

No. 629,978.

Patented Aug. 1, 1899.

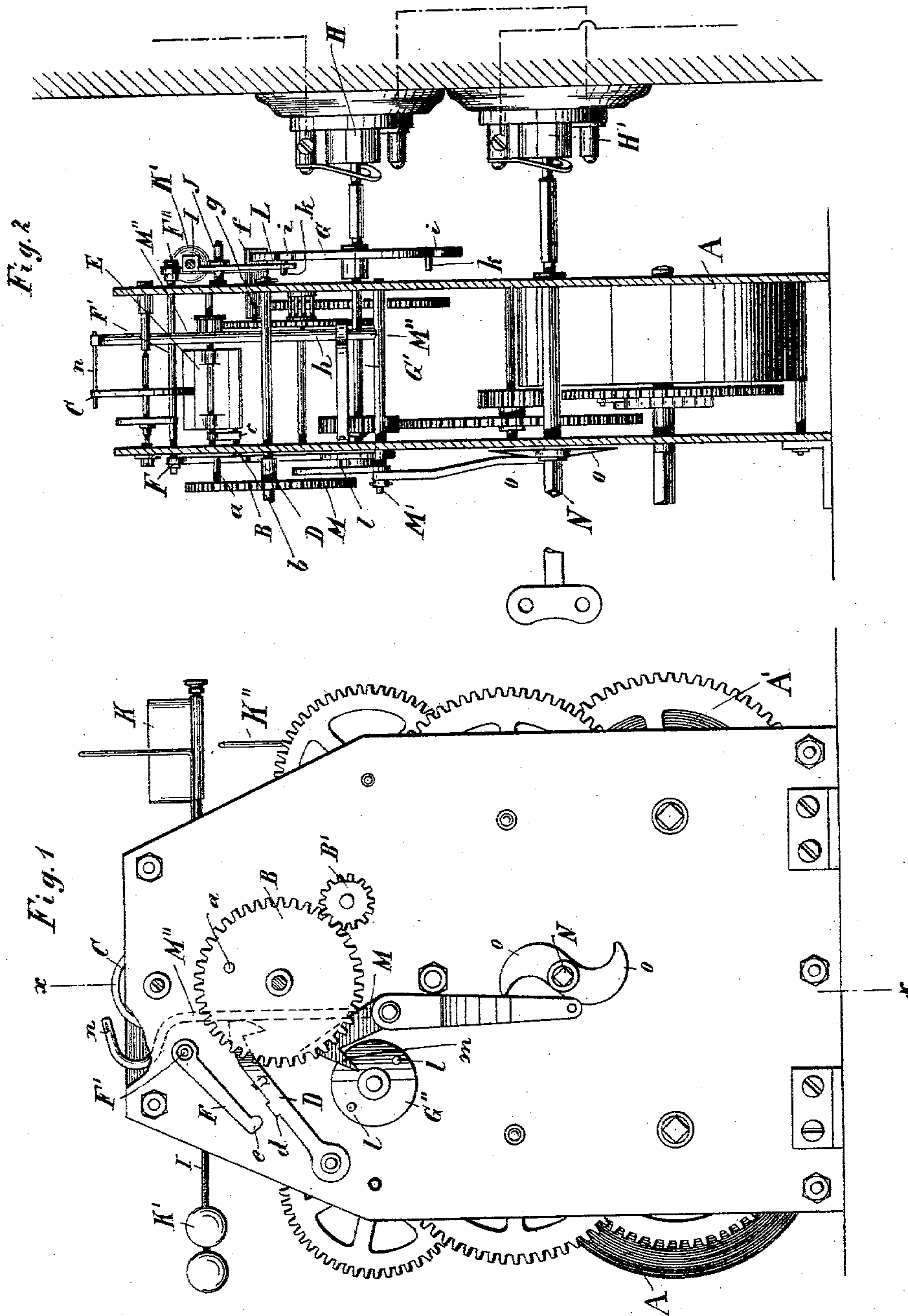
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COIN FREED APPARATUS FOR DISTRIBUTING ELECTRIC CURRENTS.

(Application filed Aug. 26, 1898.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses

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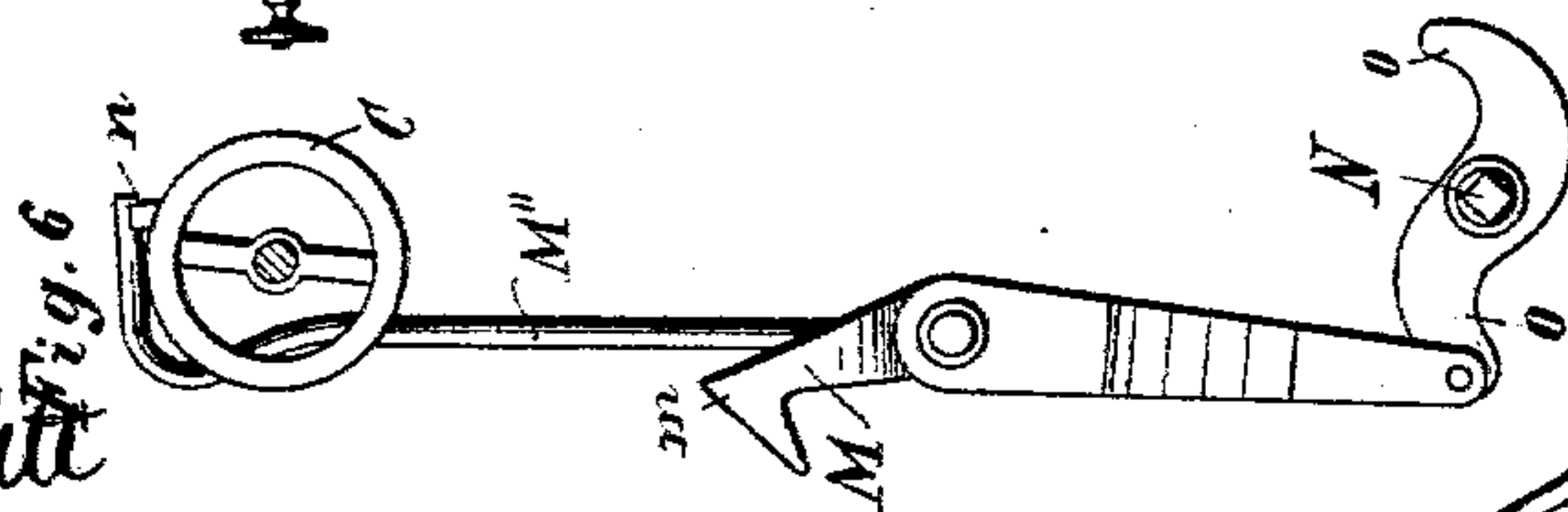
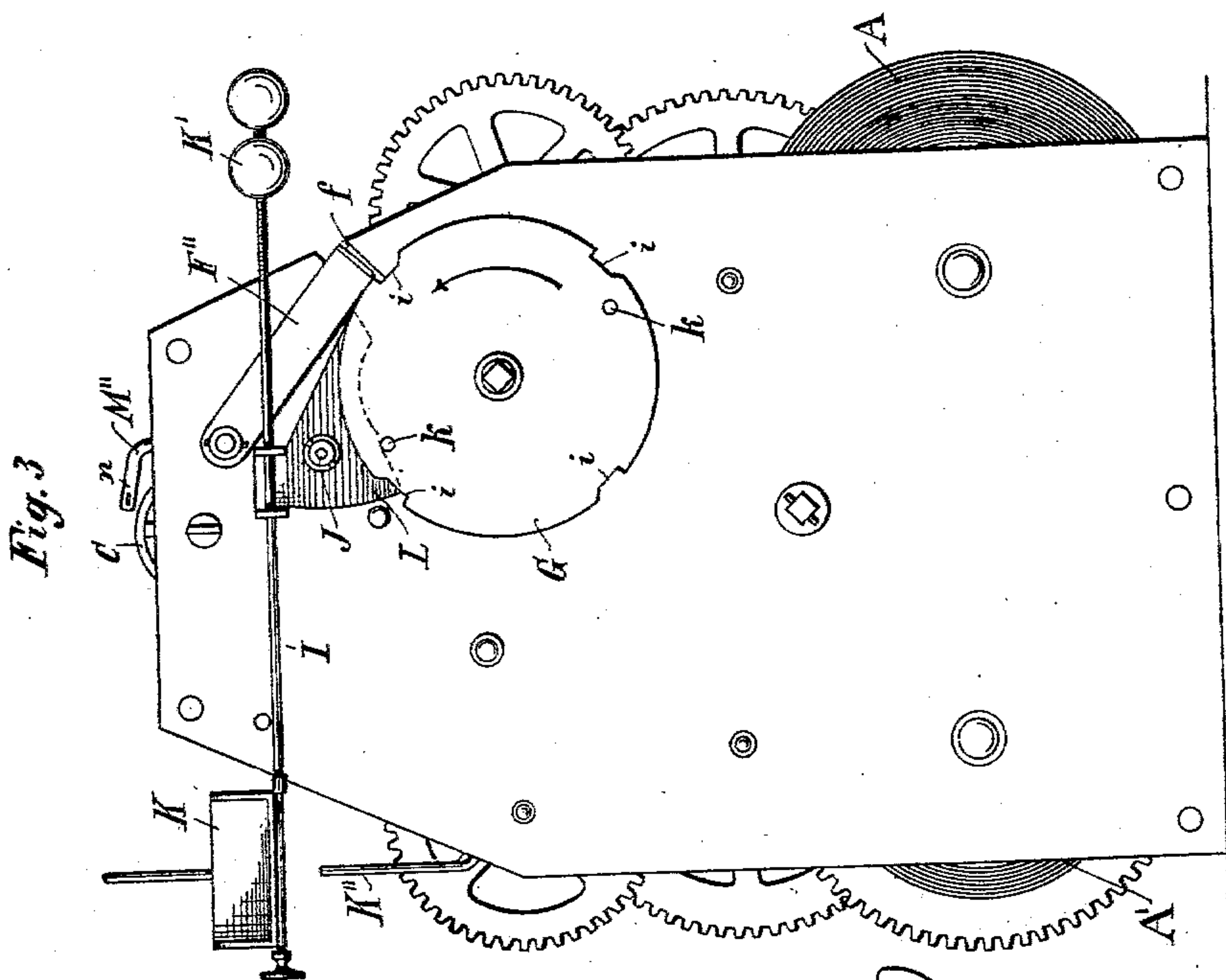
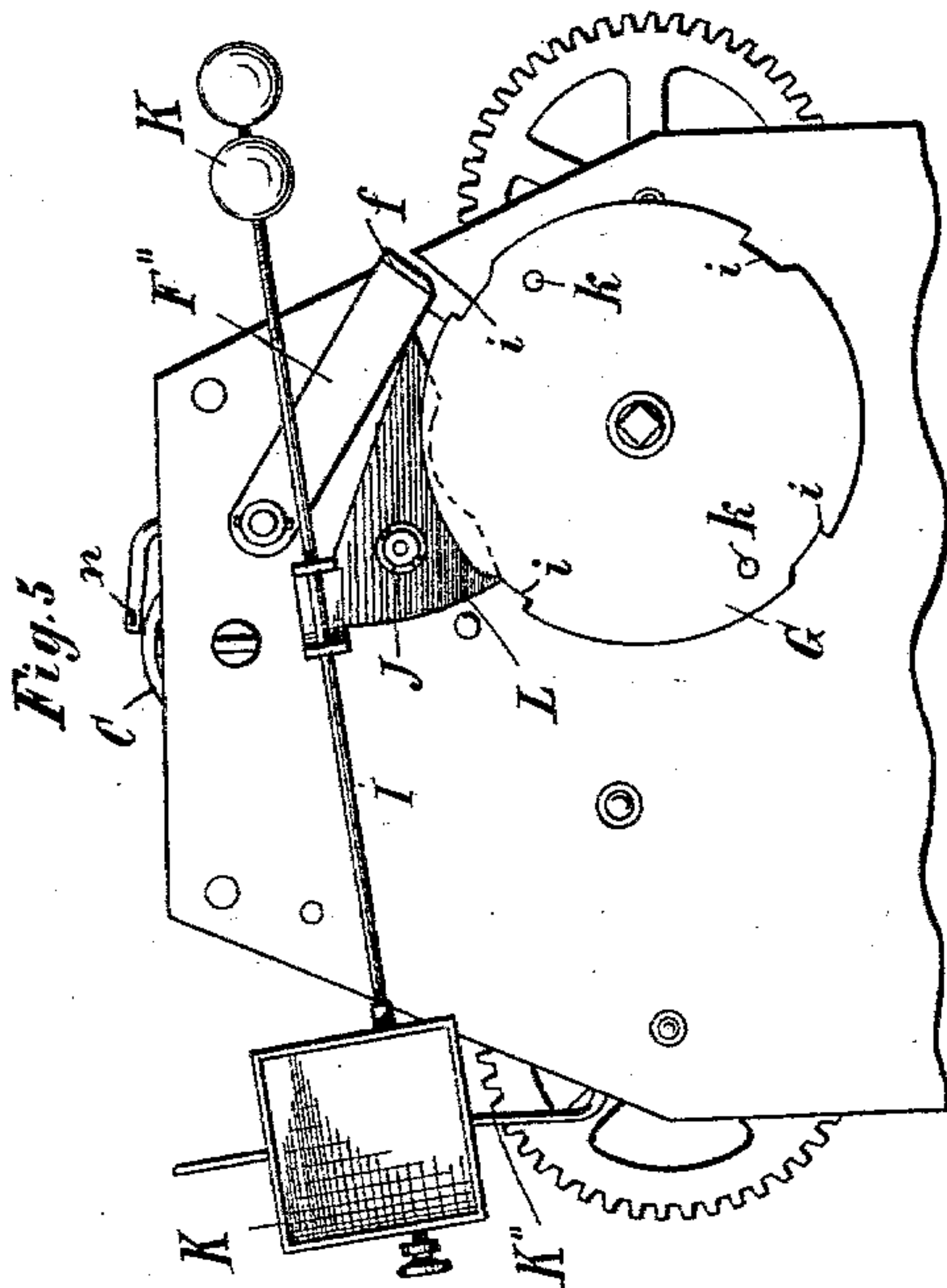
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**2 Sheets—Sheet 2.**

(No Model.)



Thomas J. Howlett

by Richard R  
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# UNITED STATES PATENT OFFICE.

CARL BIEBERSTEIN, OF CHARLOTTENBURG, GERMANY.

COIN-FREED APPARATUS FOR DISTRIBUTING ELECTRIC CURRENTS.

SPECIFICATION forming part of Letters Patent No. 629,978, dated August 1, 1899.

Application filed August 26, 1898. Serial No. 689,578. (No model.)

*To all whom it may concern:*

Be it known that I, CARL BIEBERSTEIN, a citizen of the Kingdom of Prussia, and a resident of Charlottenburg, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Coin-Freed Apparatus for Distributing Electric Currents, of which the following is a specification.

This invention relates to an improved automatic apparatus for delivery of electric current to the consumer during a certain period after the insertion of a coin, and is so arranged that the current may be used as required at various times until the full time paid for has expired.

In the accompanying drawings, Figure 1 is a front view of the apparatus. Fig. 2 is a section on the line *xx* of Fig. 1, showing parts in elevation. Fig. 3 is a back view of the apparatus. Fig. 4 shows the position of the chief parts when after the fixed time the mechanism interrupts the current. Fig. 5 is a back view showing the position of the parts at the moment of starting by the coin, and Fig. 6 shows the arrangement by means of which the delivery of the current can be interrupted or continued at any time.

The case surrounding the mechanism and also the installation for the introduction and removal of the coins are omitted for the sake of clearness.

The apparatus is provided with two strong springs *A A'*, the latter driving the clockwork, while the former operates only for a certain time for closing or interrupting the current. The clockwork does not differ greatly from ordinary works, only it has a dial-plate showing the time elapsed since the apparatus has been started, the hand going once around upon the dial-plate in the predetermined time. The hand is arranged on the axle of the toothed wheel *B*.

By suitable changing of the gearing *B* and *B'* the apparatus can operate for different times. An anchor-escapement is arranged on the clockwork, the balance of which is shown by *C*.

Suppose the predetermined time to be expiring. The pin *a* on the back of the wheel *B* pushes on the hook *D* and lifts it a little. On the hook *D* is arranged a pin *b*, Fig. 2,

passing through the front wall of the clockwork and arriving in the path of an arm *c*, arranged on the axle of the fly *E*, thus stopping its revolution when the arm *D* is lifted. With its projection *d* the arm *D* abuts against the nose *e* of the lever *F*. The latter is connected rigidly with the axle *F'*, which passes across the work and has at the back an arm *F''*, engaging, by means of its cross-piece *f*, into one of the indents *i* of the disk *G* and forming, with the cross-piece *f*, an abutment for the pin *g*, arranged upon the driving-wheel *h*. The indents *i*, four in number, are arranged symmetrically on the circumference of the disk *G*. The axle *G'* of this disk is continued backward and joined to the axle of circuit-breaker *H*. The parts are connected in such a way that the circuit of the current is closed when the disk is in the position shown in Fig. 3 and also in the position when the disk is revolved for one hundred and eighty degrees therefrom, but is interrupted in the position shown in Fig. 5 or a position displaced one hundred and eighty degrees therefrom.

The disk *G* carries on its inner side two pins *k*, the action of which will be described later.

On the back of the clockwork is also arranged a horizontal lever *I*, having its pivot at *J*. At one end the lever *I* carries a pivoted tray *K* for receiving the coin and at the other end a counterweight *K'*, by means of which the apparatus can be regulated according to the particular coin used. Fixed to the arm *I* is a three-sided plate *L*, operating with its point the lower part of the lever *F''* and lifting the same when the tray *K* sinks under the weight of the coin introduced. The one or other of the pins *k* come under the long side of the three-sided plate *L* when the current is operating in order to prevent the sinking of the lever *I* in this position of the parts. When descending, the tray *K* abuts with its hinder border against the end of a pin *K''*, causing it to tip upward and discharge the coin.

On the axle *G''* and the front side of the clockwork is fastened a disk *G''*, carrying two pins *l l* diametrically opposite each other and arranged in such a manner that one of them when the current in *H* has been interrupted



after a certain time comes against the hook-like head *m* of the lever *M* and pushes it aside, Fig. 4. The axle *M'* of the lever *M* projects into the interior of the clockwork, supporting therein the arm *M''*, Figs. 2 and 4, which comes in contact by means of its spring *n* when the lever *M* is moved against the escapement-wheel of the clockwork in order to stop it. The lower end of lever *M* can also be pushed aside at its lower end and from the outside of the apparatus in order to stop the clockwork by turning, by the aid of a key or the like, the axle *N* to bring one of the thumb-like wings *o* against the end of the lever. The axle *N* passes through the clockwork and is fastened behind to the axle of a second contact-breaker *H'*. The junction is made in such a manner that the contact at *H'* is interrupted when the wings and lever *M*, &c., have the position shown in Fig. 4 for stopping the clockwork.

The apparatus works in the following manner: When the toothed wheel *B* has almost finished a revolution, the pin *a* comes below the nose of the lever *D* in order to lift it. The projection *d* pushes against the nose *e* of the lever *F* and lifts it and with it the lever *F''*. The cross-piece *f* is thus withdrawn from the indent *i* of disk *G*, while the other end of *f* sets free the pin *g* on the toothed wheel *h* in gear with the pinion on the fly *E*. By lifting the lever *D* the pin *b* is moved at the same time into the path of the arm *c*, arranged upon the axle of the fly *E*, stopping its movement, although *f* has freed the plate *G* and the toothed wheel *h*. When the pin *a* has gone below the shoulder of the lever *D* and the lever *D* and the pin *b* fall again, the plate *G* comes into operation; but after a quarter-revolution of the plate *G* the projection *f* drops into the next indent *i* of the plate, stopping the action of the spring *A* by the stopping of the pin *g* by the cross-piece *f*. The contact *H*, fastened on the axle *G'*, is caused to make also a quarter of a revolution in order to stop the current. The front end of the axle *G'* supports the plate *G''*, the latter turning for ninety degrees. The pin *l* pushes aside the head *m* of the lever *M* and pushes thereby the arm *M''* toward the escapement, the same being stopped by the spring *n*. The clockwork is thus stopped while the current at *H* is interrupted. The coin being inserted in order to put the apparatus in motion, the tray *K* goes down, and by means of the point of the plate *L* the lever *F''* is lifted. The plate *G* can now turn again for ninety degrees, turning thereby also the disk *G''* for the same distance. The pin *l* sets the head *m* of the lever *M* free, and the spring *n* releases the balance *C*. The clockwork is thus started again at the same time the circuit of current is closed by the quarter-rotation of shaft *G'*.

To insure a continuous current-supply without having to watch for the very moment of stoppage in order to insert a fresh

coin, the following is arranged, permitting the insertion of a further coin before the stoppage of the clockwork. As shown in Fig. 3, one of the pins *k* lies under the plate *L*, connected to the lever *I*, during the operation of the clockwork. If a coin is inserted in this position of the parts, the lever *I* cannot sink downward, because the respective pin *k* stops the movement of the plate *L*. After the expiration of the time when the plate *G* has made a movement of ninety degrees the pin *k* slides from below *L* and the tray *K* sinks and stays there till the next pin *k* comes below the other end of the plate *L* and tilts the lever *I* farther for the discharge of the coin. If during the action of the clockwork the current is to be interrupted, *N* is turned for ninety degrees by means of a key or the like in order to interrupt the contact *H'* and stop at the same time the clockwork by means of the parts *M*, *M'*, *M''*, and *n*.

A counter may also be arranged on the apparatus, showing how many coins have been inserted. It is preferably adapted on the axle of the plate *G''*.

The apparatus can be arranged for any coins, time durations, and current force, as required.

The apparatus is contained in a case to be sealed. The consumer sees the dial only, which indicates how long the current is yet at his disposal.

The springs of the apparatus are such as to allow a working time of four to six weeks in order that the apparatus need not be wound frequently.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is—

1. An improved apparatus for the automatic delivery of electric current to the consumer for a certain time by insertion of a coin having a double clockwork, the one being started by means of the coin inserted and starting in its turn after a certain time the other clockwork which interrupts the current until it is closed again by the insertion of a fresh coin.

2. In combination in a coin-freed apparatus for the automatic delivery of electric current, double clockworks, a coin-lever to start one of the clockworks, controlling means whereby one clockwork will start the other after a certain time, a circuit-breaker controlled by the second clockwork, a second circuit-breaker, a hand-operated device controlling said circuit-breaker and a connection from said hand-operated device to control the clockworks, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CARL BIEBERSTEIN.

Witnesses:

CARL ALBRECHT,  
C. H. DAY.