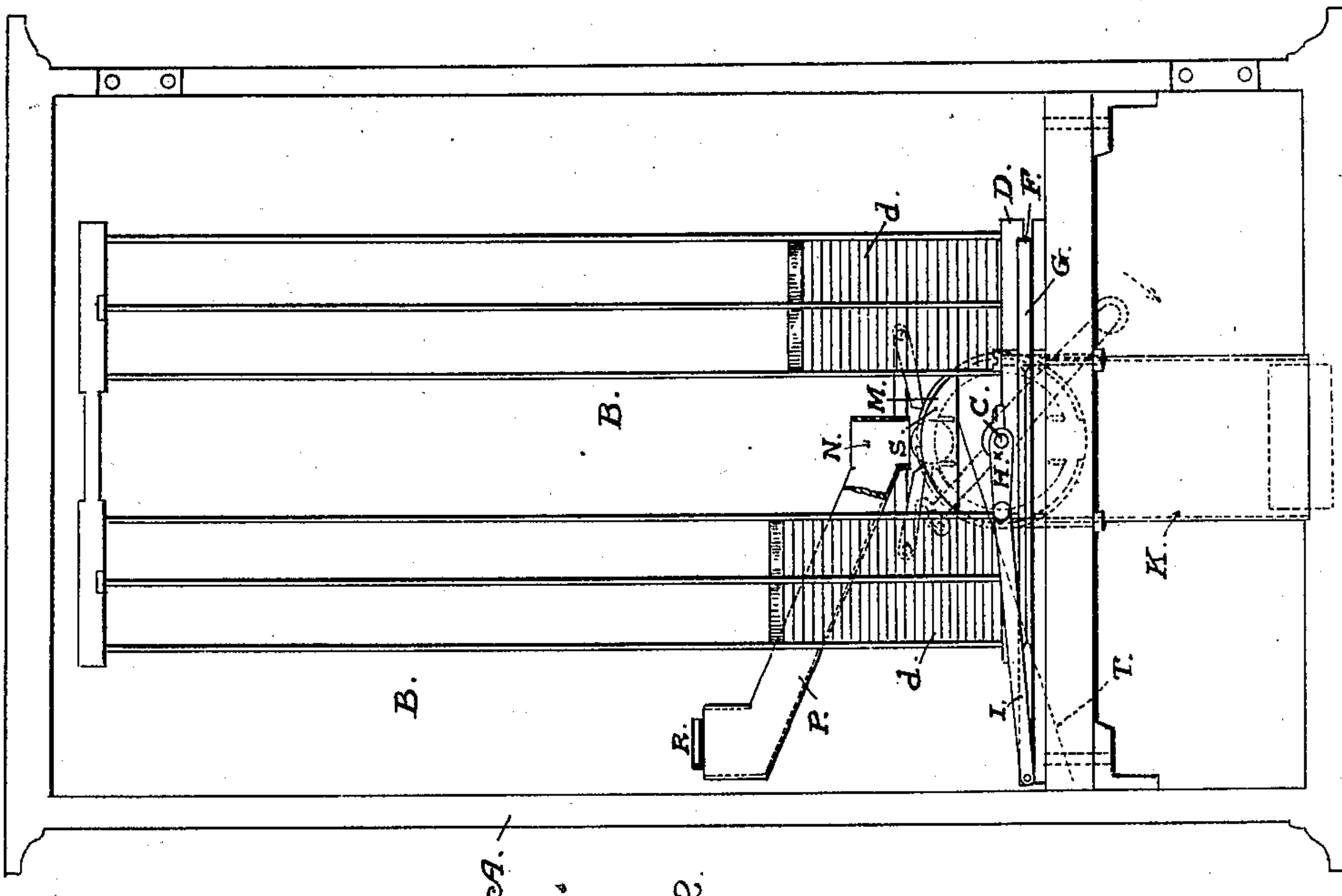


Fig. 2.

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Inventor:

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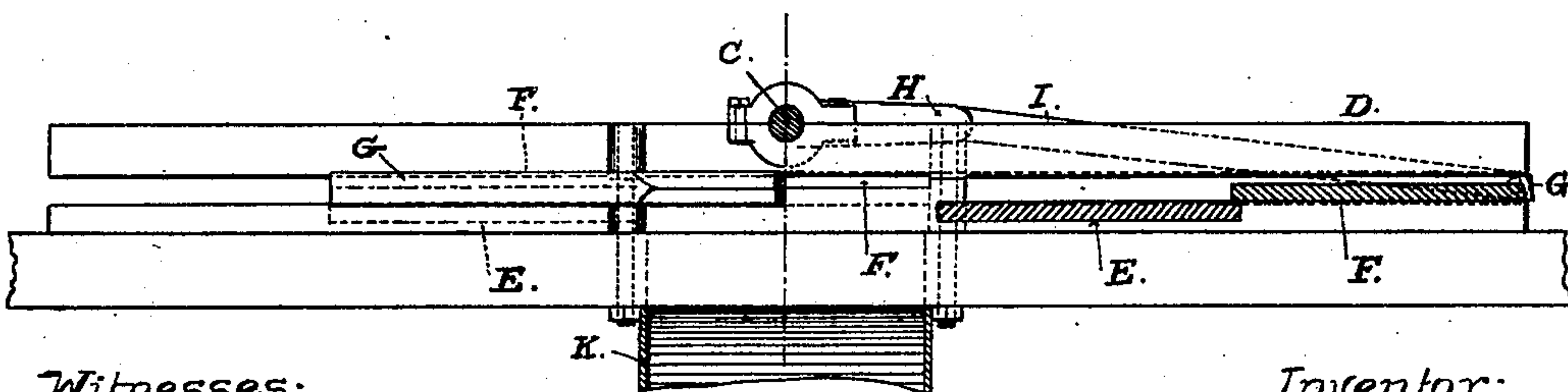
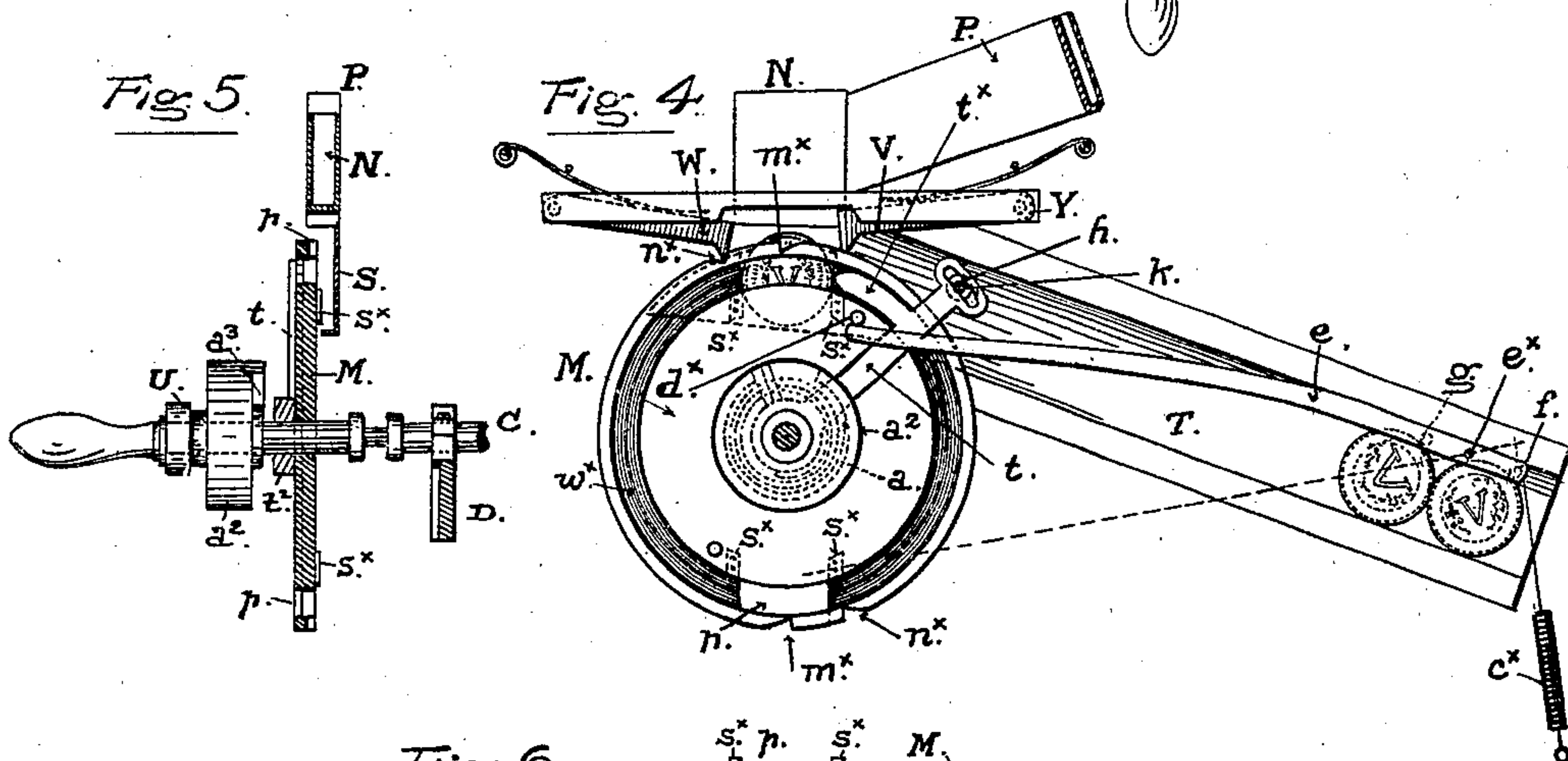
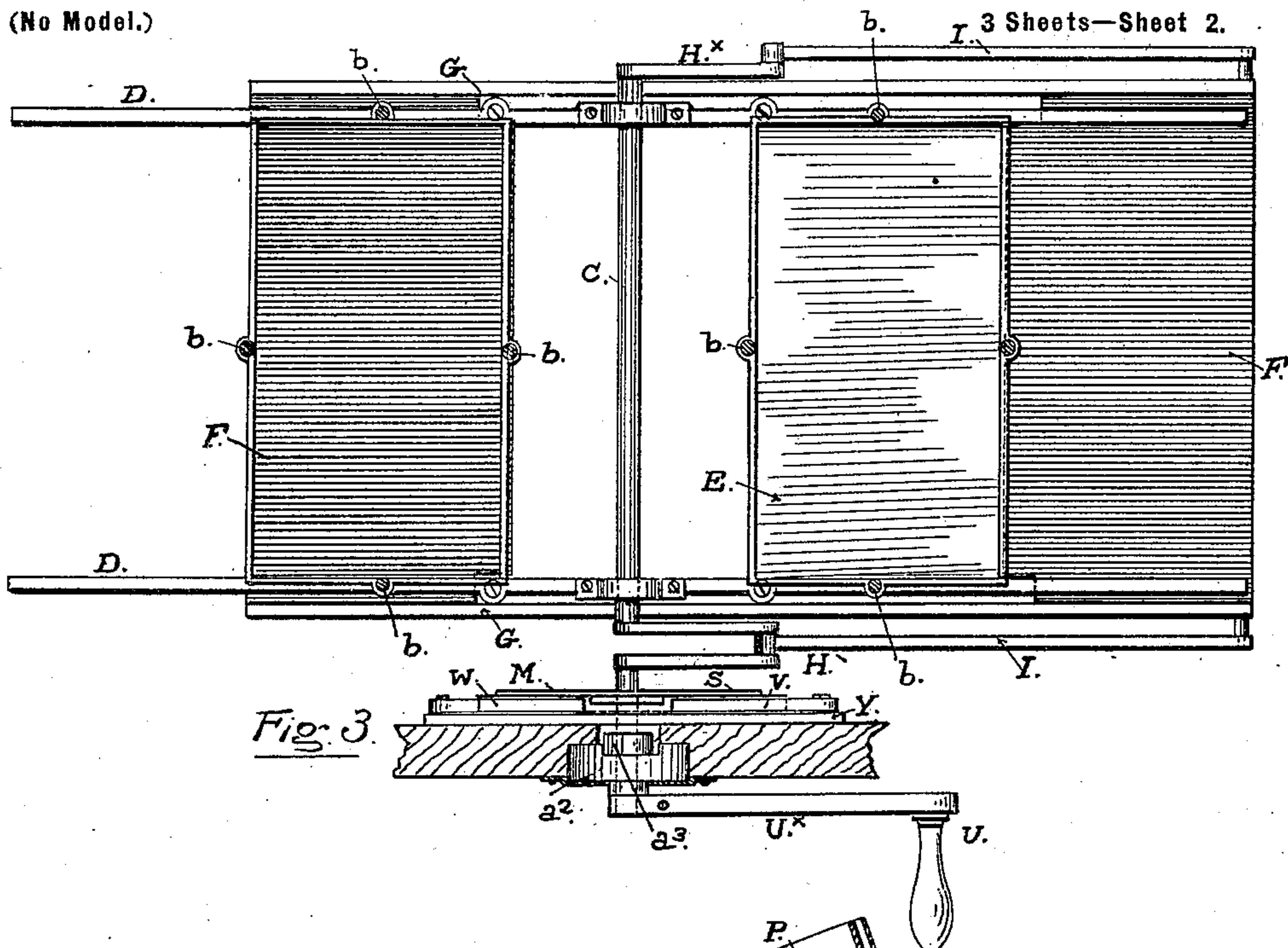
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3 Sheets—Sheet 2.



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Fig. 7.

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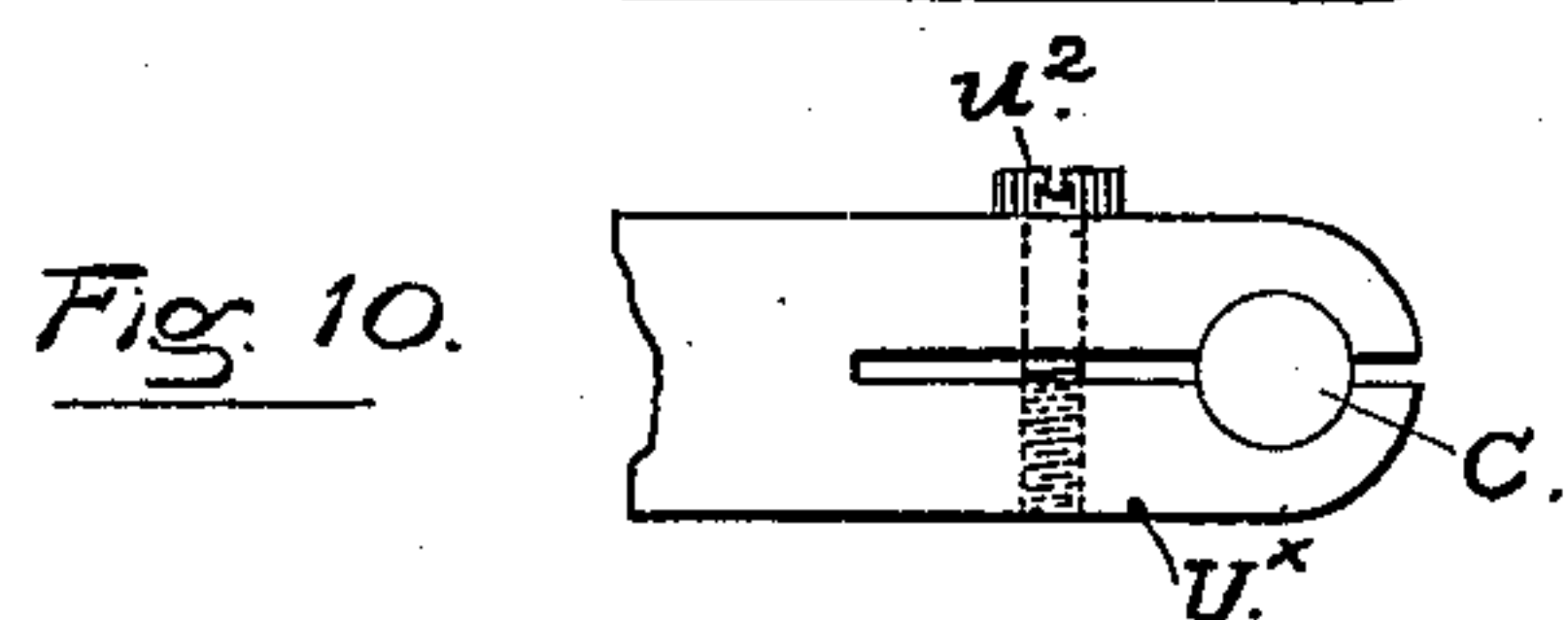
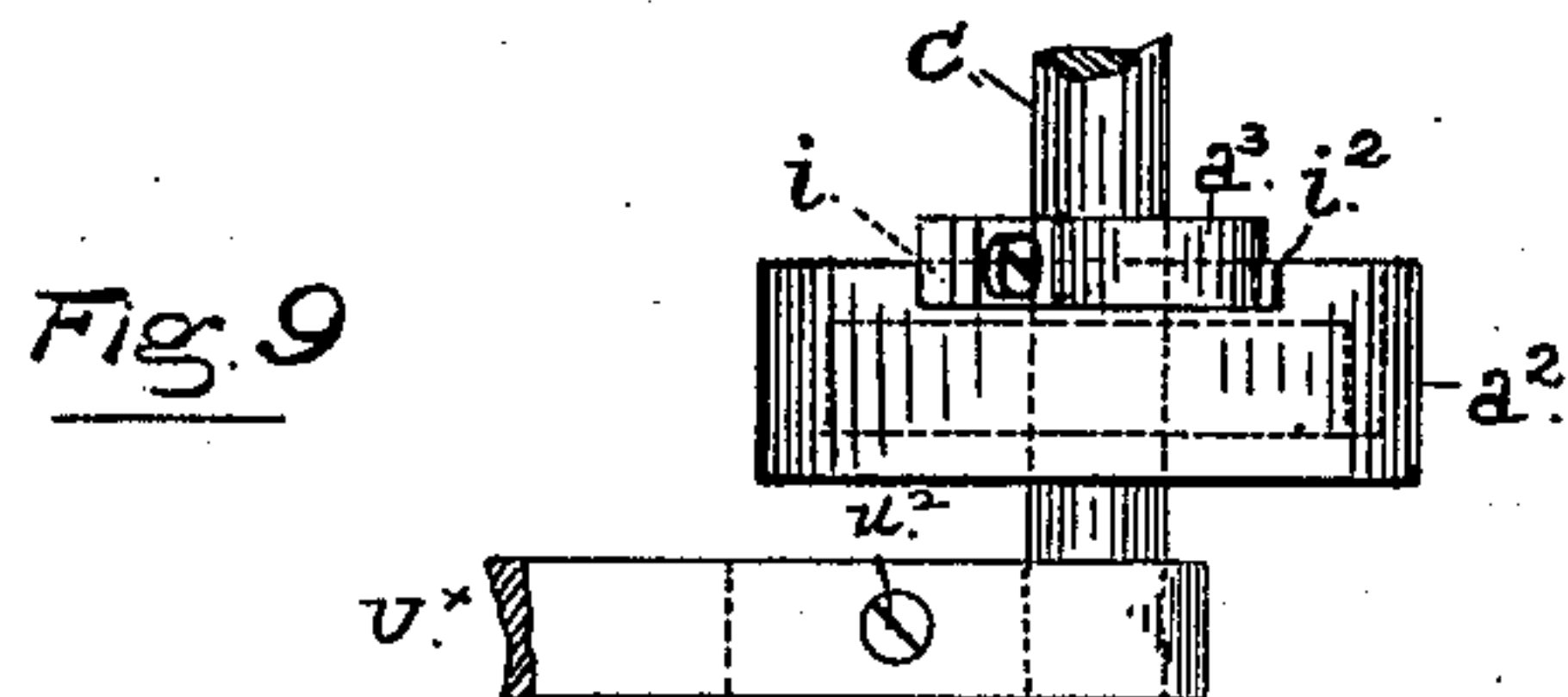
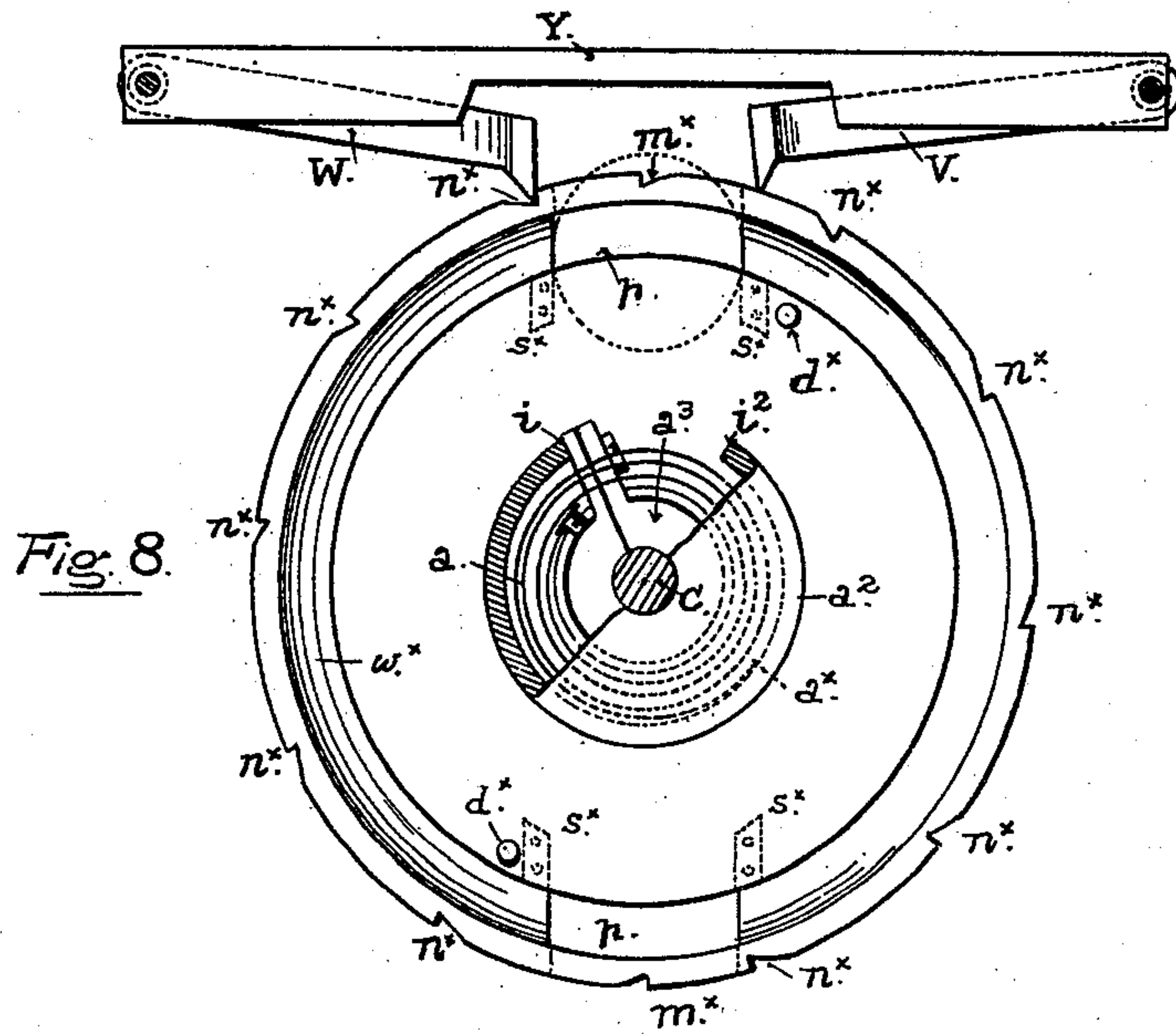
B. W. SCOTT.

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(Application filed June 7, 1900.)

(No Model.)

3 Sheets—Sheet 3.



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Inventor:

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UNITED STATES PATENT OFFICE.

BARTON W. SCOTT, OF SAN JOSE, CALIFORNIA, ASSIGNOR TO THE GLOBE DEVELOPMENT COMPANY, OF SAME PLACE.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,573, dated September 10, 1901.

Application filed June 7, 1900. Serial No. 19,444. (No model.)

To all whom it may concern:

Be it known that I, BARTON W. SCOTT, a citizen of the United States, and a resident of the city of San Jose, in the county of Santa Clara and State of California, have invented new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

This invention relates to improvements in machines or apparatus for vending mechanically small books, pamphlets, or packages from a box or cabinet in return for a piece of money or a token of fixed denomination deposited in the apparatus, the mechanism being unlocked or put in operative condition by the inserted coin, so as to vend or give out one of the articles for each coin or token so deposited, the present improvements having for their object, mainly, to simplify the construction of the controlling mechanism and to render that part of the apparatus more certain and reliable in its operation.

To such end and object the invention consists in certain novel construction and combination of parts producing an improved coin-actuated controlling mechanism for vending machines or apparatus, as hereinafter described, and pointed out in the claims at the end of this specification, reference being had to the accompanying drawings, forming part thereof.

Figure 1 of the drawings represents in front elevation a vending-machine containing this improved mechanism, the parts concealed within the case being indicated by dotted lines. Fig. 2 is a rear elevation with the back of the case removed to expose the parts inside. Fig. 3 is a plan or top view of the mechanism removed from the case. Fig. 4 is a front view of the coin-controlled locking mechanism. Fig. 5 is a vertical transverse section through Fig. 4 on the line *x x*. Fig. 6 is a top view of the rotary disk seen in Figs. 4 and 5. Fig. 7 is a front elevation of the stationary rack and the reciprocating slides shown in Fig. 3, one-half of the figure being shown in transverse section. Fig. 8 is a front view, on an enlarged scale, of the controlling mechanism and the coin-chute. Fig. 9 is a detail view of the resetting device that

returns the handle to the starting-point when it is released after each operation. Fig. 10 is a detail of the hand-crank, showing the friction-clutch that connects it to the shaft.

A indicates the case of the machine containing and protecting the mechanism and the articles to be vended.

B B are two racks upon a stationary frame composed of the side bars D D and the stationary plates E E directly under the racks on which the piles of books *d d* rest.

F F are two slides of about the same dimensions as the bottom plates E in a plane parallel with but somewhat above the plane of the bottom plates E, so as to move over and in close relation to the latter plates.

G G are side bars joining the movable plates F F together and holding them at a fixed distance apart about equal to the distance between the two plates E E.

H H^x are cranks on a shaft C, one at each end outside the frame, and I I are rods or pitmen connecting the two side bars G G to the cranks. As the shaft is rotated the plates F F are caused to slide longitudinally over the bottom plates E. The distance between the two slides F and also the length of the cranks is such that in one-half a complete revolution of the crank-shaft one slide traveling toward one of the bottom plates will move a distance equal to the length of the plate while the other slide, moving in the opposite direction over the bottom plate F on the other side of the central open space, will have a length of stroke sufficient to set that slide clear of the stationary plate under it. In each half-revolution of the crank-shaft, therefore, one slide will push out the bottom book in the pile above and will discharge the book laterally into the open space in the frame between the two racks; but the other slide will move laterally from under the pile in the other rack and having a length of stroke sufficient to withdraw the slide outward from beneath the pile it will allow the lowermost book to drop into position directly in front of that slide, so that in the return movement of the slide the book will be pushed laterally from beneath the pile.

K is an inclined trough or runway extend-

ing from beneath the central open space in the frame downward and forward to an outlet L in the front of the case.

M is a disk fixed on the shaft C in close relation to the inner side of the case-front, and N is a tubular coin-guide fixed to the case-front over the disk and connected with the lower end of an inclined coin-chute P. The higher end of this chute P is in line with a coin-slit R in the front of the case, through which the coin is inserted.

S is a stationary trough set closely against the back face of the disk and in line with the guide N above, and T is an inclined chute extending from one side of the trough S with an inclination toward the bottom of the case and behind and in line with a glass-covered sight-opening.

V W are two dogs pivotally attached to a stationary support Y above the disk and having their free ends resting on the rim of the disk in close relation to and on opposite sides of notches or shoulders m^x n^x in the rim. The function of these dogs is to lock the disk and prevent it from turning in either direction; but while one dog remains at all times in engagement with the disk, and therefore prevents rotation of that part in one direction, the other dog, W, is raised and held out of contact with the rim of the disk and prevented from engaging the notch n^x directly by the inserted coin. The notches m^x n^x are situated on opposite sides of a pocket or recess p , formed in the rear face of the disk, partly by cutting away the rim on the rear face, as shown at p in Figs. 5 and 6, and partly by two lugs or projections s^x s^x , secured to the face of the disk beneath and in line with the slot p , the last-mentioned parts being so placed that the coin resting upon them will project partially through the slot p and will stand above the rim of the disk. In that position, extending both above and to one side of the notch n^x , the coin stands edgewise in line with the point of the dog V, and as the shaft C is turned by the crank U the coin will be carried toward the dog and the point or free end of that part will ride upon the edge of the coin, instead of on the rim of the disk, until it has passed over the notch n^x . The disk then being free to rotate in that direction the shaft C can be turned sufficiently to operate the slides. A second coin pocket or recess p and a second set of notches n^x are arranged on the opposite side of the center diametrically opposite, and at the end of a half-revolution the dogs V W will engage those notches and prevent further rotation.

The means for throwing out the coin from the disk after it has done its work consist of a curved finger t^x , projecting from one side of a stationary arm t and lying in a circular groove or recess w^x in the front face of the disk. The point of this finger is presented toward the coin as it lies in the pocket, and that side of the finger next to the coin is beveled,

so that the coin will be ejected laterally from the pocket and will drop into the trough S as the motion of the disk carries the coin toward the finger. One end of the arm t is fast to a collar t^2 , fitted loosely on the shaft in front of the disk, and the outer end is held by a set-screw h , working through a concentric slot k , allowing the arm to be moved and the finger adjusted to meet the coin sooner or later in the movement of the disk.

After the coins travel from the trough into the inclined runway T they are retained in that receptacle by stop-pins f g on a pivoted lever e , located at the lower end of the incline, the lever being pivoted at e^x and extending from that point of attachment toward the disk. The free end of the lever stands under and in line with a stop-pin d^x on the disk M, in which position it is held by a spring c^x , attached to the opposite end of the lever and to a fixed point in the case. This releasing device operates to set free the coin that is nearest the outlet end of the runway T and to hold back the next coin in every complete stroke made by the lever. In each movement of release the end of the lever is first carried down by the stop-pin d^x , thereby raising the stop f , and as the end of the lever passes from under the stop the spring c^x returns it to its first position. As the stop f rises and sets free the lowest coin the stop g , moving in the contrary direction, engages and holds back the next coin.

The sight-opening is of suitable length to expose five or more of the deposited coins to view, and in setting up the machine it is usually charged with that number of coins to fill the opening. By inserting another coin in the slot R the machine will be unlocked and a book will be discharged at the outlet when the handle U makes a half-revolution in the direction of the arrow x , Fig. 1. In that movement the deposited coin is ejected from the disk and will remain in sight in the runway T until the succeeding operation of the machine brings it to the lowest part of the opening, whence it is released from the stop f and allowed to drop into the lower part of the case.

As these parts are thus constructed and arranged for operation, it becomes necessary to give the shaft C a short reverse movement after having made a half-revolution in order to set the notch n^x on the rim into position with relation to the center of the coin-guide N and to bring the coin pocket or recess directly in line therewith to receive the next coin that may be deposited, as shown in Fig. 8. This movement is produced by a spiral spring a , having one end attached to a fixed point a^x in a cup-shaped collar a^2 and the inner end attached to a split collar a^3 , held on the shaft by friction. The cup a^2 is stationary, and the shaft extends through and turns loosely in the cup, while the collar a^3 clamps the shaft with sufficient amount of friction to grip and turn it when the handle U is re-

leased. On the collar a^3 is a short arm projecting at right angles to the shaft and setting between two stops i i^x on the rim of the stationary cup, one of which arrests the movement of the shaft when it is turned by the reactive force of the spring, and the other prevents the collar from continuing to turn with the shaft when that part is being operated by the handle. The collar is adjusted to grip the shaft with sufficient friction to turn it after each operation as soon as the handle is released by the person working the machine, and as the spiral spring is wound up during that portion of the rotary motion which carries the arm or projection on the collar from one stop to the other the power obtained therefrom reacts on the shaft and turns it the distance required to reset the disk M as soon as the crank on the outside of the case is released.

The crank-handle U is secured to the shaft C by a friction clutch or grip formed by splitting the crank-arm U^x and drawing the parts together upon the shaft by a screw u^2 . The proper degree of friction is thus maintained between the crank-arm and the shaft to produce rotation of the shaft, and consequently of the disk, when the latter is not locked and held by the dogs V W. When these dogs are in position to engage the notches and the disk is locked, the crank-arm will yield and slip on the shaft if any person should attempt to turn the hand-crank without inserting the necessary coin to unlock the disk. This prevents the parts of the mechanism from being injured or strained by persons tampering with the crank.

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

1. A coin-actuated controlling mechanism for vending-machines, comprising the combination with a rotatable shaft connected with a vending mechanism to operate the same; of a disk fixed on the shaft, coin-receiving pockets in the disk located diametrically on opposite sides of the shaft and adapted to hold a coin or token of given size in a position projecting beyond the rim of the disk, a coin-chute above the pocket, pivoted oppositely-acting dogs having their free ends resting on the rim of the disk to engage oppositely-set notches therein, one of said dogs being continuously in action to prevent retrograde

movement of the disk, and the other dog being set to make contact with the other of said dogs and raise the same clear of the notches in the rim in the forward movement of the disk, and means for ejecting the deposited coin from the pocket in the disk after the dog raised by the coin has passed over the notch in the rim.

2. In a coin-actuated controlling mechanism for vending-machines, the combination with an operating-shaft giving motion to a vending mechanism; of a disk fixed on the shaft having a coin-pocket in the rim in which a deposited coin will rest with its edge standing beyond the rim, a notch in the rim in line with the center of the pocket, a locking-dog engaging said notch and by engagement therewith preventing forward rotation of the disk, an oppositely-acting dog and a plurality of notches in the rim beyond the pocket adapted to prevent retrograde movement of the disk, a coin-ejecting means whereby the coin is expelled from the pocket after the locking-dog riding over the edge of the coin has passed over the locking-notch and means connected to the shaft to impart limited retrograde movement to set the disk after each operation in position to receive another coin.

3. In a coin-actuated controlling mechanism for vending-machines, the combination with the operating-shaft and controlling-disk fixed thereon; of the coin-chute or runway adapted to receive the coin from the controlling-disk, the oscillating stop-lever having stop-pins set with relation to the runway as described, and the stop-pin on the controlling-disk engaging the stop-lever at periods in the rotation of the disk to release one coin in every movement of the disk.

4. In a coin-controlled vending-machine, the combination with the operating-shaft, of the means for resetting it to the starting-point, consisting of the spiral spring having one end attached to a fixed point, the friction-collar on the shaft to which the other end of the spring is attached, a projection on the collar, and the fixed stops adapted to limit the movement of the collar.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

BARTON W. SCOTT. [L. S.]

Witnesses:

M. REGNER,
EDWARD E. OSBORN.