

No. 609,791.

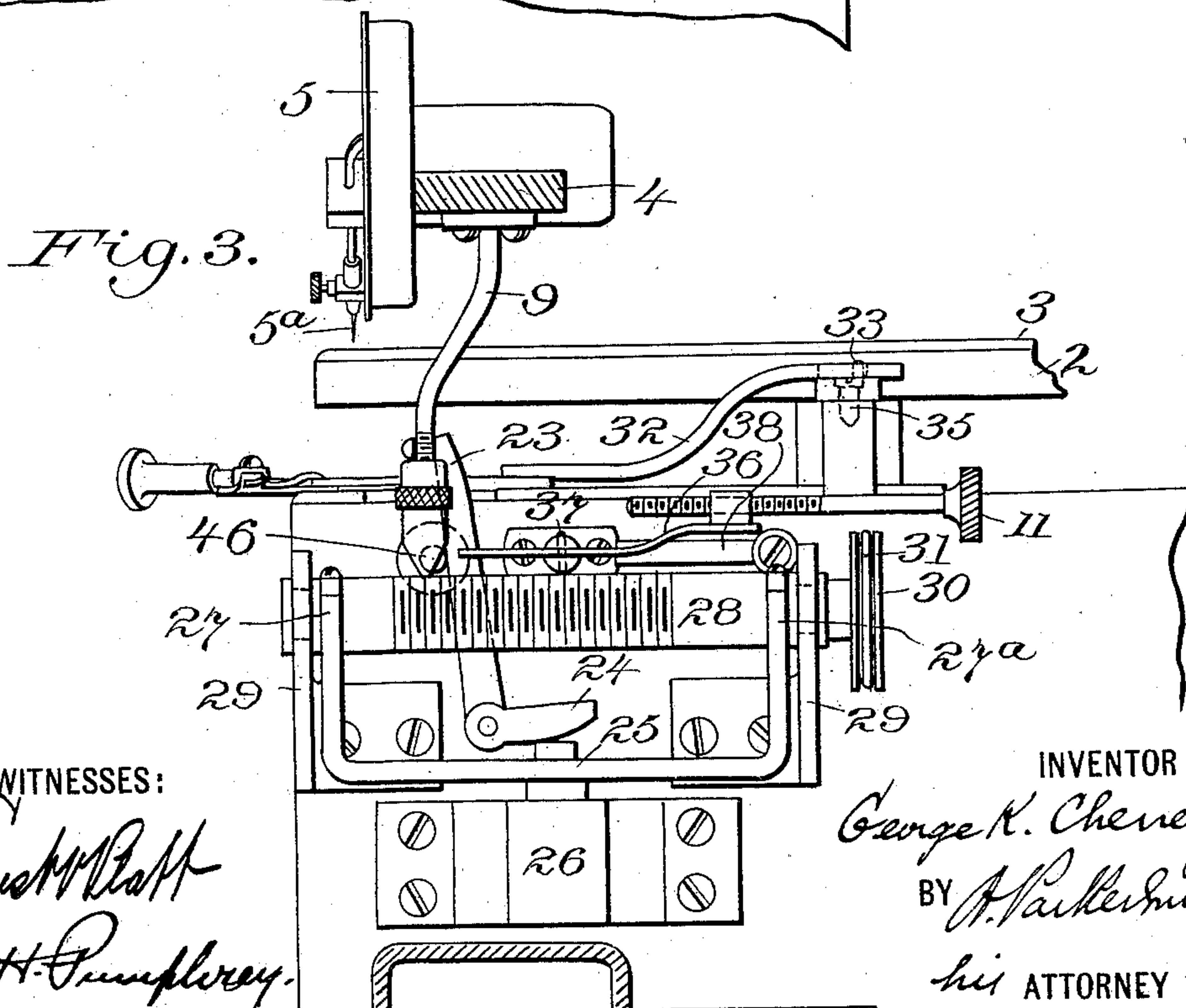
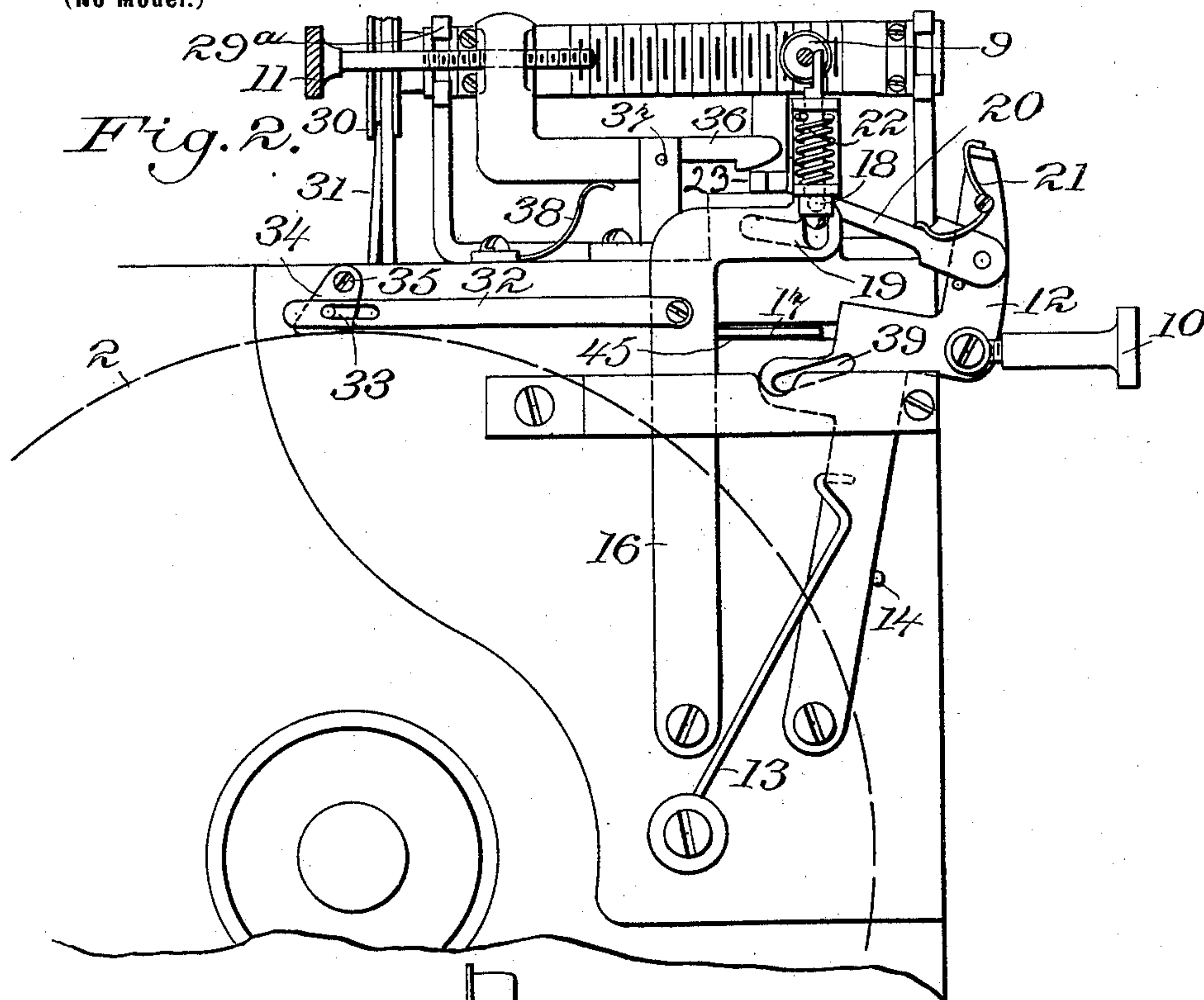
Patented Aug. 30, 1898.

G. K. CHENEY.
COIN OPERATED DEVICE.

(Application filed Jan. 29, 1898.)

(No Model.)

4 Sheets—Sheet 2.



WITNESSES:

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4 Sheets—Sheet 3.

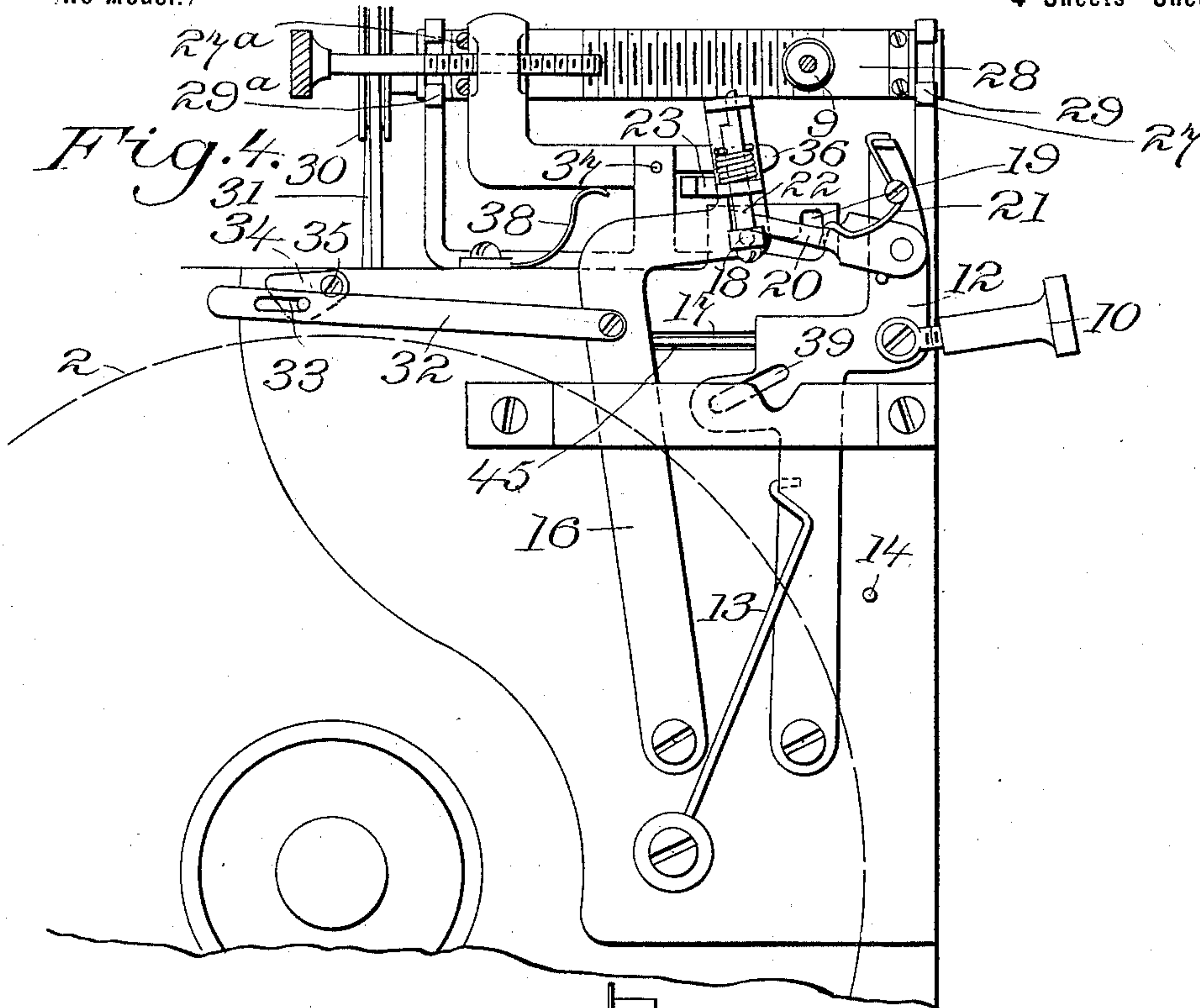
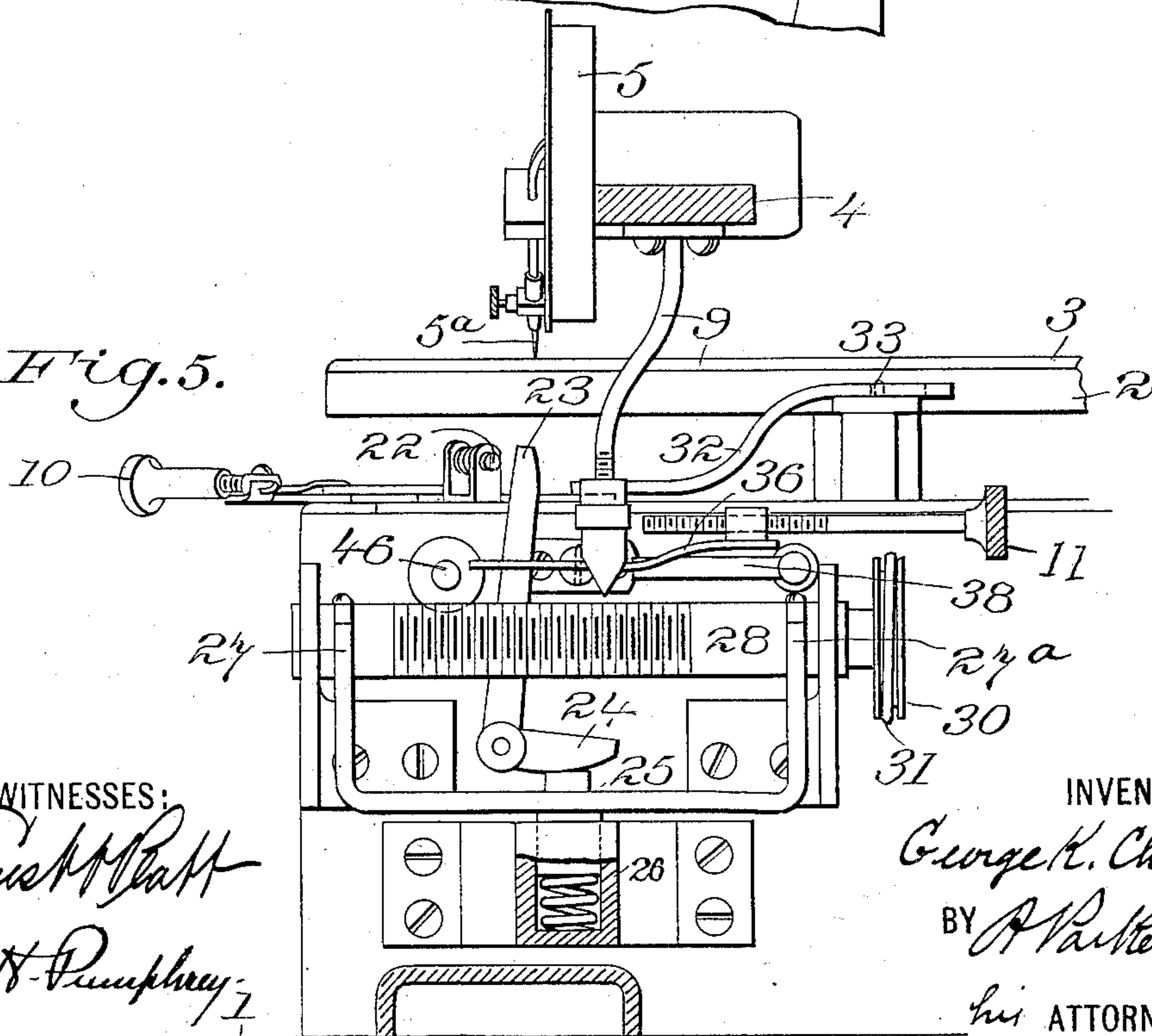


Fig. 5.



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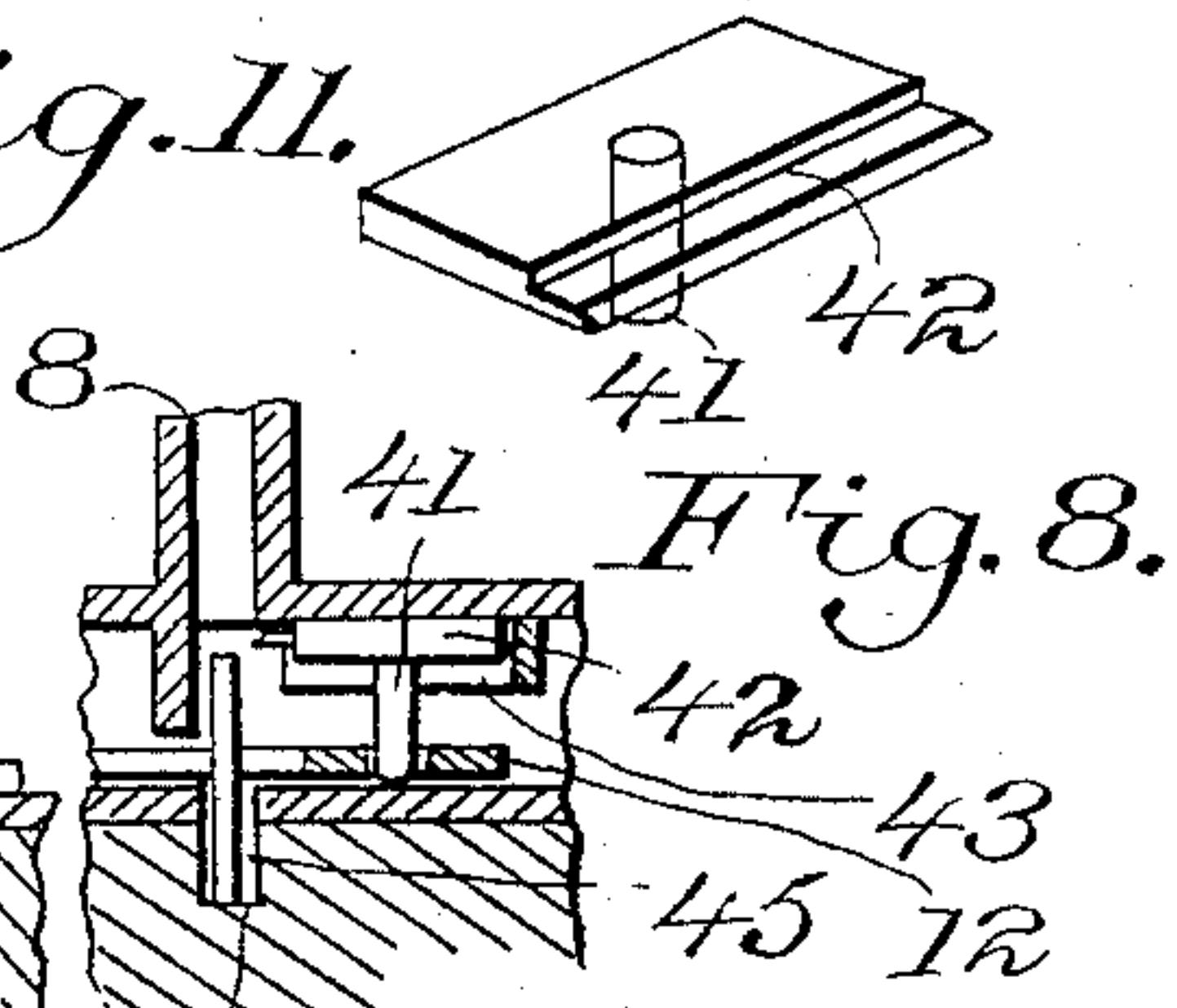
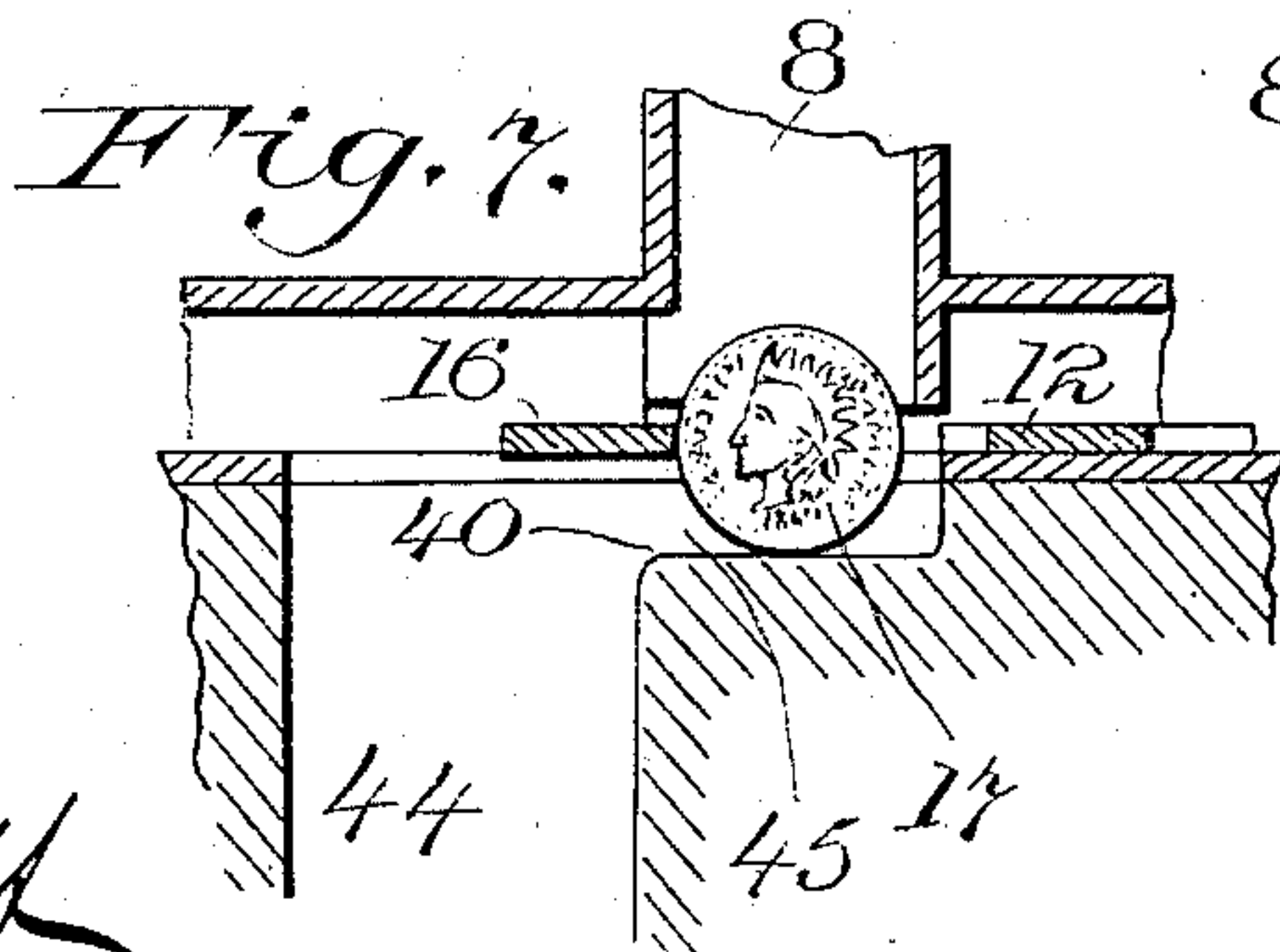
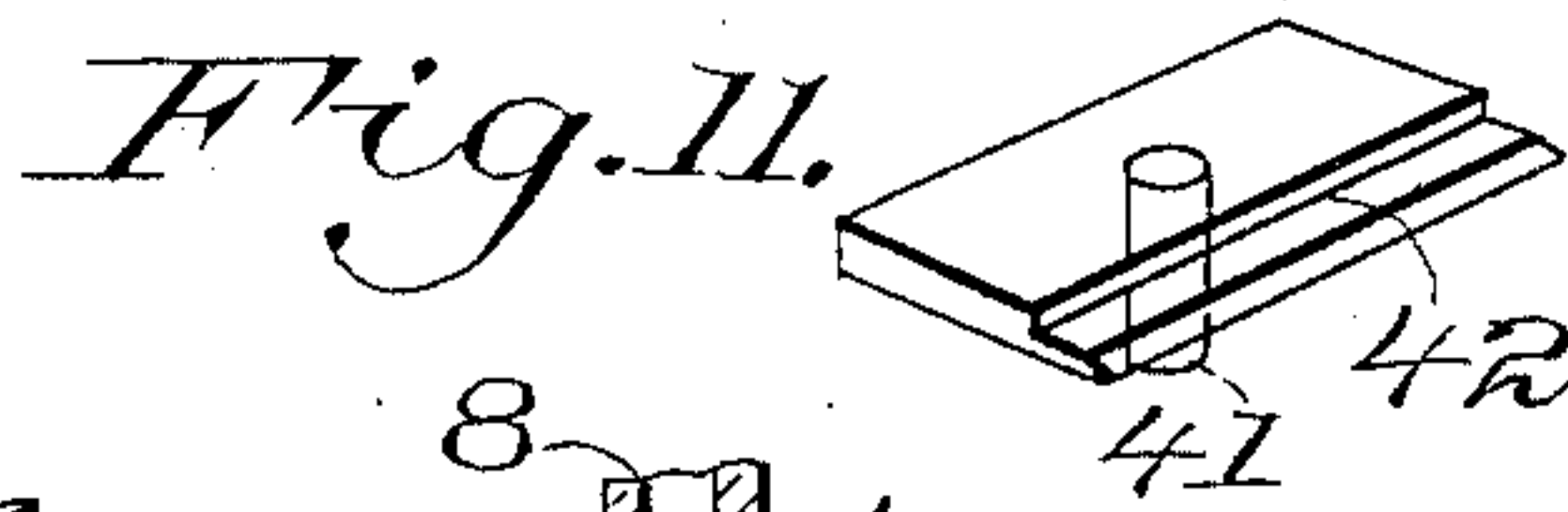
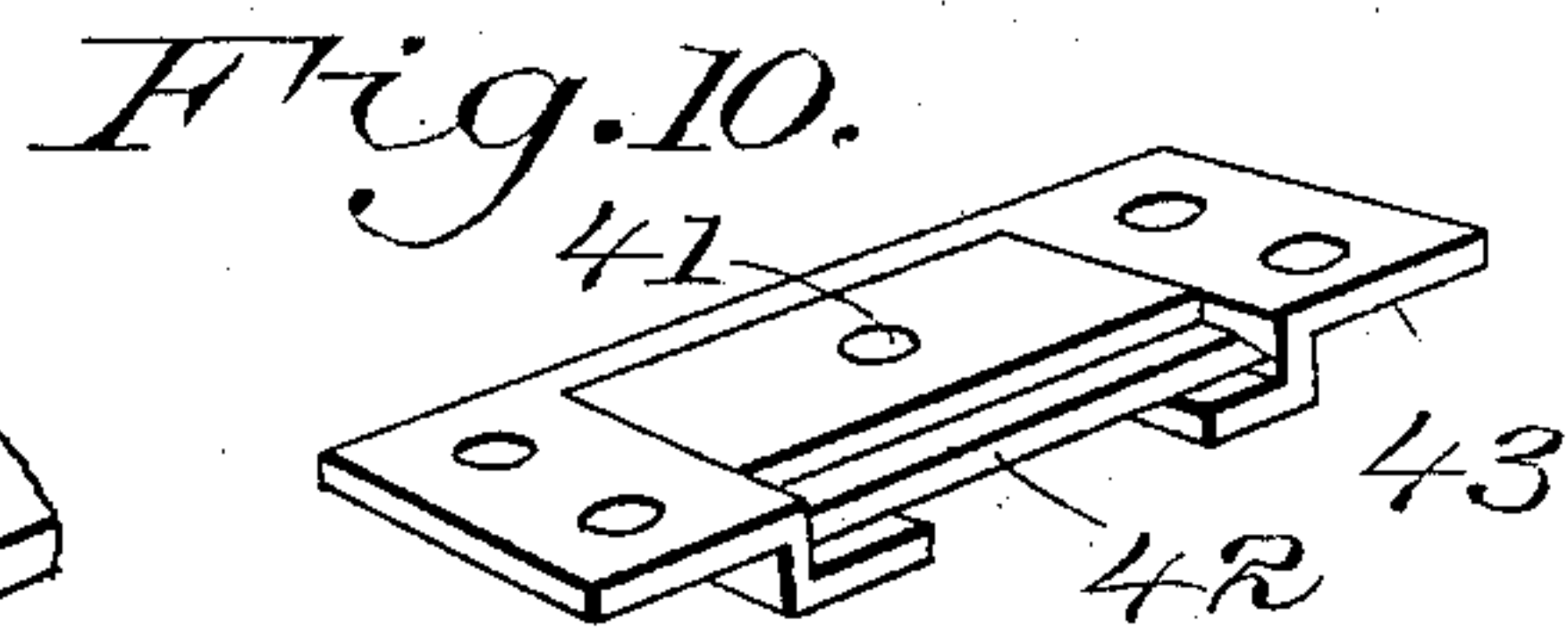
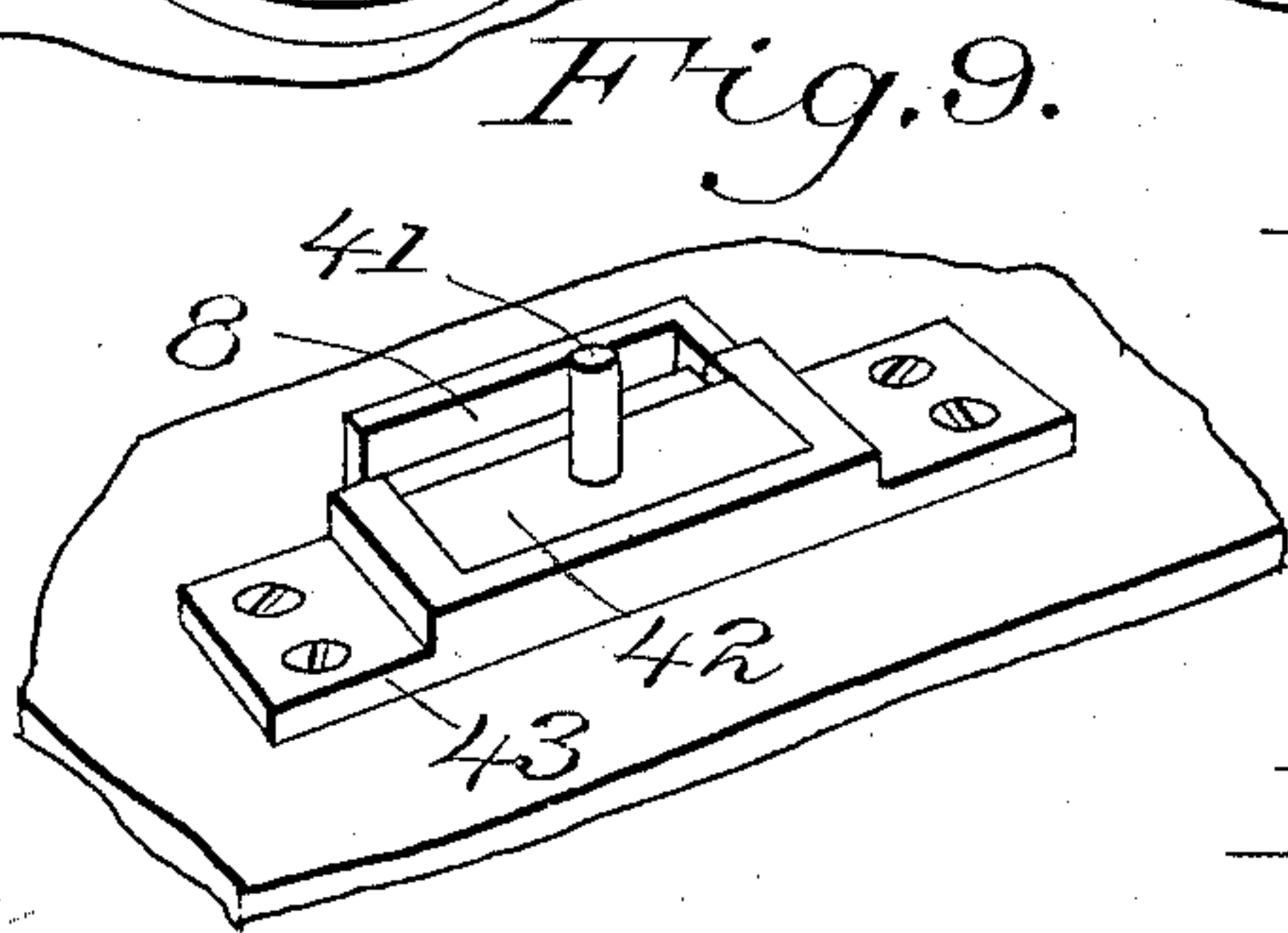
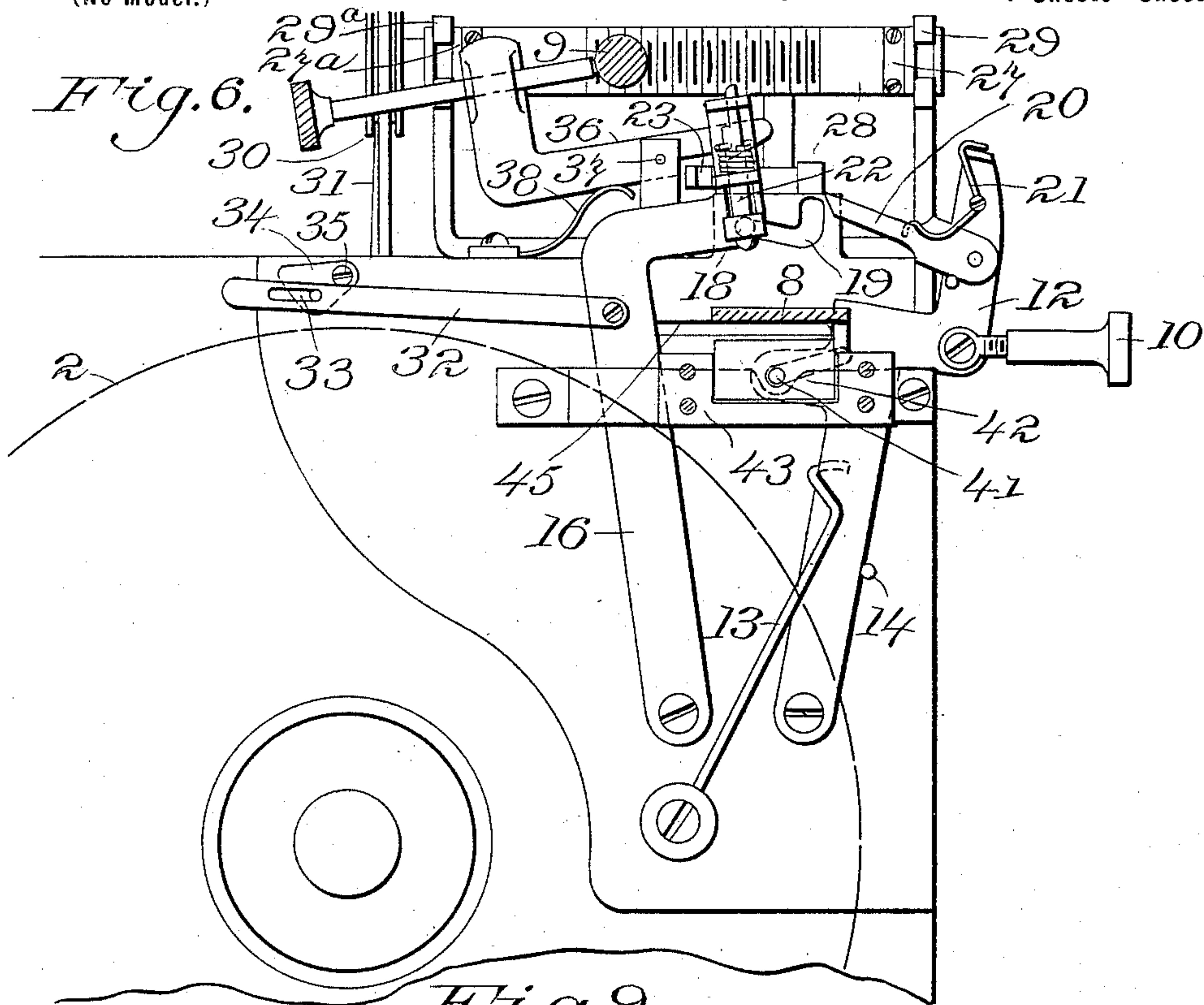
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(No Model.)

4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

GEORGE K. CHENEY, OF NEW YORK, N. Y.

COIN-OPERATED DEVICE.

SPECIFICATION forming part of Letters Patent No. 609,791, dated August 30, 1898.

Application filed January 29, 1898. Serial No. 668,384. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. CHENEY, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Coin-Operated Devices, of which the following is a specification.

My invention relates to coin-controlled mechanisms in general, but is more specifically designed to produce a coin-operated device for throwing into operation the sound-reproducing apparatus known as the "gramophone" and after the operation thereof returning the parts to the relative positions necessary for a repetition of the operation.

The preferred form of my apparatus is illustrated in the accompanying four sheets of drawings, in which—

Figure 1 is a perspective view of the gramophone with my apparatus attached. Fig. 2 is a detail plan view of the coin-operated mechanism with the coin in position ready for operation. Fig. 3 is a detail elevation of the same. Fig. 4 is a second plan view of the parts shown in Fig. 2 after the mechanism has been operated, through the agency of the coin, to start the gramophone into action. Fig. 5 is an elevation of the same part, showing the same position as Fig. 4, except that the operation of the gramophone is nearly completed. Fig. 6 is a third plan view showing the parts of the mechanism after the coin has been allowed to drop into the money-box and after the gramophone has reached the end of the particular sound-record which it has been arranged to reproduce. Fig. 7 is a detail view of the coin-chute and coin-stop. Fig. 8 is a section of the same at right angles to that shown in Fig. 7, showing the knife in position. Figs. 9, 10, and 11 are details of the knife and knife-guide.

Throughout the drawings like reference-figures refer to like parts.

1 represents the base of an ordinary gramophone, supporting a box in which is any ordinary spring or electrical motor for rotating the plate 2, which carries the sound-record 3.

4 represents the swinging arm, to which the sound-box 5 is attached and which carries the horn 6, all of the usual and well-known construction.

7 is a metal casing which incloses and pro-

TECTS my coin-controlled mechanism for operating the gramophone, and 8 is a coin-chute leading through the top of said casing. 55

9 is a projection from the needle-carrying arm of the gramophone down into the casing 7 to engage with the operating mechanism contained therein.

10 is a push-button by which the mechanism is set in operation through the agency of a coin introduced through the coin-chute 8, and 11 is an adjusting-screw for the tripping mechanism, hereinafter to be described, mounted in an internally-threaded lug on the rear end of the pivoted catch 36. 65

The needle attached to the sound-box appears in Figs. 3 and 5, (marked 5^a.)

When the mechanism is at rest, the operating parts are in the position shown in Figs. 2 and 3, the brake 34 engaging with the rotating plate 2 and preventing the rotation thereof. 70

A coin 17, being dropped through the coin-chute 8, strikes the coin-stop 40 (see Fig. 7) and rests between the coin-pushing lever 12 and the coin-operated lever 16. The operator then pushes on the push-button 10, which forces the coin-pushing lever 12 over against the resistance of the spring 13 and drives the coin 17 forward and through its agency pushing forward the coin-operated lever 16. At the same time the tripping-finger 20, which is shown pivoted to the coin-pushing lever and flexibly controlled by the spring 21, enters behind the locking-pin 18, which is mounted on the spring-controlled sliding bolt 22 and arranged at right angles thereto, so that it projects downwardly into the slot 19 in the bed-plate of the apparatus and normally locks the coin-operated lever 16 in the position shown in Fig. 2. 85

The slot 19 is formed of two portions approximately at right angles one to the other, as shown in Figs. 4 and 6. While the pin 18 remains in that portion parallel to the sliding bolt 22 no motion of the coin-operated lever 16 is possible. When the bolt 22 is slid along by the trip-finger 20 coming behind the locking-pin 18 far enough to bring the pin 18 opposite the other portion of the slot 19, which is approximately at right angles to the bolt 22, the said slot 19 no longer opposes any resistance to the swinging motion of the coin- 95 100

operated lever 16. The same motion of the locking-bolt 22 above described withdraws its other end out of engagement with the projection 9 from the swinging arm, and accordingly this source of opposition to the movement of the coin-operated lever 16 is also removed. This engagement of the locking-bolt with the projection 9 would under ordinary conditions suffice alone to lock the coin-operated lever; but inasmuch as extraordinary pressure on the push-button 10 would shove the projection 9 along the feed-screw 28 the interposition of the slot 19 and locking-pin 18 is necessary to produce a positive locking of the coin-operated lever against any force not sufficient to break the mechanism. Such locking-bolt being withdrawn by the finger 20 the coin-operated lever 16 is free to be pushed over by the coin, and after a short amount of travel strikes against and begins to move the bell-crank 23. This bell-crank 23 has a toe 24, which presses against the yoke 25, which has a vertical sliding bearing in the box 26, in which latter a spiral spring is hidden, which normally tends to hold the yoke 25 up in the position shown in Fig. 3. On the yoke 25 are the journal-bearings 27 27^a, in which is journaled the return feed-screw 28. The yoke and screw I have shown guided in the vertical guides 29 29^a.

The projection 9 from the swinging arm 4 of the gramophone rests upon the feed-screw 28, which when it is in its uppermost position, as shown in Fig. 3, lifts the needle 5^a out of engagement with the groove in the sound-record 3. The turning of the bell-crank 23 forces the yoke 25 and the feed-screw 28 carried thereby downward, so that the needle 5^a is first lowered into engagement with the groove on the sound-record 3, and then the feed-screw 28 is withdrawn from engagement with the projection 9. All this is done before the lost motion or play in the pin-and-slot connection 33 between the link 32, pivoted to the coin-operated lever 16, and the brake 34 has been taken up. This brake 34 has a pivoted mounting at 35, which may consist of the screw engaging a threaded socket in the base-plate, as indicated in Figs. 2 and 6. This screw may be turned by an ordinary screw-driver so as to bear on the brake with sufficient friction to prevent it from turning loosely during the taking up of the lost motion in the pin-and-slot connection; but after the feed-screw has been lowered out of engagement with the gramophone-arm the link 32 is moved so far that the pin-and-slot connection 33 has reached the limit of its play, and the brake is forced to one side out of engagement with the rotating plate, as shown in Fig. 4. The gramophone is then free to operate. At the same time the bell-crank lever 23 has been engaged by the spring-catch 36, pivoted at 37 and controlled by the spring 38. Accordingly on releasing the pressure from the push-button 10 the spring 13 forces

the coin-pushing lever 12 back against the stop 14, and the coin 17 (having been carried past the coin-stop 40) drops down the passage-way 44 into the money-box.

The continued rotation of the plate and sound-record carried thereby feeds the swinging arm and sound-box 5 over in the manner familiar to users of the gramophone.

When the needle has reached the end of the record, the adjustable stop 11 has been so arranged that it will come in contact with the projection 9 from the swinging arm, and the last few revolutions of the record will suffice to push the spring-catch 36 into the position shown in Fig. 6, thereby tripping the same and releasing the bell-crank lever 23. The spring concealed in the vertical bearing 26 immediately forces up the yoke 25 and return feed-screw 28 into engagement with the projection 9 from the swinging or movable arm, and as the belt 31 and pulley 30 on said feed-screw cause it to rotate simultaneously with the rotating plate 2 the feed-screw lifts the needle 5^a out of engagement with the groove in the sound-record, and the rotation of the screw slowly swings the arm 4 back to its original position.

The backward movement of the bell-crank 23 also moves the coin-operated lever 16, which is also a brake-lever, inasmuch as it is connected to and operates the brake back far enough to take up the play in the pin-and-slot connection 33 and bring the brake 34 nearly into engagement with the rotating plate. Further motion is prevented by bell-crank 23 striking stop 46. A slight further motion, however, is necessary to bring said brake into engagement, and this is supplied by the projection 9 on the swinging arm coming into contact with the projecting bolt 22 on the brake-lever at the termination of its return motion, and thereby positively bringing the brake into engagement with the rotating plate until the motion thereof, and consequently the motion of the return feed-screw, is checked. The machine is then ready for the introduction of another coin and a lowering of the needle 5^a for a repetition of the tune or recitation which has been recorded on the plate 3.

The lower end of the coin-chute 8 is removed at one side and at the back, as shown in Fig. 7. The penny is retained in its upright position by the groove 45 in the coin-stop 40. Above the coin is the knife 42, which is mounted in a horizontal guide-casing 43. (Shown in Figs. 8, 9, and 10.) This knife 42 has a projecting pin 41, which engages with the slot 39 in the coin-pusher or operating-lever 12, or is otherwise connected to said coin-pusher or operating-lever, so that the forward motion thereof will, before the coin has been pushed forward far enough to drop down the passage-way 44, cause the knife to come over into contact with the opposite side of the coin-chute and sever any string

which the customer may have tied to the coin in the hope of withdrawing the same after the machine has been set in operation.

The foregoing description of the mechanism has also set out the mode of operation. The advantages of the application of my invention to automatic feeding-machines of the gramophone type is evident in that a simple and positively-acting mechanism operates at one and the same time to throw the automatic feeding mechanism into engagement to withdraw the brake and permit the same to operate, and at the end of a predetermined and adjustable cycle of operations throws the automatic feeding mechanism out of gear, returns the parts to their original position ready for a second operation, and then sets the brake which holds them until a second coin has been introduced.

It will be seen that the coin operated or brake lever 16 is also the prime mover of the train of mechanism for disengaging the return feed mechanism. It is doubly locked against movement by an inserted wire or other means than an introduced coin by reason of the fact that not only does the locking-pin 18 engage the notch in the slot 19, but the spring-bolt 22, on which the pin is mounted, is in contact with the projection 9 of the movable gramophone-arm, which has been forced back against it by the return feed-screw 28.

It is evident, of course, that various changes could be made in the details of the mechanism herein described and illustrated without departing from the spirit and scope of my invention so long as the relative arrangement of parts shown in the drawings and the principle of operation set out in the specification are adhered to. The levers 12 and 16, for instance, might be replaced by other elements of mechanism accomplishing the same result. The various spring-catches and locking-bolts and tripping-fingers might be of different shape and differently mounted, so long as they perform the functions herein attributed to them. Other return feed mechanisms might be substituted for the screw shown, and other mountings for such feed mechanisms, which would still allow it to be withdrawn from engagement with the swinging arm during the predetermined period, might be substituted for that which I have illustrated and described; but all these I regard as variations in form and not in substance, and still within the scope of my invention.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. In a coin-controlled apparatus, the combination of the movable arm, an automatic feed mechanism therefor, a brake for said feed mechanism, a return feed mechanism normally in gear with the arm, and coin-actuated means for throwing both said brake and return feed mechanism out of engagement, substantially as described.

2. In a coin-controlled apparatus, the com-

bination of the movable arm, an automatic feed mechanism therefor, a brake for said feed mechanism, a return feed mechanism normally in gear with the arm, and coin-actuated means for throwing both said brake and return feed mechanism out of engagement, together with automatic means for throwing the return feed mechanism into engagement with the arm at the end of its movement, substantially as described.

3. In a coin-controlled apparatus, the combination of the movable arm, an automatic feed mechanism therefor, a brake for said feed mechanism, a return feed mechanism normally in gear with the arm, and coin-actuated means for throwing both said brake and return feed mechanism out of engagement, together with automatic means for throwing the return feed mechanism into engagement with the arm at the end of the movement, and means for forcing the brake into engagement at the end of the return movement of the arm, substantially as described.

4. In a coin-controlled apparatus the combination of the movable arm, an automatic feed mechanism therefor, a return feed-screw, connections whereby said return feed-screw is rotated by the automatic feed mechanism, coin-controlled means for raising and lowering said screw, and a projection from the movable arm which engages with said return feed-screw, when the latter is in its uppermost position, substantially as described.

5. In a coin-controlled apparatus the combination of the movable arm, an automatic feed mechanism therefor, a return feed-screw, connections whereby said return feed-screw is rotated by the automatic feed mechanism, coin-controlled means for raising and lowering said screw, and a projection from the movable arm which engages with said return feed-screw, when the latter is in its uppermost position, together with a brake for the automatic feed mechanism and connections whereby the coin-controlled mechanism releases the brake when it lowers the return feed-screw out of engagement with the projection on the movable arm, substantially as described.

6. In a coin-controlled apparatus, the combination of the brake, the lever which controls the same, the lock on said lever, the operating-lever so placed as to push the brake-lever through the agency of an interposed coin, and a projection on said operating-lever disposed to trip the lock on the brake-lever, substantially as described.

7. In a coin-controlled apparatus, the combination of the brake, the lever which controls the same, the lock on said lever, the operating-lever so placed as to push the brake-lever through the agency of an interposed coin, and a projection on said operating-lever disposed to trip the lock on the brake-lever, together with automatic means for forcing back said brake-lever and throwing the

brake into engagement again at the end of a predetermined cycle of operations, substantially as described.

8. In a coin-controlled apparatus the combination of the movable arm, an automatic feed mechanism therefor, a return feed-screw, movable bearings therefor, connections whereby said return feed-screw is rotated by the automatic feed mechanism, a projection from the movable arm adapted to engage with the feed-screw, a spring which normally holds said return-feed-screw bearings in their uppermost position, and coin-controlled means for lowering said bearings so that the return feed-screw will not engage the projection from the movable arm during a predetermined period of time, substantially as described.

9. In a coin-controlled apparatus the combination of the movable arm, an automatic feed mechanism therefor, a return feed-screw, movable bearings therefor, connections whereby said return feed-screw is rotated by the automatic feed mechanism, a projection from the movable arm adapted to engage with the feed-screw, a spring which normally holds said return-feed-screw bearings in their uppermost position, and coin-controlled means for lowering said bearings so that the return feed-screw will not engage the projection from the movable arm during a predetermined period of time, together with a spring-catch for holding said screw-bearings down, and an adjustable projection on said catch, located in the path of the movable arm at the end of its forward movement, substantially as described.

10. In a coin-controlled apparatus the combination of the movable arm, an automatic feed mechanism therefor, a return feed-screw, movable bearings therefor, connections whereby said return feed-screw is rotated by the automatic feed mechanism, a projection from the movable arm adapted to engage with the feed-screw, a spring which normally holds said return-feed-screw bearings in their uppermost position, and coin-controlled means for lowering said bearings so that the return feed-screw will not engage the projection from the movable arm during a predetermined period of time, together with a spring-catch for holding said screw-bearings down, and an adjustable projection on said catch, located in the path of the movable arm at the end of its forward movement, a brake for the automatic feed mechanism, and mechanism connected therewith which extends across the path of the movable arm at the end of the return movement, substantially as described.

11. The combination with a gramophone, of a brake for the rotating plate thereof, means for normally supporting the needle out of engagement with the rotating plate, and coin-controlled means for withdrawing said supporting means, and disengaging the brake, substantially as described.

12. The combination with a gramophone, of a brake for the rotating plate thereof, means for normally supporting the needle out of engagement with the rotating plate, and coin-controlled means for withdrawing said supporting means, and disengaging the brake, together with a spring-catch for holding said supporting means withdrawn, and an adjustable projection on said spring-catch located in the path of the needle-carrying arm, substantially as described.

13. The combination with a gramophone of a brake for the rotating plate thereof, a return feed-screw normally in engagement with the needle-carrying arm and supporting the needle out of engagement with the rotating plate, mechanism whereby the motion of the rotating plate is transmitted to the return feed-screw, a coin-controlled lever for lowering said return feed-screw out of engagement with the needle-carrying arm, and releasing the brake, a spring-catch for holding said feed-screw in its lowered position, a trip for said spring-catch located in the path of the needle-supporting arm, and a projection on said coin-controlled lever located also in the path of the needle-carrying arm at the end of its return stroke, substantially as described.

14. The combination with a gramophone of a brake for the rotating plate thereof, a return feed-screw normally in engagement with the needle-carrying arm and supporting the needle out of engagement with the rotating plate, mechanism whereby the motion of the rotating plate is transmitted to the return feed-screw, a coin-controlled lever for lowering said return feed-screw, out of engagement with the needle-carrying arm, and releasing the brake, a spring-catch for holding said feed-screw in its lowered position, a trip for said spring-catch located in the path of the needle-supporting arm, and a projection on said coin-controlled lever located also in the path of the needle-carrying arm at the end of its return stroke, together with a spring-lock on said coin-controlled lever, a coin-pusher, and means whereby the forward motion of said coin-pusher trips said lock, substantially as described.

15. The combination with a gramophone of a brake for the rotating plate thereof, a coin-operated lever, a pin-and-slot connection between the two, a spring-supported return feed-screw normally in engagement with the needle-carrying arm of the gramophone, connections whereby the forward motion of the coin-operated lever lowers the feed-screw before the pin traverses the length of the slot in the brake connection, and a friction-mounting for the brake which prevents it from moving during the play of the pin-and-slot connection, substantially as described.

16. The combination with a gramophone of a brake for the rotating plate thereof, a coin-operated lever, a pin-and-slot connection between the two, a spring-supported return feed-screw normally in engagement with the

needle-carrying arm of the gramophone, connections whereby the forward motion of the coin-operated lever lowers the feed-screw before the pin traverses the length of the slot
5 in the brake connection, and a friction-mounting for the brake which prevents it from moving during the play of the pin-and-slot connection, but allows it to move when the lost motion of the slot is taken up, together with
10 a projection on the coin-controlled lever which

is struck by the needle-carrying arm at the end of its return stroke to force on the brake, substantially as described.

Signed by me, at New York city, this 28th day of January, 1898.

GEORGE K. CHENEY.

Witnesses:

W. H. PUMPHREY,

L. H. FOSTER.