

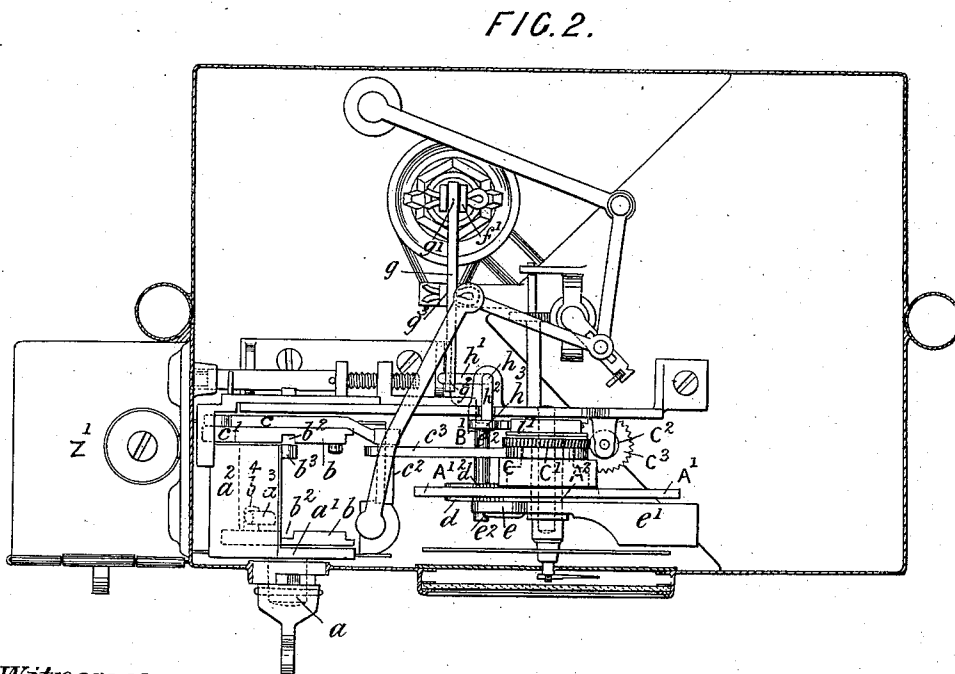
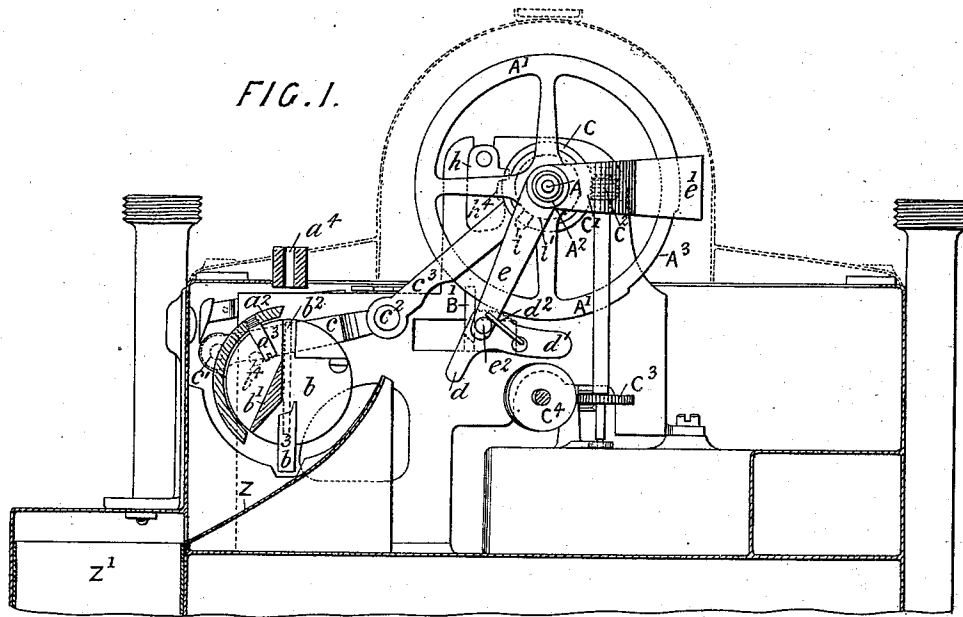
(No Model.)

2 Sheets—Sheet 1.

J. ANDERSON.
COIN FREED GAS METER.

No. 567,440.

Patented Sept. 8, 1896.



Witnesses:

Charles H. Corv.
Wm. A. Barr

Inventor:

John Anderson
by his Attorneys
Hansen & Kinn

(No Model.)

2 Sheets—Sheet 2.

J. ANDERSON.
COIN FREED GAS METER.

No. 567,440.

Patented Sept. 8, 1896.

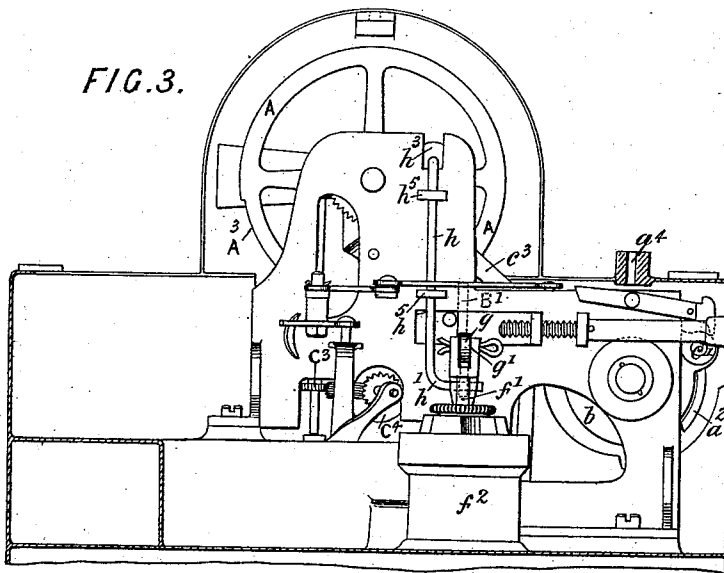
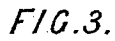


FIG. 6.

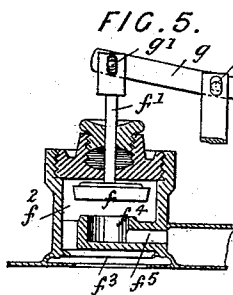


FIG. 4.

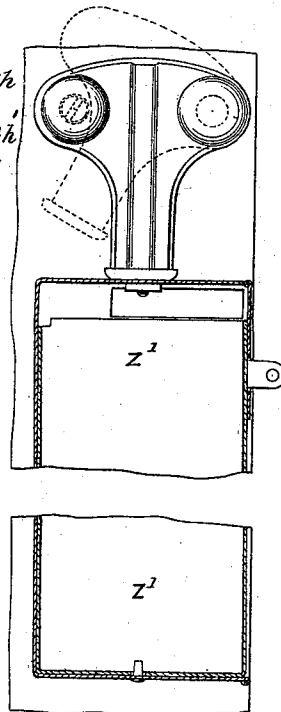
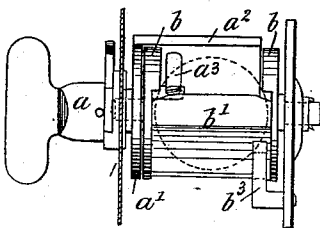
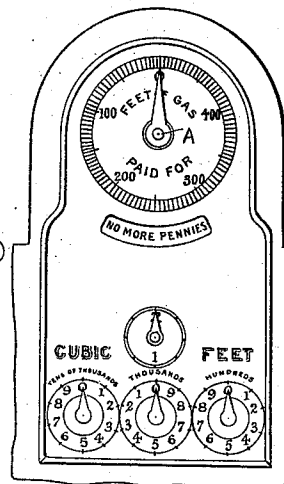


FIG. 7.



Witnesses:
Charles De Cou.
Will. A. Raw.

Inventor:
John Anderson
by his Attorneys
Knox & Simpson

UNITED STATES PATENT OFFICE.

JOHN ANDERSON, OF EDINBURGH, SCOTLAND, ASSIGNOR TO ALDER & MACKAY, OF SAME PLACE.

COIN-FREED GAS-METER.

SPECIFICATION forming part of Letters Patent No. 567,440, dated September 8, 1896.

Application filed December 19, 1894. Serial No. 532,321. (No model.) Patented in England March 22, 1893, No. 6,086, and January 19, 1894, No. 1,178; in France August 21, 1894, No. 240,874, and in Belgium August 22, 1894, No. 111,726.

To all whom it may concern:

Be it known that I, JOHN ANDERSON, a subject of the Queen of Great Britain and Ireland, and a resident of Edinburgh, Scotland, have invented certain Improvements in Coin-Freed Gas-Meters, (for which I have obtained Letters Patent in Great Britain, No. 6,086, dated March 22, 1893, and No. 1,178, dated January 19, 1894; in France, No. 240,874, dated August 21, 1894, and in Belgium, No. 111,726, dated August 22, 1894,) of which the following is a specification.

This invention has reference to and comprises improvements in and relating to mechanism for actuating coin-freed gas-meters.

My improvements essentially consist in simple, direct, and accurate mechanism for transmitting the requisite motion from the coin receiving and turning organ to the hollow spindle of prepayment cycle, and in communicating motion from said hollow spindle to actuate a valve connected with the inlet-supply of gas to meter.

In order to enable others skilled in the art to which my invention relates to understand how it may be carried into practice, I have hereunto appended two explanatory sheets of drawings, in which the same reference-letters are used to indicate corresponding parts in all the figures where shown.

Figure 1 is a side sectional elevation of a gas-meter, showing my improved coin-freed mechanism applied thereto. Fig. 2 is a plan view corresponding to Fig. 1 with the top cover removed, and Fig. 3 is a sectional side elevation corresponding to and looking from the opposite side to Fig. 1. Fig. 4 is a detached view showing the coin hand-operated spindle and fittings. Fig. 5 is a detached sectional elevation of the inlet gas-valve. Fig. 6 is a detached view, broken away, of the coin-receiving chamber, while Fig. 7 is a front view showing the ordinary prepaid gas-index, as well as the usual gas-registering dials. In Figs. 1 to 3 the ordinary meter mechanism is not shown, with the exception of the connecting-gear to the coin-freed mechanism.

Referring to the drawings, in carrying these improvements into practice I make the hand

turning spindle *a* to have a forward and backward movement, and I fit a vertical disk *a'* on same, to which I secure a projecting segmental hood *a''*, which will move with the hand turning spindle *a* and prevent the ingress of coins through slot *a'* in meter-case, except when the mechanism is in position for being actuated by said coins. Two disks *b b'* are mounted on stud or pivot spindles below the line of coin-slit *a'* and have a transverse bar *b'* between them, and when in proper position the coin inserted passes through slit *a'* in meter-case and is guided through channel-slits *b''* in the inner surface of the aforesaid disks *b b'* until it rests on a slit on the top of an arm *b''*, projecting up from fixed frame of machine.

When the hand-spindle *a* is turned, a projecting down arm *a''* from the spindle-hood *a''* acts against the coin which is held between this and the inclosing sides of channels *b''* in connected disks *b*, and these disks *b* are moved round with the coin until they come to the end of their regulated travel, while they are traveled back to their normal starting position along with the hand-spindle *a* and hood *a''* (after ejection of the coin) by the arm *a''* acting on a stud *b''*, screwed on the side of one of the disks *b*. The one end *c'* of a link *c* is jointed to one of the aforesaid coin-carrying traveling disks *b* and has a transverse cross-head *c''* formed on its other end, said cross-head *c''* being carried and guided in its movements by a connecting-rod *c''*, secured at its one end to cross-head *c''* and at its other end mounted to oscillate or move freely round the axis *A*, on which the hollow spindle herein described is mounted. This cross-head *c''* is reciprocated forward after the insertion of each coin through its connection with disk and is made to oscillate the arm *d* of a clutch-lever which grips and turns a plain rimmed wheel *A'*, mounted on hollow spindle *A''* on transverse axis *A*. This clutch-lever would preferably consist of a two-armed lever *d d'*, mounted at the junction of its arms on a transverse pin *e''*, and has notches or serrations *d''* on its upper surface to more effectually clutch onto the large plain rimmed wheel *A'*, and the pin *e''* on which lever *d d'*

is mounted would be secured to the one arm *e* of a counterweighted lever *e e'*, mounted on the same transverse axis *A* as the hollow spindle *A*², carrying rimmed wheel *A'*, and so that
 5 the counterweighted lever *e e'* and wheel-gripping clutch *d d'* would act as one lever, the counterweight *e'* bringing the clutch back to its normal starting position, (after each forward action,) so that the pin *e*² rests
 10 against a stop-arm *B'* on the variation of price-adjusting mechanism. A recess would be cut away at *A*³ out of the circumference of the plain rimmed wheel *A'*, which would come into use when the maximum quantity
 15 of gas had been passed through valve provided for by prepayment-dial, as say four hundred and fifty cubic feet, and this would prevent gripping contact with clutch-lever *d d'* at this period until all or some of the pre-
 20 paid gas was consumed. The coin after being liberated would drop onto the inclined plate *Z* and then slide into the receiving-chamber *Z'*.

The inlet supply of prepaid gas would be
 25 controlled by a valve *f*, mounted on a vertical spindle *f'*, as shown detached in Fig. 5, and this spindle *f'* would be attached to the one end, *g'*, of a horizontal lever *g*, fulcrumed at *g*³ on a standard-pin at its center and con-
 30 nected at its other end, *g*², to a projecting arm *h'* on the lower end of a vertically moving rod *h*. This rod *h* would work through guides *h*⁵, and its lower projecting arm *h'* is connected to a slot in end *g*² of horizontal lever
 35 *g*, while a plate *h*³ is attached to the projecting arm *h*² on top end of rod *h*. The plate *h*³ would be operated on by a projecting pin *i* in a disk *i'*, secured on hollow spindle *A*² of clutch-actuated wheel *A'*, and be depressed
 40 to keep the valve *f* open so long as prepaid gas has to be consumed, after which the valve *f* will be closed by the pin *i* in disk *i'* engaging in a slot *h*⁴ in plate *h*³ and raising the same and the rod *h* to tilt the lever *g*. The
 45 inlet gas-valve would consist of a disk *f*, attached to end of vertical spindle *f'*, and work within a close chamber *f*², having gas-admitting orifices *f*³ from inlet-supply pipe and fitted over a central downward-recessed cham-

ber *f*⁴ with outlet-orifice *f*⁵ to supply the
 chamber. The transverse axis *A*, on which
 hollow spindle *A*² of clutch-actuated wheel
A' is mounted, would have a friction-clutch
 box *C* mounted on it and be connected with
 a train of worm and wheel gearing *C' C*² *C*³
 55 *C*⁴ to the ordinary counting and actuating mechanism of meter.

The operation of the mechanism will, I think, be understood from the foregoing description; but I may add this general ex-
 60 planation: The parts being in the positions illustrated in Fig. 1, a coin of the proper size and value is passed through the slot *a*⁴ and enters, as shown by dotted lines, between the
 65 slits in the turning disks *b b* until it rests upon the supporting-arm *b*³. The hand-spindle *a* is then turned, and the arm *a*³ on the spindle-hood bearing against the coin carries the disks *b* around also until they come to
 70 the end of their regulated movement. The hand-spindle is then returned, and at the beginning of such movement the coin is freed and drops into the receptacle *Z'*. The forward movement of the disks imparts move-
 75 ment to the wheel *A* on the hollow spindle through the medium of the link *c*, cross-head *c*², and clutch-lever, as described, and in this way the gas-valve is caused to open to an extent to supply the quantity of gas paid for
 80 by the deposited coin.

I claim as my invention—

In a coin-freed gas-meter, the combination of a gas-valve, a wheel controlling the valve, and a lever-clutch to operate the wheel, with disks adapted to receive a coin and to have
 85 a backward and forward movement imparted to them, a cross-head connected to said disks and adapted to act on the clutch-lever and a hand-spindle to turn the said disks by means of the inserted coin, substantially as de-
 90 scribed.

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

JOHN ANDERSON.

Witnesses:

ANDREW SPEIRS,
 GEORGE BROWN LUMDIE.