

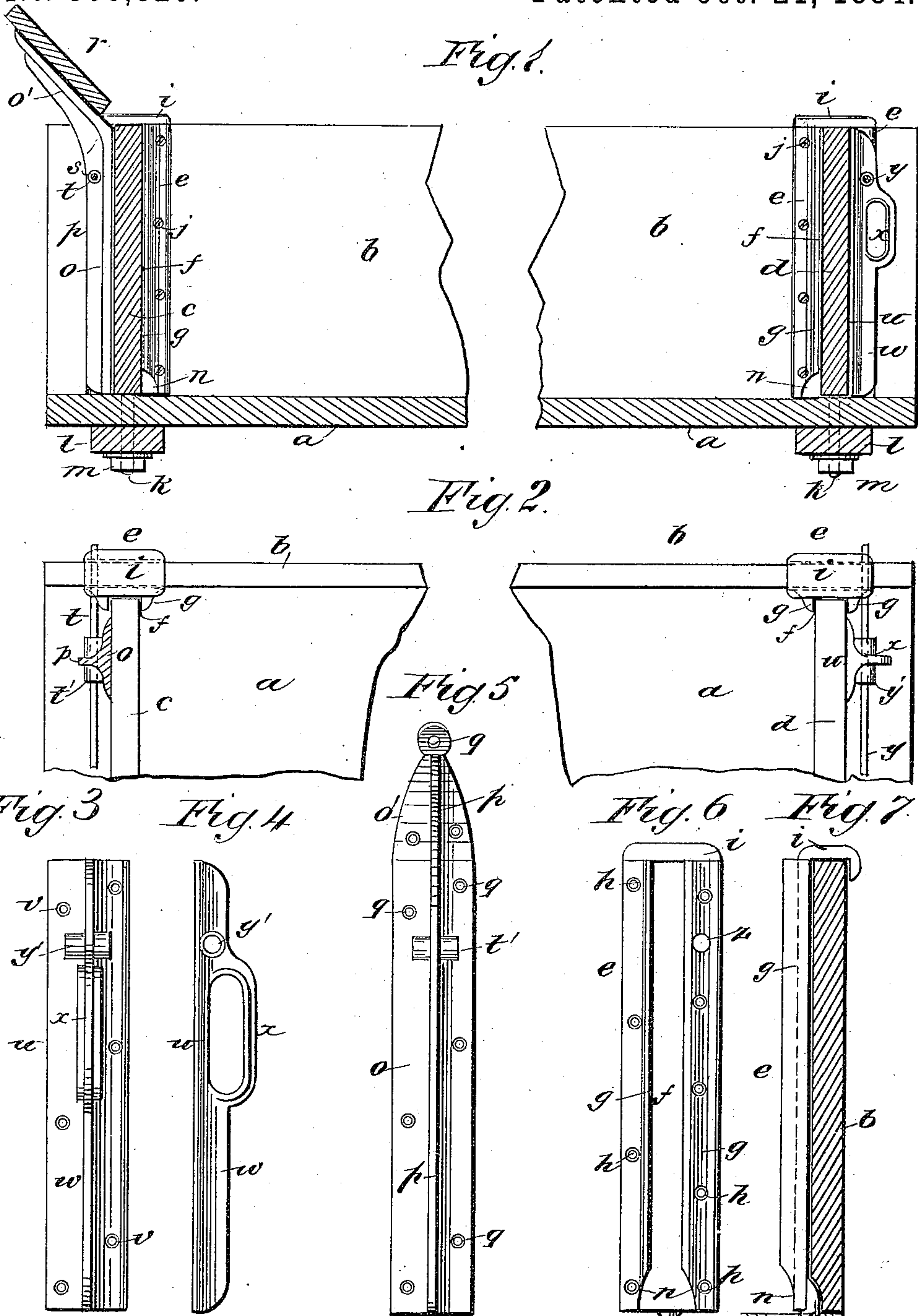
(No Model.)

D. H. FINCH & W. H. NATTRASS.

WAGON BOX STRAP.

No. 306,820.

Patented Oct. 21, 1884.



WITNESSES:

Francis McArdle,
C. Sedgwick

INVENTOR:

D. H. Finch
W. H. Nattrass
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DWIGHT H. FINCH AND WILLIAM H. NATTRASS, OF AURELIA, IOWA.

WAGON-BOX STRAP.

SPECIFICATION forming part of Letters Patent No. 306,820, dated October 21, 1884.

Application filed January 24, 1884. (No model.)

To all whom it may concern:

Be it known that we, DWIGHT H. FINCH and WILLIAM H. NATTRASS, both of Aurelia, in the county of Cherokee and State of Iowa, have
5 invented certain new and useful Improvements in Wagon-Boxes and their Cleats and Straps, of which the following is a full, clear, and exact description.

The object of our invention is to provide
10 cleats and straps of improved construction for use in making wagon boxes or bodies.

The invention consists of the detailed construction of parts, substantially as hereinafter fully set forth.

15 Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation, partly
20 broken away, of a wagon-box to which our improvements have been applied. Fig. 2 is a plan view of the same with the foot-board removed. Figs. 3 and 4 are respectively face and side views of the rear end-gate cleats or
25 straps. Fig. 5 is a front view of one of the forward end-gate cleats or straps. Fig. 6 is a face view of one of the cleats or straps for the sides of the wagon-body; and Fig. 7 is a side view thereof, with the wagon-body in section.

30 The letter *a* indicates the floor of the wagon box or body, *b* one of its two sides, and *c d* the front and rear end-gates, respectively.

Instead of employing the usual wooden cleats at the inner faces of the sides *b* for securing the
35 end-gates by a separate cleat at each side or face of the gates, we use the metal cleat or strap *e*, made in one piece, and centrally grooved at *f*, the lengthwise ribs *g g* at either side of the groove preferably having an ogee or other
40 facial outline which affords the necessary strength and gives a light and pleasing design to the face of the cleat. The cleats *e* are fastened to the inner surfaces of the side-boards *b* by nails or screws entered through holes *h*, and
45 may have a cap-piece which bends over the top and back or outside of the boards *b* in hook form, as at *i*, to relieve the screw or nail fastenings *j* of part of the strains of use, by forming a lock with the side-board at the top; and
50 at the bottom the cleats may have a fixed screw, stud, or pin, *k*, to pass through the floor *a* and its cross-sill *l* and receive a nut, *m*, which not

only binds the hook *i* down firmly at the top of board *b*, but serves also as a clamp to make a substantial connection and close joint of the
55 floor *a* with the side-boards *b*, as shown in Fig. 1.

We cut away the lower ends of the ribs *g* at the bottom next the floor *a*, as at *n*, to avoid accumulations of dirt in the grooves *f*, which would prevent a close joint of the lower edges
60 of the end-gates with the floor, and also permits thorough clearance of the lower ends of grooves *f* by the brush or broom used to sweep out the wagon-body, and without special attention.

It is evident that by the use of these cleats
65 or straps *e* the ends of the gates *c d* coming against the back wall or bottoms of the grooves *f* cannot wear the side-boards *b*, and the end-gates may be fitted snugly to the grooves, so
70 as to work freely and avoid rattling, our improved cleats in these respects having material advantages over the separate wooden cleats heretofore employed, which so easily work
75 loose and come off, and afford no protection to the side-boards from the ends of the gates, and our improved cleats or straps serve far better to prevent splitting of the side-boards.

At the front end-gate, *c*, we provide two or
80 more cleats or straps, *o*, made preferably with a central strengthening-rib, *p*, and the necessary holes *q* for passage of the fastening-screws, the heads of cleats *o* being bent forward at *o'* to form a substantial support to the fixed foot-board *r*; and the rib *p* has an aperture, *s*,
85 encircled by a strengthening-boss, *t'*, through which the end-gate rod *t* may pass, said rod being secured at the side-boards in any approved way.

We make the cleats or straps *u* for the rear
90 end or tail gate, *d*, with screw-holes *v*, central rib, *w*, and a handle, *x*, formed preferably at or along the rib, as in Figs. 1, 2, and 3, and said rib *w* has a boss, *y'*, through which the end-gate fastening-rod *y* may pass. When the
95 cleats *u* are fastened to the tail-gate *d*, it may readily be lifted out by the handles *x* from the grooves *f* of the straps *e*, and as readily replaced.

The fastening-rods *t y* of the end-gates pass
100 through holes *z* made in the side cleats, *e*, at the outside of the grooves *f*; and in practice we propose to form the grooves *f* of the rear end-gate cleats, *e*, forward of the center of the cleats,

so that the cleats may be fastened securely and with substantial bearings for the rod *y*, and fastening-screws at the extreme back ends of the side-boards to protect the boards from the usual excessive wear at the ends. The cleats or straps on the end-gates serve also to prevent splitting of the gates.

It will be understood that the hooks *i* and screw-studs *k* at the ends of the side cleats or straps *e* are not essential, but are preferred for reasons above stated.

In using an extra box which is held on the body proper, we will employ the side cleats, *e*, of Figs. 6 and 7 on the top box, but without the bolts *k* or nuts *l*, and we will use the end-gate cleats of Figs. 3 and 4 at both ends of the top box, to permit the removal of the ends of the top box from the sides thereof, and with a top box the cleats *o*, with inclined heads *o'*, will not be used.

Our improved cleats and straps are simple, may be inexpensively made in malleable cast-iron, and are in every way calculated to make

by their use a much more convenient and durable wagon box or body than heretofore has been constructed.

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

1. The gate having the cleats *u*, provided with the ribs *w*, said ribs having the apertured bosses *y'* extending transversely through said ribs, in combination with the rod *y*, passing through said bosses and the body-sides, substantially as and for the purpose set forth.

2. The gate having the cleats *u*, provided with the ribs *w*, said ribs having the apertured bosses *y'*, in combination with the rod *y*, and the cleats *e*, having the ribs *g* and the hooks *i*, and holes *z*, through which said rod passes, substantially as and for the purpose set forth.

DWIGHT H. FINCH.

WILLIAM H. NATTRASS.

Witnesses:

J. K. ATWOOD,

J. S. BARKLEY.