

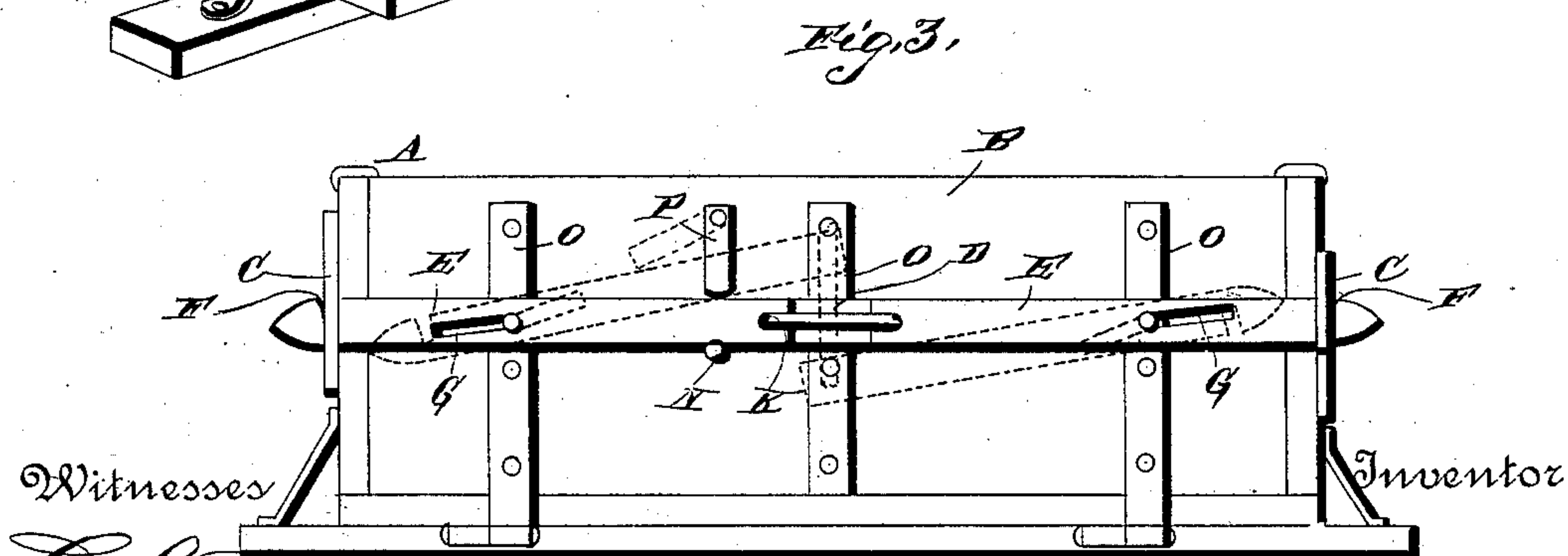
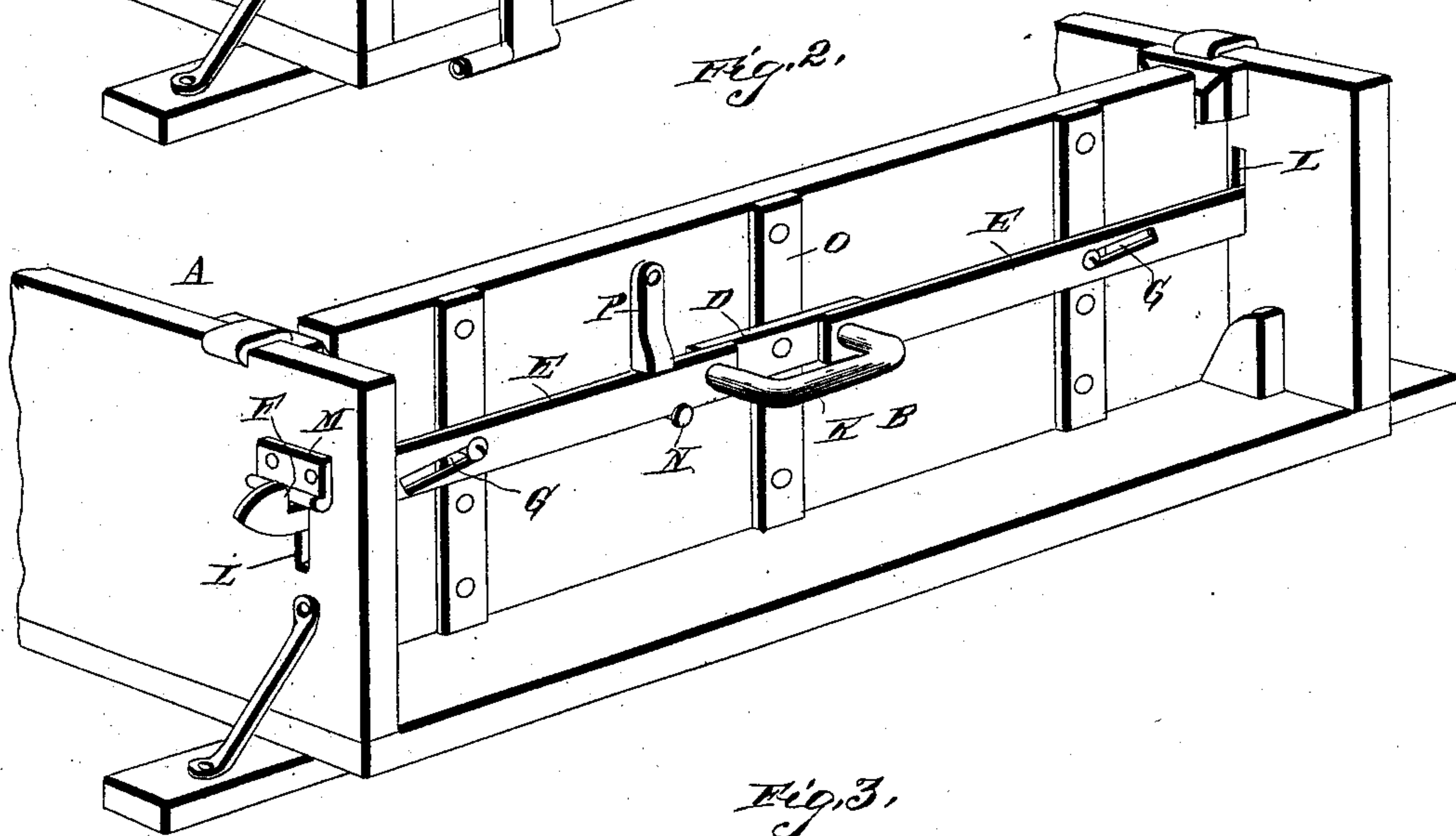
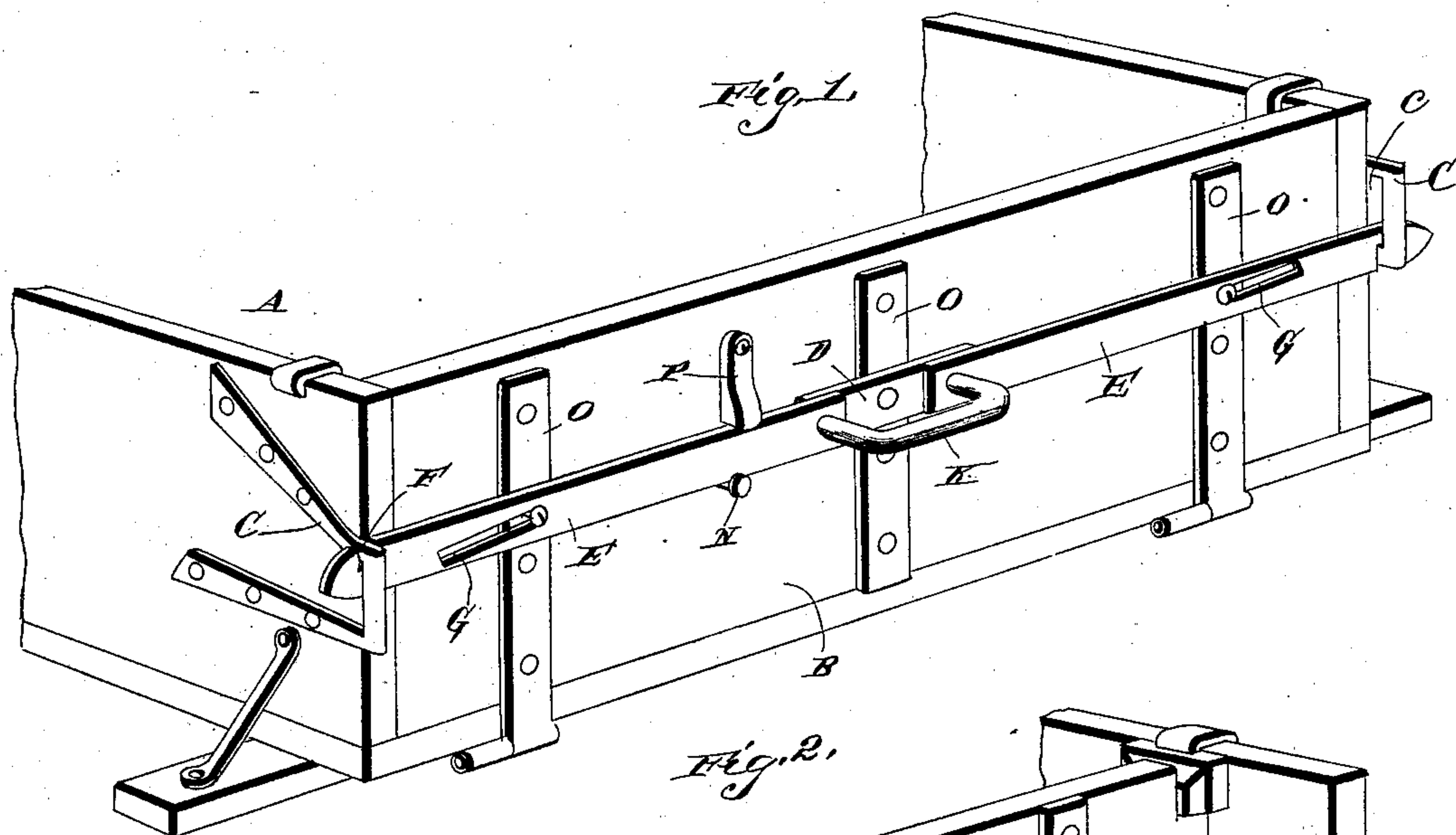
(No Model.)

E. C. WARD.

END GATE.

No. 389,619.

Patented Sept. 18, 1888.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD CLARK WARD, OF PARSONS, KANSAS.

END-GATE.

SPECIFICATION forming part of Letters Patent No. 389,619, dated September 18, 1888.

Application filed January 3, 1888. Serial No. 259,639. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CLARK WARD, a citizen of the United States, residing at Parsons, in the county of Labette and State of Kansas, have invented new and useful Improvements in End-Gates, of which the following is a specification.

My invention relates to improvements in end-gates; and it has for its objects to provide improved means for securing the same in place.

It is my object to provide means whereby both sides of the gate are locked in place simultaneously by a single movement.

The invention consists in a locking device which may be applied to any end-gate, whether hinged or removable, with no previous preparation of the latter; and it consists of two sliding bolts, which are provided with hooked or notched outer ends to engage shoulders on the side-boards, and are pivoted at their inner ends to opposite ends of a short lever, which is pivoted to the end-gate. This lever is provided with a handle, and when it is turned the bolts are disengaged from the sides of the wagon-body and drawn in. The bolts are provided with guide slots, which operate on studs or pivots on the end-gate. This locking device is more fully described hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a perspective view of a wagon-body in which is secured a hinged end-gate embodying my improvements. Fig. 2 is a similar view of a wagon-body in which is secured a removable end-gate embodying my improvements. Fig. 3 is a rear view of the body shown in Fig. 1, wherein the motions of the different parts of the device are indicated in dotted lines.

Referring by letter to the accompanying drawings, A designates the body, of any ordinary form, and B designates the end-gate, which is secured in the end of the body. Keepers C C are secured to the sides of the body and project beyond their rear ends.

D represents a lever, which is pivoted at its center to the center of the end-gate, and E E represent the locking-bolts, which are provided at their outer ends with notches F F to engage the keepers, and they are pivoted at their inner ends to the extremities of the lever

D. The bolts are provided, further, with inclined slots G, which operate on stationary pivots H H, secured on the end-gate.

It will be seen that if the lever is turned on its pivot it will impart to the outer ends of the locking-bolts two distinct motions—namely, a vertical motion (due to the bolt turning on their pivots) and then a sliding motion inward. The vertical motion serves to disengage the notches from the keepers and the sliding motion removes the ends of the bolts entirely from the keepers and draws them within the outer edges of the end-gate.

K represents a handle, by which the lever may be turned, and its ends are passed through the inner ends of the locking-bolts and secured to the ends of the lever. It will be seen that the ends of the handle thus form the pivots which connect the lever to the bolts.

The keepers C, as will be seen, are rectangular and project just far enough beyond the rear ends of the side-boards to form vertical slots c, in which the ends of the bolts will move vertically with no lateral play. These keepers may, if desired, be secured in the ends of the side-boards, or they may be substituted by slotted plates. In Fig. 2 is shown the arrangement of the locking device when applied to a removable end-gate, in which case the sides of the body are slotted, as seen at L, and wear-plates M are arranged at the ends of the slots to prevent the engagement of the locking-bolts from injuring the side-boards. The outer sides of the notches in the ends of the locking-bolts are inclined, thus giving the notches a taper toward their inner ends. As the lever is turned to shoot the bolts and cause them to engage the slots, the outer sides of the notches strike the shoulders at the ends of the slots and slide vertically on the same, thereby drawing the sides of the body inward. Thus when this improved end-gate is in place the sides are supported and prevented from spreading apart from the pressure of the contents of the wagon. A stud or stop, N, is arranged on the end-gate in the path of the inner end of one of the bolts to limit its motion. These levers and bolts would be liable, unless some protection was provided, to score or mar the surface of the end-gate. To prevent this I secure metal cleats O O (three or more in number) on the end-gate, so that the levers and bolts will operate

thereon and be held out of contact with the gate. The pivots of the bolts and the lever are secured to the cleats. When the end-gate is hinged, these cleats are formed as continuations of the hinges, as shown in the drawings, Figs. 1 and 3.

P represents a latch, which is pivoted above one of the bolts, and it normally hangs in a vertical position with its lower end in contact with or adjacent to the upper edge of the said bolt. When this latch is in its normal position, the bolts cannot be withdrawn from the slots or cannot be moved in any way.

The herein-described manner of securing the end-gate in place in the body is reliable; the securement is made by a single movement of the hand, and the device may be applied to any end-gate now in use, whether hinged or removable; also, if there are two or more gates at the end of the body, one above the other, this gate may be used, and the advantage is that either gate may be removed without disturbing the others.

Having thus described my invention, I claim—

1. The combination, with the lever mounted on the end-gate, of the bolts connected to the ends of the lever and having slots therein mounted on studs on the end-gate, the ends of the said bolts being notched or hooked, substantially as and for the purpose hereinbefore specified.

2. The combination, with an end-gate, of the

lever mounted thereon, the bolts connected to the lever and adapted to engage the sides of the body, and the gravity-latch P, pivoted to the end-gate above one of the bolts and adapted to automatically engage the same, substantially as and for the purpose specified.

3. The combination, with the end-gate and the keepers C C on the sides of the wagon-body, of the lever D, pivoted to the end-gate, and the bolts E E, pivoted at intermediate points to the end-gate, and connected, respectively, to opposite ends of the lever, the said bolts having notches F F in their ends, respectively in their upper and lower sides, whereby when the lever is rotated the bolts engage, respectively, with the upper and lower ends of the said keepers, substantially as specified.

4. The combination of the lever, pivoted at its center, and the bolts E E, attached, respectively, to the opposite ends of the lever and having inclined slots G G therein, embracing and sliding on rigid studs, whereby when the lever is turned the bolts are given a rotary and a longitudinally-sliding motion, substantially as and for the purpose hereinbefore specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EDWARD CLARK WARD.

Witnesses:

WM. GRAY,

R. M. HART.