2 Sheets--Sheet 1.

# J. HEALD.
## End-Gate for Vehicles.

No. 162,918. Patented May 4, 1875.

Fig. 1

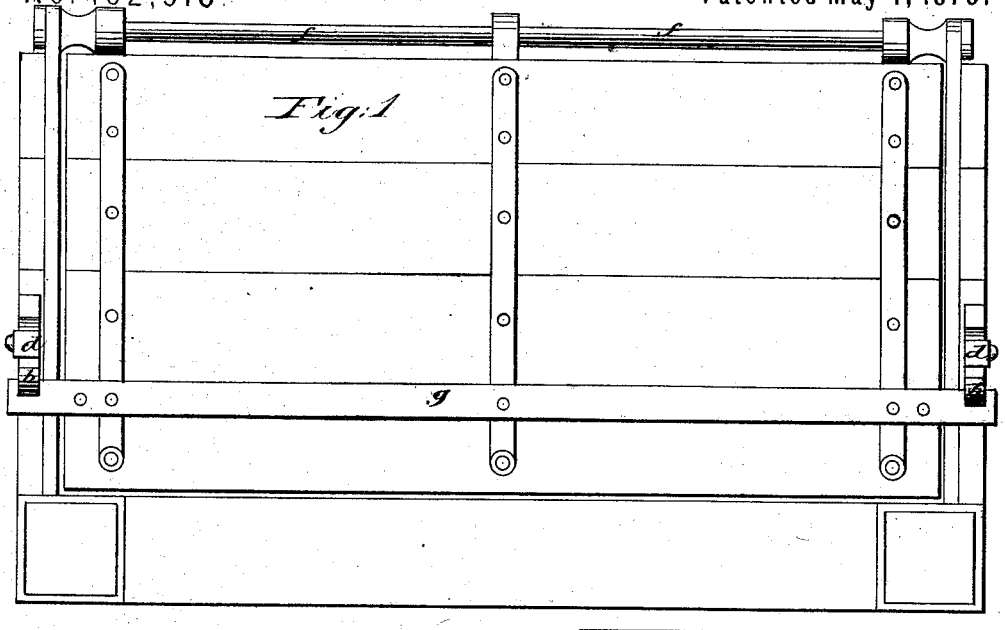



Fig. 2

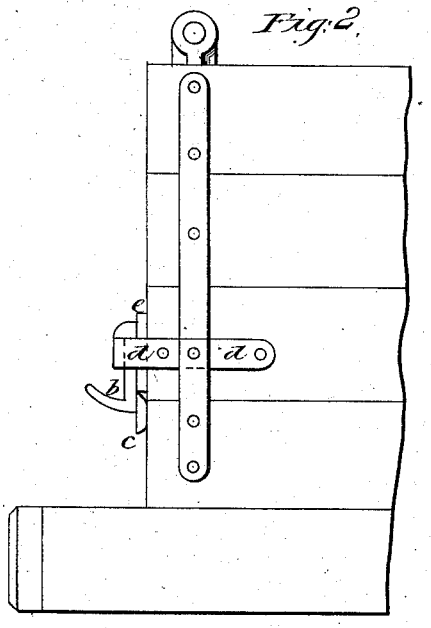
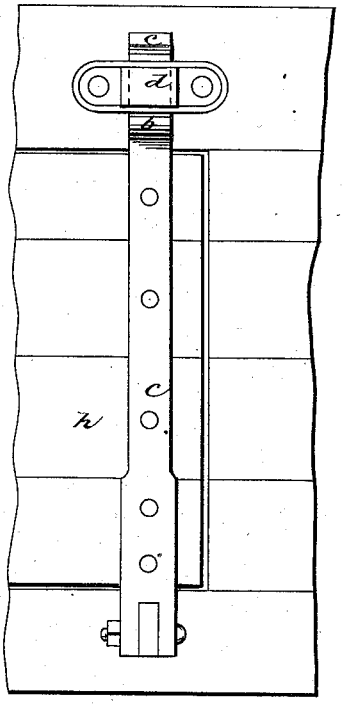



Fig. 3




Witnesses:
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T. W. Lewis

Inventor:
Joseph Heald

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2 Sheets--Sheet 2.

# J. HEALD.

## End-Gate for Vehicles.

No. 162,918. Patented May 4, 1875.

Fig. 4

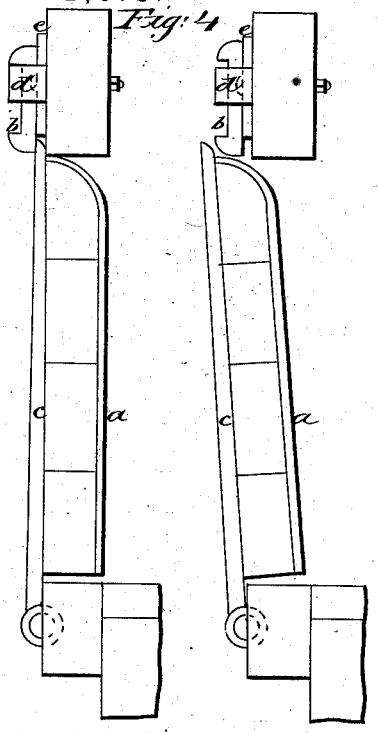



Fig. 5.

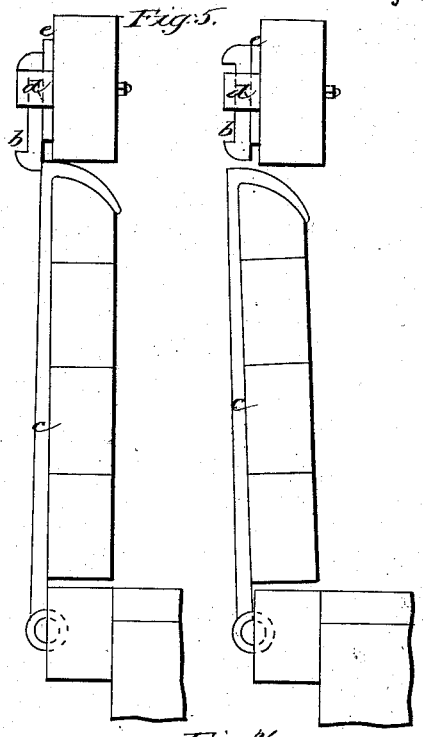



Fig. 6.

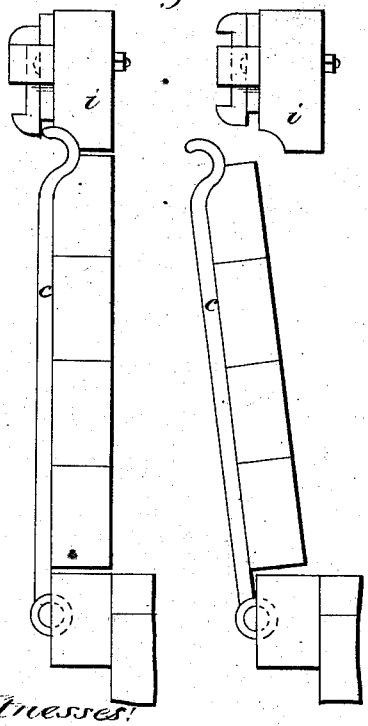
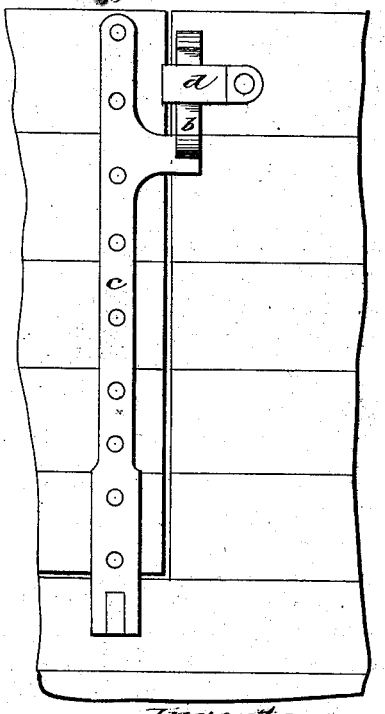



Fig. 7.




Witnesses:
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# UNITED STATES PATENT OFFICE.

JOSEPH HEALD, OF CHORLEY, ENGLAND.

## IMPROVEMENT IN END-GATES FOR VEHICLES.

Specification forming part of Letters Patent No. **162,918**, dated May 4, 1875; application filed June 3, 1874.

*To all whom it may concern:*

Be it known that I, JOSEPH HEALD, of Chorley, in the county of Lancaster, England, have invented a new Improvement in Door-Fasteners for Wagons; and I do hereby declare the following, when taken in connection with the accompanying drawings and letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, end view of a wagon, the door hung from top; Fig. 2, side view of the same, showing the bolt down; Figs. 3, 4, 5, 6, and 7, modifications.

In the several figures similar parts are marked by corresponding letters of reference.

Fig. 1 shows an end door hung from the top by bar *f*. *g* is a bar going across such door, each end of which, when closing, is made to press against the rounded lower end of the bolt *b*, force them up, and, when closed, the bolts will fall by their own weight in front of the bar *g*, thereby securing the door in its place, closed.

In Fig. 3 the door is represented as hung at the bottom, the hinge C extending up, so as to strike the bolt *b* and force it up, to again fall after the door is closed, as in first description, and as illustrated in Fig. 4.

These figures show an inside plate, *a*, curved at top to first lift the bolt. It is bolted through the timber to the hinge-band *c*. The bolt is held in position by a staple, marked *d*, inside of which such bolt slides up and down freely. *e* is an inside plate, against which the bolt slides. In Fig. 5 the hinge is hooked at top inwardly, and in Fig. 6 the hinge concaved at top end, which forms a reverse hook to Fig. 5, the convex side of which strikes against the top rail *i*. In Fig. 7 the door opens to top, without top rail. In such case the hinge-band *c* has on the side an arm, *j*, acting on the bolt.

In case the bolt cannot fall to the position required by its own weight, I use a spring or other equivalent for forcing it into its place.

I do not confine myself to the precise details I have described, as many variations may be made without deviating from the principle; but

What I claim as my invention is—

1. The combination of a hinge-gate of a land-carriage, the bolt *b*, and the striker on the said gate to actuate the bolt, all substantially as described.

2. The combination of the door of a land-carriage, the hinge *e* to form the striker, and the bolt *b*, substantially as and for the purpose specified.

JOSEPH HEALD.

Witnesses:

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