(No Model.)

C. L. COSTON & E. W. BROADHEAD.

WAGON BOX IRON.

No. 566,062 Patented Aug. 18, 1896.

Fig. 1.

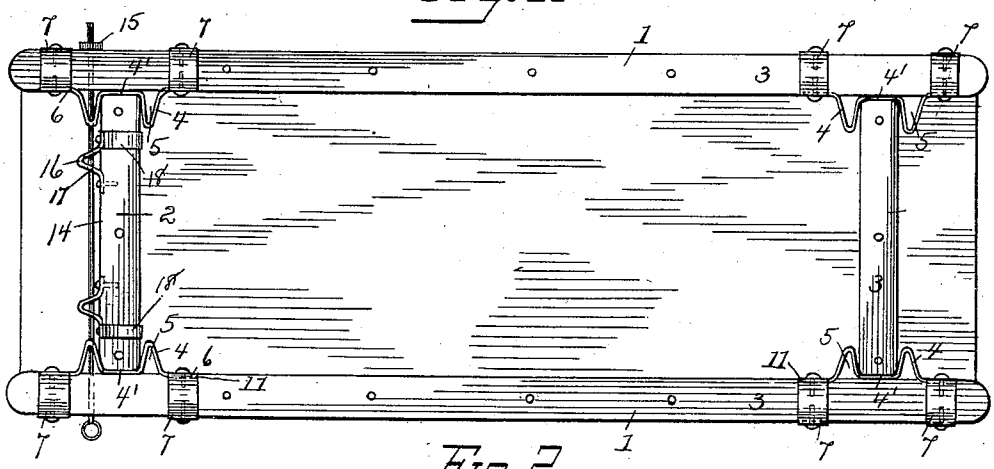


Fig. 2.

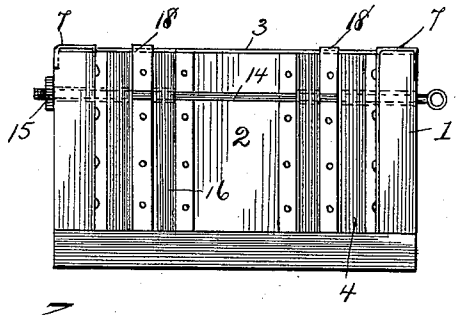


Fig. 3.

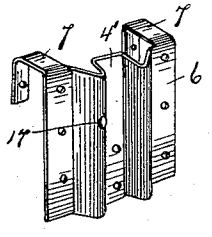


Fig. 4.

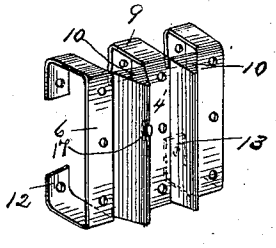
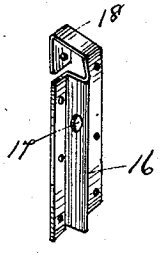


Fig. 5.



Witnesses
Albert Popkins.
Frank L. Blackstone.

Inventors
Clarence L. Coston
Ernest W. Broadhead
by
Benj. R. Catlin Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLARENCE L. COSTON AND ERNEST W. BROADHEAD, OF MANCOS, COLORADO.

WAGON-BOX IRON.

SPECIFICATION forming part of Letters Patent No. 566,062, dated August 18, 1896.

Application filed August 3, 1895. Serial No. 558,054. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE L. COSTON and ERNEST W. BROADHEAD, residents of Mancos, in the county of Montezuma and State of Colorado, have invented certain new and useful Improvements in Wagon-Boxes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to wagon-boxes and end-board attachments for the same; and it has for its object to provide a device for holding the end-boards in position that can be stamped or formed out of sheet metal and yet possess sufficient strength to support the board, and shall at the same time be specially adapted to strengthen the side-board and avoid the use of having nails and great weight of metal; and the invention consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a plan of a wagon-box with the improved attachments. Fig. 2 is an end view. Fig. 3 is an isometric view of an end-board holder. Fig. 4 is a similar view of a modification, and Fig. 5 is a like view of an end-board cleat.

Numeral 1 denotes the side-boards, and 2 the removable end-boards, of a wagon body or box. Each of these is preferably protected on its upper edge by a metal strap or plate 3.

4 4 denotes double cleats or end-board holders provided with grooves 4′ 4′ to receive the ends of the boards. They are formed by bending suitable sheet metal, by stamping or otherwise, so that it has approximately an M-shaped cross-section. The grooves are situated between V-shaped parts 5. The contiguous walls of these grooves are nearly parallel and are connected at their bottom. The exterior walls of the V-shaped parts are inclined to the inner walls, and have each a flange 6, which, if desired, may be attached to the body by light wire nails or the like. Smaller nails than can be safely used with wooden cleats may be employed, since the heads can be securely held by the metal without danger of being pulled through, as in the case of wood, and such nails are less liable to split the side-board.

The exterior flange is made longer than the main part of the holder, so that it forms a strap 7 to extend over the metal plate 3 and down upon the outside of the side-board near its end. It is secured by a rivet, nail, or bolt (a rivet 8 being indicated in the drawings) passed through the flange, strap, and side-board.

9 denotes a similar strap or extension of the metal constituting the bottom of a groove 4′, and this strap is secured to the side-board in a similar manner.

10 indicates portions of the metal situated between straps 7 and 9 turned down to cover the top of the V-shaped parts. These parts 9 and 10 are not essential in all cases.

The inside of the box adjacent an end-board may be slightly channeled, as at 11, in order that the contiguous flange 6 may be seated therein and its inner face be thereby made flush with the inside of the box.

12 and 13 denote straps formed on the bottom of the device in some cases as a means of attaching it to the body. These straps can be suitably bent and passed between the side and bottom boards and then bent about and secured to either, as indicated

The strap 7 is of special importance. It secures the metal band or plate upon the side-board near its end, which band is otherwise very liable to be loosened and bent, which function of the strap in no way impairs its usefulness in attaching the holder to the side-board. If desired, a strap 7′ may be provided and similarly attached to the box.

The use of the straps is desirable as a means of lessening the number of fastening-nails required, which, as ordinarily used, sometimes cause the side-boards to split. Not only does the improved metal end-board holder allow the use of smaller nails, but it also enables an equal degree of strength and security to be secured with a fewer number.

It is obvious that the inclined walls of the V-shaped parts of the holder support each other and provide that the device shall have sufficient strength though made of light material. It may be found convenient and economical in some cases to use waste tin, such as worn-out cans of the larger sizes, for the manufacture of these holders. The im-

proved form is such that cheap metal can be easily stamped or may be utilized, though the use of cast malleable metal is not precluded.

14 denotes a threaded rod provided with a nut 15 for tying the side-boards together. This rod passes through suitable holes in the side-boards and also through or near the vertices of the V-shaped parts of the holders.

16 indicates one of two or more V-shaped cleats secured to an end-board by means of flanges at its foot. 17 are holes in line with those in the side-boards and holders for the reception of the rods. By means of these sheet-metal cleats, made in the form shown and described, the end-board is strengthened and the rod is also supported and stiffened. Strap 18, continuous with the flange portions of the cleats, can be used to secure said cleats to the board and also to fasten the edge band or plate on the end-board.

In some cases the spaces in the V-shaped parts of the holder can be used to support the legs of supplementary side boards or stakes suitably fitted therein.

We are aware that metal holders having a U shape in cross-section and each having a flange extended horizontally about and secured to the end of a wagon-box side-board is not new. By our improvement the holder has in cross-section an M shape, whereby a broader bearing on the side-board is secured. By this form we also avoid the necessity of braces required to support the ribs of the prior U-shaped device. Further, we pass the rod 14 through the vertices of V-shaped parts of our holders, so that they mutually support each other in both directions horizontally, and the rod is further supported by passing through the V-shaped cleats of the end-board. By the use of the flange extensions or straps at top and bottom, substantially as indicated in Fig. 4, the device can be attached by the use of a few comparatively small nails, such as are not liable to split the board, or even without any nails at all except those securing the top and bottom straps. The upper flange extension or straps 7 also act to hold the straps 3 to the side-board.

We are also aware that end-board cleats have been provided with nuts perforated for the passage of the rod binding the sides of the wagon-body, and do not claim such device broadly. Our improvement is characterized by the approximate M form in cross-section of the holders, which is new and which possesses several advantages not before attained. It not only provides that the holders have a wide bearing on the body, but furnishes braces for the end-board receiving-walls, which braces are integral with the holder and the whole adapted to be stamped out of sheet metal, which also may be comparatively thin and yet, owing to the form of the device, possess the necessary rigidity and strength, the integral braces 4 being especially important in this connection. It is obvious that the use of these braces, formed as stated, extends more widely the bearing of the flanges 6, which feature contributes to the strength of the holder and also removes to a distance from each other the securing-nails passed therethrough, and thereby diminishes the tendency to split the side-boards, this effect, as well as the increased strength above indicated, being secured together with decrease in the weight and cost of the metal. Further, the passage of the wagon-body rod through the vertices of the V-shaped parts 5 supports the latter at their outer edge and against the pressure of a load.

Having fully described our invention, what we claim is—

1. In a wagon-body the combination with side and end boards, of the sheet-metal end-board holders each having approximately an M shape in cross-section and comprising two V-shaped parts 5 integral therewith and continuous lengthwise with the holder, the outer half of each of parts 5 being provided with a flange for attachment to a side-board and inclined from its foot to its top toward the other part, said latter part being approximately at right angles to the side-board and braced by the inclined part, and a rod passing through the side-boards and through the vertices of the V-shaped parts between their walls, the rod being in contact and coöperating with both walls of said parts near their junction to aid in supporting them, substantially as set forth.

2. In a wagon-body or the like the combination with the side and end boards, of the sheet-metal holders each having approximately an M shape in cross-section and comprising two V-shaped parts 5 integral therewith and continuous lengthwise with the holder, the outer half of each of parts 5 constituting a brace, said holder being secured to the side-boards by means of the flanges 6 contiguous to the V-shaped parts and said V-shaped parts 5 having holes in their vertices for the passage of rods, and with sheet-metal end-board cleats of V shape in cross-section provided with transverse holes registering with the holes in the parts 5 of the holders, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CLARENCE L. COSTON.
ERNEST W. BROADHEAD.

Witnesses:
A. T. SAMSON,
E. E. HUMISTON.