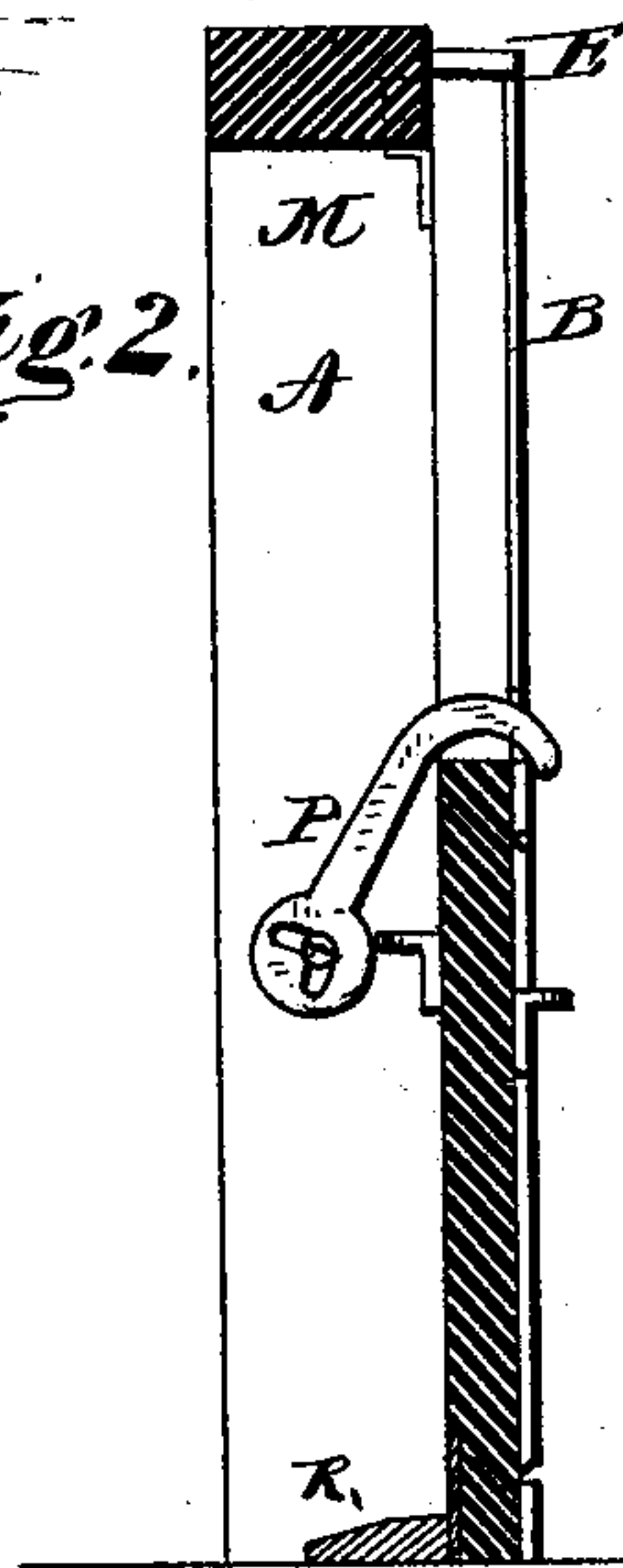
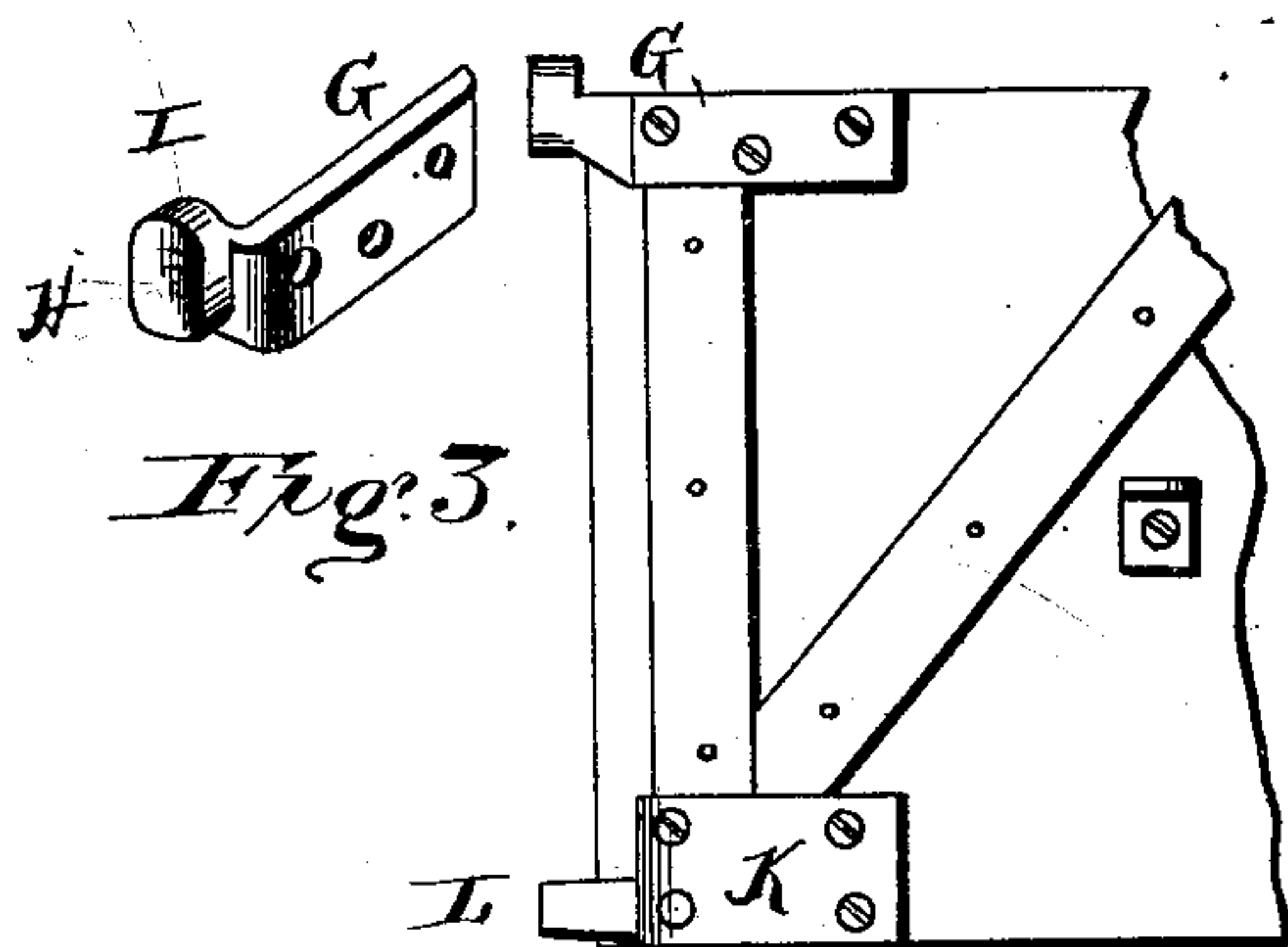
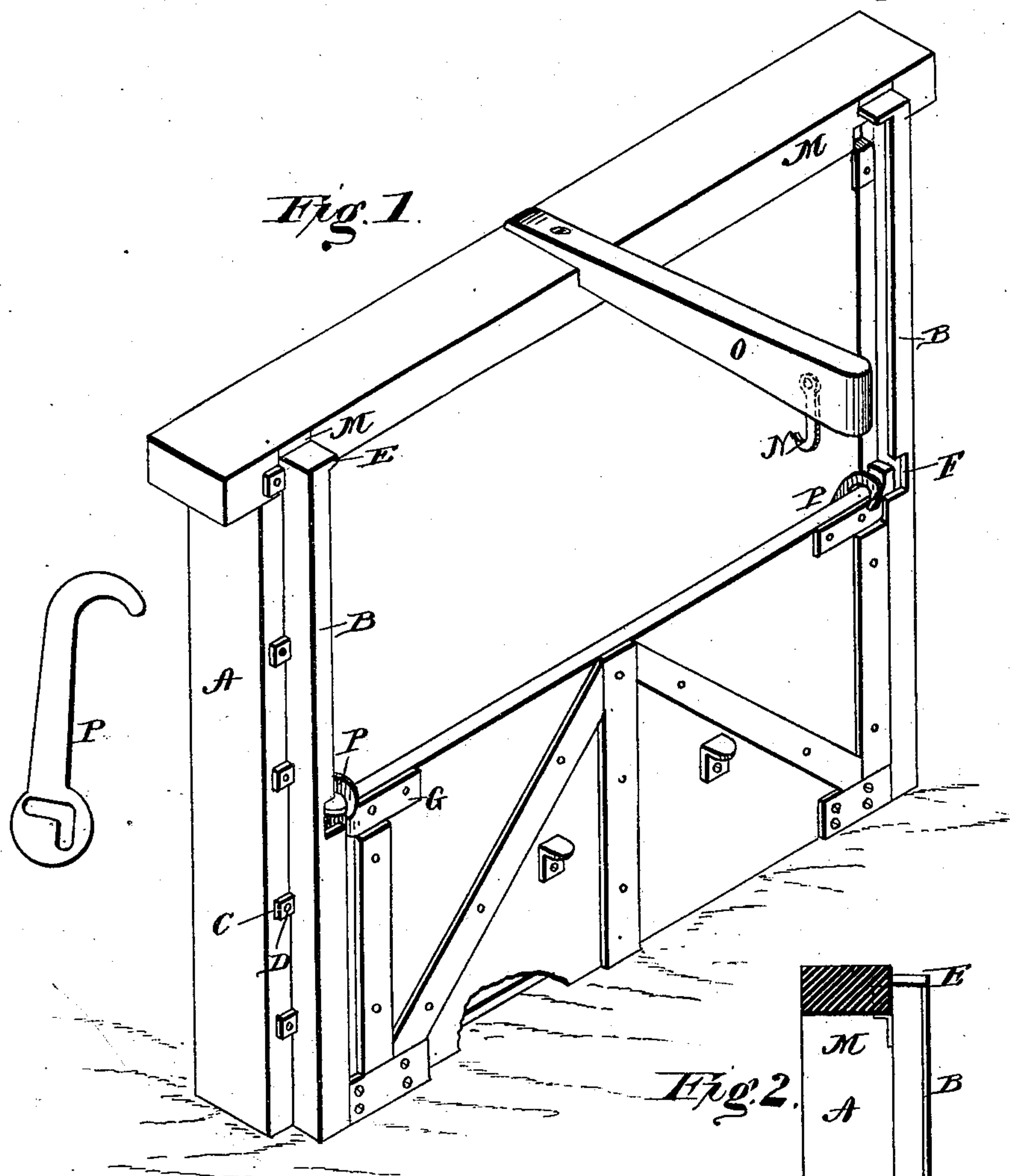


(No Model.)

L. MANCY.
GRAIN CAR DOOR.

No. 247,081.

Patented Sept. 13, 1881.



Witnesses,
Frank L. Curand,
H. Aubrey Faulkner

Inventor:
Leonard Mancy.
By Alexander Mason
att

UNITED STATES PATENT OFFICE.

LENARD MANCY, OF SEDALIA, MISSOURI.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 247,081, dated September 13, 1881.

Application filed October 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, LENARD MANCY, of Sedalia, in the county of Pettis, and in the State of Missouri, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in doors for cars, warehouses, and other structures for the reception of grain and other articles; and it has for its objects to provide a door that will be held positively in place against the outward pressure of the contents of the car or structure when closed, independent of the usual fastening devices, and which can be vertically elevated and swung back and held out of the way when opened for the discharge of the grain or contents, and which may be readily removed from the frame and guides when it is desired to have the door entirely out of the way, as more fully hereinafter specified. These objects I accomplish by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view, showing the door-frame and my improved door, looking from the inside of the car or other structure, and also a detached view of the fastening-hook. Fig. 2 represents a vertical sectional view of the frame and door; and Fig. 3 represents a detached view, showing a portion of the door and its attachments.

The letter A indicates the door-frame, which is set in the side or sides of the car or other structure in the usual manner. To the sides of the frame, on the inside, are secured in any convenient manner vertical ways or guides B, the said ways or guides being constructed of metal, L-shaped in cross-section, and provided in the present instance, on the edge abutting against the frame, with a series of perforated lugs or ears, C, by means of which it may be secured to the frame by screws or bolts D. The upper ends of the ways are formed with stops E, which limit the upward movement of the door and prevent it from leaving the guides when elevated. Midway between the upper and lower ends of the ways or guides the rear sides

of said ways are cut away, as indicated by the letter F, and that portion of the inner sides of ways below the parts thus cut away projects farther toward the door than the portion above such cut-away portions, so that the said lower portions will project over the edges of the door at the sides and confine it when closed, while the upper portions of said ways will clear the edges of the door, to permit it to swing backward when it is to be opened.

The door at the upper corners has attached or secured to it, by means of screws or otherwise, metallic castings G, which are provided with rectangular lugs H at their outer extremities, which are adapted to set and slide in the ways or guides B. These lugs project slightly upward above the main portion of the castings, as indicated by the letter I, for the purpose hereinafter explained.

The lower corners of the door are provided with castings K, having lugs L at the extremities, that, like the lugs H, are adapted to set and travel in the ways or guides B.

In the upper part of the door-frame, on each side, at the termination of the ways, are sunk and secured metallic socket-pieces M, for the purpose hereinafter explained.

The letter N indicates a hook pivoted to one of the upper cross-beams, O, which supports the roof in such position as to engage the edge of the door and hold it when in an open position.

The letter P indicates a hook pivoted to one side of the door-frame, which is adapted to engage the upper edge of the door in order to lock it.

The letter R indicates an abutment on the sill of the frame, on the outside, to prevent the escape of grain below the door and the entrance of water.

The operation of my invention is as follows: The door in Fig. 1 is represented as in a closed position, in which case the lugs on the respective castings at the corners of the door, as well as the side edges of the door, are confined by the lower portions of the ways, thus holding the door positively in place and preventing the grain from any possibility of escape at the sides, which is a serious objection in ordinary car-doors. To open the door the hook is released from its upper edge and the door is ver-

tically elevated in the ways until it is fully up.
 The door is then swung inward, the lugs H
 serving as pivots, the projecting ends of said
 lugs entering the sockets in the socket-pieces,
 5 which form a substantial support for the upper
 edge of the door. The hook on the cross-beam
 of the car is then caused to engage the lower
 edge of the door, holding it securely in an open
 position. The portions of the ways which are
 10 cut away permit the lower lugs of the door to
 swing clear of the ways, the side edges of the
 door swinging clear of the upper portions of
 the ways, as before stated.

When it is desired to remove the door en-
 15 tirely from its frame it is first raised until the
 lugs H enter their sockets and the lower end
 of the door is swung out from the ways. The
 lugs are then withdrawn from their sockets
 and the upper end of the door is lowered until
 20 the lugs H come opposite the notches F, through
 which the lugs may be withdrawn and the door
 removed entirely from its guides and frame.

I do not broadly claim a grain-door arranged
 to slide vertically in guides and swing inwardly
 25 when in its raised position to be folded against
 the roof of the car out of the way, as such con-

struction is shown in the Patents No. 158,732,
 of January 15, 1875, and No. 215,071, of May
 6, 1879, the said doors having hooks to hold
 them in their raised position.

What I claim as new, and desire to secure
 by Letters Patent, is—

As an improvement in grain-car doors, the
 combination of the frame A, guides B, con-
 structed as described, with flanges and notches
 35 F, the vertically-sliding door, provided with
 upwardly and laterally projecting lugs H, se-
 cured to project from the ends of its upper cor-
 ners, the socket-pieces M, secured to the door-
 frame and communicating with the upper ends
 40 of the ways, whereby the upper end of the
 door is supported and hinged in the manner
 described, and may be removed entirely from
 its frame, substantially as and for the purpose
 described.

In testimony that I claim the foregoing I
 have hereunto set my hand this 18th day of
 September, 1880.

LENARD MANCY.

Witnesses:

H. AUBREY TOULMIN,
 JAMES GOFFREY.