

E. X. SOMERS.

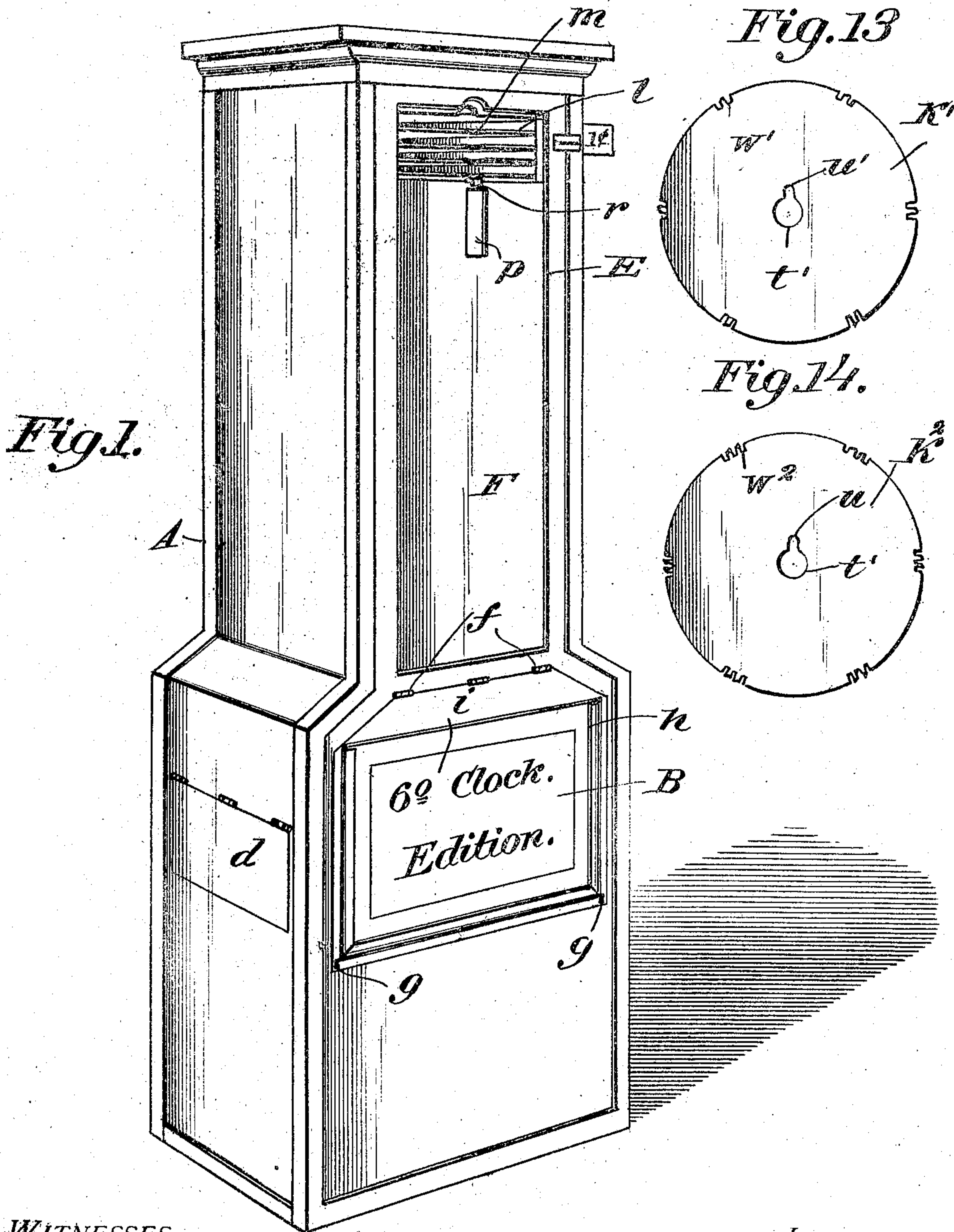
COIN CONTROLLED OPERATING MECHANISM FOR VENDING APPARATUS.

APPLICATION FILED AUG. 16, 1907.

900,224.

Patented Oct. 6, 1908.

4 SHEETS—SHEET 1.



WITNESSES:

Phil E Barnes
W. C. Healy

INVENTOR

E. X. Somers

BY

James J. Shuchy

Attorney

E. X. SOMERS.

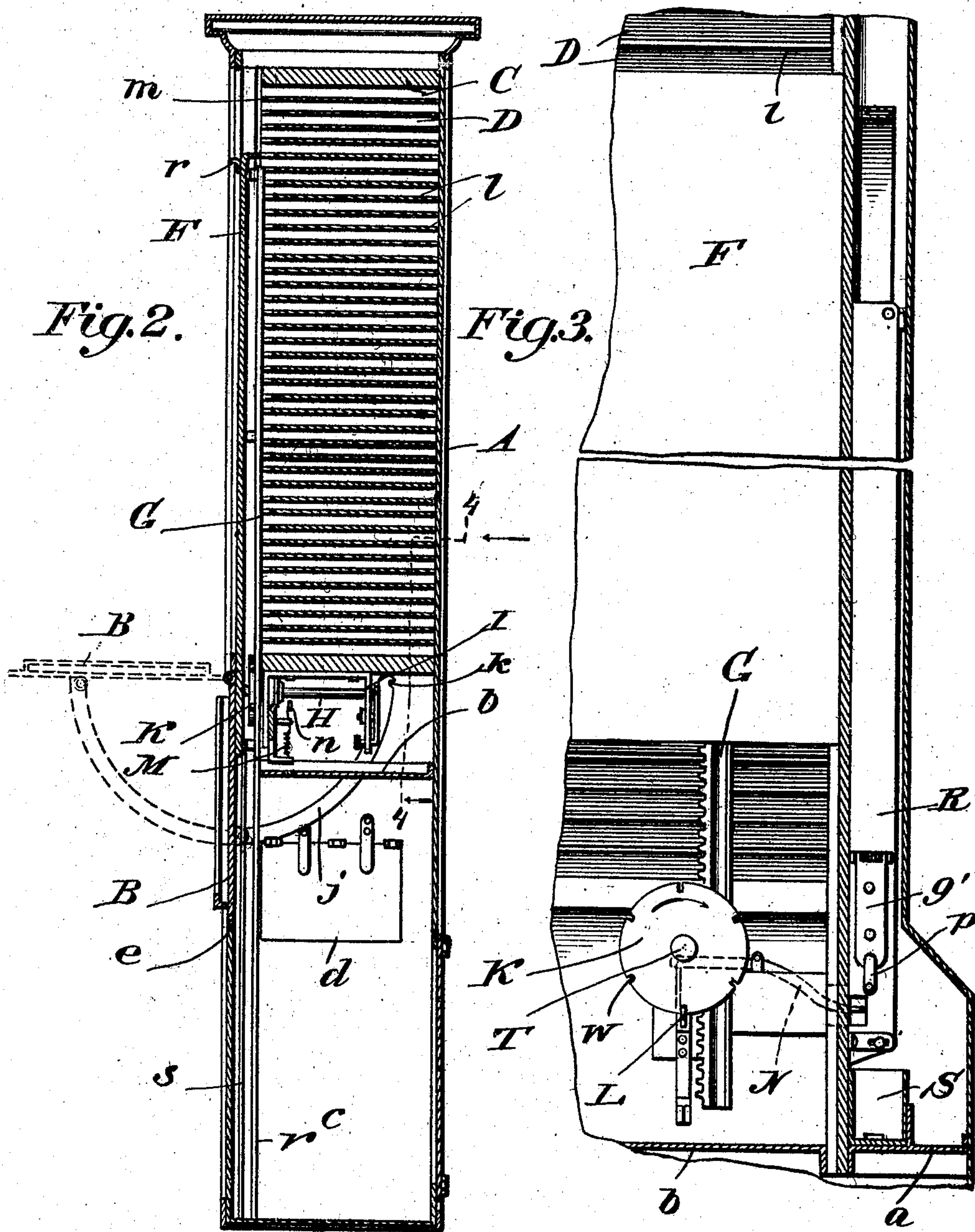
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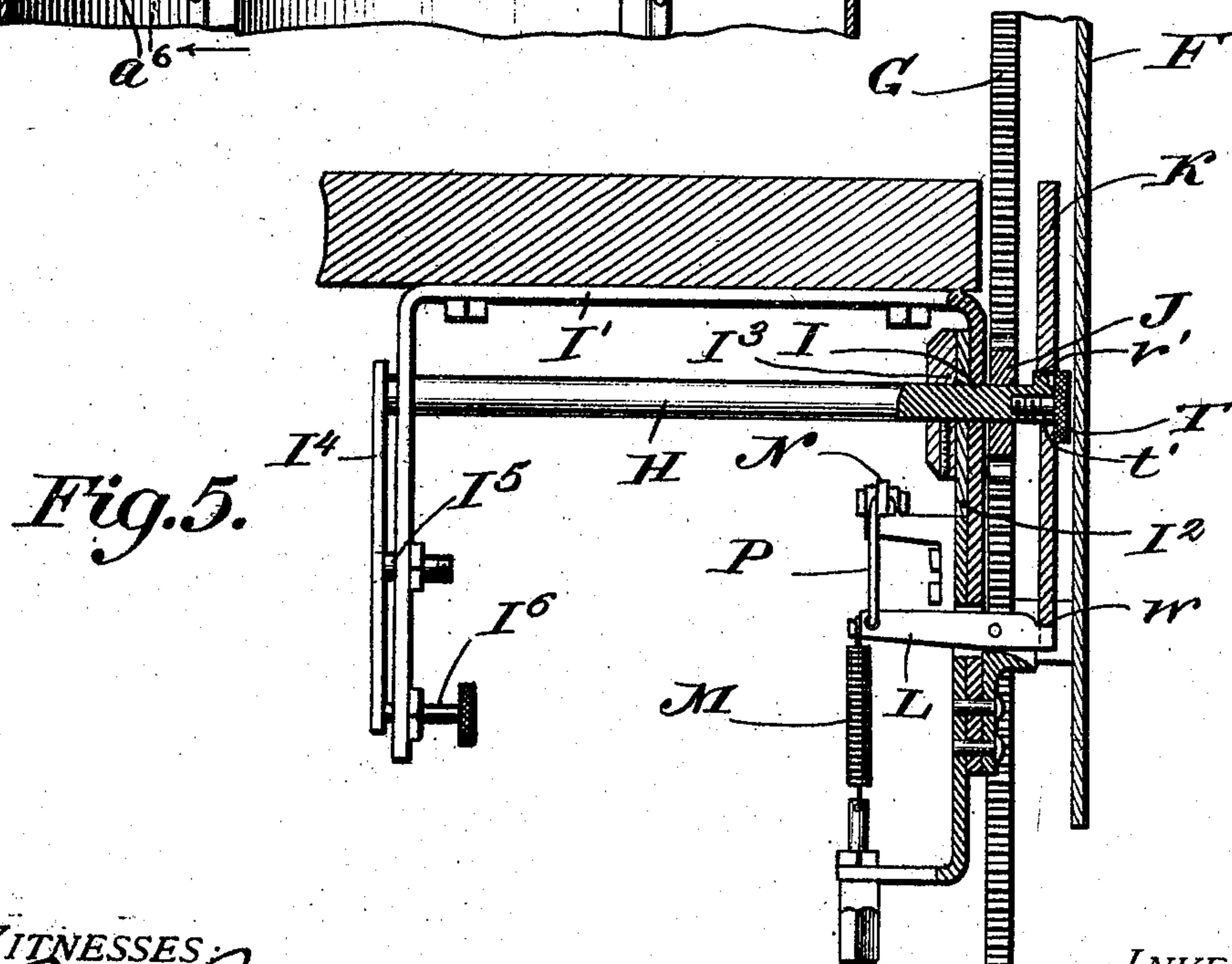
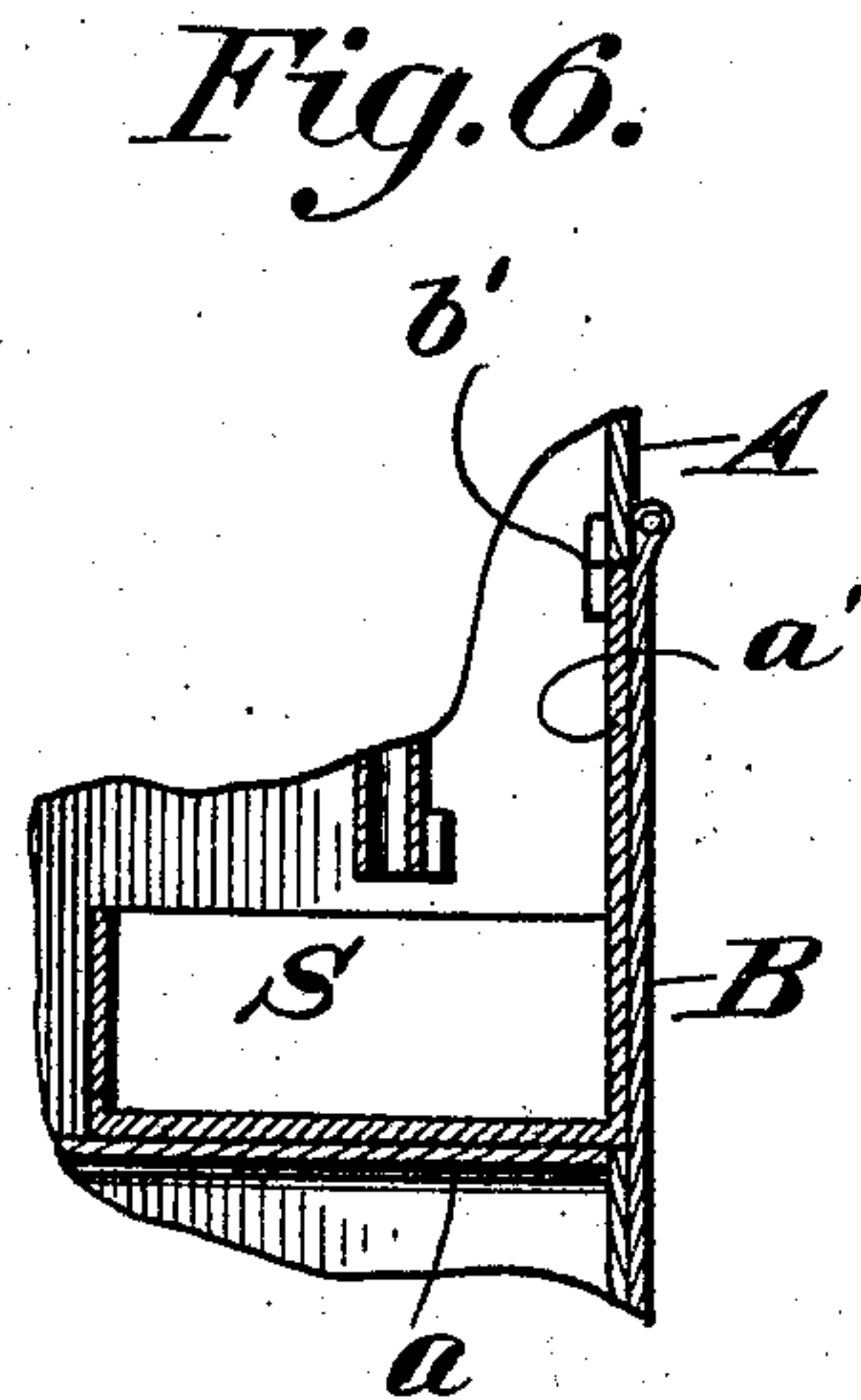
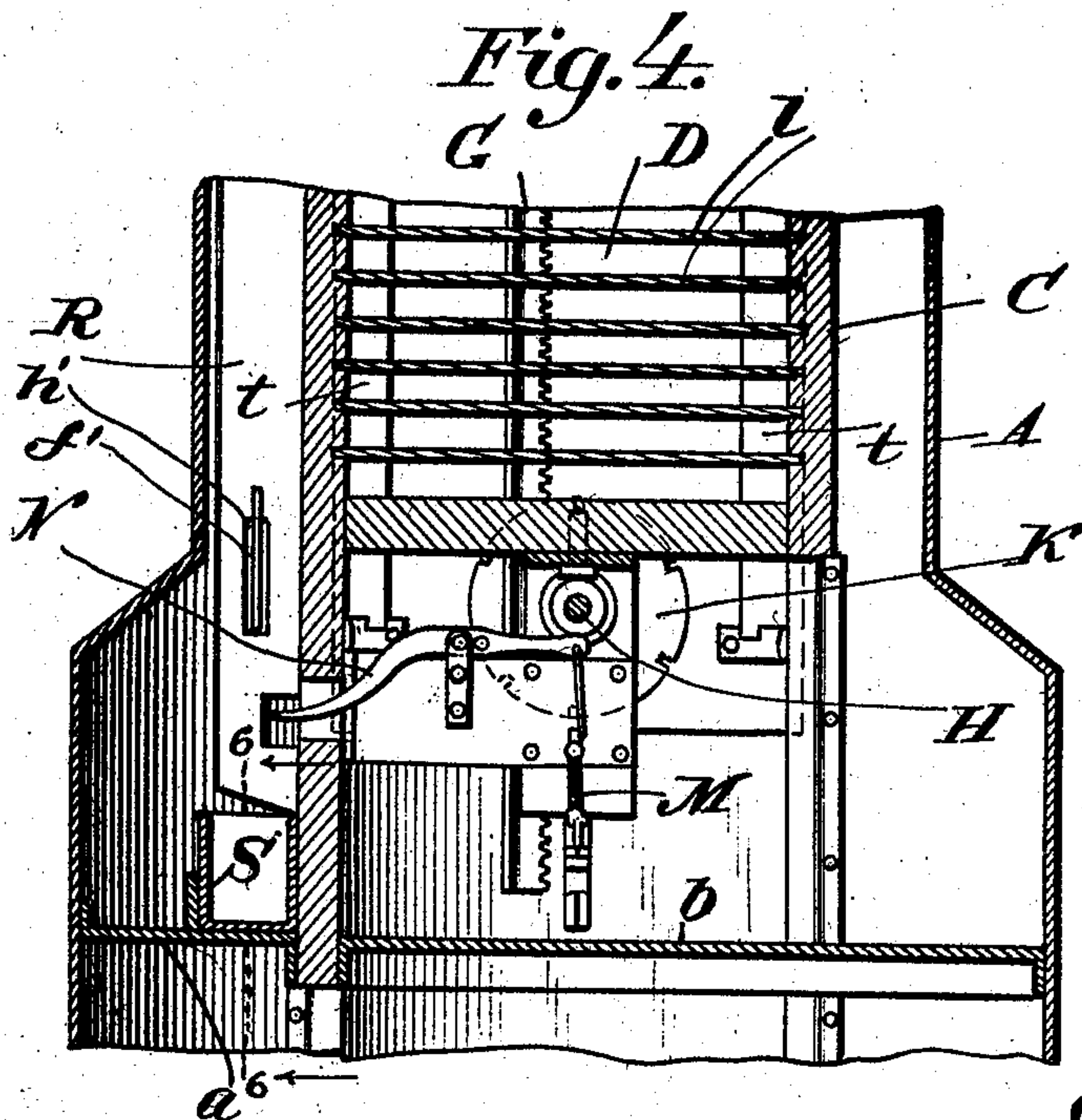
INVENTOR

E. X. Somers

BY

James J. Shuchy

Attorney



WITNESSES:
Phil E. Barnes
W. C. Dealy

BY

INVENTOR
E. X. Somers
James J. Shuchy
 Attorney

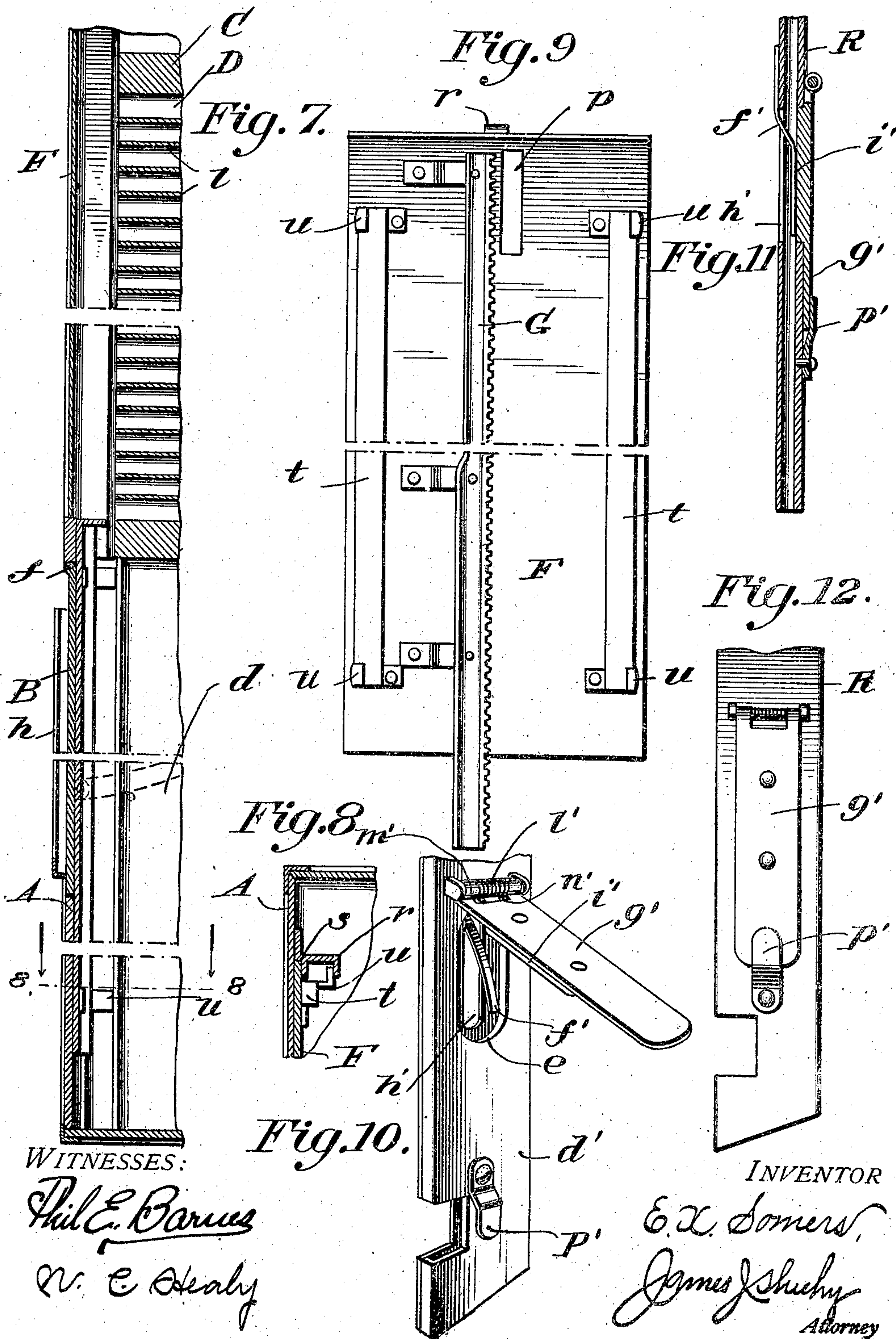
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4 SHEETS--SHEET 4.

900,224.



UNITED STATES PATENT OFFICE.

EVERETT X. SOMERS, OF ST. JOHNSBURY, VERMONT.

COIN-CONTROLLED OPERATING MECHANISM FOR VENDING APPARATUS.

No. 900,224.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed August 16, 1907. Serial No. 388,845.

To all whom it may concern:

Be it known that I, EVERETT X. SOMERS, citizen of the United States, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented new and useful Improvements in Coin-Controlled Operating Mechanism for Vending Apparatus, of which the following is a specification.

My invention pertains to check or coin-controlled mechanism designed more particularly for use in combination with apparatus for vending newspapers and the like; and it has for its object to provide a simple and reliable mechanism of the kind stated and one adapted to be expeditiously and easily arranged to be controlled by checks or coins of different denominations.

Other objects and advantageous features of the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a perspective view of the apparatus constituting the preferred embodiment of my invention. Fig. 2 is a vertical section of the apparatus. Fig. 3 is an enlarged, detail, vertical cross-section taken in a plane slightly in rear of the front wall of the apparatus casing, looking rearward. Fig. 4 is an enlarged, detail, vertical cross-section of the apparatus taken in the plane indicated by the line 4—4 of Fig. 2, looking in the direction indicated by the arrow. Fig. 5 is an enlarged, detail, vertical section taken at a right angle to Fig. 4. Fig. 6 is an enlarged, detail, vertical section illustrating the arrangement of the coin receptacle in the casing of the apparatus. Fig. 7 is a detail broken section taken vertically at a right angle to the front of the apparatus casing and illustrating the manner in which the door for controlling the paper-holding compartments is guided in its vertical movements. Fig. 8 is a detail horizontal section taken in the plane indicated by the line 8—8 of Fig. 7, looking downward. Fig. 9 is a broken elevation showing the inner side of the said door. Fig. 10 is a detail perspective view showing the lower portion of the coin chute, and also showing the adjustment for shunting coins of a smaller size than that by which the apparatus is designed to be controlled. Fig. 11 is a vertical section of said chute, showing the same as adjusted to assure control of the apparatus through a

small coin. Fig. 12 is a side elevation of the same. Fig. 13 is an elevation illustrative of a disk that may be used in lieu of the disk shown in Figs. 1 to 5 when the apparatus is to be controlled through two successively deposited coins instead of one coin. Fig. 14 is a similar view of a disk that may be employed in lieu of the disk shown in Figs. 1 to 5 when the apparatus is to be controlled through three successively deposited coins instead of one coin.

Referring by letter to the said drawings, and more particularly to Figs. 1 to 12 thereof: A is the casing of my novel apparatus. The said casing is provided with horizontal partition walls *a* and *b* and with a chamber *c* for waste paper, located below said walls *a* and *b*; and it is also provided with one or more door-controlled openings *d* through which waste-paper may be deposited in the chamber *c*, and an opening *e* through which waste-paper may be removed from the chamber *c*. The opening *e* is formed in the front wall of the chamber *c*, Fig. 2, and is normally closed by a door B, hinged at *f* to the front wall of the casing A and designed to be retained in a closed position by ordinary or other suitable locks, the key holes of which are lettered *g* in Fig. 1, this in order to prevent any but an authorized person raising the door B. On its front or outer side the door B carries a holder *h* designed to receive a card *i* announcing the edition on sale, and on its inner side said door is equipped with props *j*, notched at *k* whereby they are adapted to be engaged with the lower wall of the opening *e* so as to support the door B in the horizontal position shown by dotted lines in Fig. 2. In this latter position, the door B may obviously be used to support a pile of papers precedent to the placing of the papers in the compartments hereinafter described of the apparatus.

C is a sub-casing of less horizontal area than the casing A fixedly secured in the upper portion of the latter. This sub-casing C contains a plurality of compartments D which are arranged one above the other and are open at their forward sides and are separated by walls *l* notched at *m* in order to permit of papers in the compartments being grasped with facility. The open fronts of the paper-receiving compartments D are exposed through an opening E in the front wall of the casing A, and the said opening E is controlled by a gravitating door F best shown in Figs.

1, 2, 4, 7 and 9. The said door F is preferably formed of sheet-metal and provided with a sight glass *p* and a finger-piece *r*, the latter in order that it may be conveniently raised to its uppermost or fully closed position. The vertical edges of the door F are guided in vertical ways *s* provided on the inner side of the front wall of the casing A, and the door, which is preferably of sheet-metal, is provided on its inner side with wood strips *t* to serve as runners, and with metallic fixtures *u* which slide against guides *v* provided at the inner side of the front wall of the casing. Thus it will be seen that in its down and up movements, the door F will be efficiently guided and will not be liable to bind.

G is a rack attached to the rear side of and movable with the door F.

H is a shaft journaled in suitable fixed bearings I; J, a spur gear fixed on the shaft H and intermeshed with the rack G; K, a disk fixed on the shaft H and having peripheral notches *w* arranged singly as best shown in Fig. 3; L, a trigger, fulcrumed at an intermediate point of its length and normally held by a weak spring M in position to seat in one of the notches *w* of the disk K when the notch is presented to the trigger; N, a lever disposed at a right angle to the trigger L and fulcrumed at an intermediate point of its length; P, a link connecting one arm of the lever N and the arm of trigger L remote from the disk J; and R, a coin chute which receives in its lower portion, Figs. 3 and 4, that arm of the lever N remote from the trigger L. Thus it will be seen that when a coin drops down the chute R it will strike and depress the lever arm therein contained and by so doing will rock the lever N so as to raise the outer arm of the trigger L against the action of the spring M, whereupon the disk J will be permitted to turn sufficiently far to carry the next notch *w* into engagement with the trigger L, and the door F will be permitted to gravitate to a sufficient extent to uncover the front of one compartment D. After the coin depresses the arm of the lever N as stated, the coin drops into a coin receptacle S, presently described, and the spring M operates to return the inner arm of the trigger L to and hold it under pressure against the perimeter of the disk J ready to enter the next notch *w* of said disk when the notch is presented to the trigger at the completion of the downward movement of the door F.

The coin receptacle S is positioned on the partition wall *a* of casing A and below the lower end of the chute R, and is provided with a front wall *a'* arranged when the receptacle is in its working position to rest flush with and be connected through a conventional or any other suitable lock *b'* to the front wall of the casing A. It will also be observed by reference to Fig. 6 that the coin

receptacle S rests at the inner side of the door B when the latter is closed, and hence the receptacle can only be withdrawn from the casing A when the door B is in the horizontal position shown by dotted lines in Fig. 2. 70

In the practical use of my novel apparatus as thus far described, a paper is placed in each of the compartments D while the door B is in the position shown by dotted lines in Fig. 2, and the gravitating door F is in its lowermost position. With this done the operator reaches through the opening *e* and with one hand holds the inner arm of the trigger L out of engagement with the trigger K, while with his upper hand he raises the door F to its uppermost or entirely closed position. The operator then releases the trigger L to permit the same to engage one notch *w* of disk K, and closes and locks the door B, when the apparatus is ready for operation which is as follows: On the deposit of a coin in the chute R, the coin drops through the chute and after depressing the outer arm of the lever N falls into the receptacle S. The depression of the outer arm of the said lever N effects the disengagement of trigger L from the disk K in the manner before described in detail, whereupon the disk K turns through the distance between two notches, and the door F drops sufficiently far to uncover the front of the uppermost compartment D, when the party who deposited the coin is enabled to conveniently remove the paper from said compartment. This operation is repeated until the supply of papers in the compartments D is depleted, when the compartments D are again charged with papers in the manner described. 75 80 85 90 95 100

In order that the apparatus may be controlled through either a small coin, a cent for instance, or a larger coin, a five-cent piece for instance, in the discretion of the party controlling the apparatus, I construct the lower portion of the coin-chute R as shown in Figs. 10 to 12—that is to say, I provide said chute in one of its side walls *d'* with an opening *e'* wider than a cent but not so wide as a five-cent piece, and I also provide a spring *f'*, and a door *g'* hinged to the chute and arranged to control the opening *e'*. The spring *f'* is connected to the outer side of the other side wall of the chute and extends through a slot *h'* in said side wall and normally rests in the opening *e'* in the first mentioned side wall. The door *g'* is provided on its inner side with a projection *i'*, Figs. 10 and 11, of a shape and size to fully occupy the opening *e'* when the door is closed; and the said door is preferably opened and held open by a spring *l'* which is coiled about the hinge pintle and has an arm *m'* which bears against the chute R and an arm *n'* which is arranged against the inner side of the door *g'*. The spring *l'* serves to open the door *g'* and return the door in its open position as shown in Fig. 10, and when 105 110 115 120 125 130

the door is closed it may be fastened in such position through a turn-button p' , after the manner shown in Fig. 11. With the door g' closed as shown in Figs. 11 and 12 it will be seen that my apparatus may be controlled through a small coin—i. e., a cent, since the cent will pass down the chute and between the spring f' and the protuberance i' on the door g' . When, however, the door g' is open, as shown in Fig. 10, the apparatus can be only controlled by a larger coin than a cent, a five-cent piece for instance, this because if a cent is deposited in the chute R, it will be guided by the spring f' through the opening e' and laterally out of the chute R and hence will in no wise effect the mechanism that holds the disk K against rotation, and the door F against downward movement. It will be noticed, however, that when the door g' is open and a nickel is dropped into the chute R, said nickel being wider than the opening e' will pass down the chute R and between the spring f' and the opposed side of the chute and will act against the lever N in the manner and for the purpose before described.

It will be readily gathered from the foregoing that through the medium of the door g' my novel apparatus may be quickly and easily arranged to be controlled by either a small coin or a large coin as occasion demands.

The disk K is removably arranged on the shaft H and is provided with a central aperture t' to receive the shaft, and an offset u' from said aperture to receive a radial projection v' on the shaft, this in order to key the disk on the shaft to assure the two rotating together. The disk K is removably held on the shaft by a screw T, and hence it will be readily apparent that said disk may be easily and expeditiously removed and replaced with either the disk K' shown in Fig. 13 or the disk K^2 shown in Fig. 14. The disk K' has its notches w' arranged in pairs, while the disk K^2 has its notches w^2 arranged in sets of three notches each. Thus it will be seen that when the disk K' is employed in lieu of the disk K, two one-cent pieces or other coins must be deposited in succession in the chute R in order to release the disk from the trigger L and permit the disk to turn through the distance between two pairs of notches w' , and the door F to drop, while when the disk K^2 is employed instead of the others, three one-cent pieces or other coins must be deposited in succession in the chute R to release and permit rotation of the disk and fall of the door F. When the door B is in the position shown by dotted lines in Fig. 2, one type of disk may obviously be substituted for another on the shaft H.

As will be gathered from the foregoing the gravitating door F constitutes the motive power for operating the working parts of the machine, and by reference to Fig. 5 it will be seen that the speed at which the door F de-

scends and the working parts move is susceptible of being conveniently controlled by a party in authority. In said Fig. 5 it will be seen that the shaft H is movable endwise through its bearings I in the fixed frame I' ; and it will also be seen that fixed to the rear side of the forward depending arm of said frame I' is a piece of friction fiber I^2 . To the rear side of the said piece of friction fiber I^2 is opposed a friction disk I^3 which is fixed on the shaft H by a set screw as shown or other suitable means. The shaft H bears at its rear end against one arm of a lever I^4 which is fulcrumed at I^5 in the rear depending arm of the fixed frame I' and has its other arm arranged against a screw I^6 bearing in the said depending arm of the fixed frame. Now by turning the screw I^6 in one direction, it will be seen that the lever I^4 may be rocked to move the shaft H forward and crowd the collar I^3 against the piece of friction fiber I^2 with a view of diminishing the speed at which the door F descends and the working parts move, while by turning the screw I^6 in the opposite direction, pressure of the collar I^3 against the piece I^2 may be lessened, and the door F enabled to descend and the working parts to move more freely.

The term "coin" as herein employed is intended to comprehend a check or any other device through the medium of which apparatus of the general character disclosed may be controlled.

The construction herein shown and described constitutes the best embodiment of my invention of which I am cognizant, but it is obvious that in the future practice of the invention such changes or modifications may be made as fairly fall within the scope of my invention as defined in the claims appended.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

1. In a coin-controlled operating mechanism, the combination of a frame, a shaft movable endwise in said frame, a friction piece fixed to the frame, a friction device fixed on the shaft and opposed to the said friction piece, means carried by the frame for adjusting the shaft endwise to increase or diminish the pressure of the friction device against the friction piece; a coin chute, a disk fixed on the shaft and having notches, a spring-actuated trigger fulcrumed at an intermediate point of its length in the frame with one of its arms in position to engage the notches in the disk, and a lever fulcrumed at an intermediate point of its length on the frame and having one of its arms arranged to be depressed by a coin deposited in the chute, and its other arm connected to an arm of the trigger.

2. In a coin-controlled operating mechanism, the combination of a casing, a coin chute, a frame fixed in the casing, a shaft

movable endwise in said frame, a friction
piece fixed to the frame, a friction device
fixed on the shaft and opposed to the said
friction piece, means carried by the frame for
5 adjusting the shaft endwise to increase or di-
minish the pressure of the friction device
against the friction piece, a rotary device
fixed on the shaft and means engaging the
rotary device and arranged when actuated

by a coin deposited in the chute to release 10
said rotary device.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

EVERETT X. SOMERS.

Witnesses:

JAMES J. RITCHIE,
SARAH J. RITCHIE.