

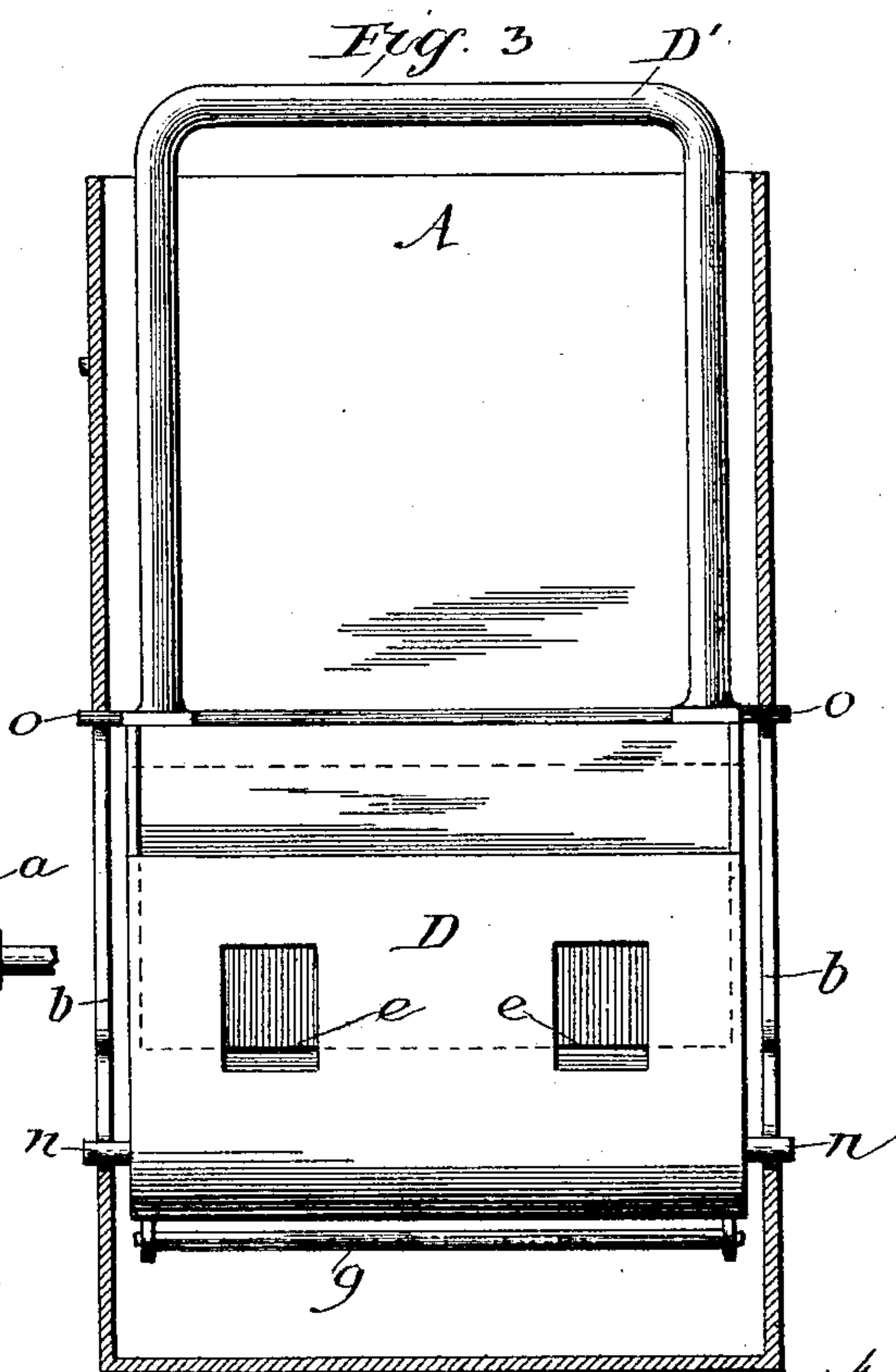
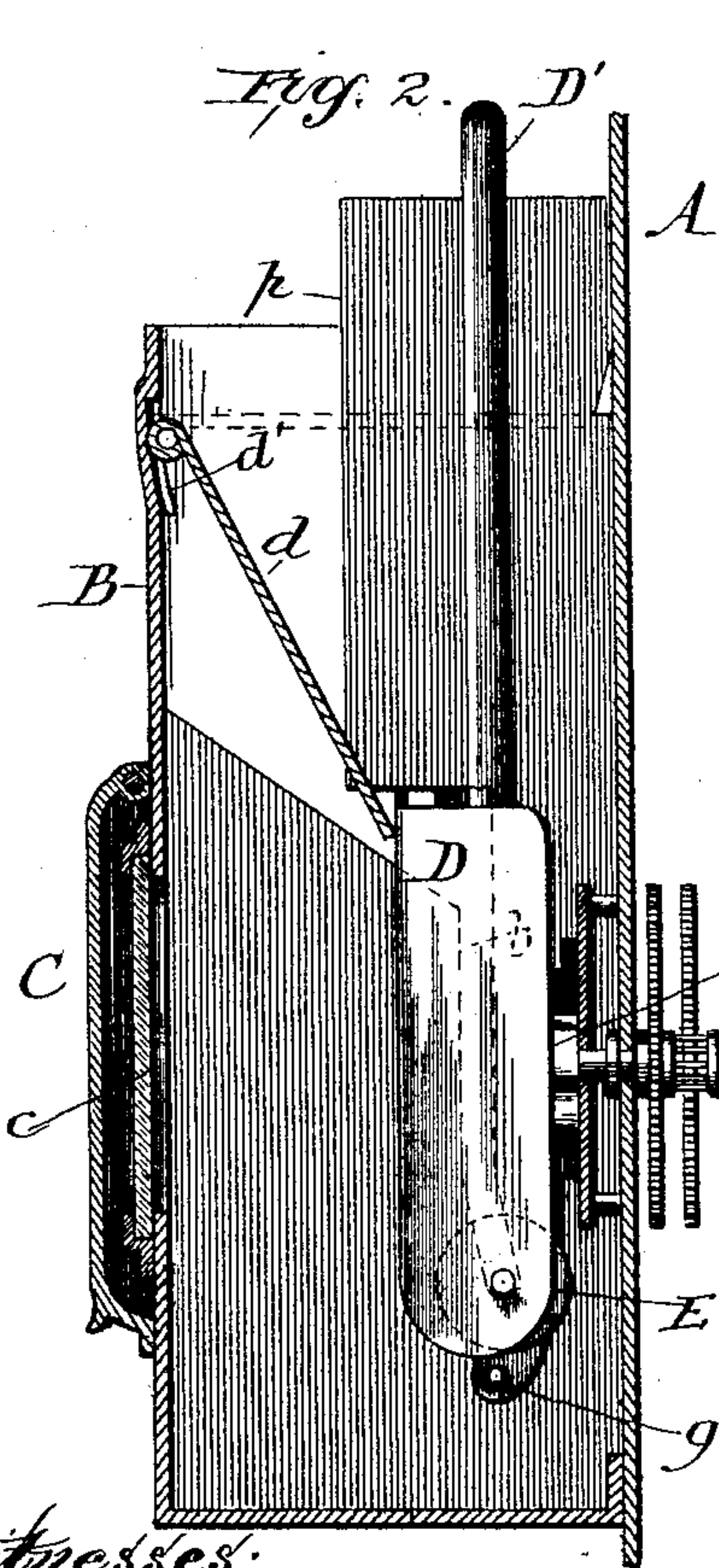
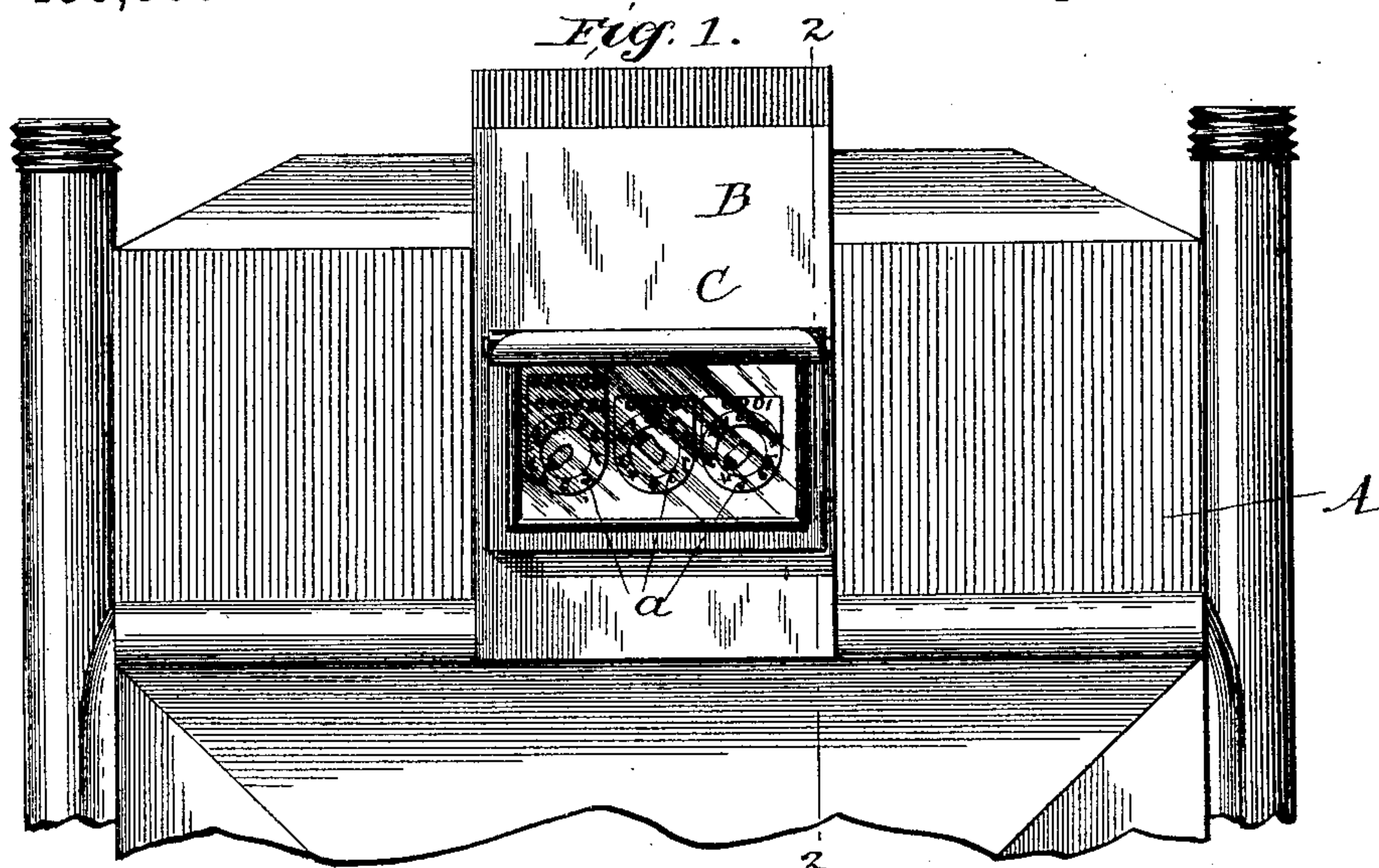
(No Model.)

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D. E. FELT & G. W. MARTIN.
DEVICE FOR RECORDING THE READINGS OF GAS METERS.

No. 450,663.

Patented Apr. 21, 1891.



Witnesses:
John L. Jackson.
Arthur H. Duward

Inventors:
Dorr E. Felt
George W. Martin
by Bond, Adams & Jones Attys.

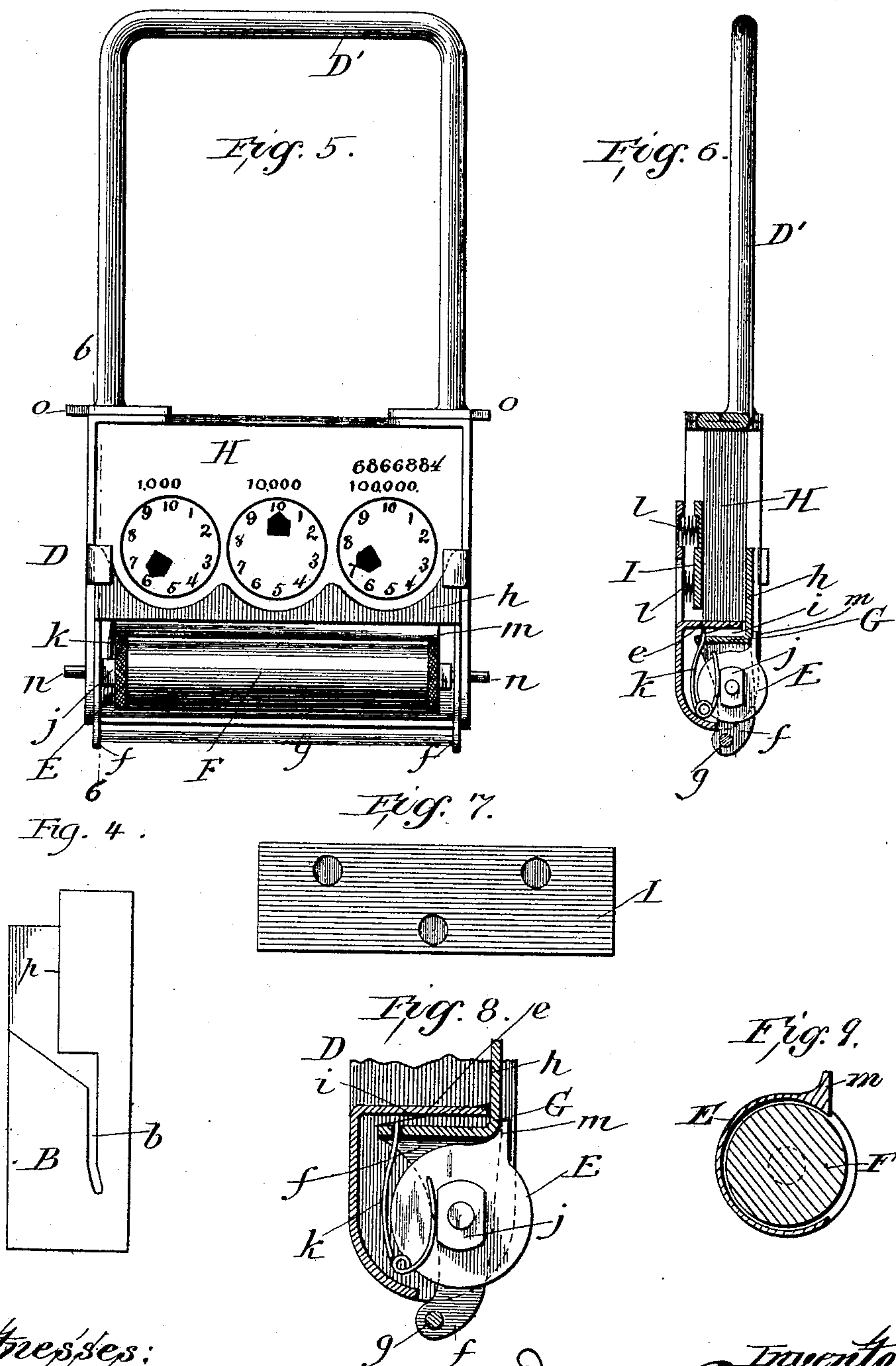
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UNITED STATES PATENT OFFICE.

DORR E. FELT AND GEORGE W. MARTIN, OF CHICAGO, ILLINOIS; SAID
MARTIN ASSIGNOR OF ONE-HALF HIS INTEREST TO SAID FELT.

DEVICE FOR RECORDING THE READINGS OF GAS-METERS.

SPECIFICATION forming part of Letters Patent No. 450,663, dated April 21, 1891.

Application filed September 22, 1890. Serial No. 365,829. (No model.)

To all whom it may concern:

Be it known that we, DORR E. FELT and
GEORGE W. MARTIN, both of Chicago, in the
county of Cook and State of Illinois, and citi-
zens of the United States, have invented cer-
tain new and useful Improvements in Devices
for Recording the Readings of Gas-Meters, of
which the following is a specification, refer-
ence being had to the accompanying draw-
ings, in which—

Figure 1 is a front elevation of the upper
portion of an ordinary gas-meter with our im-
proved pointers and dials attached thereto
and the case surrounding them. Fig. 2 is a
section at line 2 2 of Fig. 1, showing also our
improved case, which carries the device for
inking the pointers and dials and the paper
for receiving an impression from such point-
ers and dials, in position on the gas-meter.
Fig. 3 is a front elevation of the case carrying
the inking-roller and paper, the fixed case on
the gas-meter being in section. Fig. 4 is a
detail showing the groove in one side of the
case that covers the dials and pointers of the
gas-meter. Fig. 5 is a rear elevation of the
case carrying the inking-roller and paper.
Fig. 6 is a section at line 6 6 of Fig. 5. Fig. 7
is a detail of the plate for pressing the paper
forward. Fig. 8 is an enlarged detail of the
lower portion of the devices shown in Fig. 6,
and Fig. 9 is a detail sectional view of the
inking-roller and its containing-shell.

It is customary for the gas companies at
stated intervals to send employes to examine
the meters of the users for the purpose of
ascertaining the amount of gas used since the
last examination. These employes are re-
quired to report the number of cubic feet of
gas that the dials on the face of the meter in-
dicate to have passed through the meter; but
such meters are frequently located in cellars
or other dimly-lighted places, and many mis-
takes are made in reporting the amount of
gas that has passed through the meter, thus
causing a great amount of trouble to the gas
company and to the user of the gas.

Our invention has for its object to provide
devices for enabling gas companies to obtain
an accurate report of the amount of gas that
has passed through each meter, as indicated
by the dials and pointers on such meter, which

object we accomplish as illustrated in the
drawings, and as hereinafter described.

That which we claim as new will be pointed
out in the claims.

In the drawings, A indicates a gas-meter of
the ordinary construction.

a are pointers and dials formed of rubber
or other suitable material from which an im-
pression can be taken after ink has been ap-
plied thereto by a roller or otherwise. Above
each dial, and of the same material, are the
usual figures "1,000," "10,000," "100,000,"
&c., to indicate the value of the numbers on
the dials. The number of the meter is also to
be formed of the same material and placed
adjacent to one of the dials *a*. It is to be un-
derstood that the rubber pointers are to be
connected with the interior mechanism, as is
usual, so as to indicate the amount of gas
consumed.

B is a case secured to the gas-meter so as
to inclose the dials and pointers. The side
walls of this case are provided with long slots
b, as best shown in Fig. 4, and as shown in
dotted lines in Fig. 2.

C is a door hinged to the front part of the
case B, which door covers a glass *c*, through
which the pointers and dials *a* can be seen.

d is a door hinged to the inner face of the
front wall of the case B to exclude dust and
other small particles from settling on the
dials *a*. This door *d* is held in place by
springs *d'*.

D is a case or shell formed of sheet-brass
or other suitable material and provided with
suitable handles *D'*. This case D is to be of
a width to adapt it to enter the case B on the
meter.

E is a cylindrical shell journaled in the
sides of the case D near their lower ends.
The shell E contains an inking-roller F, and is
open at one side for exposing a portion of the
roller, as in Figs. 5 and 9.

e e are portions of one face of the case D,
that are turned in, and form rests for the
edges of the block of paper placed in the case.

G is a plate located below the paper-sup-
ports *e*. This plate has formed with it or
suitably secured thereto at each end a de-
pending bracket *f*, which is pivoted on the
pivots of the ink-roller and ink-roller case.

- As shown, the lower ends of these depending brackets are connected by a cross-rod *g*. The plate *G* is turned up at one edge to form a wall *h* for one side of the paper to bear against.
- 5 As shown, this wall *h* is so formed as not to come in contact with the face of the dials *a* when an impression is being taken upon the paper.
- i* are narrow wedge-shaped strips secured in any suitable manner to the upper face of the plate *G* and projecting slightly at their highest point above the surface of the paper-supports *e*.
- j* is a small narrow block secured at one end of the ink-roller case. *k* is a spring, one end of which bears against the block *j* and the other end, as shown, projects through the plate *G*; but it may be secured to such plate in any suitable manner.
- 20 *H* represents a block of paper.
- I* is a thin plate of suitable size placed behind the block of paper, and *l* are suitable springs for forcing the plate *I* against the paper, as shown in Fig. 6.
- 25 The turned-in portions *e*, spring-pressed plate *I*, and the wall *h* of the case *D* constitute a paper-carrier; but we do not confine ourselves to this particular construction of paper-carrier.
- 30 When the case *D*, that carries the inking-roller and paper, is not in use, the shell *E* is to be turned so that its open portion will lie against the face of the case *D*, and thus cover up and protect the inking-roller. As shown in
- 35 Figs. 2 and 8, the lower portion of the face of the case *D* is curved to correspond to the shape of the cylindrical case *E*. As shown in Fig. 5, the ends of the cylindrical shell or case *E* at the sides of its open portion are
- 40 milled or roughened to enable it to be turned down more easily. At the upper edge of the open portion the metal of the cylindrical case *E* is turned up slightly, as shown at *m*, to form a stop which comes in contact with the
- 45 plate *G*, and thus brings the inking-roller *F* into proper position. When the inking-roller is exposed by turning its cylindrical shell *E* into the position shown in the drawings and a block of paper of the right size is secured
- 50 in place, as shown in Fig. 6, an impression can be taken from the dials and pointers *a* of the gas-meter by inserting the case *D* into the top of the fixed case *B* of the meter and pressing down against the hinged door *d* to
- 55 move it to the position shown in Fig. 2. The projecting ends *n* of the pivots of the cylindrical case *E* will enter the open ends of the slots *b*, and as the pivot ends *n* pass down to the ends of the slots the inking-roller *F* will
- 60 come in contact with the dials, pointers, and numbers and ink them sufficiently so that an impression can be taken from them. It will be noticed that the slots *b* are cam-shaped, in that they extend vertically for about two-
- 65 thirds of their distance, or until they are about on a level with the lower edges of the dials *a*, and from that point they are inclined toward the meter. After the pins or pivot ends *n* have reached the bottom of the slots the block of paper will have reached a point directly opposite the dials and pointers *a*, and then by pressing on the handle toward the meter a perfect impression will be obtained upon the exposed sheet of paper of the dials and pointers, together with the number of the meter. The case *D* is then to be withdrawn by its handle *D'* from the fixed case *B*, and the sheet of paper on which the impression has been taken is to be removed as a record to be turned into the gas company of the amount of gas that has passed through that meter, as indicated by the dials and pointers.
- It will be noticed that the case *D* is provided on each side at its upper end with small projections *o*, which projections, bearing against the edges *p* of the upper portions of the side walls of the fixed case *B* when the case *D* is being inserted in such fixed case, prevent the block of paper from coming in contact with the dials and pointers until after the inking-roller *F* has completely passed such dials and pointers. When the projecting portions *n* are at the bottom of the slots *b*, the projections *o* enter the slots and allow of the paper being pressed against the dials and pointers to receive an impression.
- When inserting a block or a number of sheets of paper in position for use, or when withdrawing the sheet on which an impression has been made, the rod *g* is to be pushed back, which turns the depending brackets on their pivots, and of course moves the plate *G*, enabling the paper to be inserted or withdrawn more easily over the edge of the vertical portion *h* of the plate *G*. When this has been accomplished and the pressure released from the rod *g*, the spring *k* acts to return the plate *G* to its former position against the paper in the case. When the plate *G* is moved, as just described, by pressing on the rod *g*, the wedge-shaped pieces *i* move the lower edges of the sheets of paper toward the vertical wall portion *h*, and this movement, in connection with the action of the springs *l*, moves the paper evenly, so that a smooth surface will be presented to receive an impression from the dials and pointers.
- By the use of our improved devices a gas company can be certain of receiving a correct record of the amount of gas that has been consumed by each user, and can also be furnished with satisfactory proof that every one of its gas-meters has been visited by its employés, and can also have a record that cannot be disputed in the paper that is turned in with the impression of the dials, pointers, and number of the meter to show to users of gas in case such users claim that they are being charged for more gas than they have used.
- As the case *D* is withdrawn from the fixed case *B* the springs *d'* will close the door *d*, and thus effectually prevent the admission of dust or other small particles which might

adhere to the freshly-inked face of the dials and cause an imperfect impression when the case D was again inserted in the fixed case B.

As one end of the spring *k* bears against the edge of the block *j*, which is fast on the journal of the cylindrical case E, such spring will act to hold the case E and its inking-roller in position for use, and will also hold the case E when it has been rotated so as to bring its side opening around opposite the curved wall of the case D.

It is apparent that our devices, although primarily designed for use with gas-meters, may be used with other meters.

It will be seen from an inspection of Figs. 2 and 4 that the vertical edges *p* of the upper portions of the side walls of the fixed case B are in a different plane from the vertical portions of the slots *b* in such side walls, and as the projections *o* will continue to bear against the vertical edges *p* until the projections *n* have reached the bottoms of the inclined portions of the slots *b* the paper H will be held away from the pointers and dials until the projections *o* pass from the edges *p* and are pushed forward into the upper end of the slots *b*.

What we claim as new, and desire to secure by Letters Patent, is as follows:

1. The combination, with a gas-meter having indicating mechanism constructed to be inked, of a case connected with the meter in front of the indicating mechanism, a device movable into and out of the said attached case and provided with a paper-carrier, and means whereby the paper is moved to receive an impression of the inked indicating mechanism when said device is inserted into the attached case, substantially as described.

2. The combination, with a gas-meter having indicating devices constructed to be inked, of a paper-carrier and means whereby the paper is pressed upon the inked indicating devices to make an impression thereof upon such paper and thereby record the quantity of gas registered by the meter, substantially as described.

3. The combination, with a gas-meter and numeral dials and pointers which register the quantity of gas flowing through the meter, of a paper-carrier and devices for pressing the paper against the dials to impress the position of the dial numerals and pointers on the paper and record the quantity of gas registered by the meter, substantially as described.

4. The combination, with a gas-meter, of an attached case inclosing the dials and pointers and provided with grooves for pressing a paper and ink-roller carrying case toward the dials and pointers for impressing them upon paper, substantially as described.

5. The combination, with a gas-meter, of an attached case inclosing the dials and pointers and having cam-shaped grooves, of a paper-carrying case provided with an inking device and means to engage the grooves, whereby the case is pressed toward the dials and pointers when inserted into the attached case, substantially as described.

6. The case D, having its upper portion formed to receive one or more sheets of paper, in combination with a spring-actuated plate for bearing against the paper and an inking-roller secured beneath the paper-receptacle, substantially as and for the purpose specified.

7. The case D, having its upper portion formed to receive one or more sheets of paper, in combination with the pivoted shell E and inking-roller F, the shell E being open on one side, substantially as and for the purpose specified.

8. A case adapted to receive and hold one or more sheets of paper, in combination with an inking device attached to such case and a movable plate G, having a vertical portion *h*, which forms one wall of the paper-receptacle, substantially as and for the purpose specified.

9. A case adapted to receive and hold one or more sheets of paper, in combination with an inking device attached to such case, a movable plate G, having a vertical portion *h*, which forms one wall of the paper-receptacle, and inclined strips *i*, secured to the plate G, substantially as and for the purpose specified.

10. A case adapted to receive and hold one or more sheets of paper, in combination with an inking device attached to such case, the movable plate G, and a spring for keeping such plate G in its normal position, substantially as specified.

11. A case adapted to contain paper and provided with guide projections *n o* and an inking device, in combination with a slotted case B, substantially as described.

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