

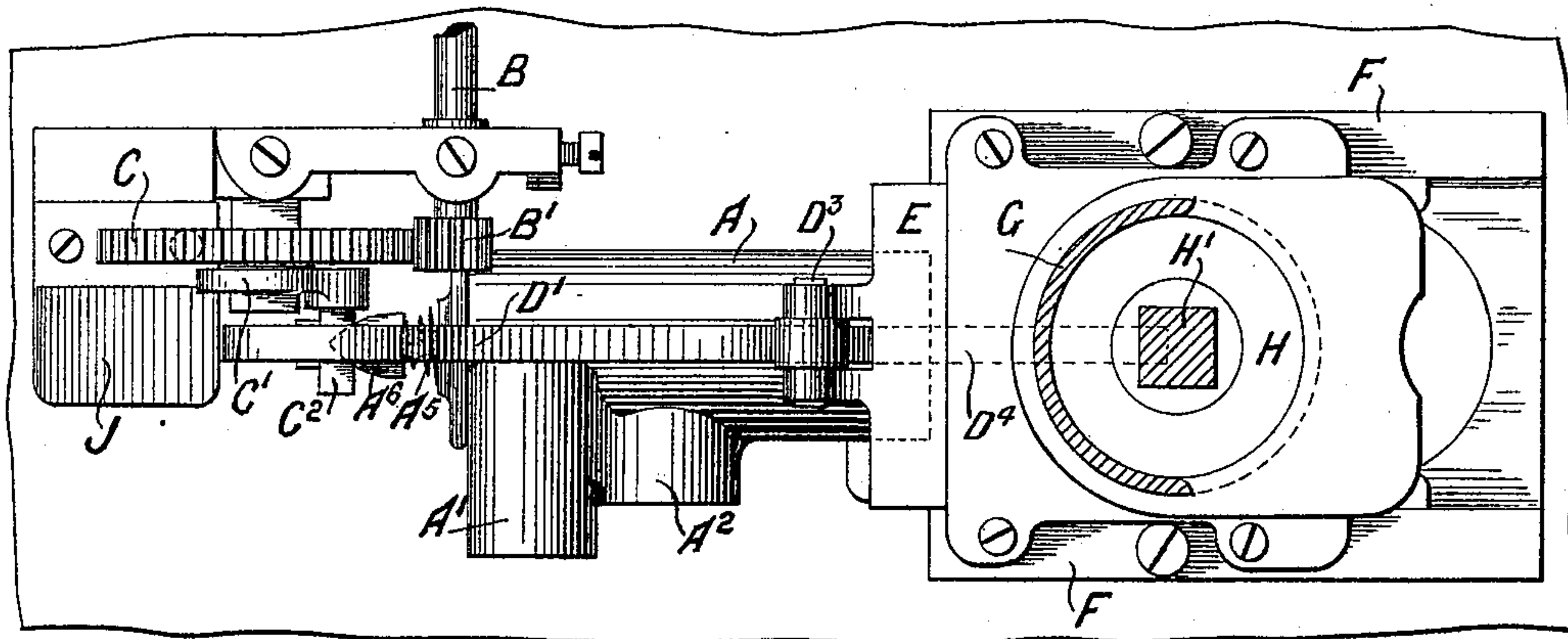
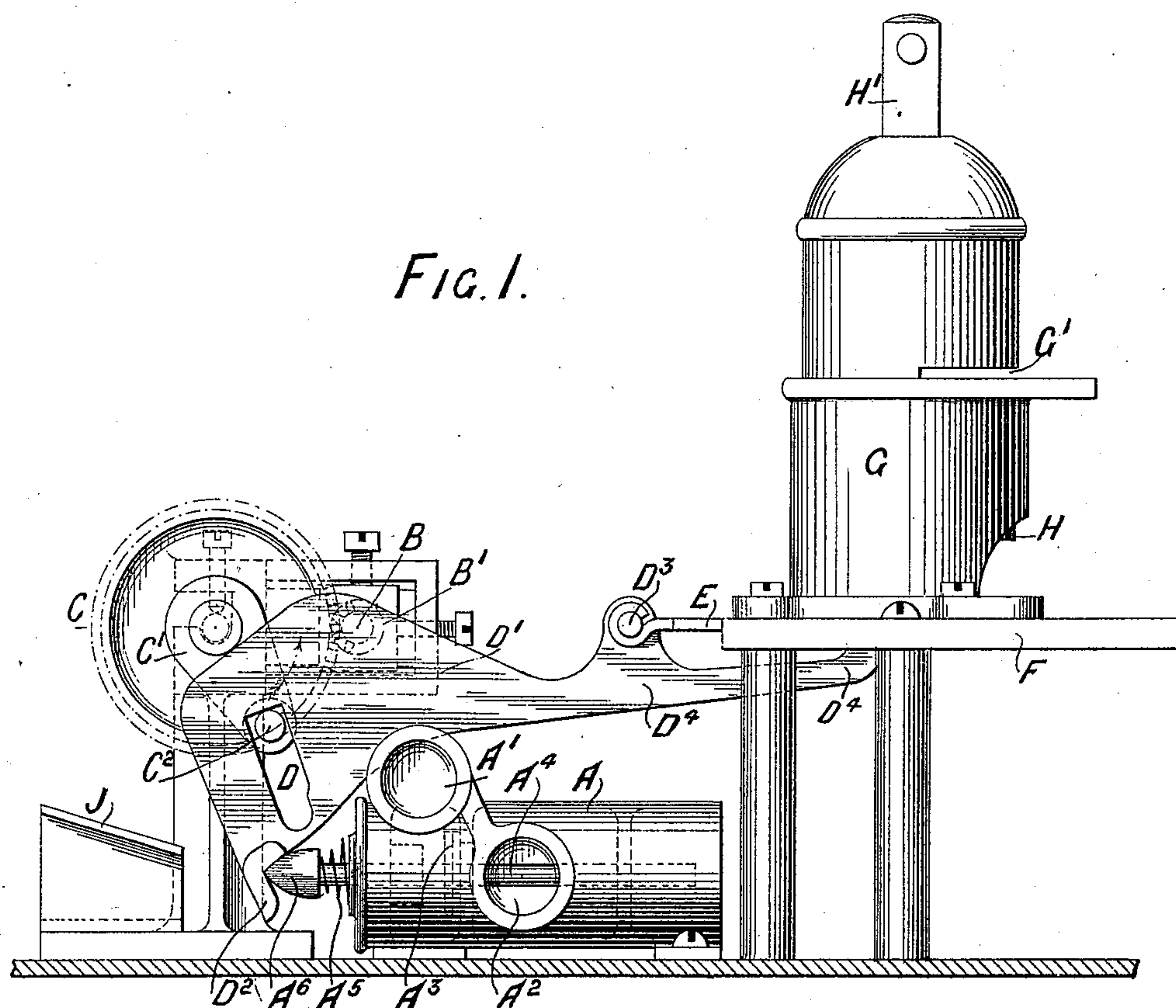
(No Model.)

2 Sheets—Sheet 1.

J. D. FORSTER.
PREPAID GAS SUPPLY METER.

No. 602,002.

Patented Apr. 5, 1898.



Witnesses:

John C. Wilson,
Rory C. Bowen.

Fig. 2.

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John D. Forster,
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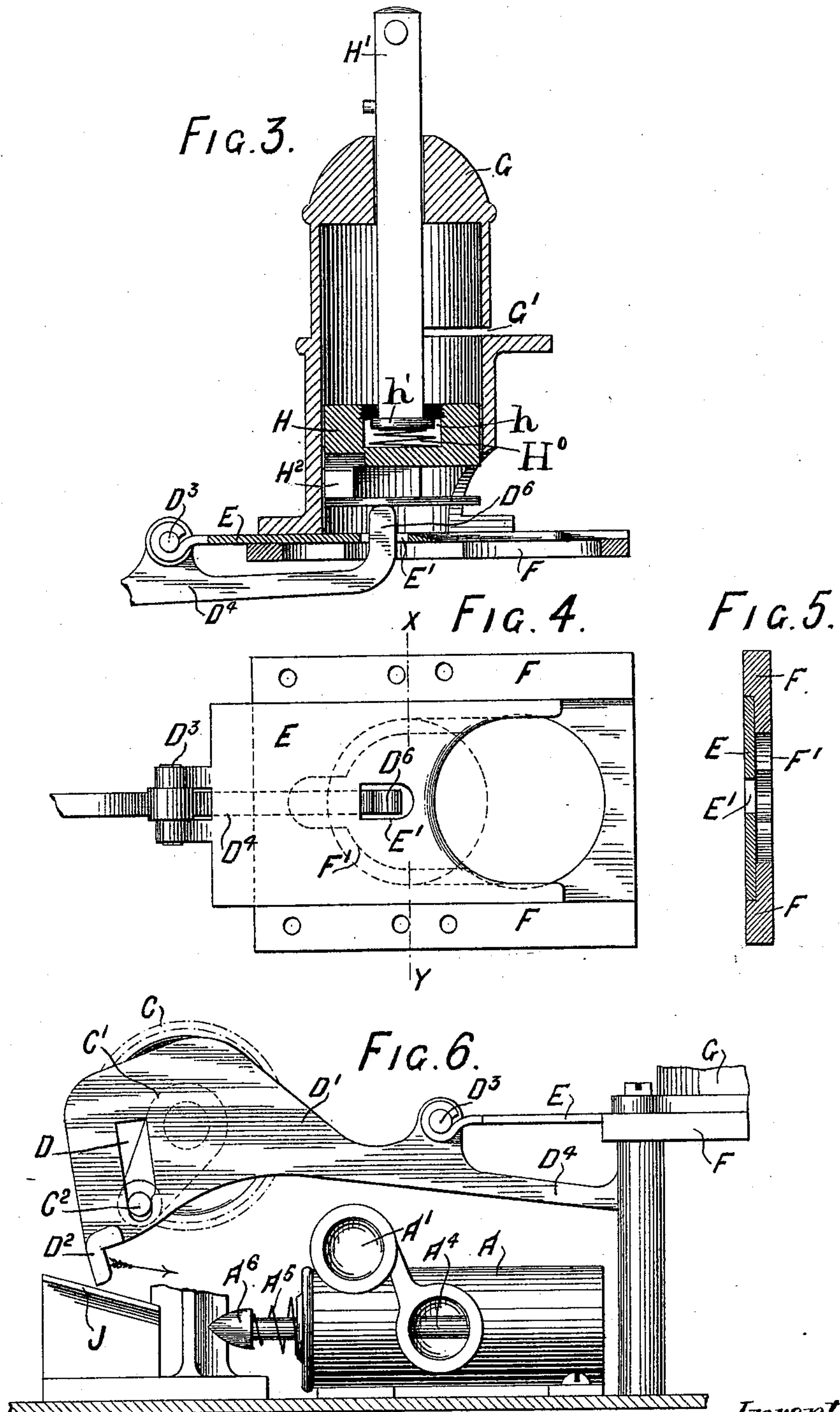
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PREPAID GAS SUPPLY METER.

No. 602,002.

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Witnesses:
John C. Tilden,
Ray C. Brown.

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN DANIEL FORSTER, OF LONDON, ENGLAND.

PREPAID-GAS-SUPPLY METER.

SPECIFICATION forming part of Letters Patent No. 602,002, dated April 5, 1898.

Application filed June 21, 1897. Serial No. 641,622. (No model.)

To all whom it may concern:

Be it known that I, JOHN DANIEL FORSTER, a subject of the Queen of Great Britain, residing at London, England, have invented certain new and useful Improvements in Apparatus for Prepaid Gas-Supply; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention refers to improved mechanism, acting in conjunction with any ordinary or useful meter or measuring apparatus, whereby a predetermined volume of gas is allowed to pass for the use of the consumer, the mechanism being brought into action by or through the insertion of a coin or token, the latter acting to free the movable parts, which continue in motion until the proper quantity of gas has been delivered. The mechanism then causes the coin to pass into a suitable receptacle and shuts off the gas-supply, it being necessary to insert another coin to cause the mechanism to again act and deliver a second measured quantity. Several coins may be inserted at one time and the mechanism thereby caused to act continuously until a quantity of gas is delivered proportionate to the number of coins placed in a container.

The invention will be readily understood by reference to the accompanying drawings, which illustrate an example of construction, Figure 1 being a side elevation of the mechanism; Fig. 2, a plan of same; Fig. 3, a side sectional elevation of the coin-container; Fig. 4, a plan view of the parts shown in Fig. 3, but with the coin-container itself removed; Fig. 5, a cross-section on the line X Y of Fig. 4; and Fig. 6, a side elevation of some of the parts shown at Fig. 1, but in an intermediate position.

Referring to the drawings, gas from the main passes into a cylinder A by the passage A', and by a passage A² it passes therefrom through the gas-meter for the consumer's use. In the cylinder A there is a division having an aperture controlled by a valve A³, as shown by dotted lines, and this valve normally closes the passage between the entrance and exit passages A' and A². The valve A³ is mounted on a spindle A⁴, passing to the exterior of the cylinder A, and is held open

for the passage of the gas by a spring A⁵, acting against a conical head A⁶ on the valve-spindle.

In connection with and operated by the operative mechanism of the gas-meter index (not illustrated in the accompanying drawings) is a shaft B, Fig. 2, carrying a pinion B', gearing with a tooth-wheel C, carried in suitable bearings, which latter has a crank-arm C', provided with a crank-pin C², the latter being thus revolved at a speed proportional to that of the index mechanism of the gas-meter. The crank-pin C² passes through a slot D in a pivoted and sliding bar D', the slotted end of the bar being somewhat heavier or more weighted than its opposite end. At the lower extremity of the slotted end of the bar D' there is a projection D², which when the gas is shut off, as shown at Fig. 1, is in contact with the conical end A⁶ of the spindle of the valve A³ to retain the latter in its closed position.

The bar D' is pivoted at D³ to a horizontally-movable slide E, and the end D⁴ of the bar extends upward (when the gas is shut off) through an aperture E', Figs. 3, 4, and 5, in the said slide E. Above the slide E, which is carried by a guide-plate F, is mounted a circular coin-receiver G, containing a plunger H.

The plunger H is operated by means of a rod or handle H', the base of which has a flange h' thereon, which fits into a recess in the upper side of said plunger and has a slight vertical movement in said recess. A coil-spring H⁰, interposed between the lower end of said rod H' and the bottom of said recess forms a cushion to prevent too violent shocks upon the arm D⁴ when the handle or rod H' is suddenly depressed, as in starting the mechanism.

The plunger H is formed on its under face with downwardly-extending side arms or wings H², which wings H², when there is no coin beneath the plunger, rest on the guide F of the slide E and prevent the under face of the plunger H from coming into contact with the upwardly-extending part D⁶ of the arm D⁴ of the bar D'.

The front end of the slide E is cut away sufficiently to allow the coin to pass between its two arms, while the guide-plate F at the

part beneath the coin-receiver G, although partly cut away, as shown by dotted lines F', Fig. 4, will still retain a coin; but such opening, as in dotted line F', is increased in size forward of the receiver G, so that although the coin will not fall away when lying upon the guide-plate F immediately beneath the receiver G upon the slide E being drawn away, yet such coin will pass through upon being pushed by a forward motion of the slide E from beneath the receiver G. The coins are inserted into the receiver G by the aperture G'.

The action is as follows: Supposing the gas to be cut off and no coins being in the coin-container, the plunger H is first lifted. A coin is then inserted beneath same through the aperture G'. This coin falls to the bottom of the container, resting upon the upturned end D⁶ of the bar D'. The plunger H is then lowered. Its wings H² act upon the coin, which latter by pressure forces the end D⁶ downward. The bar D' is rocking on its pivot D³, the projection D² raised, the valve thereby being released, the gas-supply pipe opened, and the meter mechanism released for action. The shaft B, Fig. 2, revolved from the meter-index mechanism, actuates the crank-pin C² by the gearing in the direction of the arrow, Fig. 1, and lifts the bar, eventually drawing it rearward and allowing the projection D² to rest on a guide-plate J, as is shown at Fig. 6. The bar and its projection D², moving in the direction of the arrow, Fig. 6, upon leaving the guide J falls in front of the valve-spindle and a further motion of the parts closes the valve thereby. During this operation the slide E has been withdrawn from beneath the coin; the latter has fallen onto the guide-plate F, and just before the closing of the valve A³ the slide E in its return motion has forced the coin so far forward as to allow it to fall through the aperture of the guide-plate F. When a number of coins are inserted at one time in the container, the described operations are repeated with regard to the bottom coin, but with the exception that the end D⁶ of the bar D' is held downward by the next upper coin, and consequently the gas is not cut off as long as a coin remains in the container, so that, supposing four coins are placed one upon the other in the coin-container, four times the volume of gas will be continually delivered.

Having now described my invention, what I desire to claim is—

1. In apparatus for prepaying gas-supply a crank-pin, revolved by the index mechanism of a meter; a bar, operated by the crank-pin, a projection on the bar acting to open and close a gas-supply pipe from the main to the meter, trunnions on the bar pivoted on a delivery-slide of coin-controlled mechanism and an extension of the bar by which the latter may be rocked to open the valve and allow the meter mechanism to act, such rocking of

the bar being effected by a plunger through the medium of an inserted coin, substantially as and for the purposes described.

2. In a prepayment mechanism for gas-supply, the combination with a coin-receptacle; a plunger working in said receptacle; a delivery-slide also working in said receptacle; a rocking bar pivoted to said delivery-slide; a crank-pin revolved by the index mechanism of the meter and connected to said bar for operating the latter; means operated by said bar to open and close a gas-supply pipe; and a projection on said bar adapted to be operated by said plunger through the medium of an inserted coin, substantially as described.

3. In a prepayment mechanism for gas-supply, the combination with a coin-receptacle; a plunger working in said receptacle; a slotted guide-plate beneath said receptacle; a delivery-slide working upon said guide-plate; a rocking bar pivoted to said delivery-slide; a crank-pin revolved by the index mechanism of the meter and connected to said rocking bar for operating the latter; means operated by said bar to open and close a gas-supply pipe; and an extension on said bar adapted to be operated by said plunger through the medium of an inserted coin, substantially as described.

4. In a prepayment mechanism for gas-supply, the combination with a coin-receptacle; a piston working in said receptacle; a delivery-slide also working in said receptacle; a rocking bar pivoted to said delivery-slide; a crank-pin revolved by the index mechanism of the meter and connected to said bar for operating the latter; a spring-plunger connected to a valve in the gas-main, normally holding said valve open; a projection on said rocking bar adapted to strike said valve-plunger and close said valve when at rest; and an extension on said bar adapted to be operated by said piston through the medium of an inserted coin, substantially as described.

5. In a prepayment mechanism for gas-supply, the combination with a coin-receptacle; a piston working in said receptacle; a slotted guide-plate beneath said receptacle; a delivery-slide working upon said guide-plate; a rocking bar pivoted to said delivery-slide; a crank-pin revolved by the index mechanism of the meter and connected to said rocking bar for operating the latter; a spring-plunger connected to a valve in the gas-main normally holding said valve open; a projection on said rocking bar adapted to strike said valve-plunger and close said valve when at rest; and an extension on said rocking bar adapted to be operated by said piston through the medium of an inserted coin, substantially as described.

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Witnesses:

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