

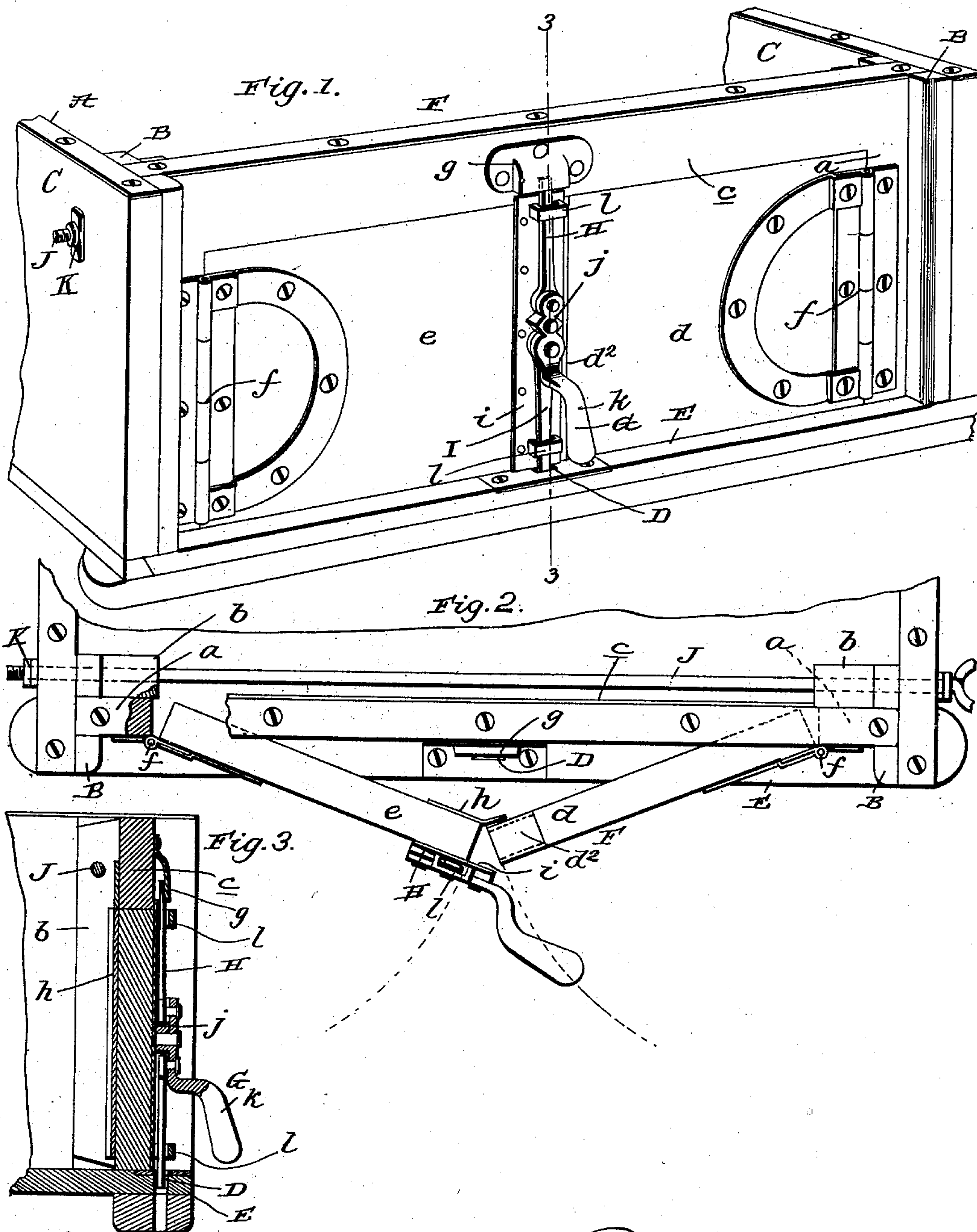
No. 666,186.

Patented Jan. 15, 1901.

F. W. DE LONG & H. W. EMRICH.
END GATE FOR WAGONS.

(Application filed Nov. 30, 1900.)

(No Model.)



Witnesses:
Chas. A. ...
T. C. Turpin

Inventors.
Frederick W. De Long
Herman W. Emrich
BY *James J. Shuey*
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK W. DE LONG AND HERMAN W. EMRICH, OF OKABENA,
MINNESOTA.

END-GATE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 666,186, dated January 15, 1901.

Application filed November 30, 1900. Serial No. 38,223. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK W. DE LONG and HERMAN W. EMRICH, citizens of the United States, residing at Okabena, in the county of Jackson and State of Minnesota, have invented new and useful Improvements in End-Gates for Wagons, of which the following is a specification.

Our invention relates to improvements in end-gates for wagons; and it consists in a certain peculiar construction, the novelty, utility, and advantages of which will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view illustrating the rear portion of a wagon-box and our improved end-gate secured in its closed position therein. Fig. 2 is a top plan view with parts broken away, illustrating the manner in which the swinging sections of the gate are opened. Fig. 3 is a vertical section taken in the plane indicated by the broken line 3 3 of Fig. 1 and illustrating the manner in which the swinging sections of the gate are fastened in their closed position.

In the said drawings similar letters designate corresponding parts in the several figures, referring to which—

A is a wagon-box having cleats B on its side walls C and also having a keeper D in the upper side of its bottom wall E, adjacent to the rear end thereof, and F is our improved end-gate. The said gate in the preferred embodiment of our invention comprises a main frame made up of upright end bars *a*, having enlargements *b* on their inner side, and a cross-bar *c*, interposed between and connecting the upper ends of the upright bars, swinging sections *d e*, connected in a hinged manner at *f* to the end bars *a* of the frame and adapted in their closed position to rest in the same vertical plane as the bars *a c* of the frame, a keeper *g*, arranged on the face of the frame-bar *c*, a flange *h*, connected to the inner side of the swinging section *e* and projecting beyond and inclined slightly forward from the free end thereof, a flange *i*, connected to the face of said section *e* and also projecting beyond the free end thereof, a lever G, fulcrumed at an intermediate point of its

length on the face-flange *i* of the section *e*, as indicated by *j*, and having the rearwardly-extended handle portion *k*, and bolts H I, which are pivotally connected to the lever G at opposite sides of the fulcrum-point thereof, are movable in guides *l* on the face-flange *i* and are adapted to take into the keepers *g* D, respectively, in order to secure the swinging sections *d e* in their closed position, as best shown in Fig. 3.

Our improved gate as a whole is secured in the wagon-box through the medium of a cross-rod J, which takes through coincident apertures in the side walls of the box and the enlargements *b* on the frame of the gate and has one of its ends threaded, as shown, to engage a threaded bushing K on one of the side walls of the box. The rod J may be depended upon to securely hold the gate as a whole in the box and also to draw the side walls of the box inwardly against the ends of the gate, and yet when it is desired for any purpose to remove the gate as a whole from the box the same may be readily accomplished after the rod is unscrewed and withdrawn from the box and gate.

With the parts of our improved gate in the positions shown in Figs. 1 and 3 the swinging sections *d e* are secured in their closed position by the fastening described and there is no liability of their being casually released by the jolting of the wagon incident to its passage over a rough road. This is due in large measure to the fact that when the bolts are in engagement with their respective keepers they rest in a dead-center with the fulcrum-point of the lever G; also, to the fact that the weight of the lever G tends to normally hold it in the pendent position shown in Figs. 1 and 3. When, however, it is desired to release the swinging sections *d e* to permit of them being opened after the manner shown in Fig. 2, the same may be readily accomplished by simply throwing the lever G into an approximately horizontal position or a position at right angles to that shown in Figs. 1 and 3. Such movement of the lever will operate to withdraw the bolts H I from their respective keepers, and the attendant may then grasp the handle portion *k* of the lever and pull the sections *d e* open. When it is

desired to close and secure the swinging sections *d e* in their closed position, the same may be readily accomplished by simply reversing the operation described.

5 When the swinging sections *d e* are in their closed positions, the free end of the former is received between the flanges on the latter, and hence said flanges are enabled to effectively prevent the substance carried in the
10 wagon-body from escaping between the meeting ends of the swinging sections.

In the preferred embodiment of our invention the frame and swinging sections of the gate are of wood and the remainder thereof
15 of suitable metal.

It will be appreciated from the foregoing that while adapted to be readily opened and closed without the necessity of removing it from the wagon-box our improved gate is very
20 simple, inexpensive, and durable, also that the gate is susceptible of use in conjunction with ordinary wagon-boxes without necessitating any change in the construction of the latter except to provide a keeper in the bot-
25 tom wall thereof.

We have entered into a detail description of the construction and relative arrangement of parts embraced in this the preferred embodiment of our invention in order to impart
30 a full and clear understanding of the same. We do not desire, however, to be understood as confining ourselves to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of our claims.

The keeper-opening *D* preferably extends through to the under side of the wagon-box, as shown in Fig. 3, in order to permit dirt and other substance to drop through and pre-
40 clude it filling said opening.

In order to prevent warping of the swinging section *d*, it is preferably provided at its free end with a metallic strip *d'*, which extends entirely around it and is arranged flush
45 with its sides and edges.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an end-gate, the combination of a
50 frame, a keeper, a swinging section connected in a hinged manner to the frame, a second swinging section connected in a hinged manner to the frame and having a portion arranged to overlap the first-named section
55 when the gate is closed, and a bolt on one of the swinging sections for engaging the keeper and holding the gate closed.

2. An end-gate for wagons comprising a frame adapted to be placed in a wagon-box,
60 and provided with a keeper, swinging sections connected in a hinged manner to the frame and adapted, when closed, to rest within said frame, a face-flange connected to one swinging section and projecting beyond
65 the free end thereof, so as to overlap the free

end of the other section, a lever fulcrumed on the section bearing the face-flange, and a bolt connected to said lever and adapted in one position to engage the keeper on the frame.

3. The combination with a wagon-box having cleats on its side walls and also having its bottom wall provided with a keeper; of an end-gate comprising a frame made up of end bars and a cross-bar interposed between
70 and connected to the end bars, a keeper on said cross-bar of the frame, a swinging section connected in a hinged manner to one end bar of the frame, a swinging section connected in a hinged manner to the other end
75 bar of the frame, and having the inner and face flanges projecting beyond its free end, the hand-lever fulcrumed on the swinging section bearing the flanges, and bolts movable in guides on said swinging section and
80 connected to the lever at opposite sides of the center thereof.

4. An end-gate for wagons comprising an open frame adapted to be placed in a wagon-box, and provided with a keeper, a swinging
90 section connected in a hinged manner to the frame, and adapted, when closed, to rest within said frame, a second swinging section connected in a hinged manner to the frame, and having inner and face flanges projecting
95 beyond its free end and adapted to receive the free end of the first-named section between them, a bolt on the section bearing the flanges, adapted to be placed in engagement with the keeper on the frame, and suitable
100 means for moving said bolt into and out of engagement with the keeper.

5. The combination with a wagon-box having cleats on its side walls, and also having its bottom wall provided with a keeper; of an
105 end-gate comprising a frame made up of end bars and a cross-bar interposed between and connected to the end bars, a keeper on said cross-bar, a swinging section connected in a hinged manner to one end bar of the frame,
110 a swinging section connected in a hinged manner to the other end bar of the frame and having the inner and face flanges projecting beyond its free end, the hand-lever fulcrumed at an intermediate point of its length on the
115 swinging section bearing the flanges and having the rearwardly-extending handle portion, and bolts movable in guides on said swinging section and pivotally connected to the hand-lever at opposite sides of the fulcrum-
120 point thereof.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

FREDERICK W. DE LONG.
HERMAN W. EMRICH.

Witnesses:

C. H. CABOT,
W. L. CALLISON.