(No Model.) 3 Sheets—Sheet 1.

B. M. ABELL.

COIN CONTROLLED MACHINE FOR THROWING DICE.

No. 500,313. Patented June 27, 1893.

Fig. 1.

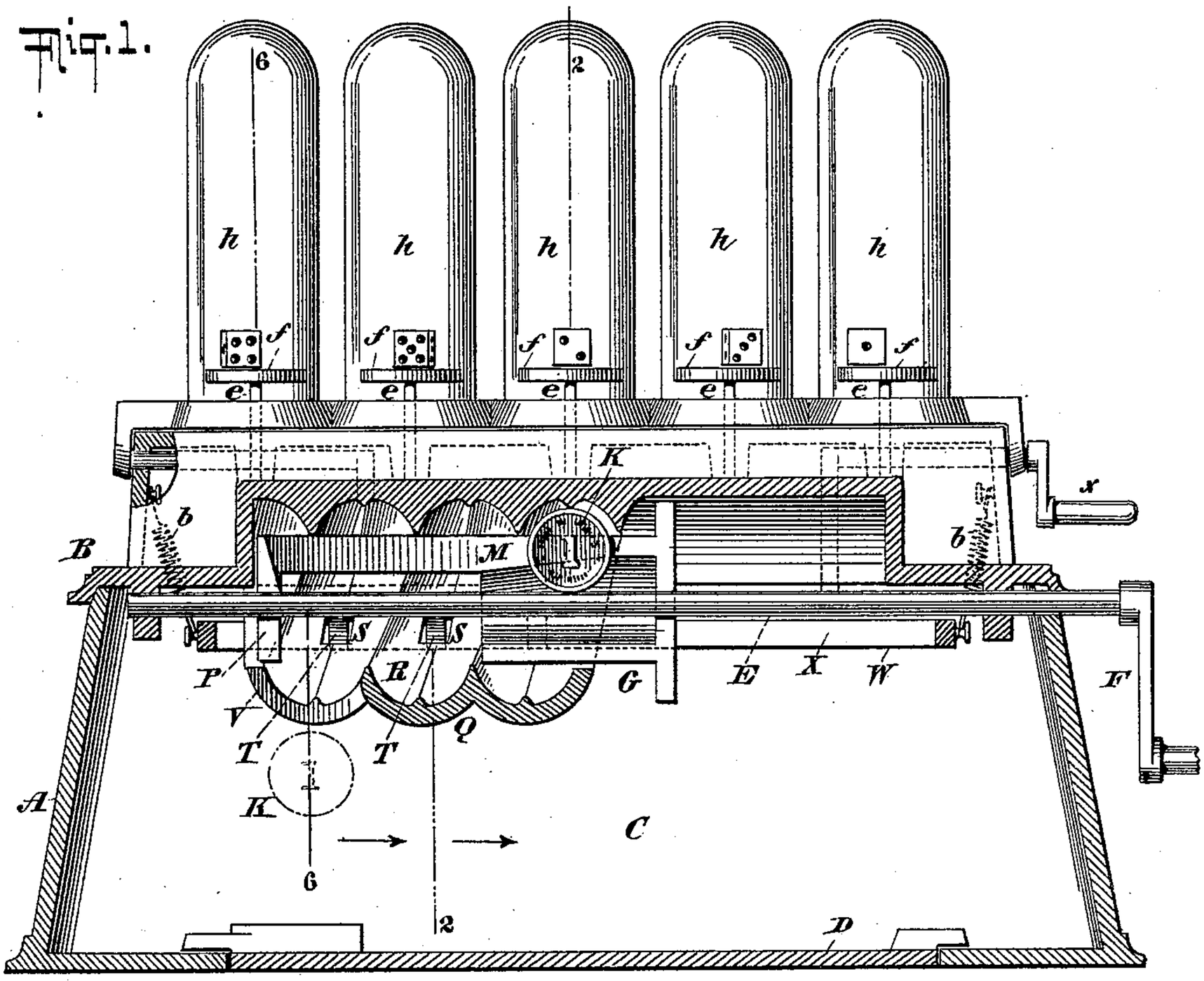


Fig. 2.

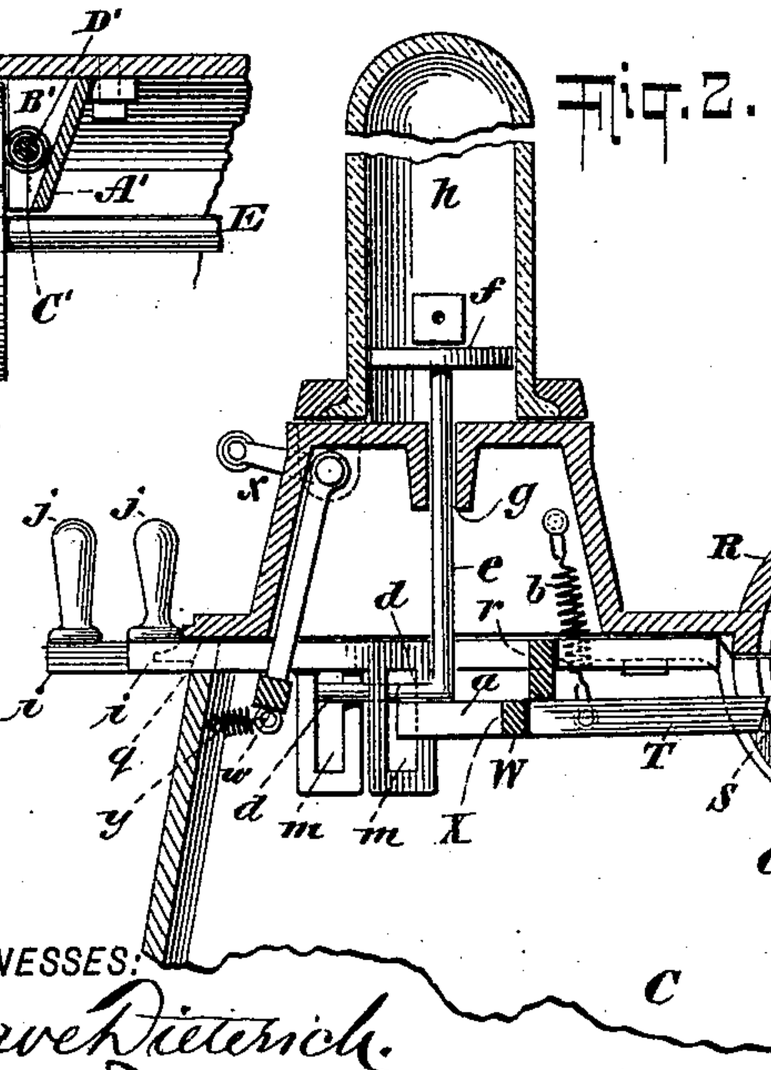


Fig. 3.

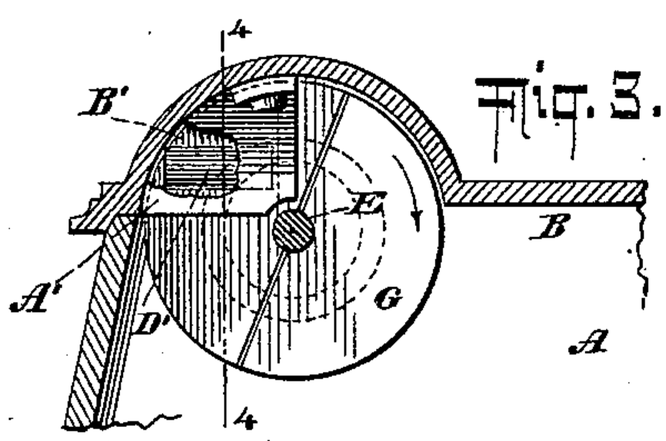
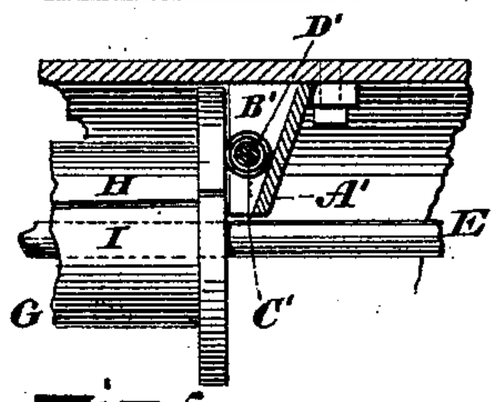


Fig. 4.



WITNESSES:
Gustave Dieterich.
Ed. D. Miller.

INVENTOR
Bernard M. Abell,
BY
Chas. C. Gill
ATTORNEY.

(No Model.) 3 Sheets—Sheet 2.

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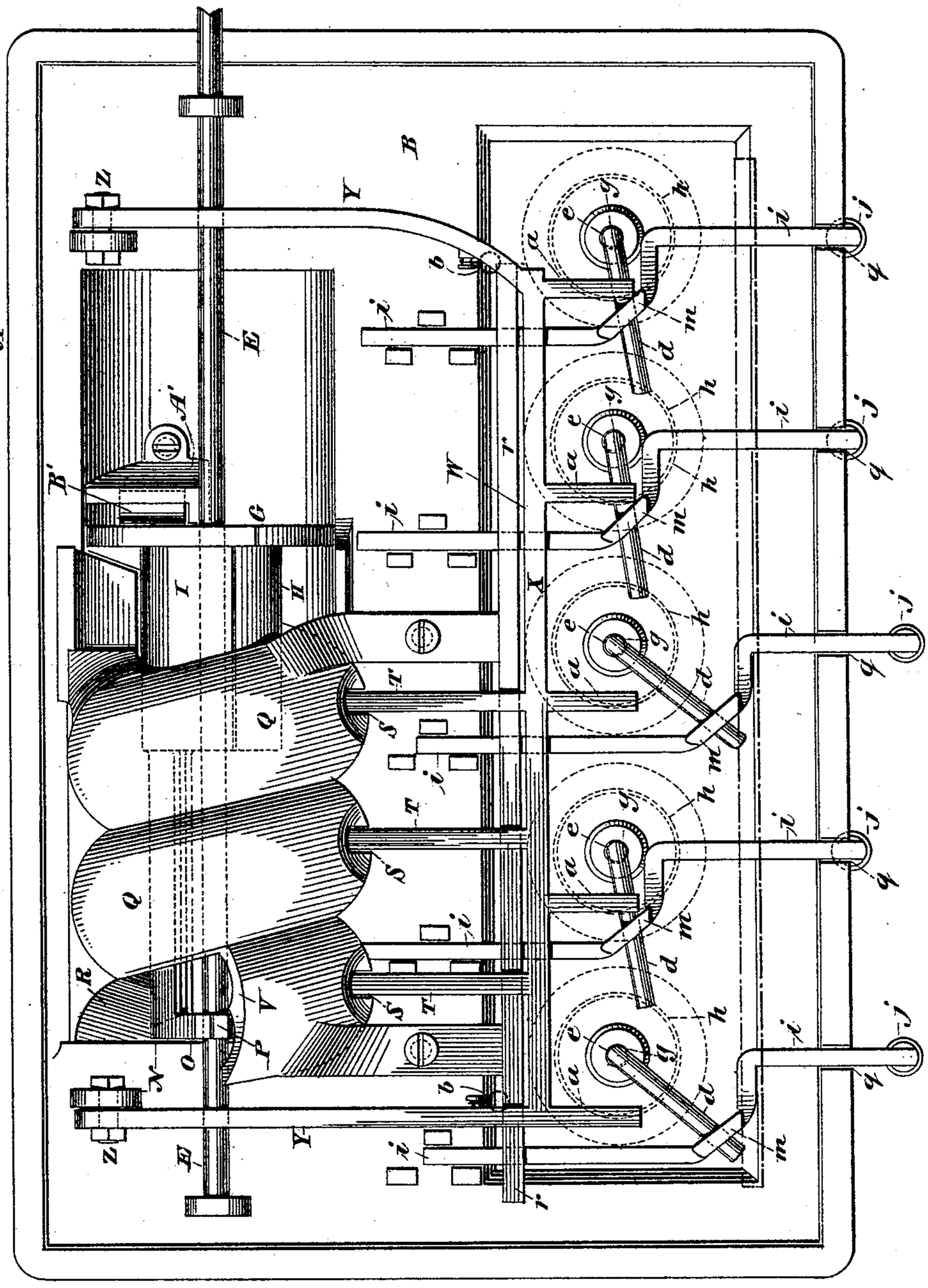
FIG. 5.



WITNESSES:
Gustave Dieterich.
Ed. D. Miller.

INVENTOR
Bernard M. Abell.
BY
Chas. O. Gill
ATTORNEY.

(No Model.) 3 Sheets—Sheet 3.

B. M. ABELL.

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Fig. 6.

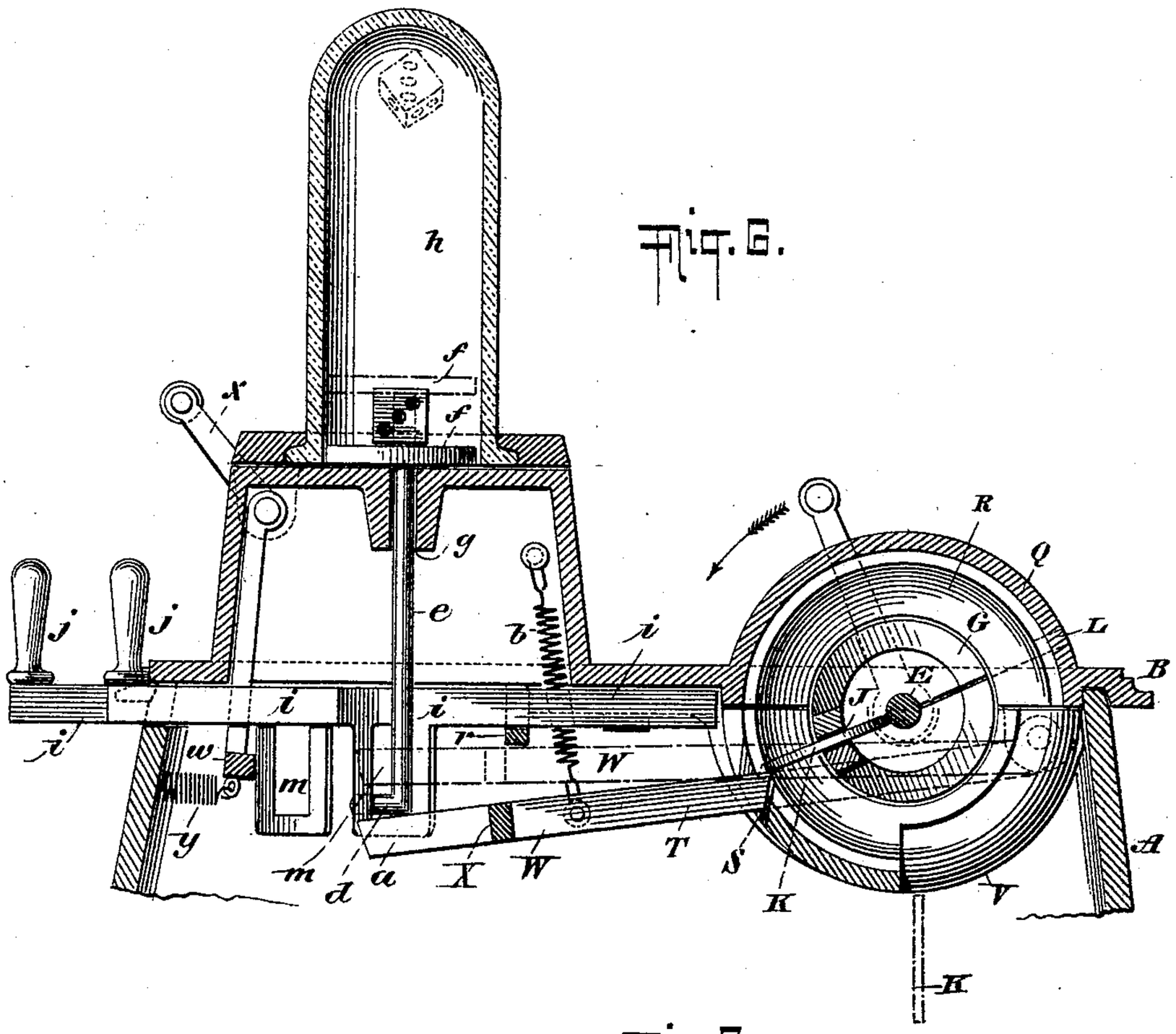
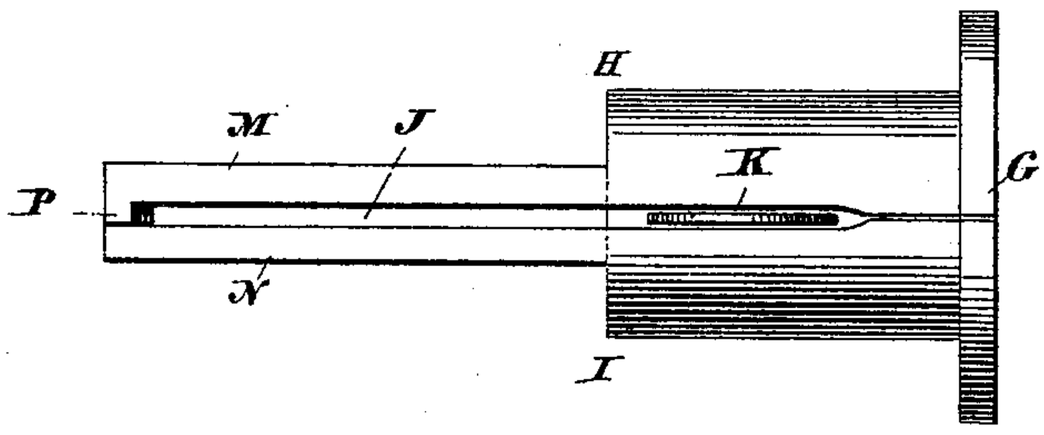


Fig. 7.



WITNESSES:
Gustave Dieterich
Ed. D. Miller

INVENTOR
Bernard M. Abell,
BY
Chas. C. Gill
ATTORNEY.

UNITED STATES PATENT OFFICE.

BERNARD M. ABELL, OF NEW YORK, N. Y., ASSIGNOR TO JULIUS GOLDBERG, OF SAME PLACE.

COIN-CONTROLLED MACHINE FOR THROWING DICE.

SPECIFICATION forming part of Letters Patent No. 500,313, dated June 27, 1893.

Application filed April 29, 1893. Serial No. 472,296. (No model.)

To all whom it may concern:

Be it known that I, BERNARD M. ABELL, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coin-Controlled Machines for Throwing Dice, of which the following is a specification.

The invention relates to improvements in coin controlled machines for throwing dice, and consists in the novel features of construction hereinafter described and particularly pointed out in the claims.

The machine made in accordance with my invention is provided with a series of closed transparent receptacles each inclosing one of the dice resting on a movable bottom or platform, means for receiving a coin and causing it to travel in the direction of a spiral line, a pivoted frame having arms adapted to be acted upon by said coin during its line of travel, and mechanism intermediate said pivoted frame and the movable platforms of the dice receptacles whereby all or any designated number of said platforms may be given a sudden vertical reciprocation with each contact of said coin with said arms for the purpose of throwing the dice upward in the receptacles and then allowing them to fall upon the platforms. In accordance with my invention the coin during its travel from the point at which it enters the machine to the point at which it is deposited comes into contact with the arms of the said pivoted frame three times, and hence three throws of the dice are secured for the one coin. If the coin has traveled far enough to have made one throw of the dice and it is desired to hold one or more of the dice stationary while making the further throws the platforms of these special dice will be withdrawn from the influence of said pivoted frame and the coin on its further travel will only act to move the remaining platforms. The employment of the machine thus permits the exercise of some discretion on the part of the player, and enables him to have three throws of all the dice for the one coin or during some of the throws to hold certain of the dice while continuing to throw the remainder, in accordance with the particular result he is seeking to accomplish.

The particular nature of the invention and the means for carrying it into effect will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation, partly in section, of a machine constructed in accordance with and embodying the invention, the section being on the vertical line 1—1 of Fig. 2. Fig. 2 is a vertical transverse section of said machine, partly broken away, on the dotted line 2—2 of Fig. 1. Figs. 3 and 4 are detached sectional views hereinafter referred to and showing more particularly the brake for preventing any backward or reverse movement of the coin carrying mechanism. Fig. 5 is an enlarged plan view of the interior mechanism of the machine taken at a point looking upward in Figs. 1 and 2 at the lower side of the top of the box or supporting frame of the machine. Fig. 6 is an enlarged vertical section of the machine on the dotted line 6—6 of Fig. 1 and indicating by dotted and full lines respectively the two positions of the pivoted frame and die supporting platforms; and Fig. 7 is a detached top plan view of the coin carrying device.

In the drawings A designates the box or supporting frame of the machine, said box having a top B, an interior compartment C in which the coins may be deposited, and a lower door D of any suitable form permitting the removal of the coins.

Extending lengthwise of the front portion of the machine and mounted in suitable bearings is the actuating shaft E having on one end the crank F by which the player may set the mechanism in motion. The shaft E extends centrally through the coin carrier G, which is secured to the shaft and is composed of the longitudinal parts H, I, forming between them the elongated slot J which receives the coin lettered K, from the introduction aperture or slot L and permits it to travel to the left until the three throws of the dice have been made, after which, as indicated by dotted lines in Fig. 1, the coin is allowed to fall free of the mechanism. The carrier G is cylindri-

cal in outline and hollow at one end, and from this portion extend the arms M, N, having at their extremities the right angular extensions O, P, encompassing the shaft E. After the coin passes from the aperture L and enters the slot J it will, as shown in Fig. 1, rest upon the shaft E, and be inclosed with the carrier G within the casing Q, which contains the spiral groove R and by means of said groove causes the coin during the revolution of the shaft E to travel along the slot J from its point of introduction shown by full lines in Fig. 1 to its point of discharge indicated by dotted lines in Fig. 1.

The casing Q may be made in any suitable manner, but I have found it convenient to cast the upper half thereof as a part of the top or cover B and the lower half as an independent portion to be afterward matched to the said upper half. It will not be necessary however to cast the upper half of the casing Q as an integral part of the top B unless desired.

At the inner side of the casing Q are the apertures S to receive the ends of the arms T hereinafter described, and at the end of said casing a section of the spiral is removed leaving an opening V, through which the coin will fall when during the revolution of the shaft E the coin has traveled to the left hand end of the slot J and comes into line with the same. During the movement of the coin in the casing Q the walls of the spiral groove R will support the same in the slot J until the opening V is reached, and thereafter there being no further walls to maintain the coin the latter will fall into the box A, as illustrated in Figs. 1 and 6. The arms T above mentioned form a part of the pivoted frame W, shown more clearly in Fig. 5, in which it will be seen that the frame W is composed of the longitudinal bar X, the side arms Y pivotally secured at Z, Z, the aforesaid arms T, and a series of rearwardly extending arms *a*, one of the latter being provided for each of the dice receptacles. The rear portion of the frame W is supported by the coiled springs *b*, *b*, which in their normal relation maintain the arms *a* lightly against the lower bent ends *d* of the vertical rods *e* carrying the platform *f* for the dice. The rods *e* extend upward through apertures *g* and carry within the transparent receptacles *h* the said platforms *f*, as indicated in Fig. 1. It is preferred that but one of the dice be placed in each receptacle *h*, but the invention is not confined to placing any special number of dice in the receptacles. The rods *e* with their platforms *f* and bent ends *d* are free to have a vertical movement for the purpose of throwing the dice upward, and they receive this movement by the depression of the frame W and the quick return of the frame under the action of the springs *b*, *b*, causing the arms *a* to strike the bent ends *d* and drive the rods *e* and platforms *f* upward. The frame W is depressed by the contact of the coin traveling along the spiral groove R with the ends of the arms T projecting through the apertures S into the casing Q and into the path of the edge of the coin, as shown in Fig. 6; when the coin meets any one of the arms T it will depress the frame W from the position shown by dotted lines to that indicated by full lines in Fig. 6, and as soon as the coin passes the arm T the springs *b*, *b*, act to quickly return the frame with the result above stated of projecting the rods *e* upward.

It is designed that the player shall have three throws of the dice for the one coin, and hence there are three of the arms T and the coin during its spiral line of travel meets each of the arms T and at each contact therewith depresses the frame W to effect a throw of the dice. The number of arms T and the number of turns in the spiral groove R may, however, vary with the number of throws to be made by the one coin.

After the coin has moved in the spiral groove R sufficiently to have effected one throw of the dice, or even two throws thereof, the player may desire to hold some one or more of the dice stationary while making the following throw, in accordance with the particular result sought, and to enable this operation to be carried into effect there is provided the series of independent slides *i* having handles *j* and vertically elongated apertures *m*, the latter receiving the bent ends *d* and serving as a means of drawing said ends *d* outward from contact with the arms *a* of the frame W, as clearly shown in Fig. 1. It will be apparent that when the player draws a portion of the slides *i* outward, the rods *e* operated thereby will be removed from the influence of the arms *a* and frame W, and the platforms *f* on said rods will remain at rest, while the remaining rods *e* and platforms *f* will continue in position to be acted on by the frame W during the concluding portion of the travel of the coin. The slides *i* are independent of each other, and hence any one or more of them may be drawn outward either after the first or second throws of the dice. The slides *i* are supported in the apertures *q* formed in the box A and in grooves formed in the bar *r*, and said slides are furnished with the handles *j* for convenience in drawing them outward or pushing them inward. After the three throws of the dice have been made, the slides *i* that may have been withdrawn should all be pushed inward in order that all the rods *e* may be subjected to the action of the frame W during the first contact of the farther coin with the arm T, and this inward movement of the slides may be effected independently by hand or simultaneously by means of a pivotally suspended bar *w*, which may be moved inward against the slides by means of a crank *x* and withdrawn to its normal position by means of a spring *y*.

It is advantageous to provide means which will prevent the shaft E and carrier G from

being turned backward, and to this end I provide adjacent to the solid head of the carrier the inclined pocket A′ receiving the roller B′ (see Figs. 3, 4 and 5) which roller is composed of a hard core C′ and a rubber or soft exterior D′. The inclination of the pocket A′ and its relation to the shaft E are such that the roller B′ will produce no effect while the carrier G is being turned in the proper direction, but upon any attempt being made to reverse the movement of the carrier the roller B′ will be crowded downward between the inclined wall of the pocket A′ and the solid head of the carrier G and operate as a brake to prevent the carrier from moving.

The operation of the machine has been indicated in the foregoing description, and hence but a brief further explanation is necessary. The slides *i* all being inward so as to insure the arms *d* of the rods *e* being in position to be acted on by the arms *a* of the frame W, the machine will be ready for use; the coin K may thereupon be inserted through the aperture L into the slot J of the carrier G, which will then be revolved with the shaft E by means of the crank F, the result being that during the revolution of the carrier the spiral groove R will cause the coin to travel to the left in the slot J and successively come into contact with the ends of the arms T, thereby tilting the frame W downward with each contact of the coin with the arms T and permitting the springs *b* to return the frame to its upward position and cause the arms *a* thereof to project the rods *e* and platforms *f* upward, thus throwing the dice, as indicated, in Fig. 6. After the coin has passed beyond the third or last arm T it will fall through the opening V into the bottom of the compartment C and leave the machine in condition to be further operated on the introduction of an additional coin through the aperture L into the coin-carrier slot J. As above described the coin at each contact with the arms T effects the throwing of all the dice, unless the player after the first throw should prefer to hold some one or more of them stationary by drawing outward the appropriate slides *i* to accomplish that result. If for example the player is throwing for "sixes" and on the first throw should secure, say, three sixes, he would probably desire to hold the sixes thus obtained and utilize the further throws in an attempt to cause the other two dice to show sixes; or if on the first throw the player should secure on three of the dice the values "one," "two," "three" it might be well to hold these three dice and endeavor on the remaining two throws to secure on the two last dice the values "four" and "five" thus to have a "straight."

It will be seen that in the throwing of dice by means of the machine described above, something is left to the individual discretion of the players, and hence I recommend that the series of dice receptacles in lieu of a single dice receptacle be employed. If preferred, however, in order to produce a smaller machine the dice may all be placed in one receptacle and the other receptacles omitted, in which event the tilting frame would during the travel of the coin in the spiral casing actuate the platform in the one receptacle as many times in succession as there were arms T for contact with the coin.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The revolving coin carrier, and the spiral casing inclosing the same and directing the coin, combined with the tilting frame adapted to be actuated by the coin, and a dice receptacle containing a movable platform adapted to be moved by said frame; substantially as set forth.

2. The revolving coin carrier having a longitudinal slot for the coin, and the spiral casing inclosing said carrier and coin and having openings at one side, combined with the arms entering said openings to come into the path of the coin, and dice receptacles containing movable platforms adapted to be actuated from said arms; substantially as set forth.

3. The revolving coin carrier having a longitudinal slot for the coin, and the spiral casing inclosing said carrier and directing said coin, combined with the arms at one end entering the path of the coin, dice receptacles containing movable platforms adapted to be actuated from said arms, and means for relieving said platforms from the influence of said arms; substantially as set forth.

4. The revolving coin carrier having a longitudinal slot for the coin, and the spiral casing inclosing said carrier and coin, combined with the tilting frame having arms projecting in the path of said coin and the dice receptacles having movable platforms provided with downwardly extending rods terminating in near relation to portions of said frame; substantially as set forth.

5. The revolving coin carrier having a longitudinal slot for the coin, and the spiral casing inclosing said carrier and coin, combined with the dice receptacles containing the platforms on the upper ends of movable rods, the tilting frame having arms projecting in the path of said coin and said rods, and independent slides for relieving said rods from the influence of said frame; substantially as set forth.

6. In a machine for throwing dice, a revolving coin-carrier and the spiral casing inclosing said carrier and directing said coin, combined with the dice receptacles containing the movable platforms, and mechanism intermediate said casing and platforms and adapted to be actuated by the coin to move the platforms; substantially as set forth.

7. In a dice machine, a revolving coin-carrier mounted on the main actuating shaft, and the spiral casing inclosing said carrier and directing the coin, combined with the dice receptacles containing the movable plat-

forms, the rods connected with said platforms and having bent lower ends, the slides connected with said bent ends, and the tilting frame having arms projecting in the path of said coin and said rods; substantially as set forth.

8. In a dice machine, a revolving coin carrier and the spiral casing inclosing said carrier and directing the coin, combined with the inclined pocket adjacent to the head of said carrier, the roller in said pocket, the dice receptacles containing movable platforms, and mechanism intermediate said casing and platforms and adapted to be actuated by the coin to move the platforms; substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 26th day of April, A. D. 1893.

BERNARD M. ABELL.

Witnesses:
CHAS. C. GILL,
ED. D. MILLER.