

No. 646,743.

Patented Apr. 3, 1900.

J. O. LEFEVRE.  
END GATE FASTENING.

(Application filed July 24, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

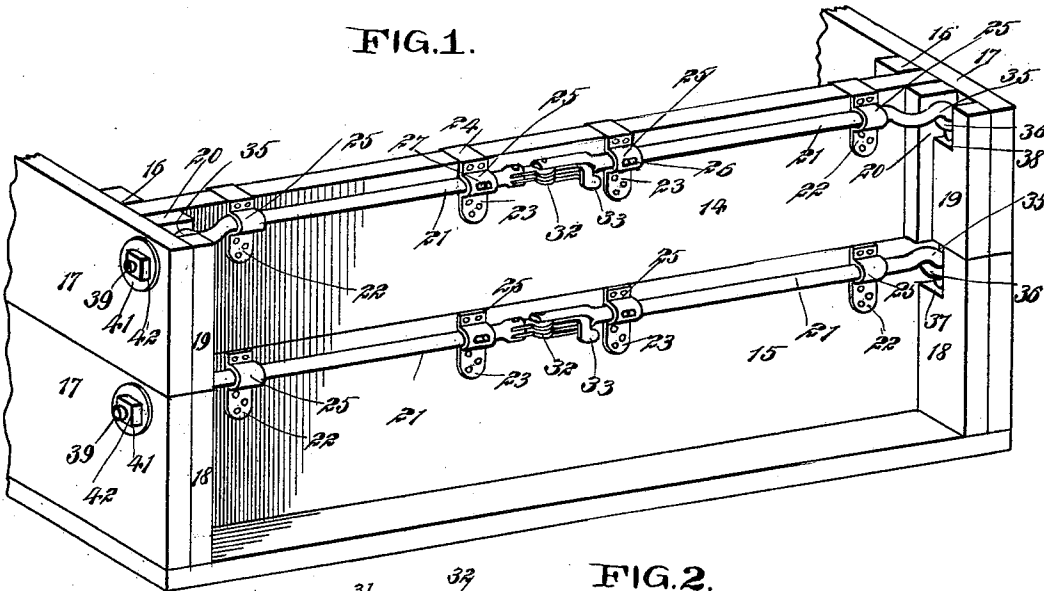


FIG. 2.

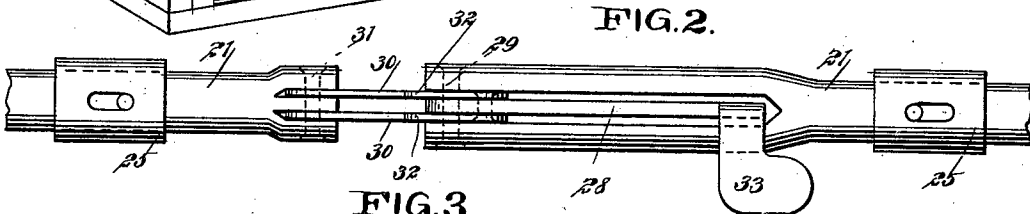


FIG. 3.

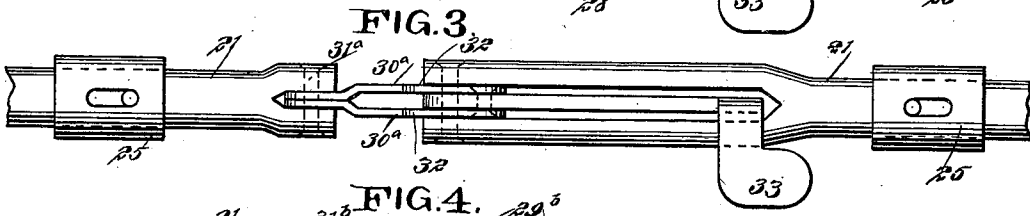


FIG. 4.

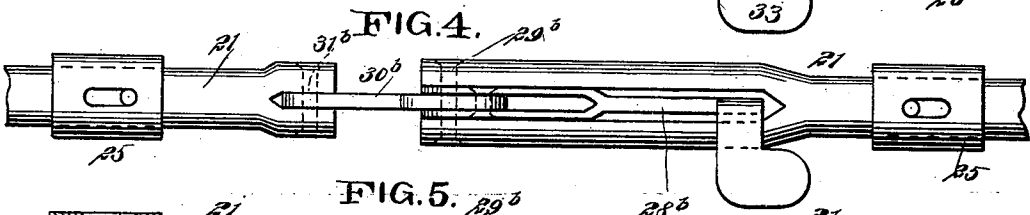


FIG. 5.

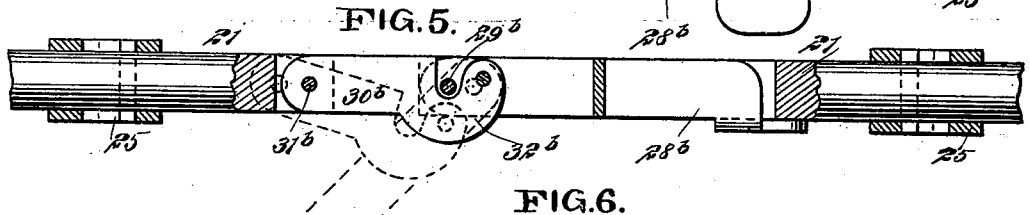
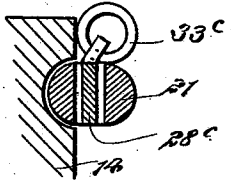


FIG. 6.

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2 Sheets—Sheet 2.

FIG. 7.

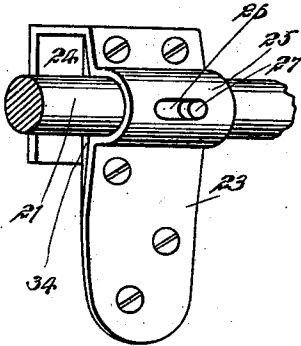


FIG. 8.

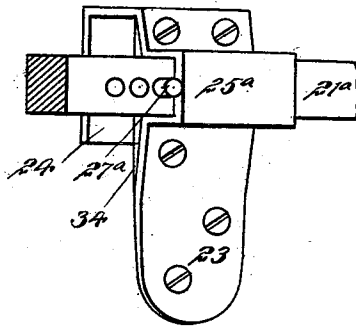


FIG. 9.

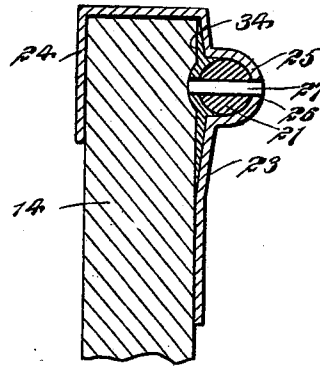


FIG. 11.

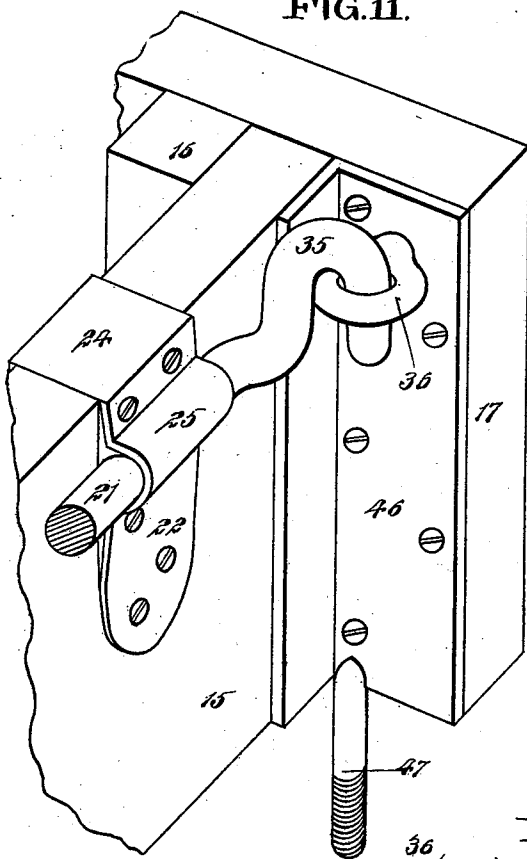


FIG. 10.

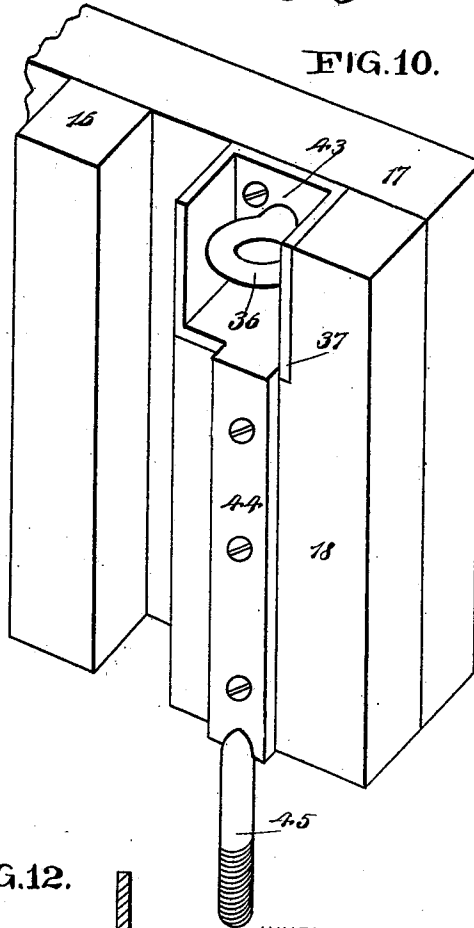
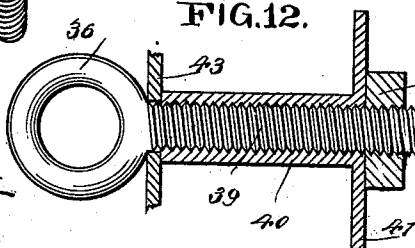


FIG. 12.



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# UNITED STATES PATENT OFFICE.

JAMES O. LEFEVRE, OF NEW PALTZ, NEW YORK.

## END-GATE FASTENING.

SPECIFICATION forming part of Letters Patent No. 646,743, dated April 3, 1900.

Application filed July 24, 1899. Serial No. 724,977. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES O. LEFEVRE, of New Paltz, in the county of Ulster and State of New York, have invented a new and Improved End-Gate Fastening, of which the following is a full, clear, and exact description.

This invention relates to an end-gate fastening which serves to secure the end-gate by drawing the side-boards of the wagon together, thus binding them against the edges of the end-gate, the invention involving certain novel features of construction by which a most effective appliance is produced.

This specification is the disclosure of several forms of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the invention in use. Fig. 2 is an enlarged view of the clamping device. Fig. 3 is a similar view of the clamping device slightly modified. Fig. 4 is a view illustrating a third modification of the device. Fig. 5 is a sectional view showing the form of the clamping device illustrated in Fig. 4. Fig. 6 is a sectional view illustrating a fourth modification of the clamping device. Fig. 7 is a perspective view showing one of the guides for the clamping-rod. Fig. 8 is a perspective view of a slight modification thereof. Fig. 9 is a sectional view taken through the form shown in Fig. 7. Fig. 10 is an enlarged perspective view of one of the screw-eyes which the clamping-rods engage. Fig. 11 is a view of a slight modification of the construction shown in Fig. 10, and Fig. 12 is a sectional view showing one of the screw-eyes.

In Fig. 1 I have shown a wagon equipped with an upper end-gate 14 and a lower end-gate 15. My invention may be used in connection with such an arrangement or in connection with a single end-gate, as desired. If two end-gates are employed, the lower end-gate is held between cleats 16, attached to the side-boards 17 of the wagon, and cleats 18, attached also to the side-boards, the cleats 18 being of a length equal only to the width of the end-gate and the cleats 16 being of a length equal to the width of both the upper and lower

end-gates. The upper end-gate 14 is held between the cleats 16 and the cleats 19, which are located above the cleats 18 and are narrower than the cleats 18. The upper end-gate 14 carries at each end a cleat 20, and these cleats 20 serve to compensate for the narrowness of the cleats 19. The object of this construction will fully appear hereinafter. Each end-gate carries two clamping-rods 21. The clamping-rods are each held in guides 22 and 23, attached to the end-gate. The guides 22 and 23, as shown best in Figs. 7 and 9, are formed of strap-iron with hooks 24 at their upper ends, which serve to engage over the upper edges of the end-gate, the main portions of the guides lying in front of the end-gates and being secured thereto, as shown. The front portions of the guides 23 and 22 are provided with outwardly-bowed portions 25, forming boxes in which the rods 21 are slidably received. Screwed or otherwise fastened behind the boxes 25 are wear-plates 34, which are engaged by the rear sides of the clamping-rods 21 and which serve to prevent the bars from cutting into the end-gates. The boxes 25 of the guides 23 have longitudinal slots 26 therein, in which slots pins 27 respectively slide, such pins being carried by the respective rods 21. This construction serves to limit the sliding movement of the clamping-rods.

As shown in Figs. 1 and 2, the clamping-rods 21 are moved toward and from each other by means of a hand-lever 28, which is pivoted to one of the clamping-bars by means of a pin 29. This lever 28 is pivotally connected with links 30, which are pivoted to the other clamping-bar 21 by means of a pin 31, carried in said bar. The bar 21, to which the links 30 are pivoted, is trifurcated in the manner shown in Fig. 2, and the bar 21, in which the lever 28 is pivoted, is bifurcated, as shown. The links 30 are formed with bent portions therein adjacent to the pivot 29 of the lever 28, so that the links may be thrown inward into alinement with the bars 21 without interference with the pin 29. The lever 28 has at its free end an offset finger-piece 33, and the main portion of the lever is arranged to lie in between the arms of the coacting bar 21 at the bifurcated portion thereof. When the lever 28 is in the position shown in Figs. 1

and 2, the clamping-bars 21 are drawn together into the clamped position, and when the lever 28 is thrown to the left in Figs. 1 and 2 the links 30 are moved in the same direction 5 and the pressure on the bars 21 is relaxed.

Fig. 3 illustrates a slight modification in the form of the clamping devices for the bars 21, in which arrangement the links 30<sup>a</sup> are joined together and the bar 21, to which said links 10 are pivoted by means of a pin 31<sup>a</sup>, is bifurcated instead of trifurcated. In other respects the clamping devices are the same as those previously described.

In Figs. 4 and 5 an additional modification is 15 shown, in which a single link 30<sup>b</sup> is provided. This link is pivoted to one of the bars 21 by means of a pin 31<sup>b</sup>, said bar being bifurcated, as in Fig. 3. The lever 28<sup>b</sup> of this form of the invention is bifurcated and the link 30<sup>b</sup> 20 fits between the arms of the lever 28<sup>b</sup> at the bifurcation thereof. The lever 28<sup>b</sup> is fulcrumed on the pin 29<sup>b</sup>, and the link 30<sup>b</sup> has a bowed portion 32<sup>b</sup> similar to the bowed portions 32 of the links 30 and acting in the same 25 manner.

If desired, the levers and links may be made to move in a vertical plane instead of in the horizontal plane shown in Figs. 1, 2, 3, 4, and 5. Fig. 6 illustrates this arrangement of the 30 said parts. Fig. 6 shows one of the clamping-bars 21 and the hand-lever 28<sup>c</sup> thereof movable in a vertical plane. This lever may be provided with a ring 33<sup>c</sup> to take the place of the finger-piece 33 previously described.

Fig. 8 illustrates a modified construction of 35 the clamping-bars and holders therefor, in which the clamping-bars 21<sup>a</sup> are constructed square or in other angular form, and the boxes 25<sup>a</sup> and the holders therefor are of like form. I also provide a different means for limiting 40 the movement of the clamping-bar, such means consisting in a pin 27<sup>a</sup>, which instead of sliding in a slot in the box 25<sup>a</sup> is adapted to engage with one end thereof. This pin 45 may be adjustably secured in the clamping-bar to regulate the movement thereof.

The ends of the clamping-bars 21 carry hooks 35, which engage in screw-eyes 36, secured to the side-boards 17 of the wagon, so that as the clamping-bars are drawn inward 50 the side-boards are moved in the same direction and clamped against the end-gate. As shown in Fig. 1, the screw-eyes 36 of the lower end-gate 15 are located in recesses 37 55 formed in the cleats 18 and the eyebolts 36 of the upper end-gate 14 are located in recesses 38 formed in the cleats 19. The upper and lower eyebolts 36 are arranged out of vertical alinement, the lower eyebolts 36 being 60 disposed inward from the vertical line of the upper eyebolts, to the end that the lower end-gate 15, carrying its clamping-rods 21, may be moved upward and disengaged from the wagon without disturbing the upper side-boards 17 of the wagon. By providing the 65 cleats 19, which are narrower than the cleats 18, a passage is left in which the ends of the

clamping-rods 21 of the lower end-gate 15 may move in its operation. When the end-gate 14 is in place, the cleats 20 extend 70 through this passage or space between the end-gate 14 and the cleats 19 and provide a secure construction.

Fig. 12 illustrates the preferred manner of constructing the eyebolts 36, and, as shown 75 in this figure, the eyes proper are joined to threaded shanks 39, which screw into thimbles 40, having flanges 41 at their outer ends, such flanges serving to lie against the outer edges of the side-boards, the shanks 39 being 80 locked in place by nuts 42, as shown. By means of this construction it will be very difficult for the eyebolts to be pulled out, since the broad flanges 41, bearing against the outer sides of the side-boards, will prevent 85 this. Fig. 10 shows the arrangement of the eyebolts 36 with respect to the side-board 17 and cleat 18. The cleat 18 has a housing 43 seated in the cavity 37 thereof, and this housing receives the eye 36. In Fig. 12 the hous- 90 ing 43 is indicated, and here it will be seen that the thimble 40 bears against the housing in the manner shown, the side-board 17 being clamped between the flange 41 and the hous- 95 ing 43. The housing 43 has a strap-iron extension 44 running down along the inner side of the cleat 18 and secured thereto and having a threaded member 45, forming a bolt, adapted to project through the bottom of the wagon and to be secured thereto by a nut. 100

In Fig. 11 a modified form of this arrangement is shown, in which the cleat 18 is dis- 105 pensed with and its place taken by an angle-iron 46, which is fastened to the lower side-board 17 and which has one member standing transversely to said side-board to be engaged by the lower end-gate 15, thus serving the functions of the cleat 18 previously described. The angle-iron 46 has a bolt 47 pro- 110 jecting downward therefrom in the same manner as the bolt 45. The screw-eye 36 passes through the upper portion of the angle-iron 46, as shown.

Various changes in the form, proportions, and minor details of my invention may be re- 115 sorted to without departing from the spirit and scope thereof. Hence I consider myself entitled to all such variations as may lie with- in the scope of my claims.

Having thus described my invention, I 120 claim as new and desire to secure by Letters Patent—

1. In an end-gate fastening, the combination of two fastening-rods mounted in alinement with each other, fixed bearings in which such 125 rods are mounted to slide longitudinally, a link pivoted to the inner end of one rod and having its free portion bowed, and a lever fulcrumed in the inner end of the other rod and pivotally connected with the link, the 130 said other rod being bifurcated to receive the lever when in locked position and the bowed portion of the link moving into such bifurcation and over the fulcrum of the lever.

2. In an end-gate fastening, the combination of two fastening-rods mounted in alinement and to slide longitudinally toward and from each other, the one rod being bifurcated and the second rod being trifurcated, two links 5 pivoted in the trifurcated portions of the second rod and having bowed free portions, and a lever fulcrumed in the bifurcated portions of the first rod and having the links arranged 10 on opposite sides thereof and pivoted thereto, the lever lying in the bifurcated portion of said first rod when in closed position.

3. A wagon-body, having a housing seated in a cavity therein and opening at its inner

side, an extension running from the housing 15 and fastened to the wagon-body, an eyebolt passed through the outer wall of the housing and having its eye situated in the housing, and a thimble set into the wagon-body and having the eyebolt secured thereon, the 20 thimble having its inner end bearing against the housing and having a flange at its outer end engaging the wagon-body.

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Witnesses:

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ALBERT L. ETTINGE.