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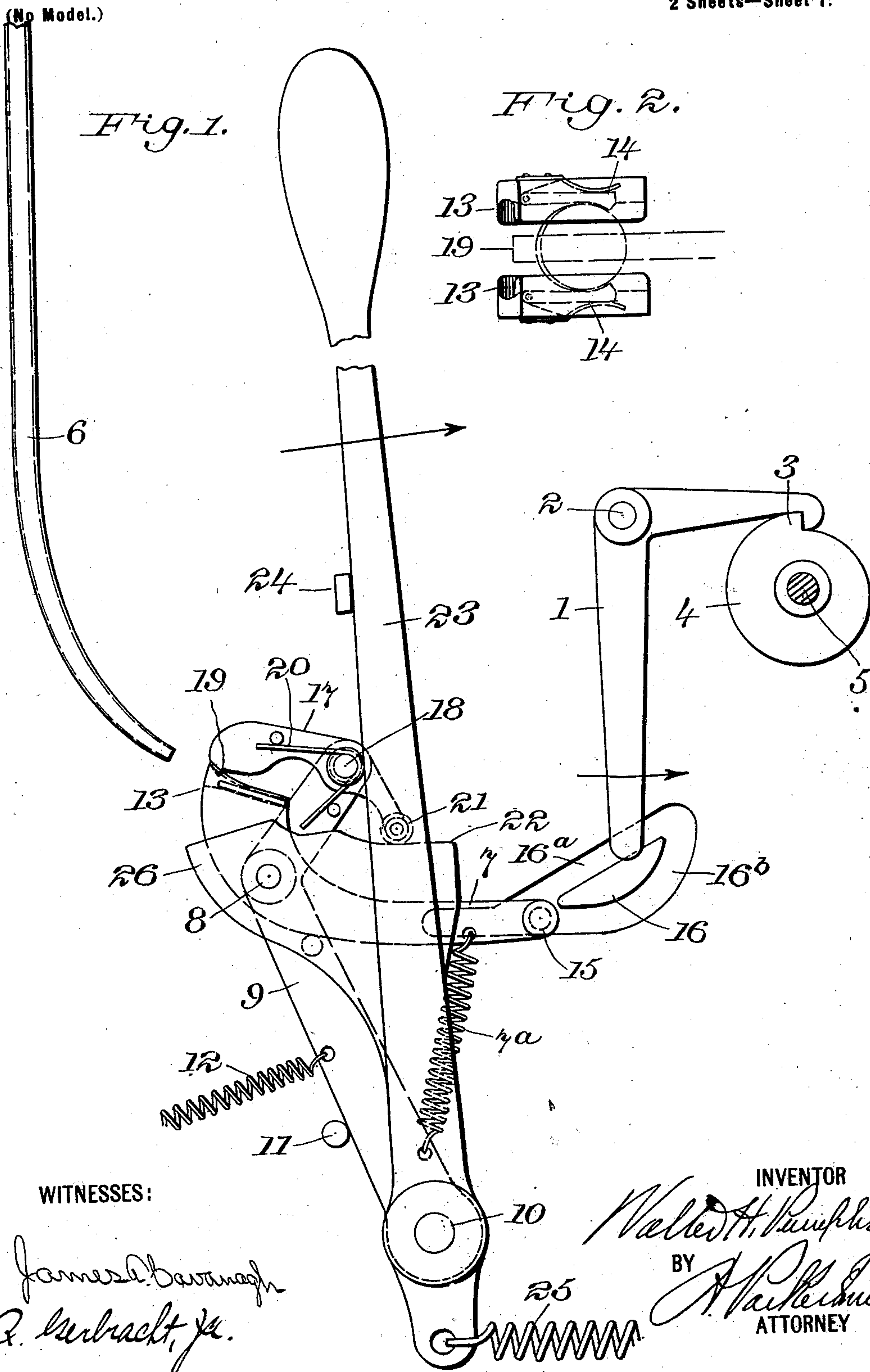
Patented Jan. 15, 1901.

W. H. PUMPHREY.
COIN CONTROLLED MECHANISM.

(Application filed Aug. 20, 1900.)

2 Sheets—Sheet 1.

(No Model.)



WITNESSES:

James A. Baranagh
G. Barbrack, Jr.

INVENTOR

INVENTOR
Walter H. Humphrey
BY *A. P. Smith*
ATTORNEY

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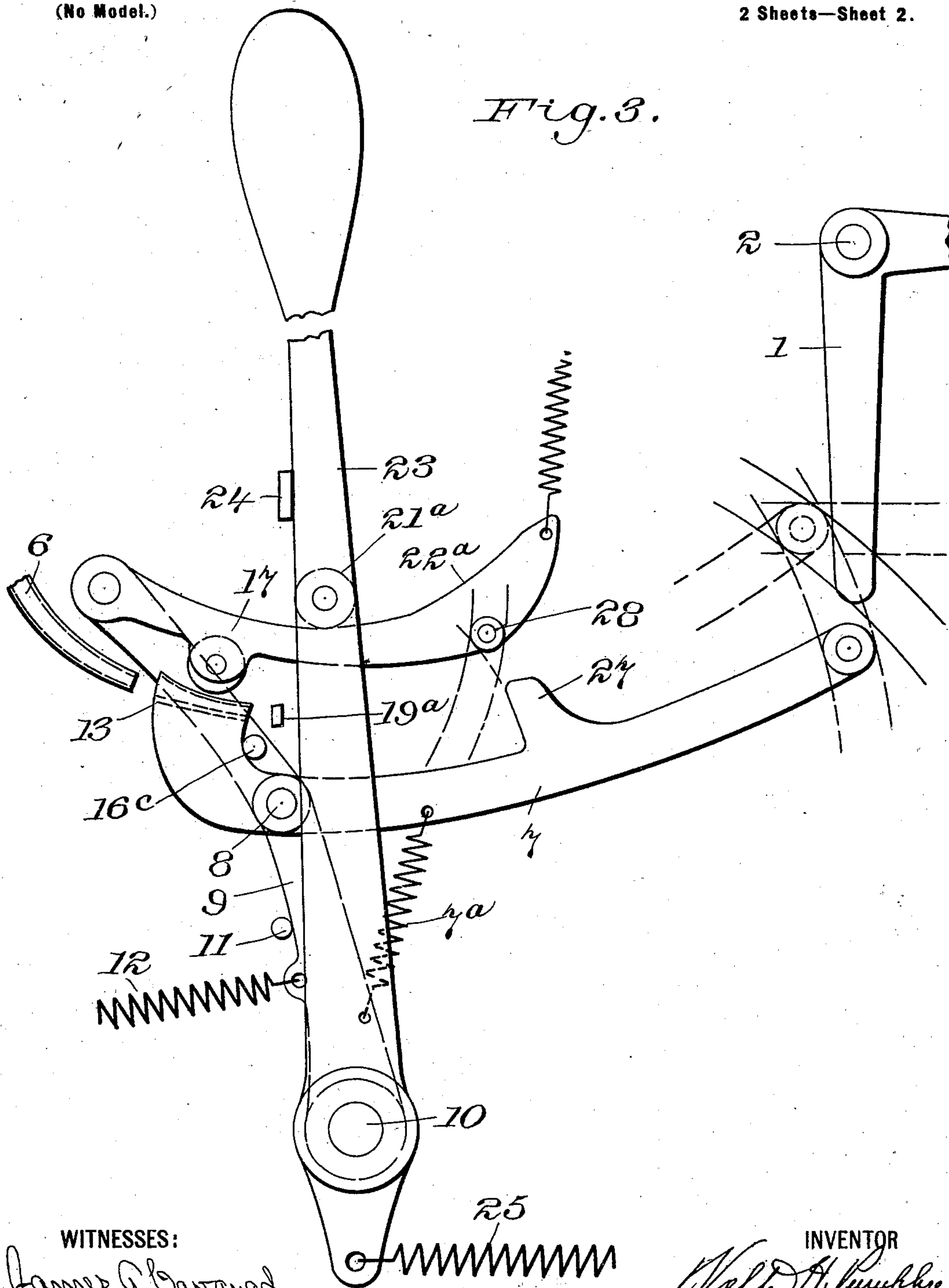
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(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

James A. Cavanagh.
A. Gerbracht, Jr.

INVENTOR

INVENTOR
Walter H. Humphrey
BY *A. R. Schmidt*
ATTORNEY

UNITED STATES PATENT OFFICE.

WALTER H. PUMPHREY, OF NEW YORK, N. Y.

COIN-CONTROLLED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 665,977, dated January 15, 1901.

Application filed August 20, 1900. Serial No. 27,512. (No model.)

To all whom it may concern:

Be it known that I, WALTER H. PUMPHREY, a citizen of the United States of America, and a resident of the city of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Coin-Controlled Mechanism, of which the following is a specification.

My invention relates to coin-operated mechanism of a class adapted particularly for use in connection with "slot-machines." In machines of this character the use of a coin for tripping a lock by its weight or the momentum acquired in its passage through a chute ordinarily necessitates the employment of a locking mechanism the cooperating parts of which must be extremely light, delicate, and sensitive to insure a proper response under the action of the inserted coin, and as these machines are usually placed out of doors, exposed to all changes in atmosphere and temperature, a disarrangement or break-down of such locking mechanism frequently occurs, causing the machines to be labeled "Out of order" for a considerable length of time, which thereby increases the cost of maintenance and materially reduces the net earnings.

It is the object of the present invention to obviate the difficulties above mentioned by effecting the release of the machine by means of a hand-lever acting through the medium of a coin. The use of such a lever for this purpose provides the requisite power for operating a tripping device of simpler and heavier construction than is ordinarily employed, and thereby renders the same more efficient and capable of withstanding the wear and tear with little or no liability of disarrangement under ordinary conditions, and, furthermore, insures an immediate response and complete operation upon the insertion of a proper coin.

Mechanism embodying my invention is illustrated in the accompanying two sheets of drawings, throughout the several views of which like reference characters indicate corresponding parts.

Referring to the drawings, Figure 1 is a view in diagram of a hand-operated coin-tripping device. Fig. 2 is a detail plan view of the

coin-carrier; and Fig. 3 is a view, similar to Fig. 1, of a modification.

In the drawings, 1 may represent any portion of a coin-controlled machine and in the present instance serves to illustrate the member to be actuated. It may be one end of a bell-crank lever turning about a pivot 2, whose opposite end engages a tooth 3 of a disk 4, constituting a lock for the index-shaft 5 of, for example, a weighing-machine. Again, the part 1 may represent the lower end of a shutter movable back and forth beneath a sight-opening, such as would be employed in a picture-exhibiting or similar machine. The particular function, however, of the part 1 is unimportant so far as the present invention is concerned, inasmuch as it is not essential to the operation of the same and is merely employed for the purpose of completing an operative illustration.

6 represents the coin-chute, which ordinarily leads from a slot in the outer casing of the machine and serves to properly direct the coin and deposit it, as may be required.

7 represents a trip-lever which is pivoted at 8 upon an arm or support 9, the latter being loosely mounted upon shaft 10, and is normally sustained in engagement with a stop 11 by means of a retractile spring 12. The trip-lever, at its upper end, is bifurcated (see Fig. 2) to provide oppositely-disposed parallel guides 13 13 for the reception of a coin, the same being hereinafter termed the "coin-carrier." The entrance to these guides adjoining the lower end of the coin-chute is flared to facilitate the entrance therein of the coin, and within each guide a spring-sustained dog 14 is pivotally mounted, between which the coin lodges and is temporarily held in the manner illustrated. (See Fig. 2.) The opposite end of the trip-lever is provided with a pin or roller 15, which lies in an approximately Y-shaped guideway 16 and is thereby directed into effective engagement with the member to be actuated when the lever becomes properly adjusted through the agency of a coin in a manner to be later on described. Normally, however, this end of the trip-lever is held out of operative relation with the member to be actuated by means of a spring 7^a, which serves also to maintain proper aline-

ment between the coin-carrier and the lower end of the chute.

17 represents a coin-finder, which consists of a lever pivoted at 18 upon an extension of the rocker-arm or oscillating support 9, above referred to, and provided with a shouldered extremity 19, which serves as a coin-ejector and normally lies between the guides of the coin-carrier, as indicated in dotted lines in Fig. 2, clear of the path traveled by the coin in its discharge from the chute. This lever is thus sustained by means of a spring 20, and on its opposite end is mounted a roller 21, which latter is yieldingly maintained by the same spring in engagement with a cam-face 22.

23 represents a hand-lever loosely mounted upon the shaft 10 and held at one extremity of its movement against a stop 24 by means of a retractile spring 25. This lever has formed in part or fixed to it a cam-plate 26, the face of which coöperates with the roller 21 of the coin-finder, as above stated.

The operation of the device is as follows: Assuming the parts to be in their normal position, as shown in Fig. 1, when it is desired to actuate the member 1 a coin is first inserted and directed by the chute into the coin-carrier, where it lodges, as indicated by dotted lines, and is therein held by the spring-dogs 14 14. The hand-lever is then grasped and moved toward the right or in the direction of the arrow. As the cam is drawn under the roller by the movement of the hand-lever the coin-finding lever is rocked until the coin-ejector engages the edge of the coin. Continued movement of the hand-lever and its cam causes a corresponding movement of the coin-finder, which latter through the medium of a coin transmits motion to the trip-lever, depressing the carrier end and causing the opposite end to move upward into the inclined portion 16^a of the guideway. As the terminal pin or roller of the trip-lever abuts against the guide, further upward movement of the lever is prevented, and the continued travel of the cam under the roller causes the parts—i. e., the coin-carrier and trip-lever and the cam—to become frictionally locked together, and thereafter these parts and their support 9 are advanced toward the member to be actuated. In thus advancing the carrier end of the trip-lever under the action of the guide becomes gradually depressed; but there is a compensating follow-up movement on the part of the cam, which tends to maintain the locked relation between the several members, and thereby effects an engagement between the trip-lever and the member to be actuated, causing the latter to swing in the direction of the arrow and release the locked shaft or other device it controls. As the roller upon the end of the trip-lever reaches the top of the guide 16^a the spring 7^a tends to draw it downward, and its return is by way of the rear curved guide-section 16^b. During the advance of the trip-lever, by reason of the dif-

ference in the arc of travel of the coin-carrier and coin-finder the coin is gradually forced outward by the ejector past the spring-dogs and may be caught in a suitable receptacle. (Not shown.) The return of the parts to their normal position is effected through the action of the several springs described.

In Fig. 3 I have illustrated a modification which consists in forming the cam-face of the mechanism above described upon the coin-finder, as indicated at 22^a, and mounting a roller 21^a upon the hand-lever to coöperate with the cam-face; further, in providing the trip-lever with a lug 27, which coöperates with a roller or pin 28 upon the coin-finder, and, finally, in substituting for the guideways a stop-pin 16^c upon the arm or support 9 and for the injector upon the coin-finder a fixed stud or pin 19^a. The operation of the modification is similar to that described, except that as the trip-lever is rocked by the coin-finder through the medium of a coin the roller or pin 28 moves downward in the arc indicated and lodges behind the lug 27, and when the trip has reached the limit of its upward movement and the cam-roller tends to jam upon the cam the several coöperating parts are positively advanced by the roller 28 engaging the trip-lever lug.

The advantages of my invention consist in its extreme simplicity, cheapness of manufacture, effectiveness in operation, and its durability. Ordinarily in a machine of this class great complication of parts exists; but in the present mechanism a single stud-shaft 10 only is required to mount the coin-tripped device in the casing of the machine. Furthermore, the invention possesses advantage in point of its certainty in action and the improbability of any failure on the part of the mechanism to respond when a proper coin has been inserted, and, finally, from the fact that the parts of the coin-tripping device may be heavily and strongly made, which greatly lengthens the life of machines and correspondingly increases the earnings thereof by preventing annoying and inconvenient breakdowns.

I do not wish to be understood as limiting myself to the exact construction, &c., herein shown and described, as various changes may be made within the meaning of the present invention. The hand-lever, for example, may be replaced by a crank or a push-rod, if desired, and I may dispense with the guide 16 and obtain substantially the same effect by substituting therefor a stop-pin 16^c upon the support 9, as indicated in dotted lines in Fig. 1. The form of coin-carrier may be changed. In fact, any suitable coin-receptacle may be employed, and the same is true of the coin-ejector. As these and various other changes are perfectly obvious and could be made without materially altering the essential parts of their operative relation in the device, I do not deem it necessary to illustrate the same, as I

consider all such modifications mere changes in form and still within the scope of my invention.

Having therefore described my invention, I claim—

1. In coin-operated mechanism, the combination of a member to be actuated, a trip-lever normally sustained out of operative relation thereto, a coin-carrier and a coin-finder cooperating through the medium of a coin to adjust the trip-lever into a path of travel including said member, and actuating means for the finder.

2. In coin-operated mechanism, the combination of a member to be actuated, a trip-lever normally sustained from movement in the path of travel including said member, a coin-carrier and a coin-finder cooperating through the medium of a coin to effect a preliminary adjustment of the trip-lever, and actuating means for the finder.

3. In coin-operated mechanism, the combination of a member to be actuated, a trip-lever provided with a coin-carrier, and normally sustained from movement in the path of travel including said member, a coin-finder cooperating through the medium of a coin to adjust the trip-lever whereby it may be advanced into engagement with the member to be actuated, and operating means for the finder.

4. In coin-operated mechanism, the combination of a member to be actuated, a coin-carrying trip-lever sustained normally from movement in the path of travel including said member, a coin-finder cooperating through the medium of a coin to aline the trip-lever with the member to be actuated, a coin-ejector, and means for operating the finder.

5. In coin-operated mechanism, the combination of a pivoted coin-carrier and a pivoted coin-finder both mounted upon a movable carrier, and relatively disposed to receive a coin between their adjoining faces and means for rocking the finder and thereby transmitting motion to the carrier through the medium of the interposed coin.

6. In coin-operated mechanism, the combination of a trip-lever and a coin-carrier and a coin-finder cooperating therewith through the medium of a coin, a movable carrier common to both the lever and finder and actuating means for the finder.

7. In coin-operated mechanism, the combination of a trip-lever and a coin-finder cooperating therewith through the medium of a coin, a carrier common to both the lever and finder and means effective only after the insertion of a coin for advancing the carrier.

8. In coin-operated mechanism, the combination of a trip-lever and a coin-finder cooperating therewith through the medium of a coin, a carrier common to both the lever and finder, and means for operating the finder and advancing the carrier, said means being

effective for advancing the carrier only after the insertion of a coin.

9. In coin-operated mechanism, the combination of a trip-lever and a coin-finder cooperating therewith through the medium of a coin, a pivoted carrier common to both the lever and finder and means effective only after the insertion of a coin for oscillating the carrier.

10. In coin-operated mechanism, the combination of a pivoted spring-sustained trip-lever and a coin-finder cooperating therewith through the medium of a coin, a carrier common to both the lever and finder and means effective only after the insertion of a coin for advancing the carrier.

11. In coin-operated mechanism, the combination of a pivoted spring-sustained trip-lever and a pivoted spring-sustained coin-finder cooperating therewith through the medium of a coin, a carrier common to both the lever and finder and means effective only after the insertion of a coin for advancing the carrier.

12. In coin-operated mechanism, the combination of a pivoted spring-sustained trip-lever and a pivoted spring-sustained coin-finder cooperating therewith through the medium of a coin, a pivoted support common to both the lever and finder, and means for operating the finder and oscillating the support, said means being effective for oscillating the support only after the insertion of a coin.

13. In coin-operated mechanism, the combination of a pivoted spring-sustained trip-lever and a pivoted spring-sustained coin-finder cooperating therewith through the medium of a coin, a pivoted support common to both the lever and finder, and means for successively operating the finder and oscillating the support, said means being effective for oscillating the support only after the insertion of a coin.

14. In coin-operated mechanism, the combination of a coin-carrier and a trip-lever in operative relation thereto, a coin-finder cooperating with the coin-carrier through the medium of a coin, an oscillating support common to the carrier and finder and means effective only after the insertion of a coin for oscillating said support.

15. In coin-operated mechanism, the combination of an oscillating support, a combined trip-lever and coin-carrier and a coin-finder both mounted upon the support, said finder cooperating with the carrier through the medium of a coin, and a cam for actuating the finder and oscillating the support, said cam being effective for oscillating the support only when the carrier contains a coin.

16. In coin-operated mechanism, the combination of an oscillating support, a combined trip-lever and coin-carrier and a coin-finder both mounted upon the support, said finder cooperating with the carrier through the me-

dium of a coin, and a hand-operated cam for actuating the finder and oscillating the support, said cam being effective for oscillating the support only when the carrier contains a coin.

17. In coin-operated mechanism, the combination of an oscillating support, a combined trip-lever and coin-carrier and a coin-finder both mounted upon the support, said finder cooperating with the carrier through the medium of a coin, and a hand-lever provided with an engaging projection for actuating the finder and oscillating the support, said projection being effective for oscillating the support only when the carrier contains a coin.

18. In coin-operated mechanism, the combination of a coin-carrying trip-lever, a guide for the free end of the lever, a coin-finder cooperating with the trip-lever through the medium of a coin, a pivoted support common to both the lever and finder, and means for operating the finder and oscillating the support, said means being effective for oscillating the support only after the insertion of a coin.

19. In coin-operated mechanism, the combination of a coin-carrying trip-lever, diverging guideways for the free end of the lever, a coin-finder cooperating with the trip-lever through the medium of a coin, a pivoted support common to both the lever and finder, and means for operating the finder and oscillating the support only after the insertion of a coin.

20. In coin-operated mechanism, the combination of a coin-carrying trip-lever, an approximately Y-shaped guide for the free end of the lever, a coin-finder cooperating with the cam-carrier of the trip-lever through the medium of a coin, a pivoted support common to both the lever and finder, and means for operating the finder and oscillating the support, said means being effective for oscillating the support only after the insertion of a coin.

21. In coin-controlled mechanism, the combination of a member to be actuated, a trip therefor normally sustained out of operative relation, a coin-finder and a coin-carrier cooperating through the medium of a coin to adjust the trip into operative relation to said member, a movable support or carrier common to both the trip-lever and finder, and means for operating the coin-finder.

22. In coin controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation, a coin-finder and a coin-carrier cooperating through the medium of a coin to adjust the trip about its pivotal center into operative relation to said member, a movable support or carrier common to both the

trip-lever and finder, and means for operating the coin-finder.

23. In coin-controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation, a coin-finder and a coin-carrier cooperating through the medium of a coin to adjust the trip into a path of travel including said member, a movable support or carrier common to both the trip-lever and finder, and means for operating the coin-finder and advancing the trip into engagement with said member.

24. In coin-controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation a coin-carrier and a pivoted coin-finder cooperating through the medium of a coin to adjust the trip into a path of travel including said member, and means for operating the coin-finder and advancing the trip into engagement with said member.

25. In coin-controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation, a coin-carrier and a coin-finder cooperating through the medium of a coin to adjust the trip into a path of travel including said member, and manually-actuated means for operating the coin-finder and advancing the trip into engagement with said member.

26. In coin-controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation, a coin-carrier and a coin-finder cooperating through the medium of a coin to adjust the trip into a path of travel including said member, and a hand-lever for operating the coin-finder and advancing the trip into engagement with said member.

27. In coin-controlled mechanism, the combination of a member to be actuated, a pivoted trip therefor spring-sustained normally out of operative relation, a coin-carrier and a coin-finder cooperating through the medium of a coin to adjust the trip into a path of travel including said member, and a hand-lever provided with one or more engaging projections for operating the coin-finder and advancing the trip into engagement with said member.

Signed at New York, N. Y., this 16th day of August, 1900.

WALTER H. PUMPHREY.

Witnesses:

ARTHUR C. BLATZ,
JAMES A. CAVANAGH.