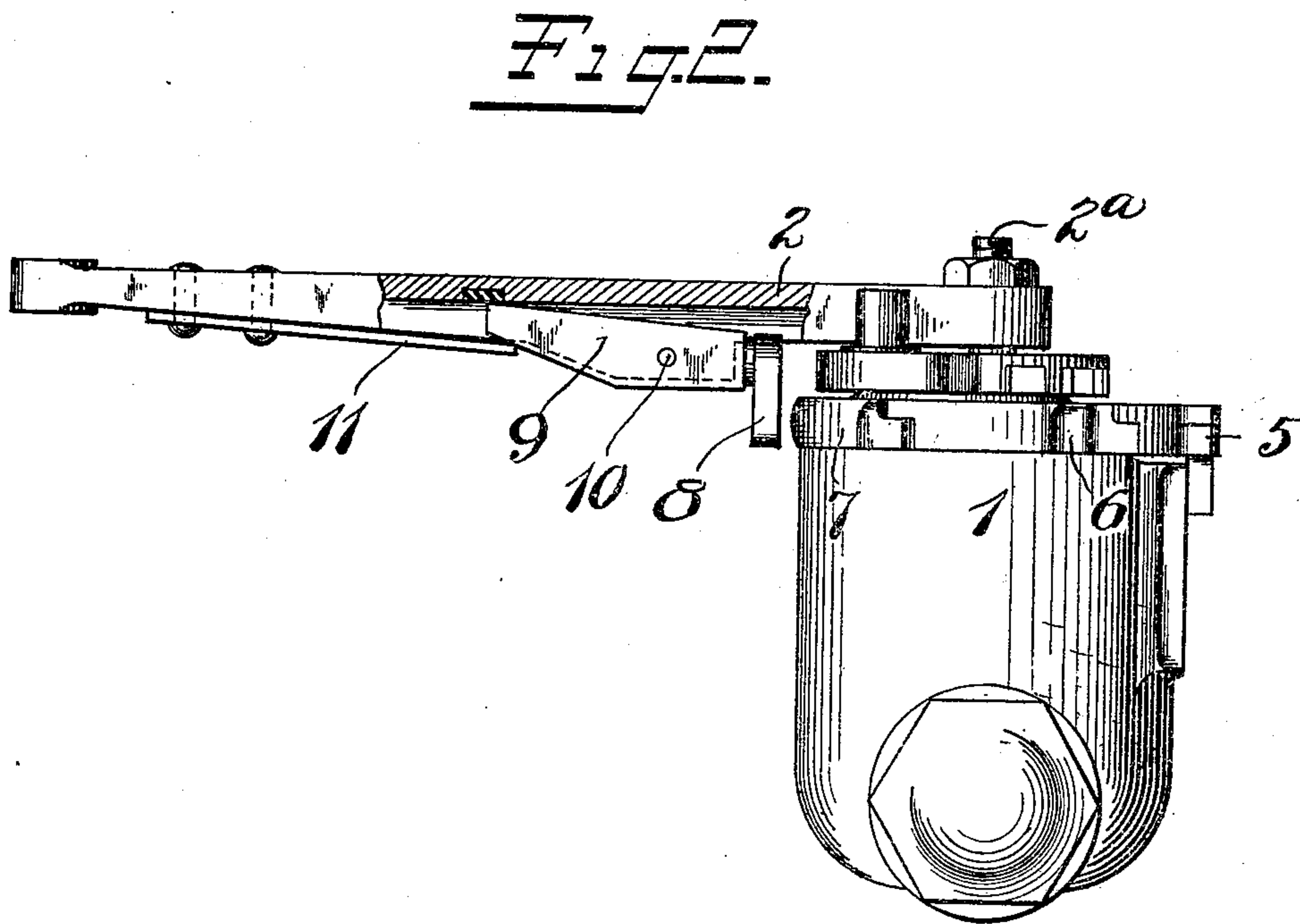
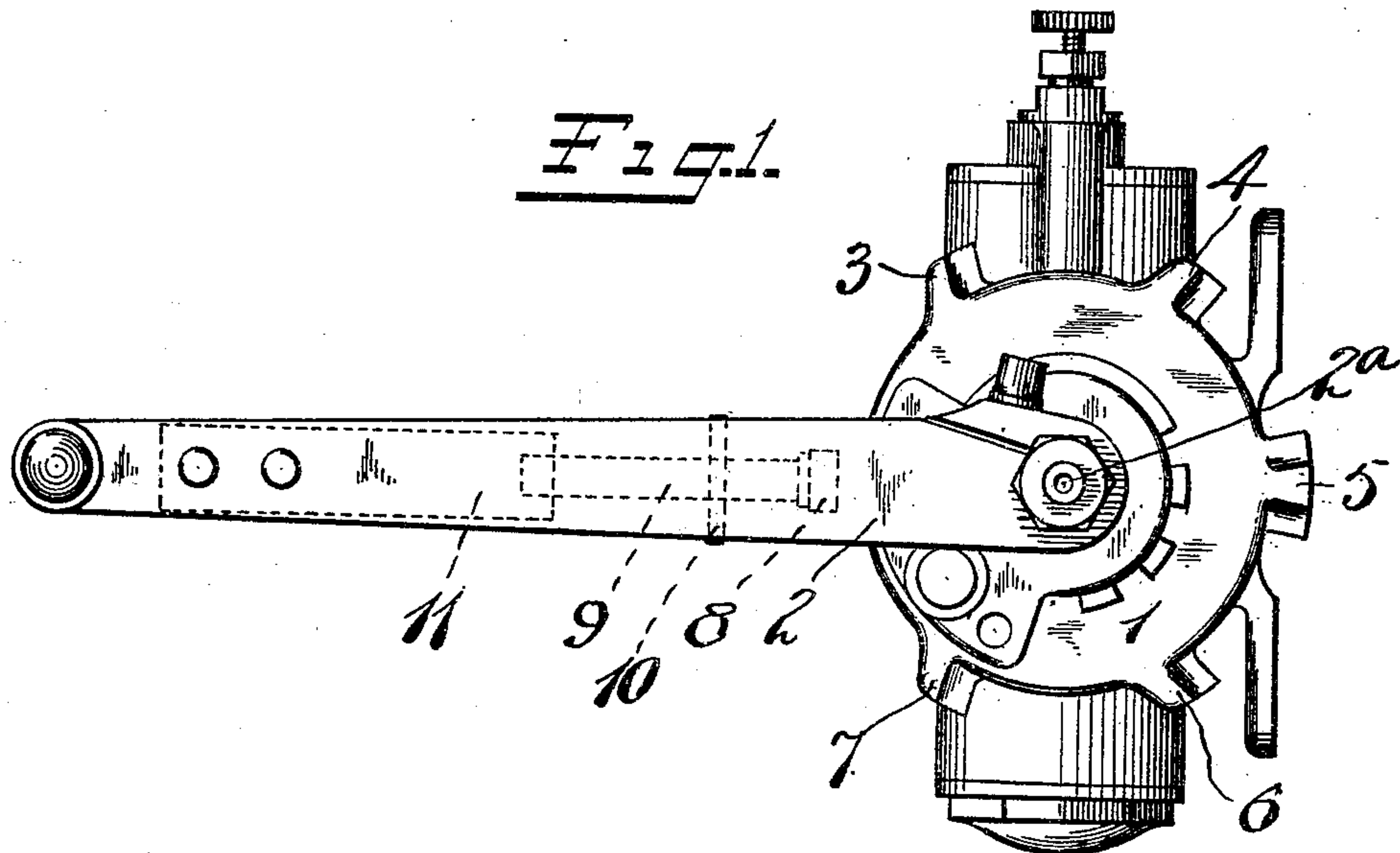


H. G. VOIGHT & N. B. HURD.
DOOR CONTROLLING MECHANISM.
APPLICATION FILED JAN. 22, 1910.

958,447.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



Witnesses:
Fred H. Rammelfelser.
Charles Reid

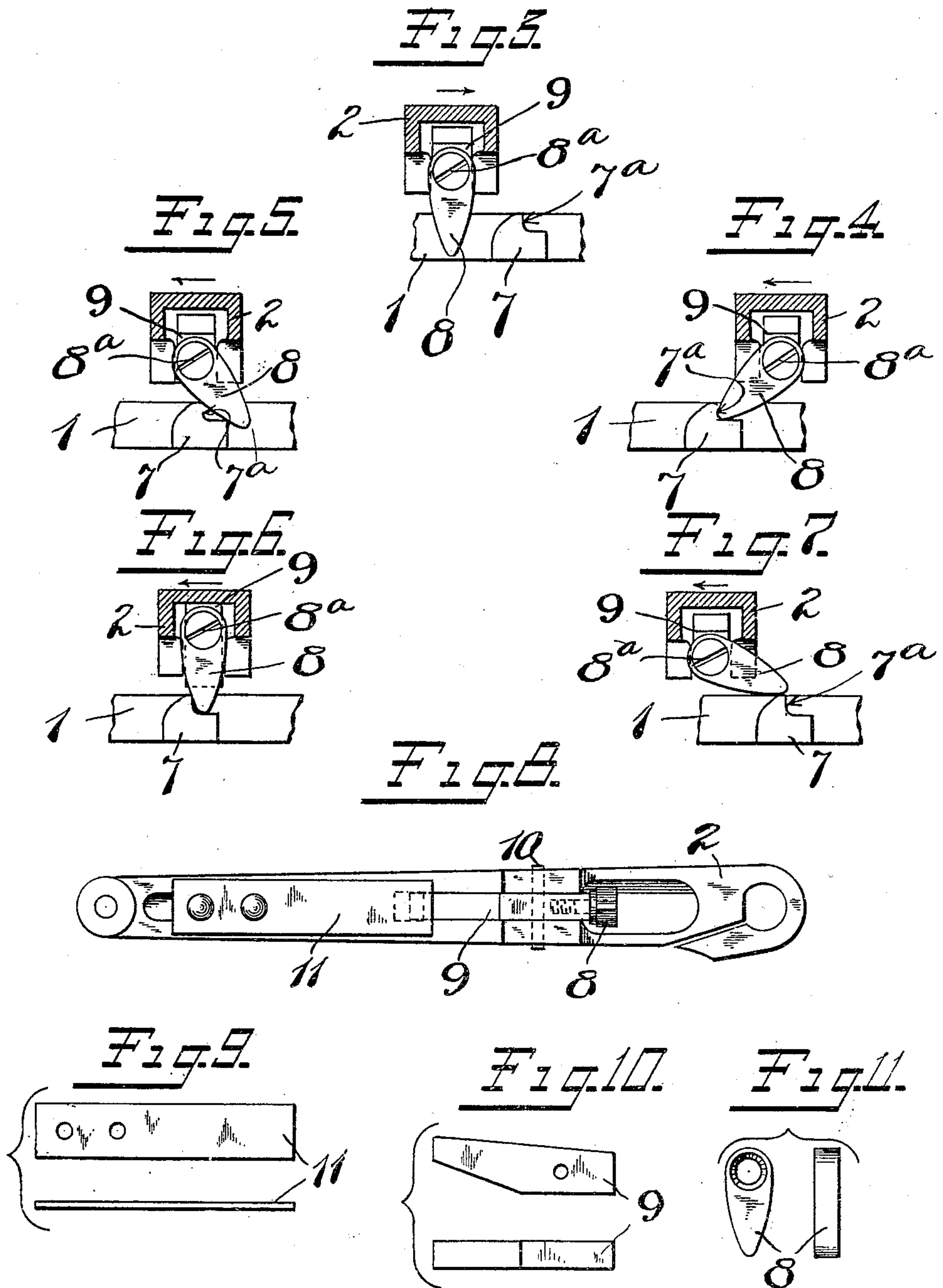
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UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT AND NORMAN B. HURD, OF NEW BRITAIN, CONNECTICUT, ASSIGN-
ORS TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CON-
NECTICUT, A CORPORATION OF CONNECTICUT.

DOOR-CONTROLLING MECHANISM.

958,447.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed January 22, 1910. Serial No. 539,576.

To all whom it may concern:

Be it known that we, HENRY G. VOIGHT and NORMAN B. HURD, citizens of the United States, residing at New Britain, county of Hartford, State of Connecticut, have in-
vented certain new and useful Improvements in Door-Controlling Mechanism, of which the following is a full, clear, and exact de-
scription.

Our invention relates to improvements in door holders, the same being of particular utility when combined with a door closing mechanism, the preferable form of our in-
vention being shown in the accompanying
drawings, in which—

Figure 1 is a plan view showing our in-
vention as employed with a door closer. Fig. 2 is a side elevation partly in section. Figs. 3, 4, 5, 6 and 7 illustrate like details in
different positions. Fig. 8 is a view of the
under side of the arm shown in Fig. 1 with
parts of our invention applied thereto. Figs.
9, 10 and 11 are detail views.

1 represents the main body or case of a
door closer of any suitable construction.

2 is the door closer arm.

3—4—5—6—7 are stop members designed
to coöperate with other parts of the stop
mechanism hereinafter described to hold the
door closure arm 2 and thereby the door in
an open position.

It may be assumed that the door closure
arm 2 is in approximately that position in
Fig. 1 in which it would appear when the
door is closed. If the arm 2 is swung on its
axis 2^a clockwise, as by the opening of the
door, it is the intention that said arm shall
be stopped at approximately the position in-
dicated by the stop members 3—4—5. If the
arm 2 is swung counter clockwise, it is the
intention that the stops 7—6—5 shall co-
operate with said arm to hold it in a posi-
tion in which the door will stand ajar to the
desired degree, depending upon the stop
encountered.

That part of the stop mechanism designed
to coöperate with the stop shoulders 3 to 7
inclusive, and to which we have previously
referred, is carried by the arm 2 and com-
prises a pendulum or stop-engaging member
8, the same being yieldingly carried by the
arm 2 as by a spring pressed tilting lever,
pivoted at 10, to the arm 2.

11 is a spring carried by the arm 2 and en-

gaging the lever 9 to hold the lever normally
in such a position as to cause the pendulum
8 to properly engage with one of the stops 3
to 7 inclusive to hold the arm 2 in the
“open” position. The distance from the
pivotal center of the pendulum 8 to the stop
member on each of the stops 3 to 7 is such
that when the end of said pendulum engages
one of said stop members, said pendulum
will incline downwardly and forwardly at
an angle, thereby blocking the advance of
the arm 2.

To illustrate, in Fig. 3 we have shown the
normal inactive position of the pendulum 8.
If the arm 2 is moved to the right, the end
of the pendulum will be dragged over the
stop 7 (Fig. 3) until it assumes the position
shown in Fig. 4, in which position the lower
end of the pendulum rests against the stop
shoulder 7^a of the stop 7. In this position
it will be seen that the tendency of the closer
to swing the arm 2 back to its normal posi-
tion will be resisted. When it is desired to
release the door to permit it to close, the
door may be opened so that the arm 2 will
be moved still farther to the right (rela-
tively to the position shown in Fig. 4) until
the pendulum 8 entirely clears the stop 7,
whereupon it will be dropped to the position
shown in Fig. 3, so that as the arm 2 moves
back to the normal position the pendulum
8 will freely swing and ride over the stop 7,
as indicated in Fig. 5. If any one unfa-
miliar with the stop mechanism should at-
tempt to close the door with the pendulum 8
in the position shown in Fig. 4, this could
be done without danger of breakage to any
of the parts since it will be remembered the
pendulum 8 is carried on the end of the tilt-
ing lever 9 hence when pressure is applied
in a direction to close the door sufficiently to
overcome the action of spring 11, the lever
9 will tilt so that the pendulum will be ele-
vated bodily on the stop 7 (see Fig. 6) until
it passes the stop 7 to permit the arm 2 to
be restored to its normal position. It will
thus be seen that there is no danger what-
ever of breakage of any of the parts by
reason of the operation of the mechanism by
those unfamiliar with its construction.

It will be seen that this type of door stop
possesses many advantages over the ordi-
nary spring friction stop such as associated
with a spring closing device, in that in our

present improvement a series of fixed stop abutments may be provided to enable the door to be held open at any one of many angles, and when released therefrom to
 5 freely close. In the ordinary spring friction stop, as applied to a door closer, it is possible to open the door and stop the same at only one point, because if a plurality of stop shoulders were employed for separate
 10 engagement by the spring friction device, the spring friction device would have to be manually forced over each one of said abutments successively in the closing operation, whereas in the present device the pendulous
 15 stop engaging member 8 will freely drag over each shoulder (after being released from one) by the action of the closer spring alone.

From the foregoing it will be readily understood that this improved stop, by reason of its difference in construction and mode of operation, is substantially and materially different from the ordinary spring friction stop, such as applied to spring closers in
 20 the past. In this respect the operation of the device while the door is closing corresponds broadly to the operation of the door stop made the subject-matter of co-pending application Serial No. 528,058, filed November 15th, 1909, by H. G. Voight, one of the
 25 joint inventors herein.

It will be understood that various stops 3 to 7 are constructed in a generally similar manner and only modified for right and left
 35 hand action, as already indicated, and in the particular form shown, the stop 5 is adapted for either action. While we have shown only five stops in all, obviously the number of said stops may be changed as desired to provide as many holding shoulders
 40 for pendulum engagement as the exigencies of any particular case demand or make desirable.

It will be understood, of course, that we have attempted to show herein only the preferred form of the construction and that we anticipate that modifications may be made in the various details and arrangement without departing from the spirit and scope of the invention. 45 50

What we claim is:

1. In a door stop mechanism, a stationary part, a movable part, a stop abutment carried by one of said parts, a cooperating stop engager carried by the other part, said stop
 55 engager being pivoted to swing like a pendulum, the pivot of said stop engager being adapted to yield.

2. In a door controlling mechanism, in combination a movable door closing member, a relatively fixed member, cooperating stop members carried by said parts, one of said stop members being pivotally mounted and arranged to swing, and a yielding support for one of said stop members. 60 65

3. In a door controlling mechanism, in combination a movable door closing member, a relatively fixed member, cooperating stop members carried by said parts, one of said stop members being pivotally mounted and arranged to swing, and a yielding and spring pressed support for one of said stop members. 70

4. In a door controlling mechanism, in combination a movable door closing member, a relatively fixed member, cooperating stop members carried by said parts, one of said stop members being pivotally mounted and arranged to swing, and a spring pressed tilting lever supporting said last mentioned member. 75 80

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