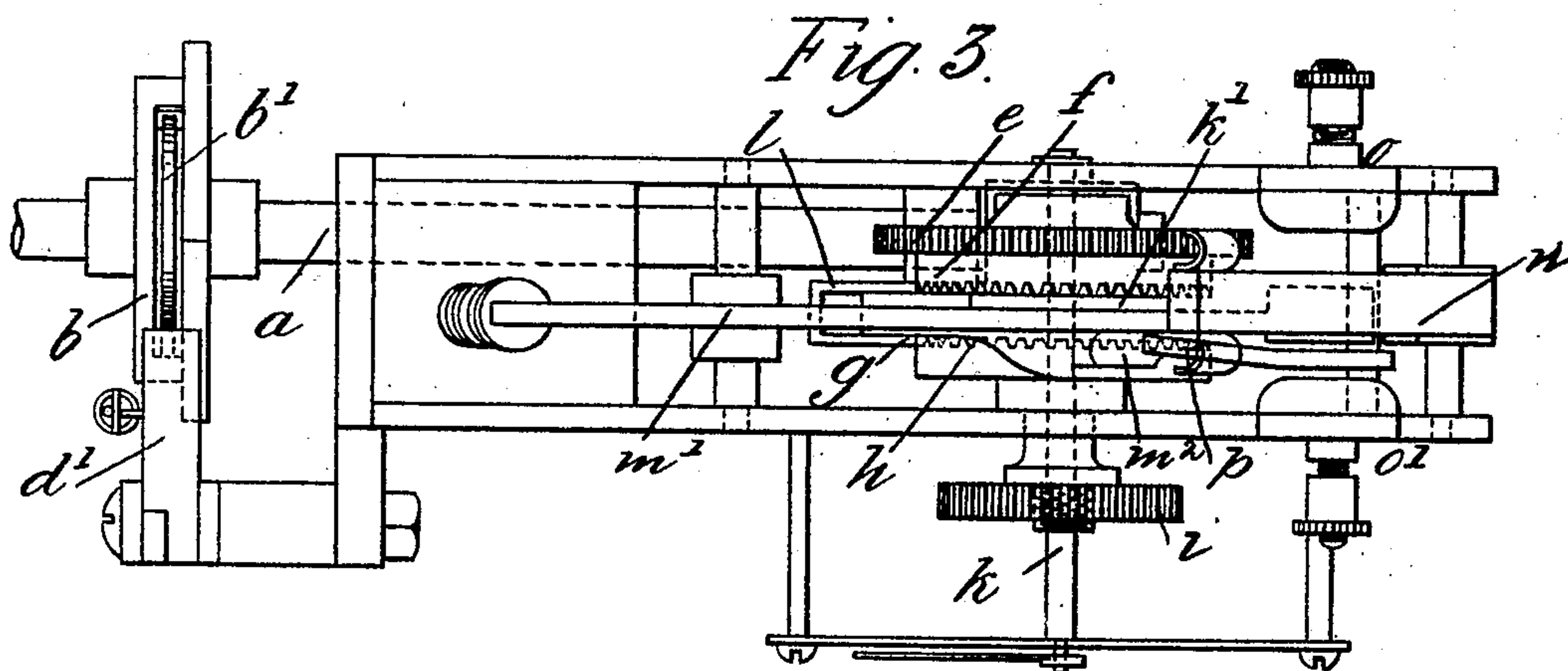
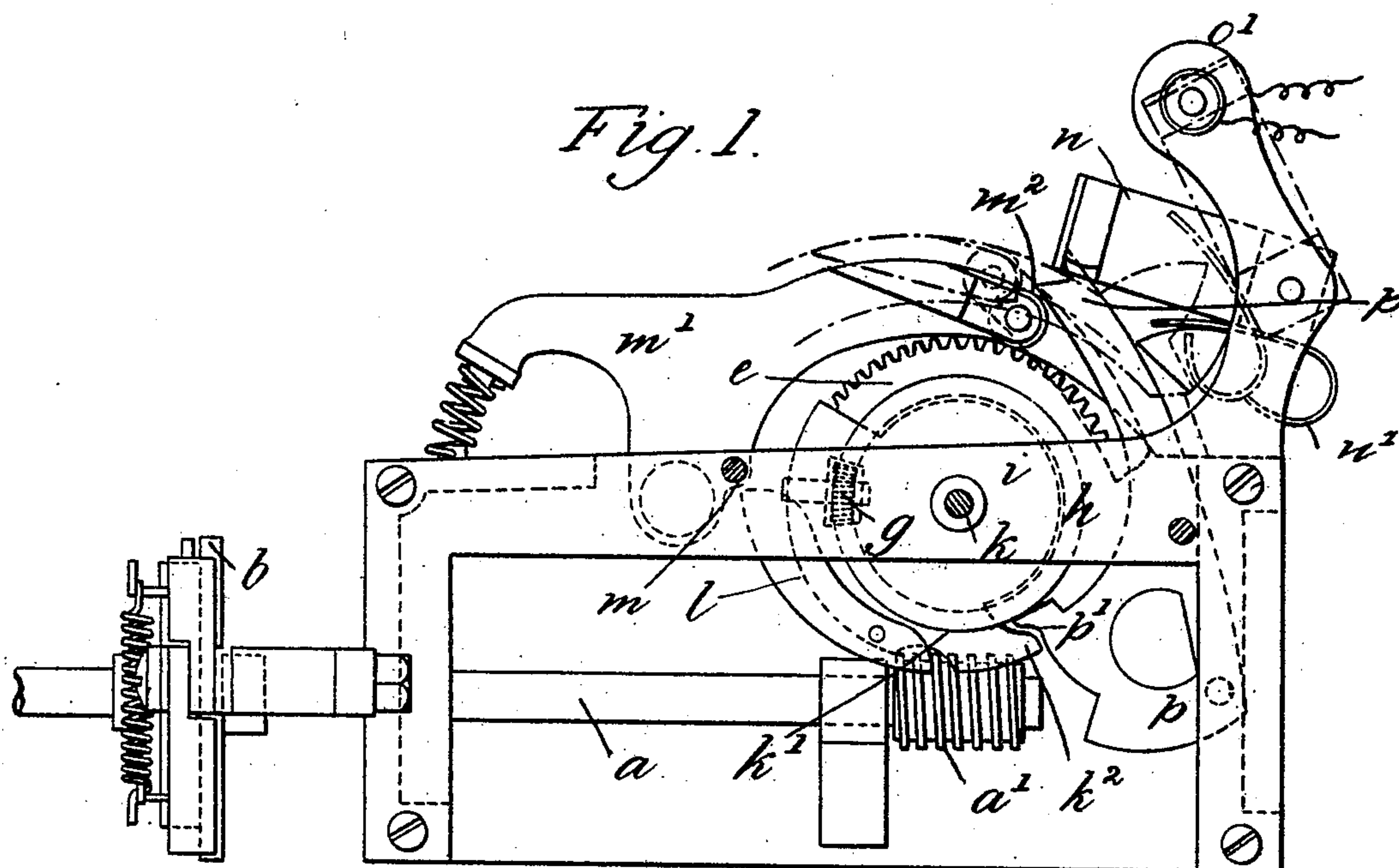


No. 824,522.

PATENTED JUNE 26, 1906.

J. ALLAN.
COIN FREED ELECTRIC METER.
APPLICATION FILED SEPT. 14, 1904.

2 SHEETS—SHEET 1.



WITNESSES

H. M. Corwin
John Miller

INVENTOR

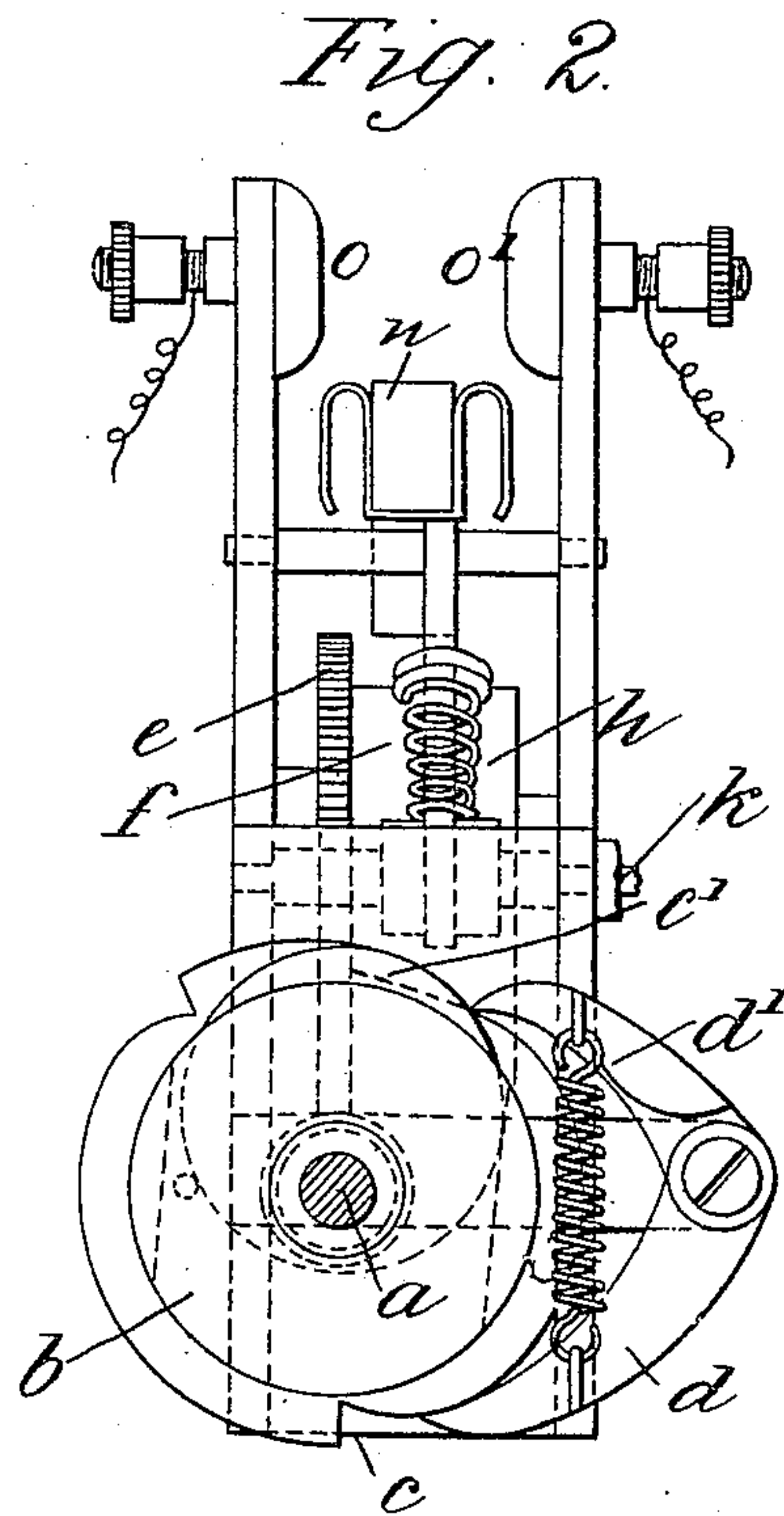
James Allan
by Dabney & Rymer
his attys

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2 SHEETS—SHEET 2.



WITNESSES

St. M. Corwin
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INVENTOR

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UNITED STATES PATENT OFFICE.

JAMES ALLAN, OF CHISELHURST COMMON, ENGLAND.

COIN-FREED ELECTRIC METER.

No. 824,522.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed September 14, 1904. Serial No. 224,357.

To all whom it may concern:

Be it known that I, JAMES ALLAN, a subject of the King of Great Britain and Ireland, residing at Aldborough, Chiselhurst Common, in the county of Kent, England, have invented certain new and useful Improvements in or Relating to Coin-Freed Electric Meters, of which the following is a specification.

This invention relates to an apparatus attachable to electric meters, by means of which on the insertion of a given coin in a slot provided for the purpose the circuit, including the meter, is enabled to be closed, so as to permit the supply of a definite quantity of electricity or of electric energy. The apparatus is not in itself an electric meter, but is adapted to be used for the purpose above stated in conjunction with any ordinary electric meter or integrator having as one of its parts a rotating spindle.

The invention is illustrated in the accompanying drawings, in which—

Figures 1, 2, and 3 are respectively a front and an end elevation and a plan of the preferred form of apparatus.

On a spindle *a* is a coin-receptacle *b*, in which a coin inserted in the slot *b'* is held until the receptacle has been turned to the discharge position, when the coin is discharged into a suitable box or receiver formed in a casing, which is not shown in the drawings. On the edge of the coin-receptacle *b* are notches *c c'*, which coöperate with spring-urged catches *d d'*, respectively, to prevent the spindle from being turned backward and from being turned forward to put the apparatus in operation, as hereinafter described, unless a coin of the proper size has been inserted in the coin-receptacle *b*, as shown in Fig. 2, in which case the projecting edge of the coin forms an inclined plane which leads the end of the spring-catch *d'* over the shoulder of the notch *c'* and enables the rotation of the spindle *a* to be continued.

On the spindle *a* is a worm *a'*, gearing with a worm-wheel or pinion *e*, with which is mounted a crown-wheel *f*, which gears through a pinion *g* with a similar crown-wheel *h*. The latter has mounted with it a pinion *i*, with which the counting mechanism or other rotating part of a meter is suitably geared. The crown-wheels are loosely mounted on a spindle *k* and supported in bearings in the frame, while the pinion *g* is mounted in bearings on a carrier *k'*, secured

to the spindle, which is journaled in the bosses of the crown-wheels. When the spindle *a* is rotated and the pinion *i* held, the pinion *g* travels along the crown-wheel *h*, and with it a shoe or lever *l*, which is pivoted on the piece *k'*, which carries the pinion *g*. The forward end of the shoe is weighted and when the parts are in their normal or out-of-use position abuts against a beveled or inclined heel *m* on a spring-urged lever *m'*, pivoted in the frame. When the point of the pivoted shoe *l* is pressed on the inclined heel *m* by the rotation of the spindle *a*, the lever *m* is displaced and one end encounters a switch-lever *n*, which is thereby thrown over to close the gap in the electric circuit between the terminals *o o'*. At the same time a bowl or roller *m²* on the lever *m'* clears the forked end of a catch or lever *p*, which is pivoted in the frame, and is then free to drop by gravity or by the action of a spring to engage behind the bowl *m²* and prevent the return of the lever *m'* by its spring.

As the switch is being thrown over as explained above the end of the shoe *l* overrides the heel *m* and continues its forward movement while the spindle *a* is being rotated. When this spindle has been moved through about half a turn, the coin is discharged from the coin-receptacle, and the engagement of the catch *d'* in the groove *c'* prevents the spindle being turned through more than one turn without the insertion of an additional coin or coins. Additional coins may be inserted to secure an increased supply until the number for which the apparatus is designed has been reached. When this is so, the insertion of additional coins does not enable the shoe *l* to be moved farther, as it is held by a suitable stop, such as the engagement of a projection on the carrier *k'* with a projection on the lever *p*. The circuit being now completed, the consumption of electric current causes the counter-spindle or other rotating part of the meter to which the pinion *i* is geared to revolve, and the pinion *g* being thereby rotated through the crown-wheel *h* also revolves and travels along the crown-wheel *f* in the reverse direction until when the quantity which was paid for has been supplied it is returned to the position from which it started. When it reaches this position, an inclined projection *k²* on the carrier *k'* encounters a similarly-inclined piece *p'* on the tail of the detent-lever *p*, which is thereby displaced, so that the forked end disengages the bowl *m²* of the le-

ver m' and allows the latter to be returned by its spring to the normal position. In doing so the end of the lever m' which operates the switch engages the tail n' of the switch-lever
5 n and displaces the latter, so as to break the circuit.

Having thus described the nature of my said invention and the best means I know of carrying the same into practical effect, I
10 claim—

1. An attachment to electric meters for regulating the supply of current thereto by prepayment, comprising a setting-spindle, means controlled by the insertion of a coin
15 enabling the spindle to be rotated, a differential spur-and-pinion gear, gearing respectively with the setting-spindle and the meter to be controlled, a pivoted tripping-shoe moving with the pinion of the differential
20 gear, an electric switch and a lever actuated by the tripping-shoe to close the switch when the setting-spindle is rotated; substantially as described.

2. An attachment to electric-current meters for regulating the supply of current thereto by prepayment, comprising a setting-spindle, means controlled by the insertion of a coin enabling the spindle to be rotated, differential spur-and-pinion gear gearing with
25 the setting-spindle and the meter to be controlled, an electric switch, a lever coöperating

therewith and normally urged by a spring to hold said switch open, a pivoted shoe moving with the pinion of the differential gear and adapted to displace the said lever and close
35 the switch, and a detent adapted to hold the said lever in its displaced position, substantially as described.

3. An attachment to electric meters for regulating the supply of current thereto, 40 comprising a setting-spindle, means controlled by the insertion of a coin enabling the spindle to be rotated, differential gear including a pinion connecting the said spindle with the meter to be controlled, a carrier 45 supporting the differential pinion, a shoe pivoted on said carrier, a spring-urged lever adapted to be displaced by said shoe, a switch adapted to be closed by the displacement of said lever, a detent adapted to hold the said
50 lever in its displaced position and to be tripped by the pinion-carrier to enable the spring-lever to open the switch when the pinion is returned to the starting position; substantially as described. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES ALLAN.

Witnesses:

JOSEPH MILLARD,
T. J. OSMAN.