F. H. RICHARDS.

PICTURE EXHIBITING MACHINE.

APPLICATION FILED AUG. 26, 1908.

938,895. Patented Nov. 2, 1909.

3 SHEETS—SHEET 1.

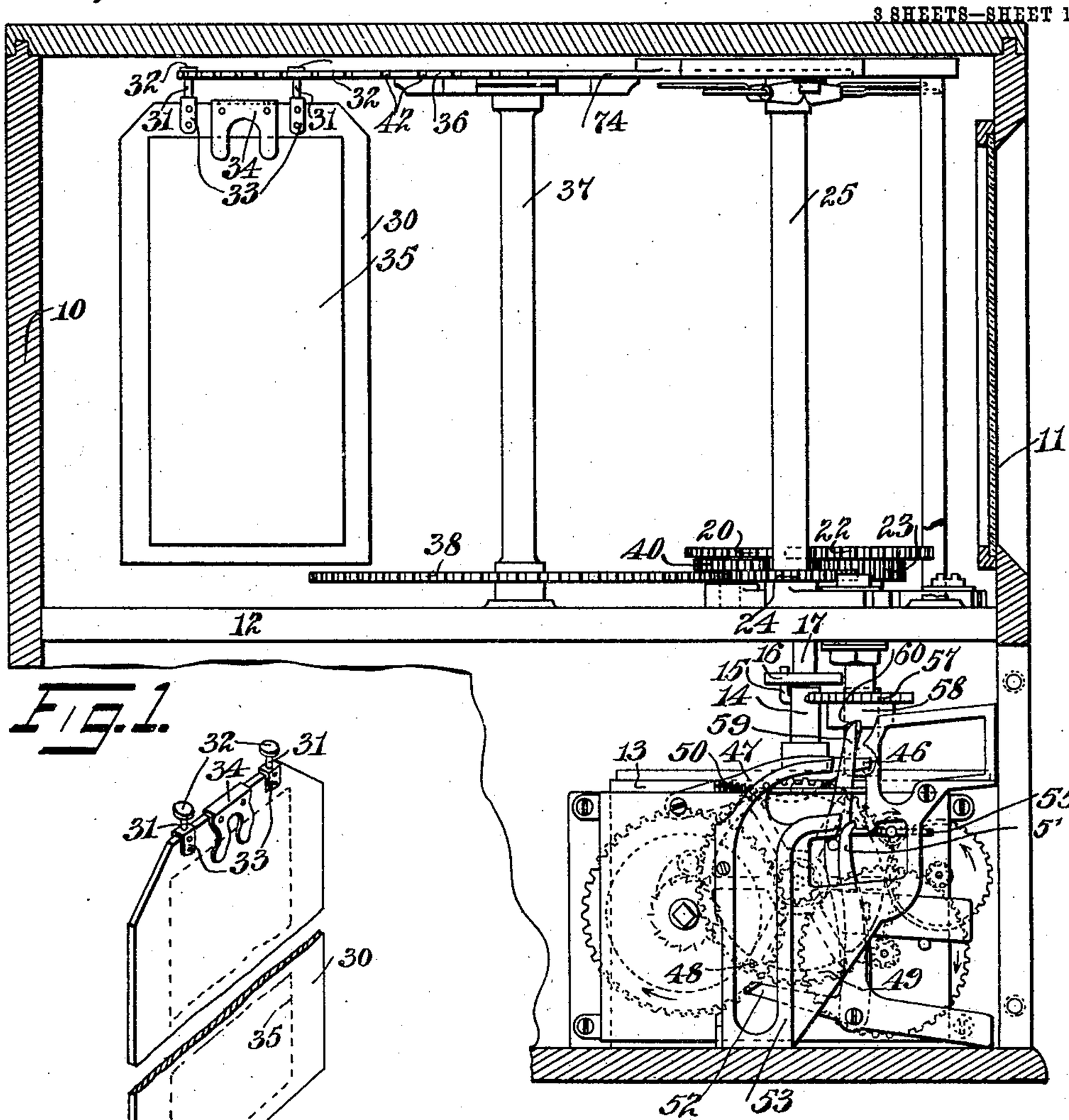

FIG. 1.

FIG. 3.

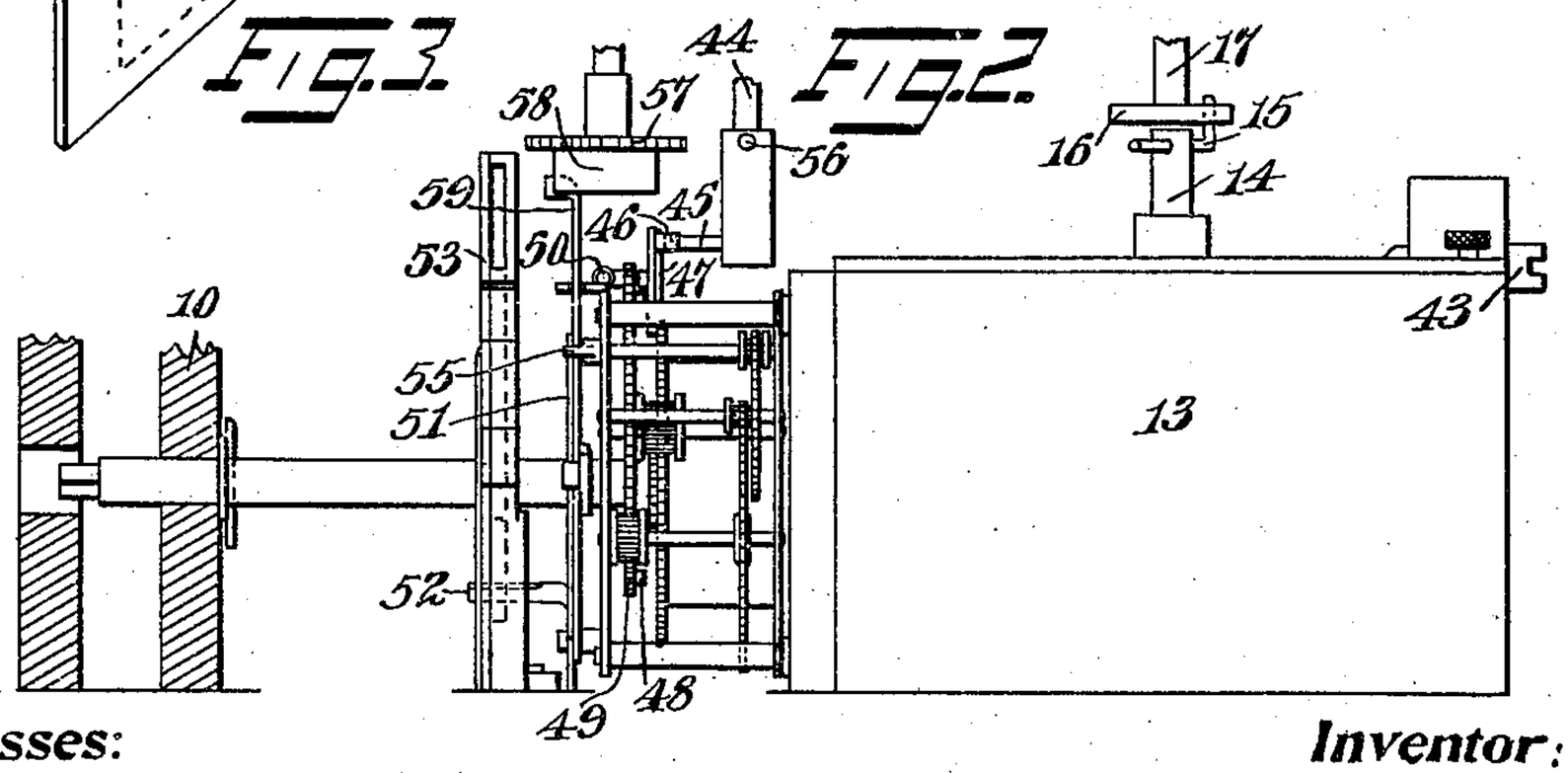

FIG. 2.

Witnesses:

C. C. Fuller.

H. D. Penney.

Inventor:

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3 SHEETS—SHEET 2.

Fig. 4.

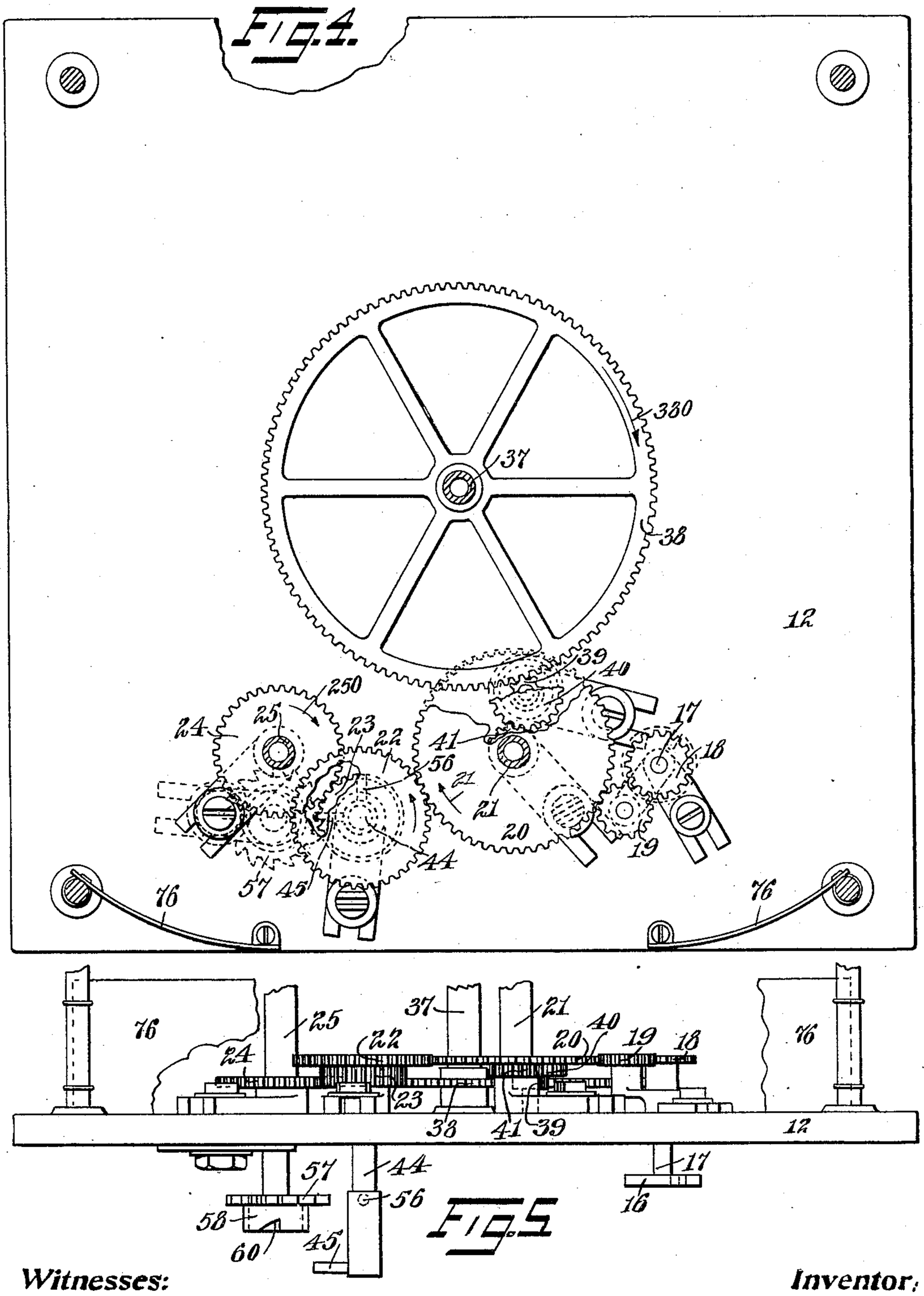

Fig. 5.

Witnesses:

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H. D. Penney.

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3 SHEETS—SHEET 3.

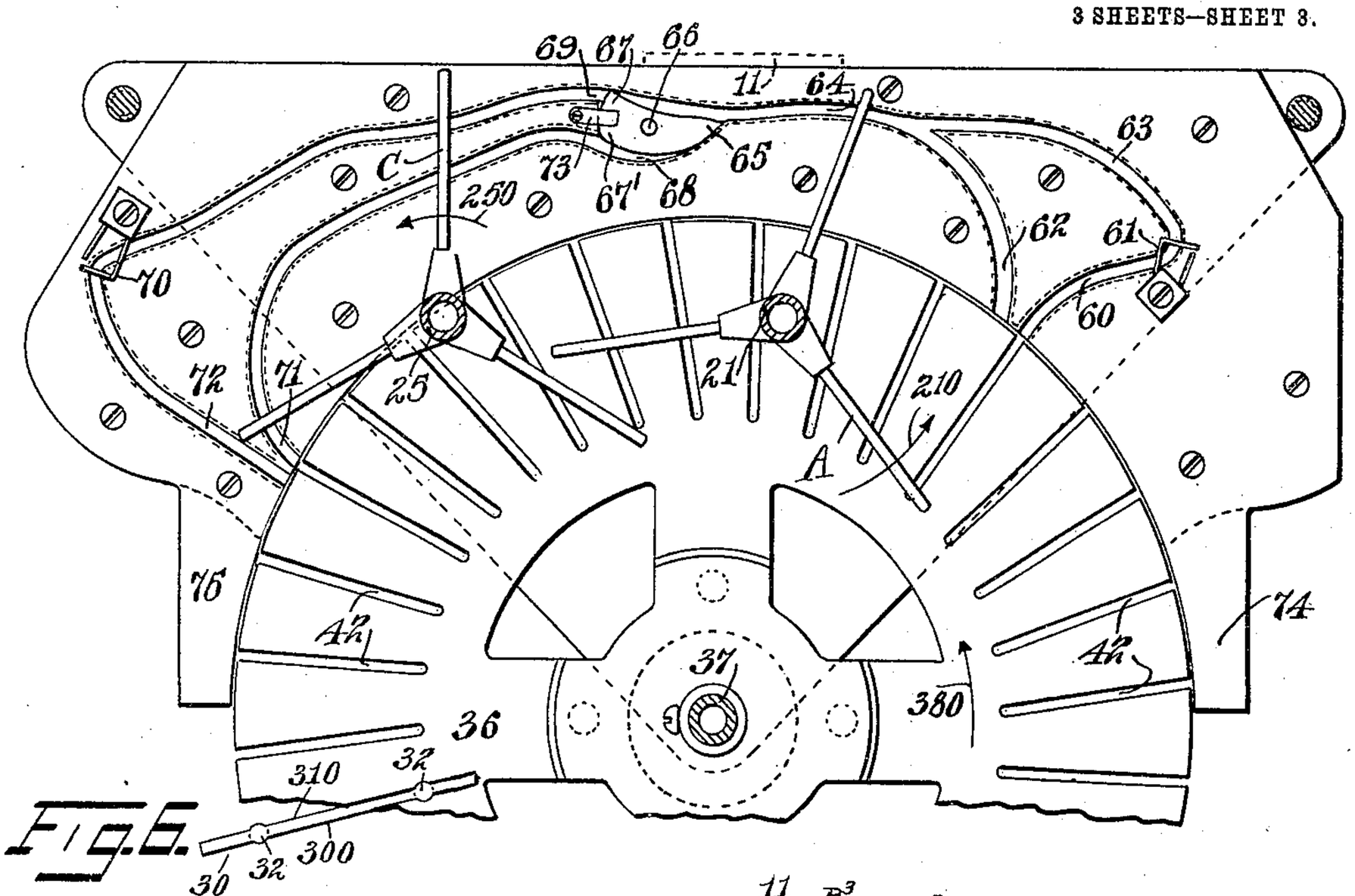

Fig. 6.

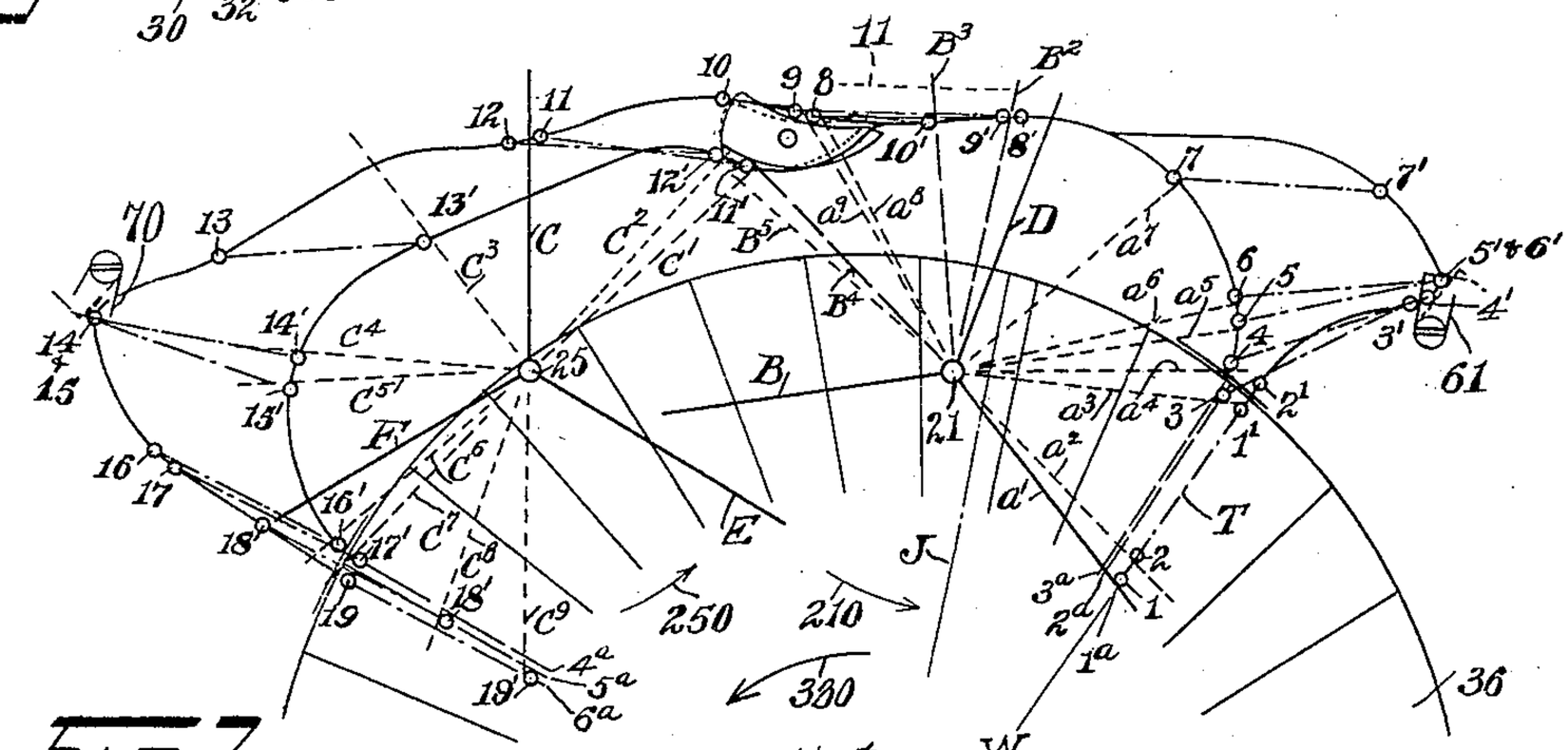

Fig. 7.

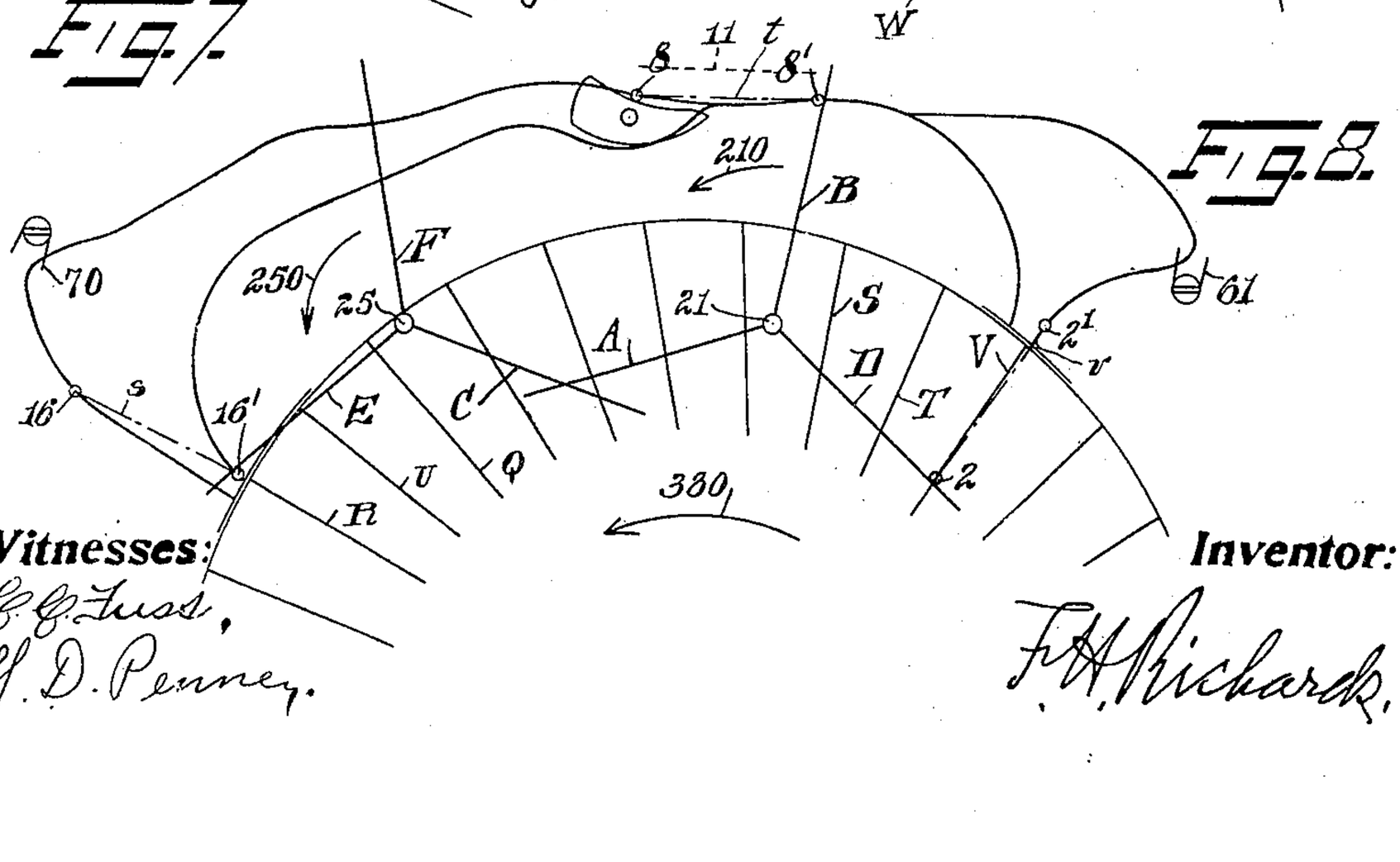

Fig. 8.

Witnesses:
C. C. Tust,
H. D. Penney.

Inventor:
F. H. Richards.

UNITED STATES PATENT OFFICE.

FRANCIS H. RICHARDS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO FRANK B. MANVILLE, OF WATERVILLE, CONNECTICUT.

PICTURE-EXHIBITING MACHINE.

938,895. Specification of Letters Patent. **Patented Nov. 2, 1909.**

Application filed August 26, 1908. Serial No. 450,288.

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Picture-Exhibiting Machines, of which the following is a specification.

This invention relates to picture exhibiting mechanism, and has for an object to provide means for serially exhibiting pictures, and is particularly adapted for displaying pictures which are mounted on cards, and when the cards have pictures on both sides for displaying in ordered succession the pictures on one side of each card in the series and then in the same order displaying the pictures upon the other sides of the same cards.

The series of cards will be compactly arranged upon a carrier and in turn will be taken from their carrier, displayed at an exhibition point, and returned to the carrier with the sides in reversed position.

The rotary carrier will have substantially radial slots for receiving pins on the cards, and the track for these pins past the exhibition point and back to the carrier will be so shaped that the cards will leave the carrier slots quickly and in a substantially straight line from their idle position, and when free from the carrier be moved quickly into position at an appreciable distance from the group of cards still in the carrier.

The mechanism for displaying the cards at the exhibition point will be so timed that the pictures will be moved quickly into and out of position and be halted at the exhibition point a sufficient length of time to afford the observer ample opportunity to view the picture.

When the mechanism is coin or check controlled it will embody suitable "clockwork" to time the length of exposure of each picture, and a stop motion operable upon the display of a predetermined number of pictures.

In the drawings accompanying and forming a part of this specification a practicable embodiment of a form of my invention is illustrated.

Figure 1 of such drawings illustrates an end view of the mechanism and a vertical section of the housing for the same. Fig. 2 is a front view of a motor and of clockwork for controlling the same. This view also shows broken away connections with the picture exhibiting portion of the mechanism. Fig. 3 is a perspective view of one of the cards for the mechanism, a card being shown in elevation in Fig. 1. Fig. 4 is a plan view of the gearing shown in the upper portion of Fig. 1. Fig. 5 is an edge view or front view of the gearing shown in Fig. 4. Fig. 6 is an underside view of the picture carrier, the forwarders for the picture, and the track in which cards are moved by the forwarders from the carrier into the exhibition point and back to the carrier again, and in this latter movement the card may, if desired, be reversed. The scale of Figs. 4, 5 and 6 is larger than that of Figs. 1 and 2. Fig. 7 is a diagram showing the various stages of travel of a card in going from the carrier to the exhibition point and back to the carrier again, the sides of the card being reversed between the time it is moved from the carrier and is again delivered to the carrier; and Fig. 8 is a diagram showing the position of three cards at the same time, one of which cards is being moved from the carrier on to the track, another card is at the exhibition point, and the third card is being moved from the track and returned to the carrier.

The mechanism herein illustrated is shown as mounted in a housing, designated in a general way by 10, and which housing has a window 11 in the front of it. This window is what will, in the illustrated form of construction, be the exhibition point. This position is indicated in dotted lines bearing the same reference character in the diagrams and in Fig. 6. The mechanism for moving the pictures irrespective of the motor and clockwork mechanism is mounted upon a base plate 12. This base plate in the present illustration divides the housing into an upper and a lower compartment. In the lower of which compartments there is illustrated diagrammatically a spring motor 13, the outwardly projecting driving shaft 14 of which carries a connecting pin or wrist 15 which engages a coupling member 16 carried by the driving shaft 17 of the picture moving mechanism. The shaft 17 carries a pinion 18 which meshes with an idler 19, and the idler is in mesh with a gear wheel 20 which is fast with one of the forwarder shafts 21. The gear wheel 20 is in mesh with a gear wheel 22 which has fast with it

a pinion 23 which meshes with a gear wheel 24 which is fast with the other forwarder shaft 25. The size of the various gear wheels is subsidiary to the fact that the rotations of the driving shaft from the motor will be utilized to the best advantage and that the forwarder shafts will both be driven in the same direction, their direction being indicated by the arrows 210 and 250.

The picture holders or cards for displaying pictures will be made of some suitable material, as for instance, wooden boards which will not warp, or some suitable paper stock, thin metal or plastic material may also be employed with advantage. These picture holders or cards are designated, without preference, by the reference character 30 and are provided at the upper ends with pins 31 having enlarged heads 32. The pins in the present instance are fastened to the board by means of clips 33 which will be pinned or riveted in position. Suitable clips 34 may be fastened to the cards for holding pictures 35 in position. The pictures will be in most instances located upon both sides of the cards. By having clips or some suitable fastening device on the cards the pictures may be changed from time to time as occasion may demand without the necessity of changing the cards 30, but, of course, it will readily be seen that the pictures may be made directly upon the cards 30, or in other words, that the pins 31 may be applied directly to cards having pictures upon them. Each pair of pins will be connected together with sufficient rigidity to permit the moving mechanism to properly act upon them. It is not necessary in all instances that the members designated as cards should be stiff and unyielding, since it will also be feasible to hang cards of a flexible nature from the pins.

The carrier for the pictures in the present instance comprises a rotary member 36 which is fast upon a shaft 37, such shaft has fast upon it a gear wheel 38 which meshes with a pinion 39 fast with a larger pinion 40 which meshes with a pinion 41 fast to the gear wheel 20. The arrow 380 shows direction of rotation of the carrier and of the gear wheel 38. The relative speed of the carrier as compared with that of the forwarders will be low, the train of gears being constructed for reducing speed. The picture carrier or card carrier has a series of slots 42 cut inwardly from its edge for receiving the pins 31 and supporting upon its upper face the heads 32. The slots will be sufficiently deep inwardly of the wheel 36 to permit of both pins being received within the slot. The slots are each formed at a slight angle to the radius line of the carrier, the outer end projecting toward the direction of carrier movement, this is to afford greater ease in moving the pins out of and into the slots.

Without going at this time into the exact itinerary of a card in its movement from the carrier to exhibition and back to the carrier, it will be stated that each of the forwarders has upon it three arms, and one of these arms will engage one of the pins upon a card and cause such pins to pass from the carrier into the track which is represented adjacent to the carrier in Fig. 6. The forwarder will be halted momentarily in such a position that a picture will be exposed at the window 11, otherwise termed the exhibition point, the mechanism will again be permitted to move responsive to the motor, another arm of the forwarder will engage the other pin and advance the card into a position where an arm of the other forwarder will engage the pin and carry the card around the remainder of the track, and place it in the carrier so that its respective sides have been reversed in position from that it previously occupied on the carrier.

The spring motor 13, before alluded to, will, after it is wound up in some suitable manner, as by means of a key 43, have a tendency to impart a continuous movement to the picture exhibiting portion of the mechanism. There is shown fast with one of the idlers, in the present instance that which embodies the gears 22 and 23, a stub shaft 44 which has upon it a pin 45 for the engagement of a detent 46 controlled by the clock movement. The detent 46 of the clock mechanism is mounted upon a lever 47 which is in the path of movement of tappets 48 upon a wheel 49 of the clockwork. A suitable spring 50 will hold the lever 47 in such a position that its detent 46 will normally be in the path of movement of the pin 45, and thus hold the parts in an idle position. The clockwork will be held idle by means of a detent 51 engaging the fly wings 55 which are connected with some fast running spindle of the works. The detent 51 is connected with a tripper 52 which lies in the path of movement of a coin traversing the coin chute 53. A coin chute of conventional form is here illustrated, although it will be obvious that this is no part of the present invention.

When a coin traverses the coin chute and engages the tripper 52 the detent 51 will be withdrawn from the path of movement of the fly wings and this will permit the wheel 49 to rotate and its tappets to raise the lever 47 and disengage the detent 46 from the pin 45. Each movement allowed the exhibiting mechanism will be sufficient to cause the arms carried by the forwarder shaft 21 to remove a card from the carrier and bring this to the exhibition point.

The detent 46 will, between each such movement fall responsive to its spring 50, and will be again interposed in the path of movement of the pin 45 and stop this rotation and stop all the mechanism for a sufficient time to permit the person who has dropped the coin in the machine to get a view of the picture, after which the detent 46 will be again removed from the path of movement of the pin 45 and another card will be advanced to the exhibition point and the former card returned to the carrier.

Upon the stub shaft 44 is a pin 56 which will engage with the teeth of a wheel 57 moving this one tooth distance at each rotation. There is fast with the wheel 57 a cam 58 which engages an arm 59 connected with the detent 51, so that upon a complete rotation of the wheel 57 the arm 59 will enter into the notch 60 of the cam 58 and the detent 51 will be brought into the path of movement of the fly wings and the mechanism will cease to operate until another coin is placed in position.

When it is desired to move one of the cards from the card carrier 36 to the exhibition point and back again to the card carrier, the pins 31 will be moved from the slot 42 into a track—the track has several portions which will be referred to by means of suitable reference characters, and to avoid confusion the entire track will not be given any reference character in this description.

As was above stated Fig. 6 is an underside view and consequently the member 36 is shown as rotating so far as the plane of the paper is concerned in a reverse direction to that in which the shaft 37 which carries it is shown as rotating in Fig. 4, see the arrow 380.

In describing the movement of the cards reference should be had more particularly to Figs. 6 and 7. A card will be assumed to be in the slot marked T, that is, its pins will be in such slot. The rotation of the shaft 21 will cause the forwarder arm A, which initially occupies in Fig. 7 the position a', to engage the pin which is at the inward end of the slot T and is at the position marked 1 when the slot T is at the position 1^a. The position 1^a of the slot T will be opposite the portion 60 of the track and the forward movement of the arm A to the position a^2 will advance the engaged pin to the position 2, and will move the other pin from a point near the periphery of the carrier, that is from the point 1′ to the point 2′, which is beyond the periphery of the carrier and onto the track 60. An advance of the forwarder arm to the position a^3 will move the engaged pin to the position 3, within the periphery of the carrier, and the other pin which is in the track to the point 3′ and in engagement with spring 61 which spring acts partly as a detent and partly as a back stop to prevent the retrograde movement of the pin. This spring and also the spring 70 should be sufficiently delicate so as to practically interpose but little resistance to the passage of the card. The slot T has now advanced to the position 2^a. Further advance of the carrier 36 will bring the slot T to the position 3^a, which brings such slot into alinement with the portion 62 of the track. An advance of the forwarder arm to the position a^4 will move the engaged pin to the position 4, past the periphery of the carrier and into the portion 62 of the track. This movement will have advanced the other pin to the position 4′, the spring will be flexed and will to a certain extent retard the movement of the pin. The forwarder arm will then move to the position a^5 and move the engaged pin to the position 5 and the other pin to the position 5′. Further advance of the forwarder arm to the position a^6 will move the engaged pin to the position 6 and the other pin will remain at the position 5′ and 6′. Up to this last movement the card has been moved by being pushed by the forwarder engaging the rearward pin. Now the advance pin pivots and the rearward pin becomes the advance pin, and movement of the forwarder arm to the position a^7 will drag the pin which has now become the advance pin to the position 7 and the other pin to the position 7′ in the portion 63 of the track. The forwarder arm will now advance to the position a^8 at which position it will move the pins to the positions 8 and 8′ respectively, opposite the exhibition point 11, hereinbefore alluded to. At about this point the forwarder arm A will slip off of the pin with which it has been in engagement and move to the position a^9 where it is out of engagement with the pin. At about this time the detent pin 45 engages the detent 46 of the time or clock mechanism and the picture exhibiting mechanism is brought to a rest for a sufficient length of time to permit a view of the picture. This time is gaged by the interval of time required for another tappet 48 to raise the lever 47 and effect the release of the detent 45 and for the mechanism to respond to the motor. The card is brought to rest with pins in the portion 64 of the track and with one of the pins past the point or toe 65 of the switch tongue which switch is pivoted at 66. The arm B will now come into the position marked B^2, engage the rearward pin, and move the pins from positions marked 9 and 9′ respectively. The advance of the forwarder arm to the position B^3 will move the pins to the positions 10 and 10′ respectively.

In the advance pin moving from the position 9 to 10, it will engage the heel 67 of the switch and move the toe 65 into the portion 64 of the track, opening up the portion 68 to the passage of the rearward pin. The ad-

vance pin at 10 having started upon the portion 69 of the track, movement of the forwarder arm to the position B^4 will move such advance pin along the portion of the track 69 to the point 11 and the rearward pin or the pin with which it is in engagement to the point 11′ and to a point where it has passed the other heel portion 67′ of the switch and has thrown the switch to its initial position, namely to open the portion 64 of the track. A further movement of the forwarder arm to the position B^5 moves it out of engagement with the pin and forwards the pins slightly to such a position that the forwarder arm C will at position C′ engage the rearward pin and move the pins to the points 12, 12′ respectively, it arriving at the position C^2, from which position it will move to the position C^3, moving the pins to the points 13, 13′ respectively. A further movement of the forwarder arm to the position C^4 will bring the advance pin to the point 14 and against the spring 70. The rearward or engaged pin will be moved from the point 14′ to the point 15′, the other pin remaining at the point 14, 15, about which the card will fulcrum or pivot, and in the movement of the forwarder arm from the position C^4 to the position C^5 the relative positions of the pins will be changed so that the pin which was heretofore the rearward and pushed pin will now be the advance and dragged pin. The movement of the forwarder arm to the position C^6 will move the pins to points 16—16′ respectively and at such a time that the portion 71 of the track is in alinement with the slot U when it is at the position 4^a. A slightly further advance of the forwarder arm to the position C^7 will move the pin, which is now the advance pin, from the point 16′ to the point 17′ just within the perimeter of the carrier; further advance to the forwarder arm to the point C^8 will move the engaged pin to the point 18′ and the rear pin to the point 18 which is in the portion 72 of the track. The slot U will at this time occupy the position 5^a and will move to the position 6^a which will bring it opposite the portion 72 of the track, after which a movement of the forwarder arm to the position C^9 will move the engaged, the advance, pin to the point 19′ which is at the extreme inward end of the slot U and at the same time moving the rearward pin to the position 19 within the perimeter of the carrier.

The carrier, during the above described movement, will make an angular advance of a distance indicated by the lines W and J in Fig. 7. And the card which will have been exhibited has been moved upon the carrier to a slot which is the seventh slot from the one which it at first occupied; it being taken from T, Fig. 6, and returned to U. Each card in passing through the portion 60, 63 and 62 of the track is drawn quickly away from the other cards in the carrier and is reversed, and it is moved quickly into the carrier alongside of previously returned cards and is again reversed in passing through the portions 69, 68, 71 and 72 of the track, so that the next time it is presented at a point where it will be engaged by the forwarder and advanced to the exhibition point the opposite side will be exhibited. For this reversal feature of exhibiting its alternate sides the card must either be given a half turn or a turn and a half, the present track will effect the latter movement so far as the movement of the card relative to the track is concerned, but so far as the movement of the card relative to its first position is concerned it will have made but half a turn, it making a quarter turn each time its pins are reversed in the track.

The slots 42 of the carrier are substantially radially disposed, for convenience however they are disposed at a slight angle to the radius of the carrier. The track portions 60 and 62 at their receiving ends will aline with the slots to facilitate movement of the pins into the track, these portions of the track, then quickly turn from such line for turning the cards being moved away from the other cards in the carrier. Cards much wider than the distance apart of the pins 31 may be employed when the movement of the removed card is sufficiently rapid to get it out of the path of movement of the oncoming cards. By having the pins 31 placed relatively close together the space occupied by the track may be reduced materially.

In Fig. 8, one of the cards is shown at the position indicated at the points 8, 8′ which is the exhibition point. Another card is exhibited at the points 16, 16′, where it is being received by the carrier, and another card is exhibited at the points 2, 2′ where it is being removed from the carrier. While the forwarder arm B is moving the card *t*, which arm A removed from the slot T of the carrier, past the switch, arm D will be moving another card *v*, from the slot V. The arm E of the other forwarder will, at this time, be returning a card *s*, which was taken from slot S by arm B and moved from the exhibition point by arm D, to slot R. Card *v* will be moved from the exhibition point by arm A and returned to the carrier at slot Q by arm F.

Some suitable means will be employed for holding the switch toe 65 in either one or the other of its positions. A convenient means for accomplishing this is a leaf spring 73 which will engage the heel of the switch, and be carried by the framework.

In the present instance the track is shown as having undercut edges for the accommodation of the heads 32 of the pins.

After a predetermined number of cards has been exhibited, in the present instance the number indicated by the teeth of the wheel 57, the lever end 59 will come into the cam notch 60 and the clockwork will be stopped and the mechanism will remain stopped until such time as it is started, as for instance by a coin traversing the coin chute 53.

For the purpose of assuring that the pins be properly located in the slots, both before and after the passage of the carrier past the track, suitable guides 74, 75 will be provided which will conform with the perimeter of the carrier. Sometimes the cards will be caused to swing somewhat by the rapid movement which is imparted to them by the forwarders, and guide plates 76 may be placed at the corners of the cabinet to engage the cards as these are moved into and out of the exhibition position.

The various positions of the cards indicated in Fig. 7 have required so many reference characters that the track which is there indicated by single lines has not been given the reference characters above referred to. These portions, however, have been indicated by reference characters in Fig. 6, which, it is believed, will be ample for the present description.

The card carrier, which in the present instance has been shown and described as circular and rotary, has the slots for the pins extending inwardly from its perimeter a distance less than the width of the cards, that is each card is of a greater width than the length of each of the slots and the pins will consequently be set inwardly of the edges of the cards.

A plain track without the shunt portions for detaining the then forward pin and permitting the rearward pin to pivot about the said forward pin and in passing to the fore reversing the card, will give the card a half turn. The shunts herein described will each give the card a half turn, the net result being that the card will be placed in the carrier with its sides reversed so at the next exhibition movement a different picture will be brought to the exhibition point. But by simply changing the position of the switch tongue 65 so that the then forward pin passes into the portion 68 of the track, the net result of the passage will not be a reversal of the card and at the next exhibition the same picture will be brought to the exhibition point.

In Fig. 6 of the drawings the top edge of one of the cards is seen in the broken away portion of the carrier and the side of the card which has just been exhibited is indicated by the reference character 310 and the side of the card which will be exhibited at the next exhibition movement is represented by the reference character 300.

The shunt portions of the track move the cards much more rapidly away from the carrier than will a plain track. The card or other exhibiting device is given the resultant of a compound movement, one component of which is laterally of the card, which lateral movement is an important factor in getting the moved card out of the way of the next and oncoming card in the carrier.

Having described my invention I claim:

1. In a picture exhibiting machine having an exhibition point, the combination with a rotary carrier provided with a plurality of engaging means for supporting a series of cards, of a track for receiving the cards, guiding the cards from the carrier past the exhibition point and back to and delivering the same on to the carrier, said track being provided with a shunt at the receiving and at the delivering portions, and means for moving the cards from the carrier onto and about the track and shunts and back to and onto the carrier.

2. In a picture exhibiting machine, the combination with a series of picture carrying cards each having a pair of pins, of a rotary carrier having slots for said pins, a track to guide the pins from a carrier slot past an exhibition point and back to another slot and to reverse the position of the card in the carrier.

3. In a picture exhibiting machine, the combination with a series of picture carrying cards each having a pair of pins, of a rotary carrier having slots for said pins, a track to guide the cards from a carrier slot past an exhibition point and back to another slot for giving the card a half turn in relation to the carrier, and a shunt at each end of the track for receiving one of the pins while the other pin traverses the main track for moving the pin and the card away from the other cards in the carrier and for detaining one pin while the other turns about it, each shunt giving the card a half turn relative to the carrier.

4. The combination with a series of cards each having a pair of pins, of a carrier having slots for said pins, a track to guide the cards from a carrier slot past an exhibition point and back to another slot, and a shunt at each end of the track for receiving one of the pins while the other pin traverses the main track for moving the pin and the card away from the other cards in the carrier, and a switch at the approach of one of said shunts.

5. The combination with a carrier, of a plurality of cards each provided with a pair of pins for engaging the carrier, a track extending from one portion of the carrier to another portion thereof for the passage of the pins, a shunt at the receiving end of the track for receiving and detaining the pin first to leave the carrier until the second pin

has turned upon it and taken the lead, and a shunt at the delivery end of the track for receiving the said second pin and detaining the same until the said first pin has turned upon it and taken the lead.

6. The combination with a carrier, a plurality of cards each provided with a pair of pins for engaging the carrier, a track extending from one portion of the carrier to another portion thereof for the passage of the pins, a shunt at the receiving end of the track for receiving and detaining the pin first to leave the carrier until the second pin has turned upon it and taken the lead, and a shunt at the delivery end of the track for receiving the said second pin and detaining the same until the said first pin has turned upon it and taken the lead, and a switch adjacent the second shunt.

7. In a picture exhibiting machine having an exhibition point, the combination with a circular rotary carrier having a plurality of slots extending inwardly from its perimeter, of a track, a series of picture carrying cards each having a pair of pins for entering a slot in the carrier, means for moving the card pins serially out of the slots, about the track, and back to another slot, said track, it comprising a portion disposed to aline with the carrier slots and receive the pin first moved from said carrier slot and to detain said pin, and a portion to aline with the same slot on the angular advance of the carrier and receive the second pin of the same card to move from the said slot, and upon the advance of said pins to turn this second pin about the first pin, a portion at the exhibition point, a portion to aline with a second carrier slot and pass the said first pin into said second carrier slot, and a portion to receive and retain the said second pin for allowing the first pin to turn about it and to aline with the said second slot upon further angular advance of the carrier to permit the second pin to follow the first pin into the carrier slot.

8. In an exhibiting device having an exhibition point, the combination with a carrier, of a plurality of cards each provided with a pair of pins for engaging the carrier, a track extending from one portion of the carrier to another portion thereof for the passage of the pins, a shunt at the receiving end of the track for receiving and detaining the pin first to leave the carrier until the second pin has turned upon it and taken the lead, and a shunt at the delivery end of the track for receiving the said second pin and detaining the same until the said first pin has turned upon it and taken the lead, a switch at the entrance of the second shunt, said track having a substantially straight portion adjacent to the exhibition point, a pair of three-armed forwarders one of said forwarder arms being adapted to engage the said second pin and advance the card into the exhibition point, the sweep of the forwarder arm being so related to the track that at the exhibition point the arm will move out of engagement with the pin, means for temporarily stopping the forwarder arms after the picture has been left at the exhibition point, the track being so related to the sweep of the forwarder arms that another arm will upon the resumption of movement engage the said first pin and move the card out of the exhibition point and out of its engagement and into a position where an arm of the second forwarder will engage the said first pin and move the card back into the carrier.

9. In a picture exhibiting machine, the combination with a series of picture carrying cards each having at one end a pair of pins, the pins occupying positions inwardly of the side edges of the card, of a rotary carrier having slots for said pins, the length of said slots being less than the width of the cards, a track to guide the cards from a carrier slot past an exhibition point and back to another slot, a shunt at each end of the track for receiving one of the pins while the other pin traverses the main track for holding the pin and the card away from the other cards in the carrier and a track portion to aline with the carrier slots.

10. In a picture exhibiting machine having an exhibition point, the combination with a circular rotary carrier having a plurality of slots extending inwardly from its perimeter, of a track, a series of cards each having a pair of pins for entering a slot in the carrier, the pins occupying positions inwardly of the edges of the card, means on both sides of the cards for carrying pictures, intermittently moving means for shifting the card pins serially out of the slots, about the track, and back to another slot, said track, it comprising a portion disposed to aline with the carrier slots and receive the pin first moved from said carrier slot and to detain said pin, and a portion to aline with the same slot on the angular advance of the carrier and receive the second pin of the same card to move from the said slot, and upon the advance of said pins to turn this second pin about the first pin, a portion at the exhibition point, a portion to aline with a second carrier slot and pass the said first pin into said second carrier slot, and a portion to receive and retain the said second pin for allowing the first pin to turn about it and to aline with the said second slot upon further angular advance of the carrier to permit the second pin to follow the first pin into the carrier slot, and means for stopping the card shifting means upon the exhibition of a predetermined number of cards.

11. The combination with a rotary carrier provided with a plurality of open ended

slots in circular arrangement for supporting a series of cards, of a track for receiving the cards, guiding the cards from the carrier past an exhibition point and back to and delivering the same onto the carrier, said track being provided with an outwardly directed shunt at the receiving and at the delivering portions, and means for moving the cards over the track and shunts.

12. The combination with a rotary carrier provided with a plurality of open ended slots in circular arrangement for supporting a series of exhibits, said slots being each disposed angularly relative to the radius of the plane of rotation of the carrier, the open end being directed toward the direction of rotation of the carrier, of a track for receiving the cards, guiding the cards from the carrier past an exhibition point and back to and delivering the same onto the carrier, said track being provided with an outwardly directed shunt at the receiving and at the delivering portions, and means for moving the cards over the track and shunts.

13. In an exhibiting device having an exhibition point, the combination with a series of pairs of pins rigidly connected in pairs, of a rotatable carrier having a plurality of slots each for receiving a pair of rigidly connected pins, a track extending from one portion of the path of revolution of the carrier to another portion thereof and past the exhibition point for the passage of the said pins, said track having two branches at the receiving end, one in advance of the other, one being located for registering with one of the slots and receiving one pin of a pair and the other being located to subsequently register with the same slot on further rotation of the carrier and receive the other pin of the same pair, said track having two branches at the delivery end one in advance of the other, one being located for registering with and delivering one pin of a pair to a slot and the other being located for subsequently registering with and delivering the other pin of the same pair to the same slot on further rotation of the carrier, and means for advancing the pins by pairs from the slots about the track and into the slots.

14. In an exhibition machine, the combination with a series of exhibits, each having a pair of engaging members, of a rotary carrier provided with a plurality of open ended slots in circular arrangement for receiving said engaging members, said slots being each disposed angularly relative to the radius of the plane of rotation of the carrier, the open end being directed toward the direction of rotation of the carrier, a track for said members, said track extending from the carrier and back to the same and having at each of its ends two branches positioned for registering successively with a slot on the carrier during the rotation of the carrier.

15. In an exhibiting device having an exhibition point, the combination with a series of pairs of pins rigidly connected in pairs, of a rotatable carrier having a plurality of means each for receiving a pair of rigidly connected pins; a track extending from one portion of the path of rotation of the carrier to another portion thereof for the passage of the pins, such track having two branches at the receiving end, one of said branches being in advance of the other in the path of rotation of the carrier and one of said branches being located for receiving the pin first to leave the carrier, and the other branch being located for receiving the pin second to leave the carrier, said track having two branches at the delivery end, one in advance of the other in the path of rotation of the carrier, one of said branches being located for registering with and delivering one pin to the carrier, and the other being located for subsequently registering with and delivering the other pin to the same portion of the carrier upon further rotation of the carrier, means for rotating said carrier, and means for moving the pins.

16. In an exhibition device having an exhibition point, the combination with a rotatable carrier having a plurality of slots, a track extending from one portion of the path of revolution of the carrier to another portion thereof and past the exhibition point, said track having two branches at the receiving end, one in advance of the other, one being located for registering with one of the slots and the other being located to subsequently register with the same slot on further rotation of the carrier, said track having two branches at the delivery end one in advance of the other, one being located for registering with one of the slots and the other being located for subsequently registering with the same slot on further rotation of the carrier.

17. In an exhibition device having an exhibition point, the combination with a rotatable carrier, of a track extending from one portion of the path of rotation of the carrier to another portion thereof and past the exhibition point, such track having two branches at the receiving end, one of said branches being in advance of the other in the path of rotation of the carrier, and two branches at the delivery end, one of said branches being in advance of the other in the path of rotation of the carrier.

Signed at Nos. 9–15 Murray street, New York, N. Y., this 25th day of Aug., 1908.

FRANCIS H. RICHARDS.

Witnesses:

FRED. J. DOLE,

HENRY E. GREENWOOD.