

No. 764,818.

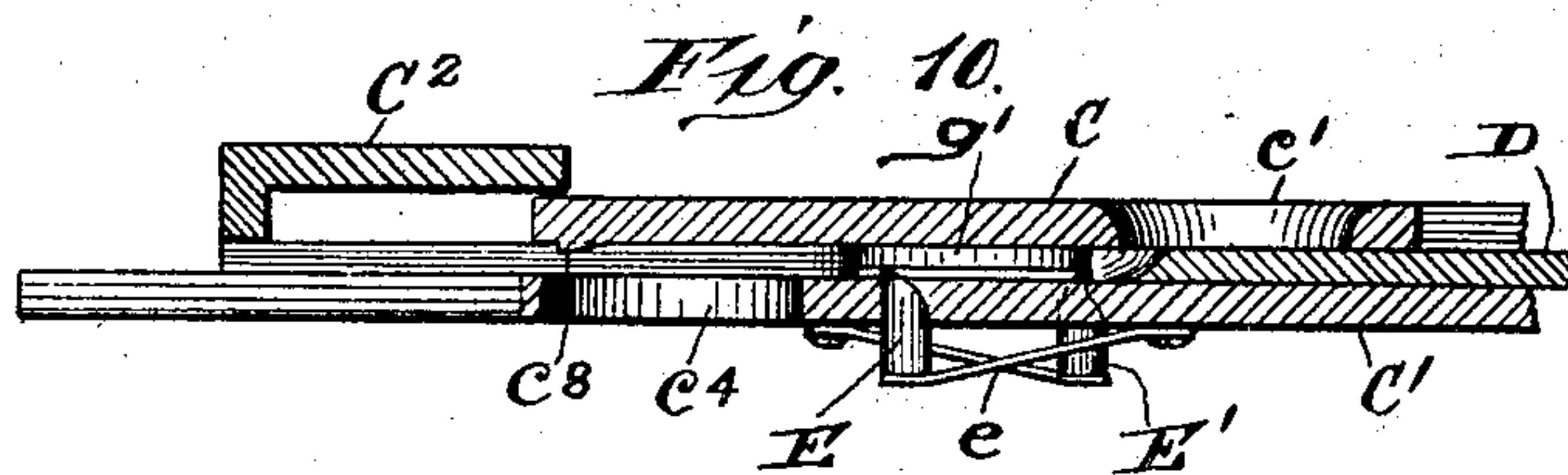
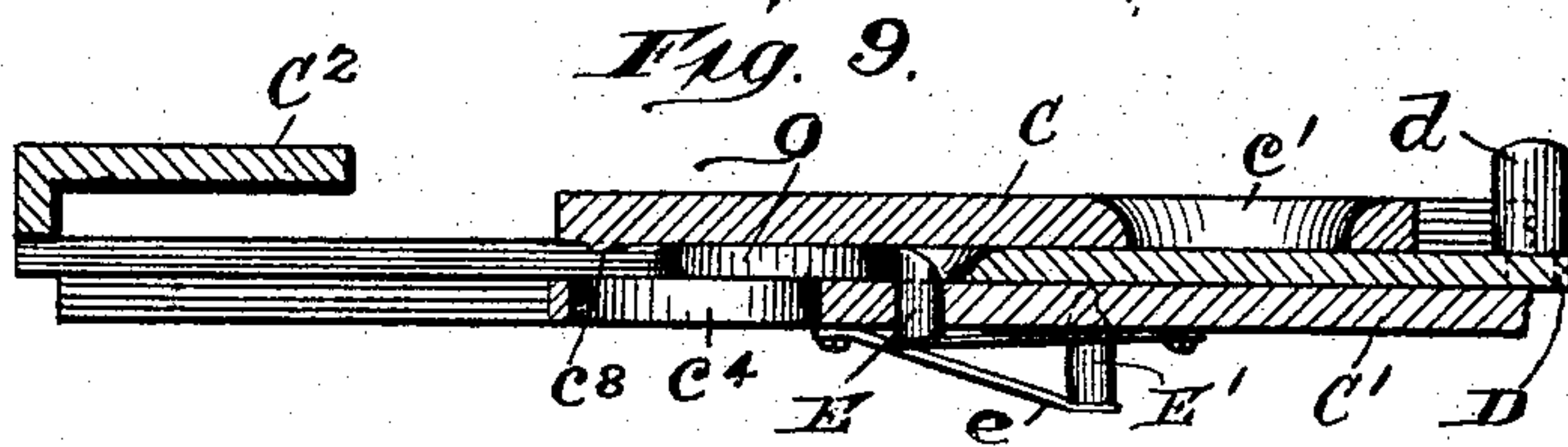
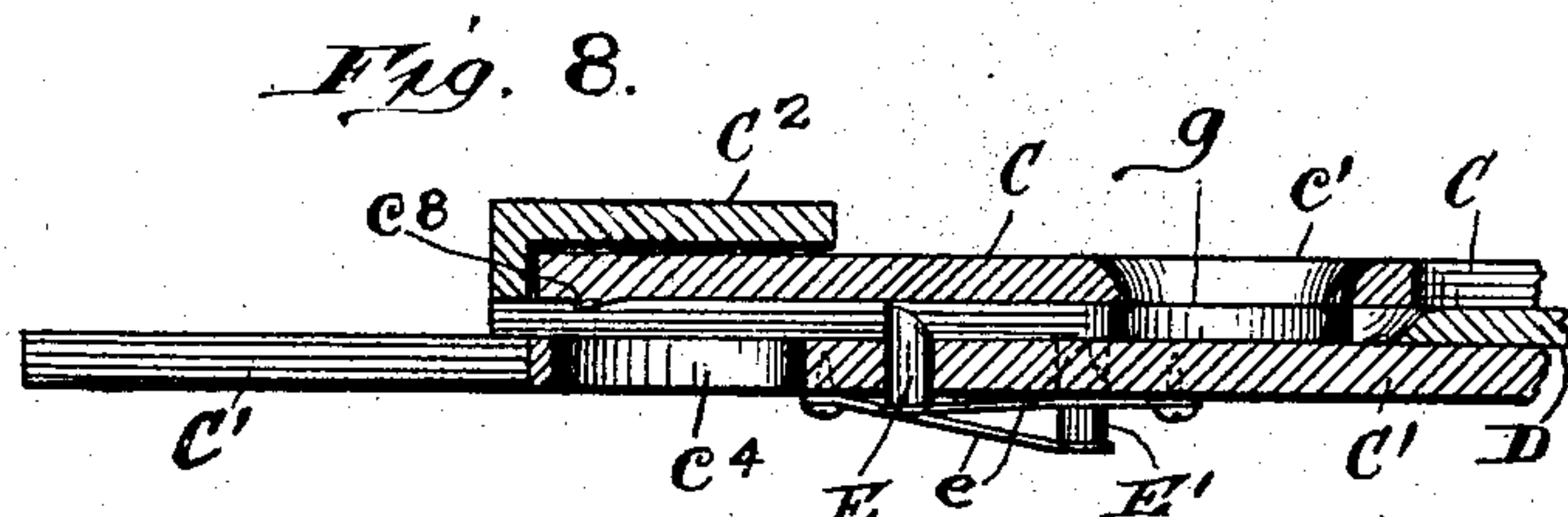
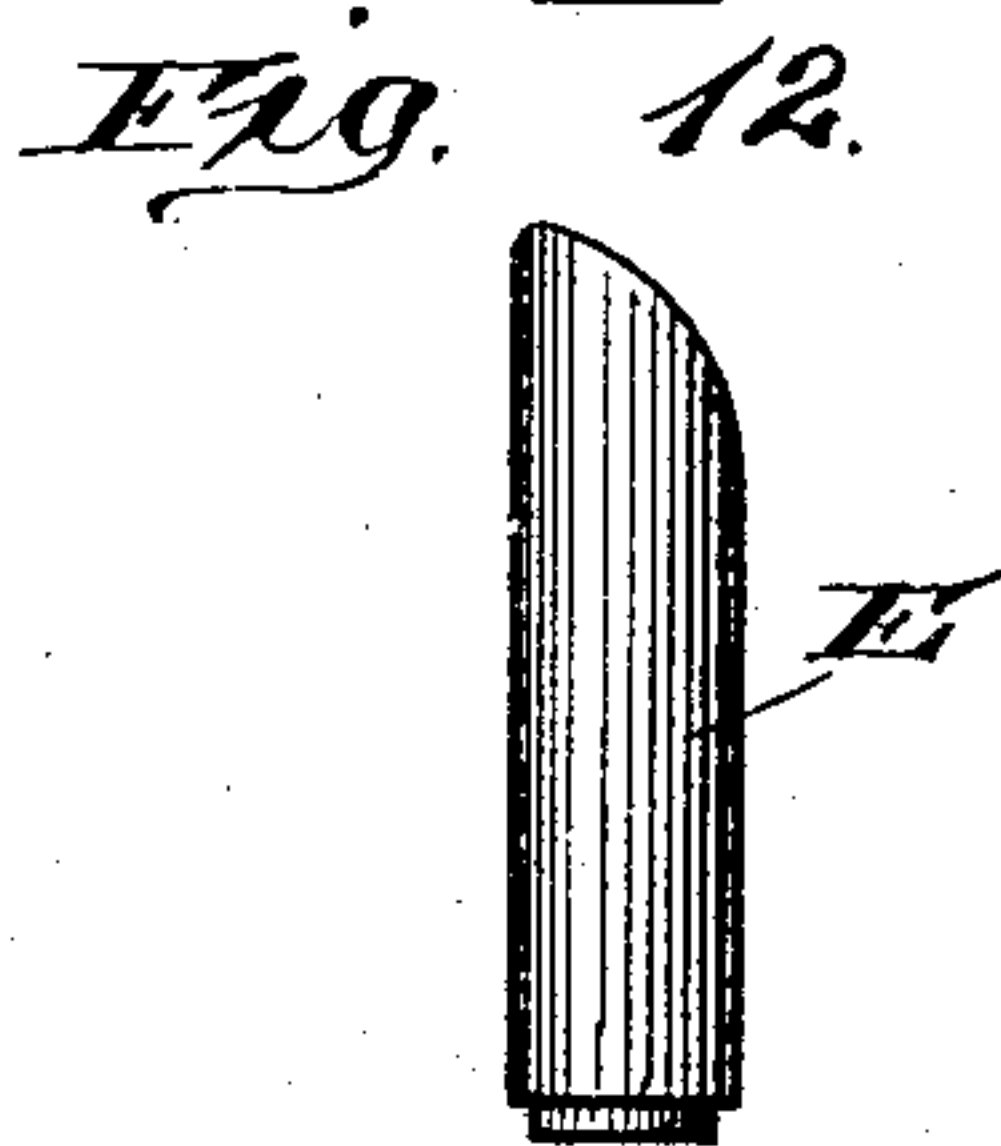
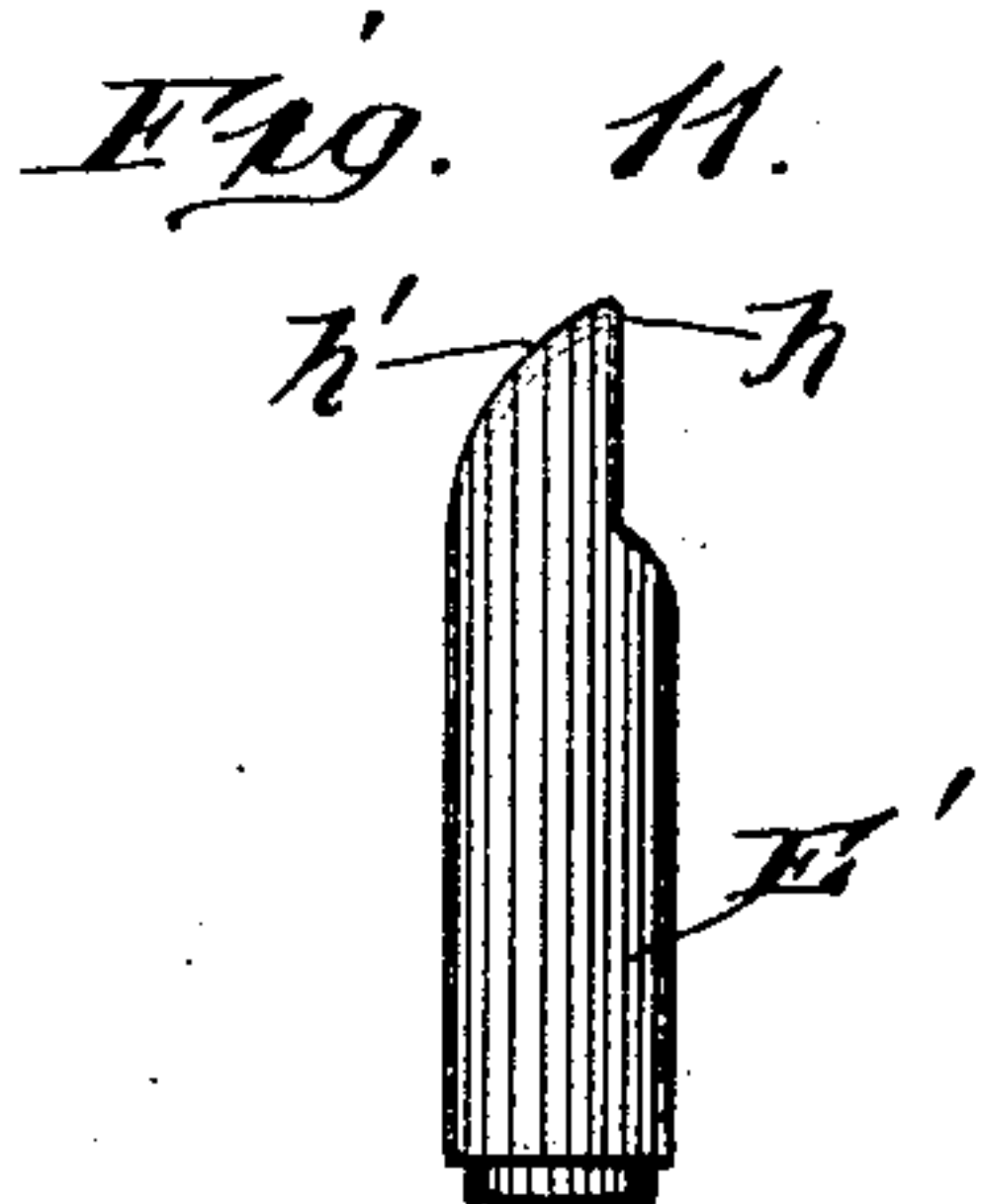
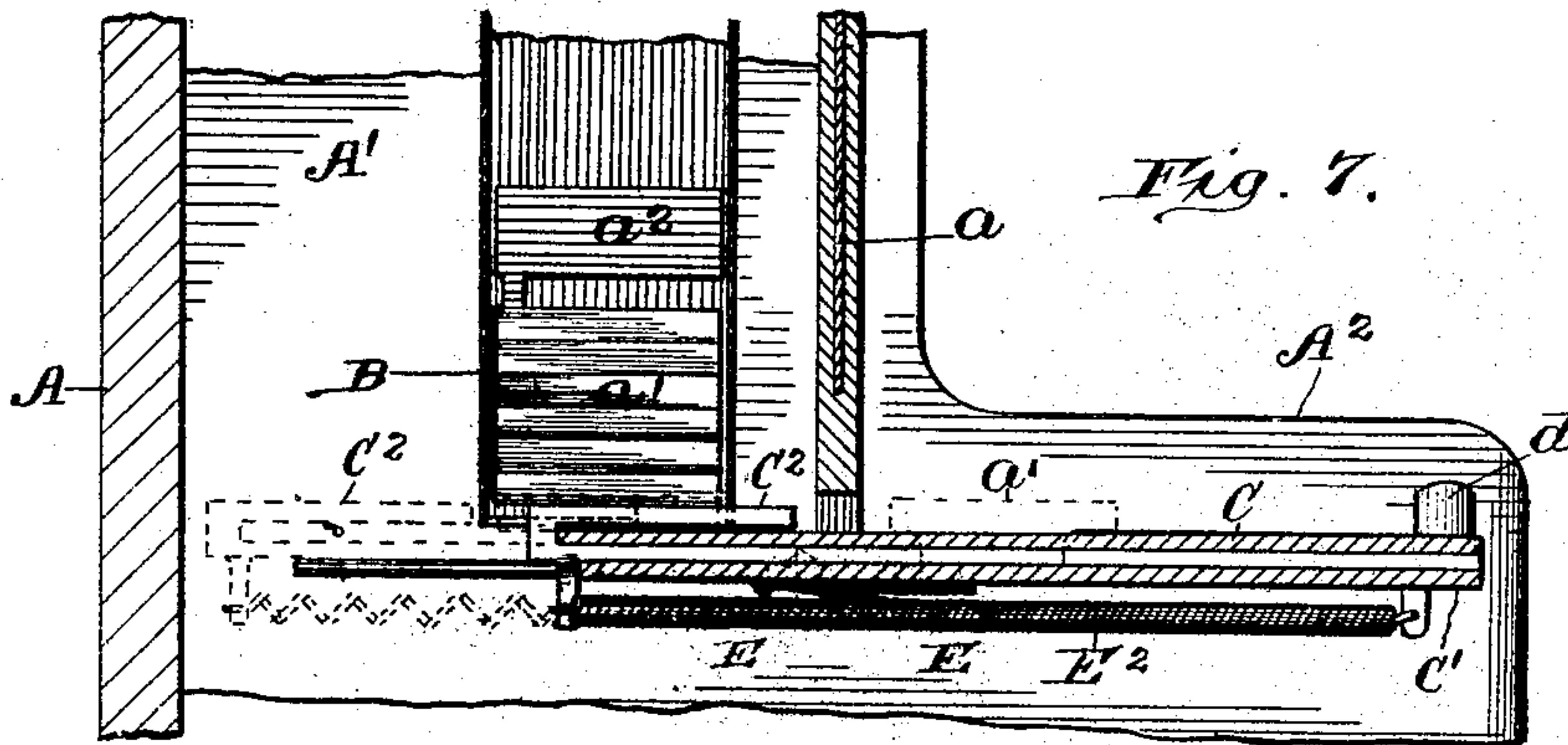
PATENTED JULY 12, 1904.

A. H. McMILLAN.
COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR H. McMILLAN, OF CHICAGO, ILLINOIS.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 764,818, dated July 12, 1904.

Application filed February 24, 1902. Serial No. 95,191. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. McMILLAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

This invention relates to improvements in the mechanism used in a vending-machine for carrying and depositing the coin and for controlling the delivery of the packages from said machine; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are to provide a coin-controlled vending-machine the parts of which shall be so constructed that one package only will be delivered on the deposit of each coin and when the magazine is empty will prevent the coin being deposited.

Another object is to so construct the operating mechanism that the delivery of the packages will be made on the return movements or strokes of the plunger or coin-carrier.

Still another object is to so construct the device that it cannot be operated except by means of a perfect coin of the requisite denomination for which the packages are sold—that is, unless a coin of the proper size in circumference and thickness is used no delivery will be made.

A further object is to render the deposit of the coin absolutely certain and before the package is entirely released from the magazine.

Still another object is to provide a vending-machine which cannot be manipulated by shaking or tilting or by means of wires, threads, or otherwise.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a plan sectional view of a por-

tion of a vending-machine embodying my invention, showing two of the magazines thereof and two of the coin-carriers or plungers, one of which is illustrated in its normal position and the other in about the position to deposit the coin and to deliver the package. Fig. 2 is a vertical sectional view of a portion of the machine, showing by dotted lines the position the coin-carrier will occupy when the coin is deposited and the delivery of the package is ready to be made. Fig. 3 is a detached plan view of the coin-carrier or plunger. Fig. 4 is a rear or inner end view thereof. Fig. 5 is a plan view of a portion of the lower plate of the operating mechanism. Fig. 6 is an end view thereof. Fig. 7 is a vertical sectional view of a portion of the machine, showing a modification in the construction of the coin-carrier or plunger for the purpose of delivering the packages at the front of the magazine instead of at its rear. Fig. 8 is a horizontal sectional view of a portion of the upper and lower plates of the operating mechanism, showing the coin-carrier in its initial position or ready to receive the coin for operation. Fig. 9 is a similar view of like parts, showing the carrier advanced to a point to lock the coin just previous to its being deposited. Fig. 10 is a similar view of like parts, showing the carrier with an imperfect coin or slug therein, said coin or slug being thinner than a perfect coin of the requisite denomination to operate the mechanism and illustrating the manner of checking the advance of the carrier. Fig. 11 is a detached view of the spring-actuated irregular-coin or slug rejecting dog, and Fig. 12 is a similar view of the coin-locking dog.

Similar letters refer to like parts throughout the different views of the drawings.

A represents a portion of the casing of the machine, which casing may be made of any suitable size, form, and material, but is preferably formed with an upright portion A', having in its front part a glass *a*, through which the packages *a'* (to be sold and delivered) may be seen. Suitably supported within the casing A are a number of magazines B for the packages *a'* and weights *a²* and *a³*. The front portion of each of the magazines B is

provided with a vertical slot b to enable the packages a' and the weights a^2 and a^3 to be inserted and adjusted. Located horizontally in the lower portion of the casing and extending between the sides of the forward projection A^2 thereof is the operating mechanism, which comprises an upper plate C , a lower plate C' , and a series of coin-carriers or plungers D , and other elements, as will be presently explained. These plates are located a slight distance below the lower ends of the magazines, and in some instances both of them extend under said ends of the magazines. The upper plate C is provided with a series of slots c in its front or outer end for the reception and operation of projections d on the outer ends of the plungers or coin-carriers and has near the inner end of each of said slots an opening c' for the reception of the coins. The edge of each of these openings is preferably provided with a recess c^2 to permit of the finger-nail being inserted, so as to remove the coin when desired. The lower plate C' is provided on its upper surface with a series of channels c^3 , in which are located the plungers D , and has at the inner end of each of said channels a circular orifice c^4 , through which the coins may pass into a suitable receptacle therefor. (Not shown.) At the rear end of each of the channels c^3 and to one side thereof the lower plate C' is provided with a slot c^5 for the reception and operation of a pin or projection d' on the lower surface of one side of each of the plungers D or coin-carriers. The lower plate C' is provided in the channels c^3 with openings c^6 and c^7 , which are located in advance of the coin-orifices c^4 therein and are for the reception and operation of the coin-locking dogs E and coin-rejecting dogs E' , respectively. These dogs are secured to the lower surface of the plate C' by means of springs e , bolted or otherwise fastened to said plate. The lower front portion of the plate C' is provided with a series of lugs e' , to which is secured one end of the springs E^2 , which have their other ends connected to the pin or projections d' on the lower inner portion of the plungers or coin-carriers.

Each of the coin-carriers or plungers D is provided near its middle with an orifice d^2 , which is substantially circular in shape, as is clearly shown in Fig. 3 of the drawings, but preferably has in its edge a recess d^3 to correspond with the recess c^2 in the opening c' of the upper plate and for the same purpose. Extending tangentially forward from each of the openings d^2 is a slot d^4 to permit of the action of the coin-locking dogs E , as will be presently explained. Communicating with the rear portion of each of the openings d^2 in the plungers D is a slot d^5 , which is also for the reception and operation of the dogs E and which slots preferably extend tangentially to the openings d^2 , with which they communicate.

Secured to the rear end of each of the plungers D and extending a slight distance thereabove is a block C^2 , employed for pushing back one of the packages a' when the plunger or coin-carrier is forced inwardly. As shown in Figs. 2 and 8 to 10, inclusive, of the drawings, this block is located sufficiently above the plunger to admit of the rear portion of the upper plate. The lower portion of this plate has near the rear edge of the openings c^4 in the lower plate a downwardly-extending projection c^8 to force the coins downwardly through said openings, thus rendering their deposit absolutely certain. Secured to the lower portion of the pin d' on the rear end of each of the plungers is a horizontal and rearwardly-projecting plate C^3 , on which the packages a' will rest when they have been pushed from the magazines by the inner movement of the plungers. When it is desired, however, to have the delivery made in front of the magazine, as shown in Fig. 7 of the drawings, instead of at the rear thereof, as is shown in Figs. 1 and 2, the plate C^3 may be omitted, in which event the magazines are located nearer the front portion of the upright part of the casing and rest at their sides on the top or upper plate.

From the foregoing and by reference to the drawings it will be clearly seen and readily understood that when the plungers are in their normal positions a coin g may be inserted through one of the openings c' in the upper plate and into the opening d^2 in the plunger, when by pressing the plunger inwardly by means of its projection or button d the coin will ride over and deflect the dogs E and E' until it has passed beyond the dog E , when said dog will be pressed up by means of its spring through the slot d^4 in the plunger, and thus prevent the return or withdrawal of the coin. By pressing the plunger further inwardly the projection c^8 on the lower surface of the upper plate will force it downwardly through the opening c^4 into the receptacle for the coins. If an imperfect coin or slug g' be used in an attempt to operate the machine, the dogs E and E' , contacting with its lower surface, will raise it (when thinner than the standard coin) against the lower surface of the upper plate, thus allowing the sharp or straight portion h of the dog E' to engage against the edge of the opening d^2 in the plunger and prevent its further inward movement. The rear upper surface of the dog E' being beveled, as at h' , will allow the plunger to be moved forward, so that the coin can be extracted therefrom and through the opening c' in the upper plate by placing the finger-nail or an instrument between the edge of the coin and the edges of the recesses c^2 and d^3 in said openings. If the coin used in an attempt to operate the device is smaller in circumference than the standard coin, the straight or sharp upper portion of the dog E' will be interposed be-

tween the coin and the edge of the opening d^2 in the plunger and will prevent its further inward movement, as is apparent, or if there is an opening in the center of the coin or

5 slug said pin will engage the same and prevent the further inward movement of the plunger, all of which will be clearly understood by reference to Fig. 10 of the drawings. When the plunger shall have been pressed

10 inwardly to the position indicated by dotted lines in Fig. 2, one of the packages a' will have been forced rearwardly from the magazine and will be supported on the plate C^3 on the rear end of the plunger until the coin is

15 deposited, when the spring E^3 will retract the plunger to its normal position, thus allowing the package a' to drop on the inclined plate or chute H, thus effecting the delivery at the rear of the magazine and on the forward or

20 outward movement of the plunger. When it is desired to have the delivery of the packages a' made in front of the magazine, the plunger is pressed inwardly to the position indicated by dotted lines in Fig. 7, when the

25 same operation as above described will take place, except that one of the packages will drop on the intumed flanges on the bottom of the magazine in front of the block C^2 , which when the plunger is retracted by means of

30 its spring E^2 will force the package a' from the flanges out on the front of the upper plate. When the magazine is empty, the weights a^2 and a^3 will be lowered and will prevent the inner movement of the plungers, as is evident.

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

1. In a coin-controlled vending-machine, the combination of a pair of horizontally - arranged plates, a plunger slidably mounted between the plates, said plates having coin-open-

ings therein, with a coin-opening in the plunger, a projection on the upper plate on the under side thereof adjacent its rear end overlying the said opening in the lower plate, a 45 pair of spring-pressed dogs mounted on said lower plate and projecting through openings provided therefor, in said plate, said dogs being located to the front of said lower-plate opening, said plunger being slotted to receive 50 one of said dogs, one of the dogs having a straight portion h for engagement with the said plunger-opening when an imperfect coin of less thickness than a standard coin is used, the rear upper surface of the said dog being 55 beveled to allow the plunger to be moved forward, and the coin extracted, the other dog after a coin has passed thereover moving upwardly into said plunger-slot to prevent return of the coin, said last-named dog being 60 beveled on its front face.

2. In a coin-controlled vending-machine, the combination of a pair of spaced plates with coin - openings therein, a plunger slidably 65 mounted between the plates and having a coin-opening therein, spring-pressed dogs mounted on the lower plate and projecting through openings provided therefor in said plate, said plunger being slotted to receive one of said 70 dogs, one of the dogs having straight portion h for engagement with the said plunger-opening when an imperfect coin of less thickness than a standard coin is used, the rear upper surface of the said dog being beveled to allow the plunger to be moved forward and the coin 75 extracted, the other dog movable upwardly into said plunger-slot to prevent return of the coin after said coin has passed thereover.

ARTHUR H. McMILLAN.

Witnesses:

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