

No. 702,053.

Patented June 10, 1902.

L. F. FREDERICKS.
END GATE AND FASTENING THEREFOR.

(Application filed Apr. 14, 1902.)

(No Model.)

2 Sheets—Sheet 1.

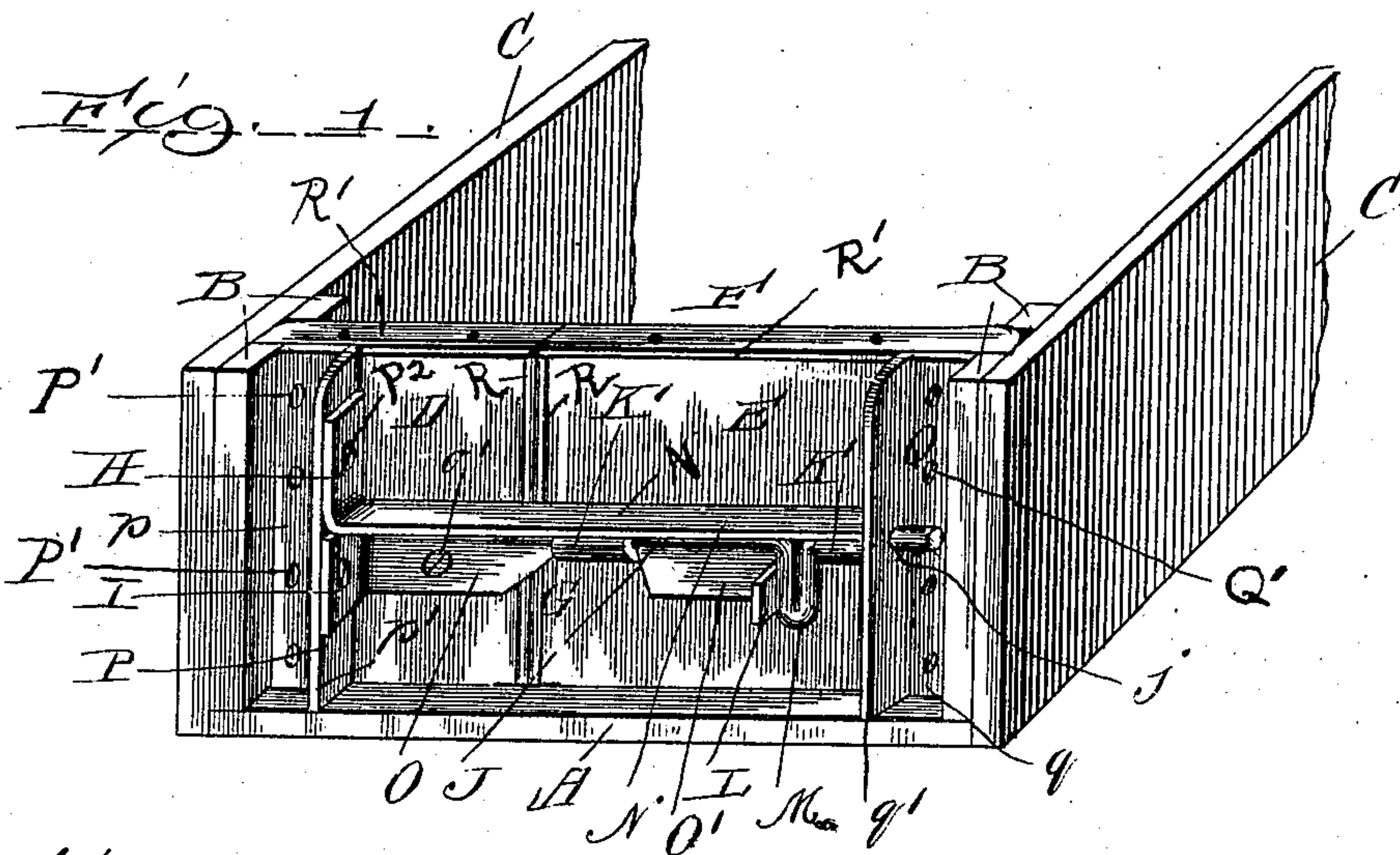


Fig. 2.

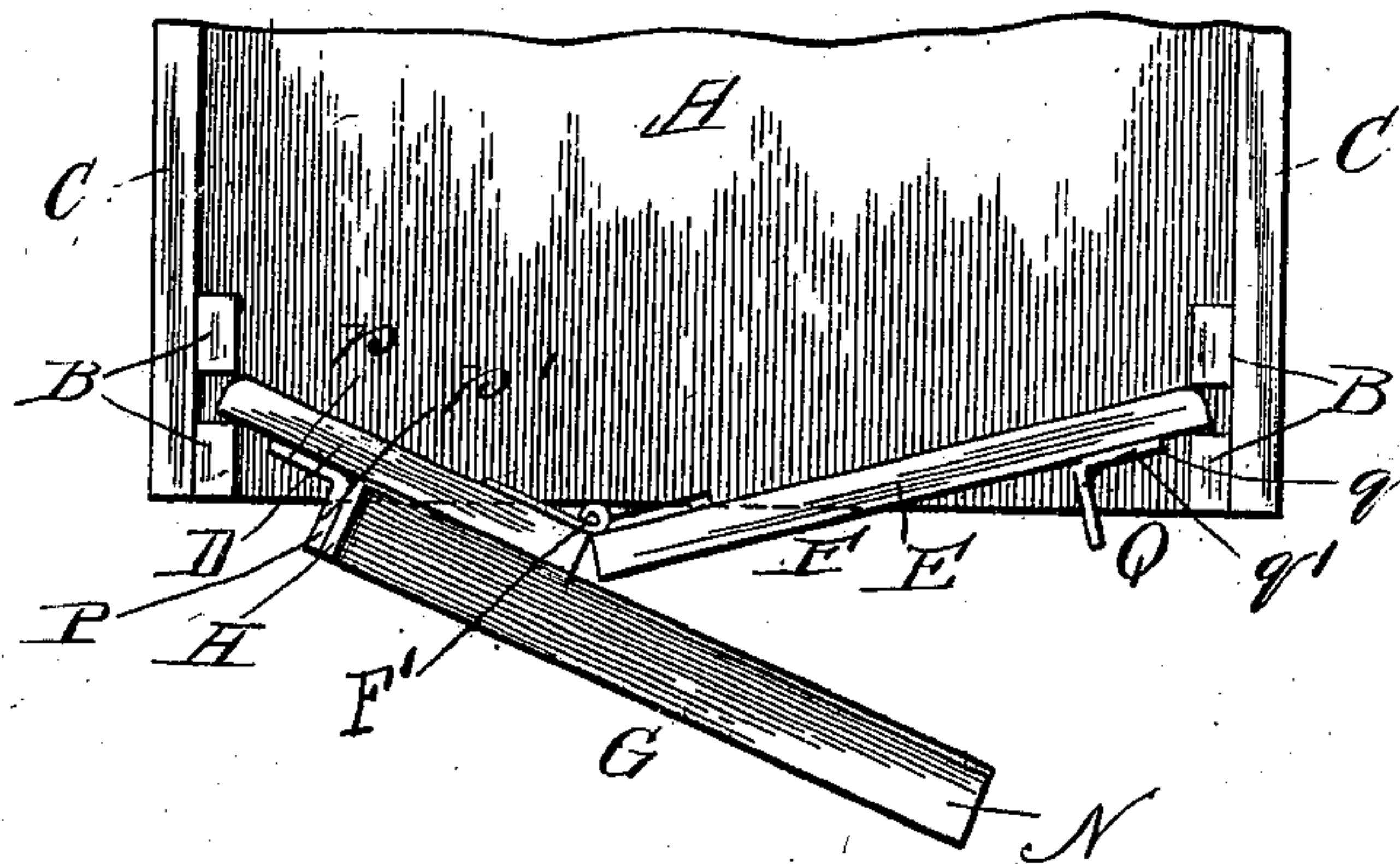
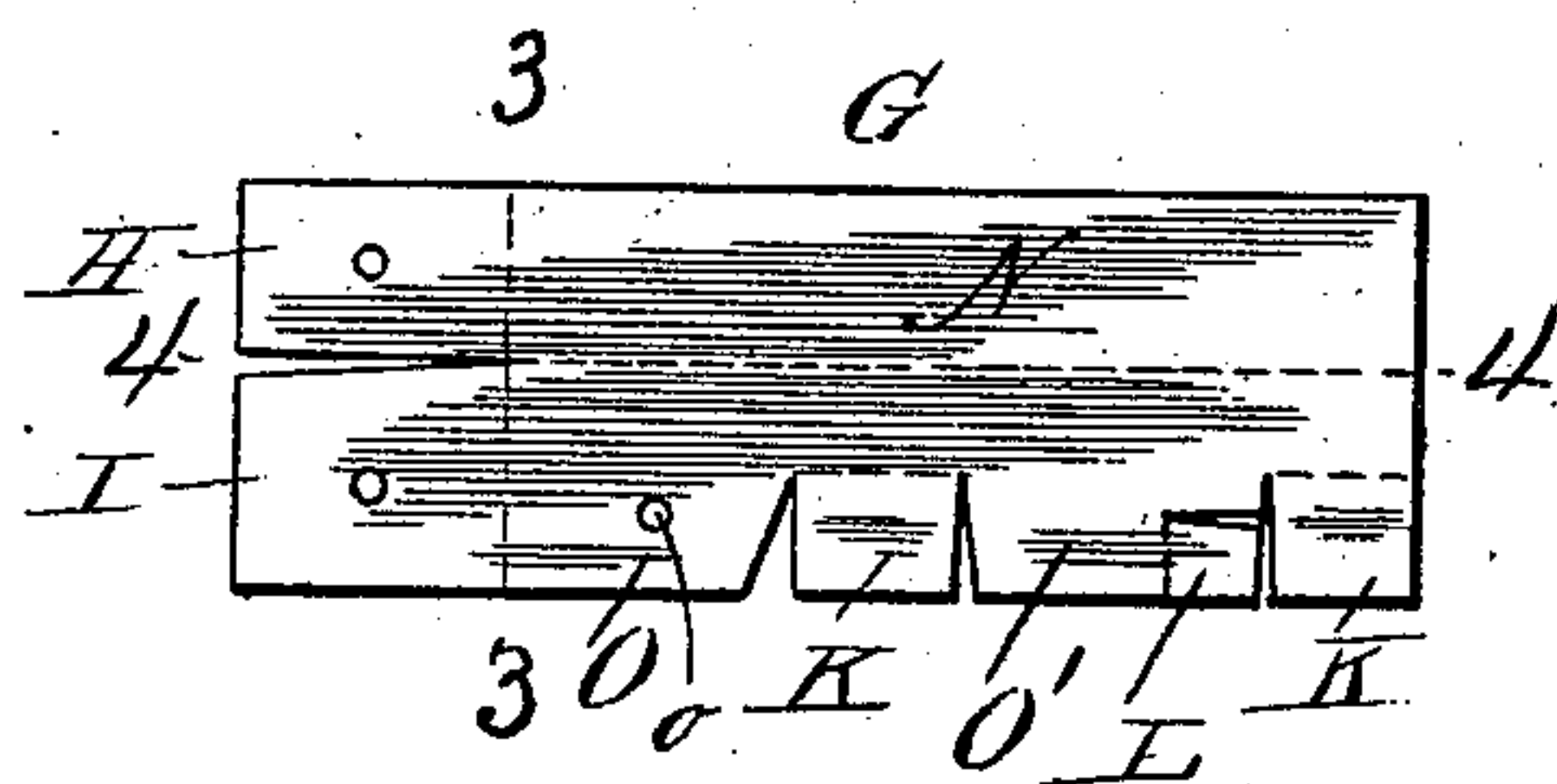


Fig. 4.



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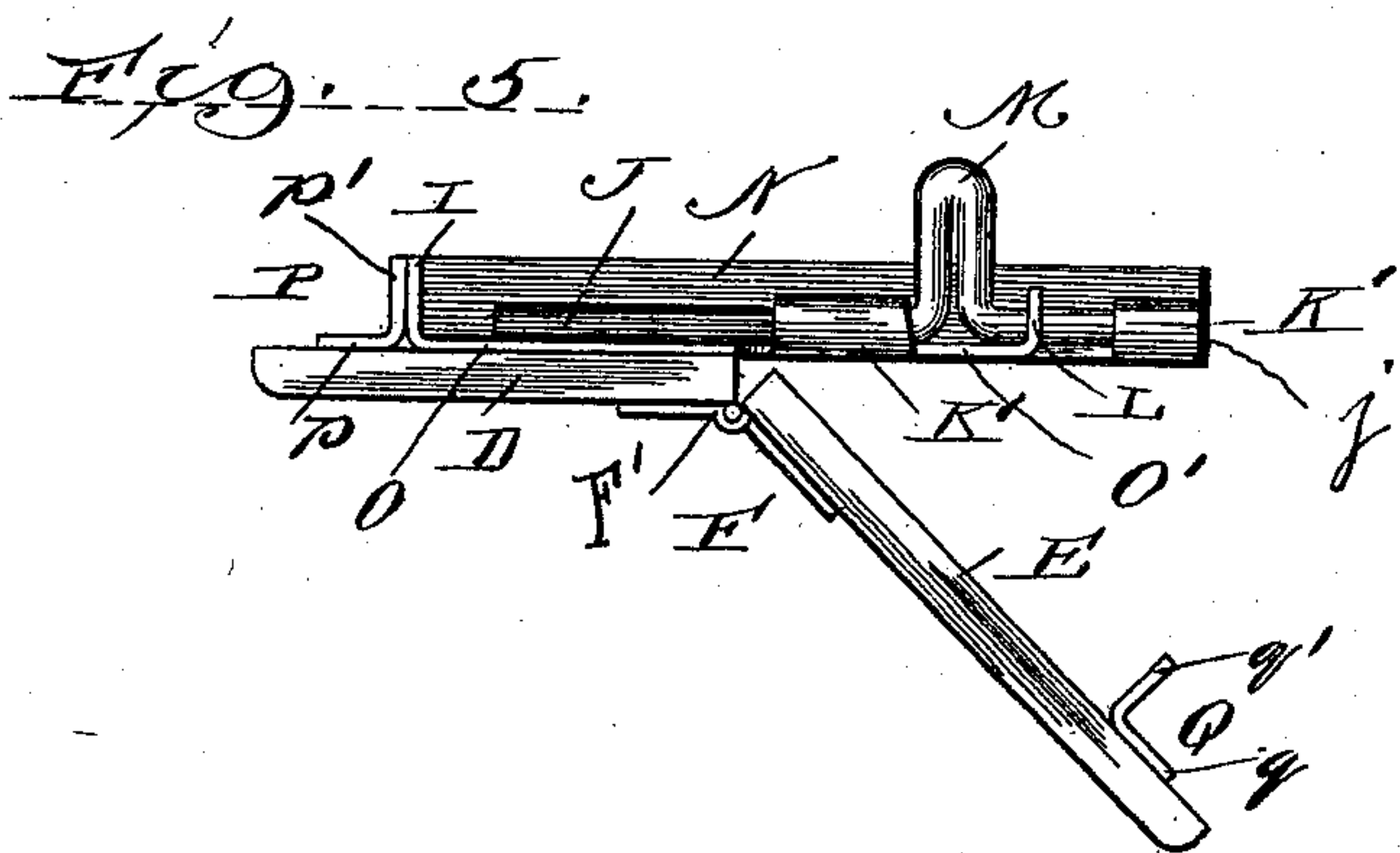
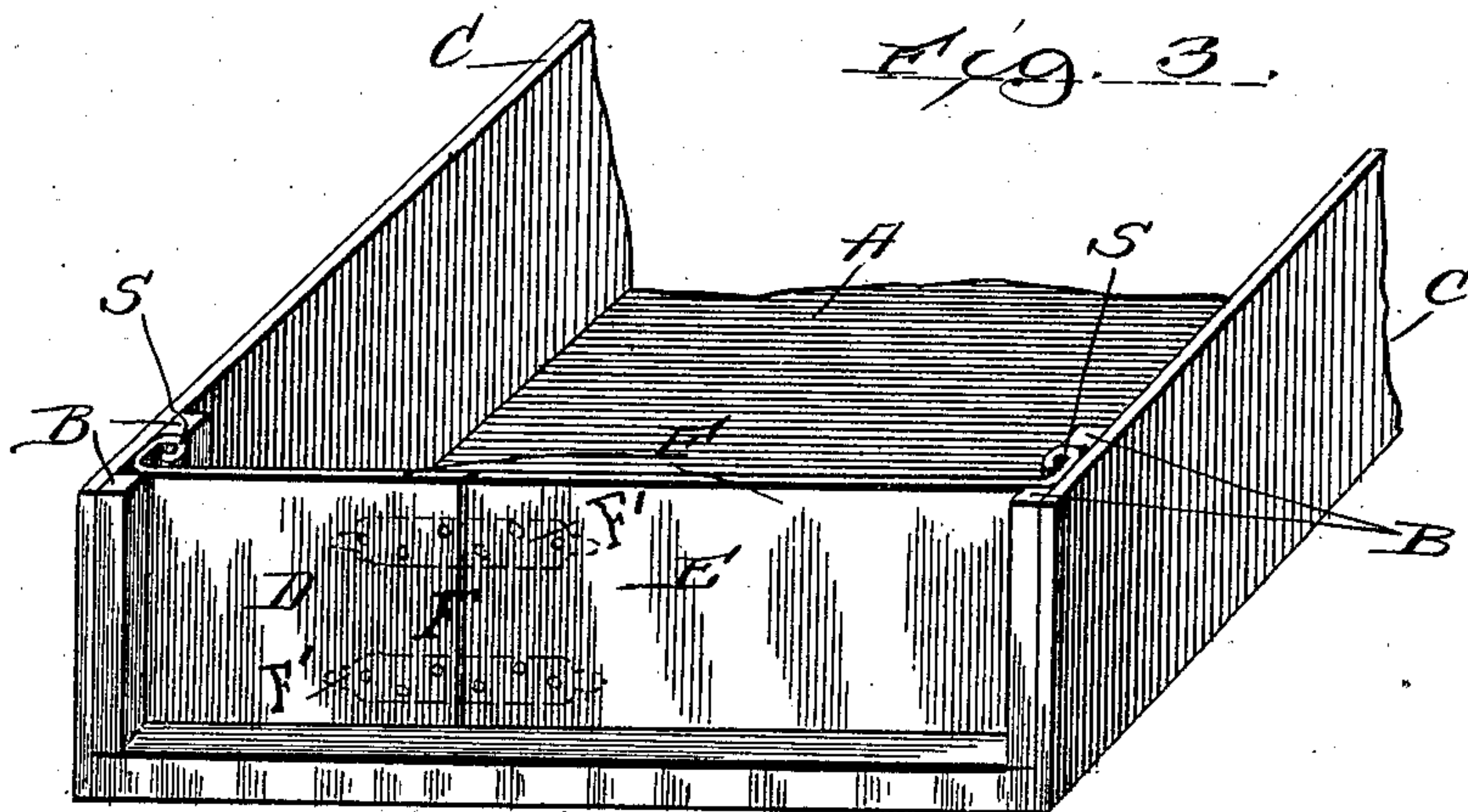
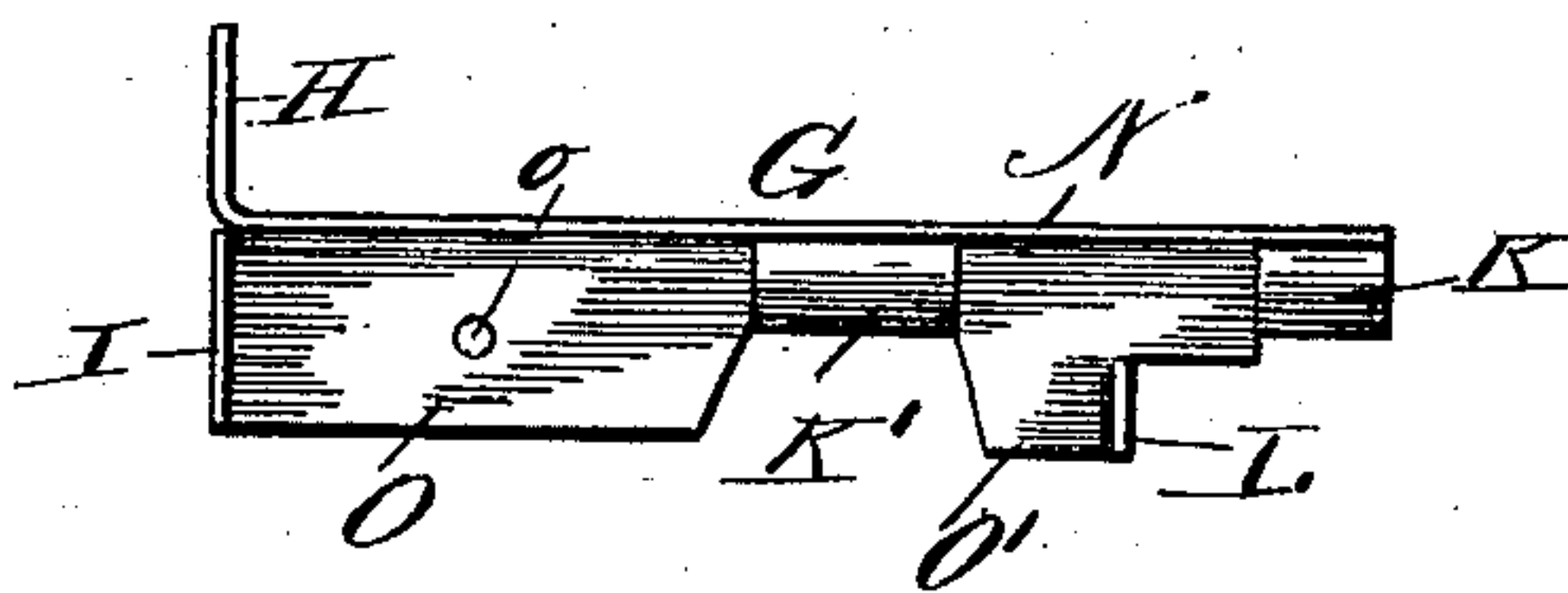


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEWIS F. FREDERICKS, OF GALESBURG, ILLINOIS.

END-GATE AND FASTENING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 702,053, dated June 10, 1902.

Application filed April 14, 1902. Serial No. 102,873. (No model.)

To all whom it may concern:

Be it known that I, LEWIS F. FREDERICKS, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented a new and useful End-Gate and Fastening Therefor, of which the following is a specification.

This invention relates to wagon end-gates of that class which are hinged or pivoted together.

One object of the invention is to provide an end-gate and fastening which is economic of manufacture, which is strong, which is durable and secure, and which may be easily and quickly applied to or removed from any ordinary wagon-body and which may be secured therein and held from accidental displacement.

Another object is to provide an end-gate which can be removed from its position without raising it vertically to release it from the cleats in the wagon-body or without removing the top end-gate of a double-box wagon.

In carrying out these main objects of my invention subsidiary improvements are evolved, which consist in novel structural features, novel organizations of parts, and novel combinations of parts, the operations of which parts as organized and as combined will be hereinafter fully described and also pointed out in the claims hereto appended.

Mechanism embodying the structural peculiarities of the different parts, the disposition of the different parts to coact together in the composite body, (the end-gate,) and the combinations forming the subject-matter of the improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the rear end of a wagon-body with the end-gate in place therein. Fig. 2 is a plan showing the gate partly removed from the wagon-body. Fig. 3 is a perspective view of the rear end of a wagon-body, showing a modification of the end-gate, the locking devices removed therefrom. Fig. 4 shows the blank from which parts of the locking devices are formed. Fig. 5 is plan of the end-gate seen from below. Fig. 6 is a detail of parts shown at Fig. 4.

In the accompanying drawings all my improvements are shown as embodied in the best way now known to me. Obviously, how-

ever, some of these improvements may be used without the others, and they may be otherwise mounted from that shown by said drawings, in which the same reference-letter indicates the same part in the several figures thereof.

A represents a wagon-body having parallel vertical cleats B, secured to the inner faces of side boards C, near the rear ends thereof. The cleats of each pair thereof are spaced from each other a distance slightly greater than the thickness of the outer ends of the gate-sections of the end-gate, which ends said cleats are adapted to receive in the ordinary manner.

The end-gate E is preferably composed of a shorter section D and a longer section E, which sections are preferably rounded off at the inner portions of their distal ends to facilitate their withdrawal from the cleats B and are hinged or pivoted at their contiguous or proximal ends F to swing outwardly to shorten the gate and free their distal ends from engagement with the cleats. If preferred, however, the gate-sections may be of equal lengths.

G, Fig. 4, represents a blank from which parts hereinafter described of the locking parts of the end-gate are formed. It is formed of a single sheet of metal sheared or stamped into the shape shown at said figure. It is then bent on the dotted line 3 3 in said figure to form oppositely-disposed securing-arms H I and then bent on the dotted line 4 4 in said figure at a right angle. The fastening-bolt J is next placed in position and the parts K K turned up and over it to form guides or keepers K' K' therefor.

L is a stop turned or thrown upwardly and outwardly from the plate O', hereinafter described, for limiting the movement of the bolt J in either direction.

N is a bar or leg arranged at a right angle to the plane of the gate-sections D E and extends nearly their entire length. Disposed as it is at a right angle to the plane surface of the gate, it not only stiffens the sections thereof, but holds them rigidly against displacement when the wagon is heavily loaded and the bolt in place in its keeper. It further prevents snow, sleet, or ice collecting or forming about the bolt J and its guides and re-

tarding its operation. It also prevents the handle M being thrown into an upright position against the end-gate, from whence it would have to be drawn forcibly downward into position where the operator could secure a firm hold upon it to withdraw it from its engaging eye *j*, hereinafter described. When end-gate fastenings as heretofore constructed were in use on an unloaded wagon, there being no pressure to force the bolt against the inner edge of its engaging eye, and thereby tend to hold it therein, jolting would often cause the bolt-handle to fly up into a vertical position, whence it would drop to the opposite side of its stop L, whereby the bolt would be withdrawn from its eye and allow the end-gate to fall or be shaken out. In the use of my improved end-gate should jolting cause the end-gate to fly upward it will strike the bar N, which being of a resilient nature will return it to its normal position at the locking side of the stop L.

O is a plate formed from a part of the blank G and has an aperture *o* for the reception of a bolt or screw *o'* for fixing it to the section D of the end-gate, the other section E of said gate being left loose to swing freely on its pivot. O' is another plate formed from a part of the blank G. A part of this plate is thrown upward to form a stop L for the handle M of the bolt J.

P is a securing-brace, preferably formed of angle metal, and is fixed at its base by bolts or in any desired or preferred manner to the gate-section D, near its outer end portion and transversely thereof. To the outwardly-projecting portion of said securing-brace the arms H I are fixed by bolts or rivets P', as shown at Fig. 1, for fixing it rigidly thereto.

Q is a locking-brace of angle metal, fixed at its base *q* to the section E of the end-gate by bolts or rivets Q'. In the outwardly-projecting portion *q'* of the brace Q is an aperture or eye *j* for the reception of the bolt J, which bolt may be formed as shown or it may be formed of a straight rod of metal with another rod welded thereto at a right angle at about its median part to serve as a handle M therefor. Escape of the bolt from either of the guides or keepers K' is prevented by reason of the handle M striking against the other of the guides K' and limiting its endwise movement.

The braces P and Q preferably extend the entire widths of the gate-sections D and E, to which they are respectively secured. Obviously, however, they may be only a fraction of such length; but when they extend the entire widths of said sections they prevent the gate-sections from warping or checking.

Metal straps or bindings R R' are fixed to and about the inner ends and upper surfaces of the gate-sections and project slightly over the under surfaces thereof. These not only serve to prevent warping or checking of said sections, but also prevent wear of the upper surfaces thereof when shoveling or when load-

ing or unloading coal, wood, lumber, barrels, or other heavy articles with the gate in position in the wagon-body.

If preferred, the entire gate and fastening, excepting the bolt, may be of sheet metal. A preferred construction of this form is shown at Fig. 3, wherein the outer ends of the gate-sections D and E are shown as elongated and turned forward and their extremities then coiled or turned to form an annular-shaped enlargement S, as shown in Fig. 3. In this modification the cleats are again spaced the usual distance from each other.

In operation when it is desired to place the gate in position for use in a wagon-body, it (the end-gate) being in the angular shape shown at Fig. 5, the outer ends of the sections D E are inserted partly within the spaces formed by the pairs of cleats B, as shown at said figure. This angular position will shorten the distance between the outer or distal ends of the sections D and E. A slight forward pressure on the contiguous ends of said sections will cause the gate to become straightened and the outer ends of the sections thereof to completely enter and occupy a position between the cleats. The handle M of the bolt J is then lifted to a horizontal position and the outer end thereof projected into the eye *j* and let fall on the opposite side of the stop L, thus securely locking the end-gate in position for use. A reverse operation will remove the gate from its position, as when in use.

The bolt J, the parts formed from the blank G, and the braces P and Q may be made as an attachment to any hinged or pivoted gate. No holes need be made or cut in nor any attachments be added to the ordinary wagon-body in the use of this device. There are but four pieces in the fastening device—the blank G, the braces P and Q, and the bolt J. Therefore simplicity, strength, durability, and cheapness are attained. Further advantages of the invention will be apparent and the operation will be understood from the foregoing description, it being particularly noted that various changes may be made in the details of construction without departing from the general idea involved or from the purview of my invention.

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

1. An end-gate composed of two sections hinged together, a securing-brace fixed to one of said sections, an elongated bar fixed to the same section, and fixed by arms integral therewith to said brace, said bar carrying a locking-bolt, a brace secured to the other of said sections and having an eye for the reception of an end of said bolt, substantially as described.

2. The combination with a wagon-body having cleats in pairs near its rear end portion, of an end-gate composed of two sections hinged together at their inner ends, their outer ends being adapted to engage said

cleats, a securing-brace, an elongated arm, secured to said brace, keepers or guides integral with said arm, a bolt carried and supported by said guides or keepers, and a brace
5 having an eye with which said bolt engages, substantially as described.

3. An end-gate composed of two sections hinged together, a securing-brace fixed to one of said sections, an elongated bar fixed
10 to the same section, and fixed by arms integral therewith to said brace, said bar carrying a locking-bolt, a brace secured to the other of said sections and having an eye for the reception of one end of said bolt, and
15 bindings or reinforcements on the inner sides and upper surfaces of said sections, as and for the purpose specified.

4. An end-gate composed of two sections, hinged together, a securing-brace fixed to

one of said sections, an elongated bar fixed 20 to the same section, and fixed by arms to said brace, said bar having keepers, a bolt contained within said keepers, and having a handle, a stop for limiting the endwise movement of said bolt in either direction, and a
25 brace having an eye for engagement with the end of said bolt, substantially as described.

5. An end-gate composed of sections D, E, braces P, Q, arm N, secured to one of said braces, plate O secured to the section D, a
30 bolt J, keepers or guides K', K' therefor, plate O', stop L, and brace Q, all combined substantially as and for the purpose specified.

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Witnesses:

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