Oct. 25, 1927. 1,646,899

F. CANTRALL

END GATE FASTENER

Filed March 8, 1924

Fig. 1.

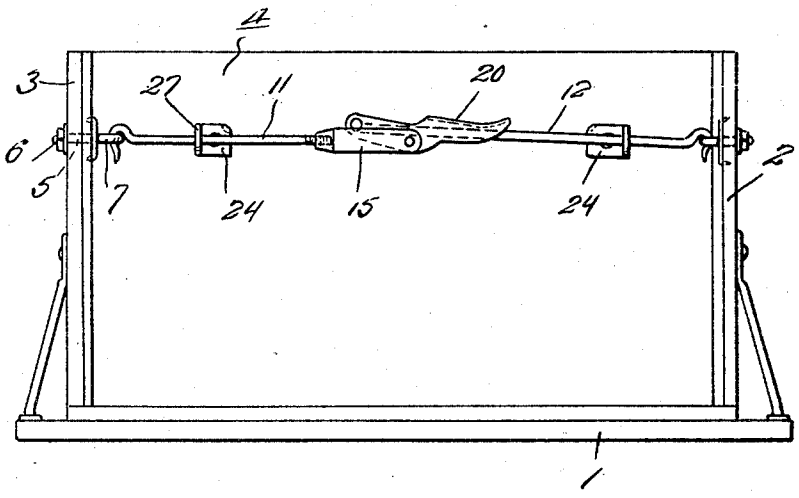


Fig. 2.

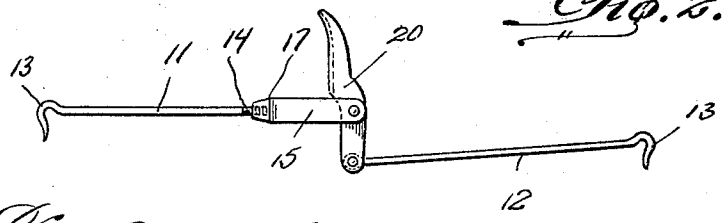


Fig. 3.

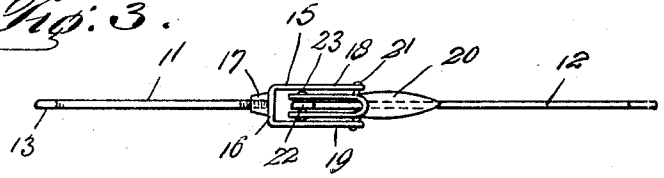


Fig. 4.

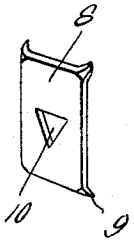
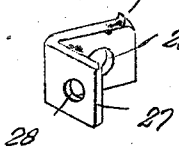


Fig. 5.



Frank Cantrall,
Inventor

By Clarence A. O'Brien
Attorney

Patented Oct. 25, 1927. 1,646,899

UNITED STATES PATENT OFFICE.

FRANK CANTRALL, OF WRAY, COLORADO.

END-GATE FASTENER.

Application filed March 8, 1924. Serial No. 697,797.

This invention relates to new and useful improvements in end gate fasteners which are principally adapted for use in connection with wagon bodies having removable end gates provided therefor, and has for its principal object to provide a simple and efficient means for fastening the end gate to the sides of the wagon body box whereby the same will be securely held against any movement so as to prevent the loss of any of the material which may be in the wagon body box.

A further object of the invention is to provide an end gate fastener of the above mentioned character, which is of such a construction, as to enable the same to be easily and quickly actuated for locking or releasing the same from engagement with the sides of the wagon body box.

A still further object of the invention is to provide an end gate fastener of the above mentioned character, which includes means for supporting the same on the end gate in such a manner as not to interfere with the removal of the latter from the wagon body box and will always be supported in an operative position.

A further object is to provide an end gate fastener of the above mentioned character, which is simple in construction, inexpensive, strong and durable, and further well adapted for the purposes for which it is designated.

Other objects and advantages of this invention will become apparent during the course of the following description.

In the accompanying drawing, forming a part of this specification and in which like numerals designate like parts throughout the same:

Figure 1 is a side elevation of my invention, showing the same in a locked position on an end gate and wagon box body.

Figure 2 is a detail front elevation of the end gate fastener showing the same in an open position.

Figure 3 is a top plan view of the end gate fastener when in a locked position.

Figure 4 is a detail perspective view of one of the eye-bolt supporting plates.

Figure 5 is a detail perspective view of one of the supporting members.

In the drawing wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 1 designates generally the wagon body box which includes the side boards 2 and 3 respectively, and the end gate 4. As the features above described are well known in the art, it is not thought necessary to further go in detail relative to the same. It is to be understood that the end gate 4 in the present invention is adapted for vertical slidable movement between the side boards 2 and 3 respectively, when it is desired to remove the same. Extending through each of the side boards is the eye-bolt 5. The shank thereof is substantially triangular in cross section, the outer end thereof being threaded to receive the usual clamping nut 6, the inner end being provided with the eye or loop 7 and the latter extending inwardly from each side board in the manner as clearly shown in the drawing. For the purpose of preventing any rotary movement of the eye-bolt 5 when in position, I provide the plate 8, the ends of which are provided with pointed projections, such as illustrated at 9, whereby the same may be bent into engagement with the inner face of each of the side boards and the central portion of the plate is provided with a substantially triangular opening 10 conforming to the triangular shaped shank of each eye-bolt for receiving the same and whereby each eye-bolt will be supported in a substantially rigid position.

The end gate fastener comprises a pair of elongated rods 11 and 12 respectively, the rod 12 being of greater length than the rod 11. The outer ends of each of the rods are provided with the hook portions 13 for engagement with the eyes 7 of the eye-bolts 5 when the end gate fastener is in a locked position in the manner as will be presently apparent. The inner end of the shorter rod 11 is threaded as illustrated at 14 and adapted to be adjustably supported thereon is the substantially U-shaped member 15. The crown portion 16 of the U-shaped member 15 has a lateral extension 17 formed thereon which is internally threaded for receiving the threaded end 14 of the rod 11 and permits a slight relative adjustment of the U-shaped member 15 on the inner end of the rod 11.

Pivotally supported between the outer ends of the arms 18 and 19 respectively, of the U-shaped member 15 intermediate its ends is the lever 20. The pivotal means therefor is indicated by the numeral 21 and the same may be of any well known construction and I do not wish to limit myself to the

particular manner in which the lever is pivotally supported between the outer free ends of the arms of the U-shaped member.

The lower portion of the lever 20 is bifurcated and adapted to be pivoted between the outer ends of the lower portions of the bifurcated lower end of the lever 20, is the inner end of the elongated rod 12. The latter is provided with the loop portion or eye 22 which is mounted on the transversely extending pivot pin 23 whereby a pivotal connection between the inner end of the rod 12 and the lower end of the lever 20 is provided. The upper end of the lever 20 provides an actuating handle whereby the lever may be swung on its pivotal connection 21 in the manner as is obvious from the drawing.

Suitable supporting means for the rods comprising the end gate fastener are provided on the end gate 4 in the manner as shown in Figure 1 of the drawing, and the same comprises an angularly disposed plate 24, the base portion of which has an opening 25 provided therein for receiving any suitable fastening means adapted to extend into or through the end gate 4 and the outer ends of the plate may be provided with projections such as is shown at 26 in a similar manner to the pointed projections 9 provided on the plate 8 and further supporting the plate 24 in a rigid position on the end gate. The laterally extending portion 27 of each supporting plate 24 is provided with an opening 28 through which is adapted to extend the intermediate portions of the rods 11 and 12 in the manner as shown in Figure 1 of the drawing.

In Figure 2 of the drawing, there is shown the end gate fastener in an unlocked position and when it is desired to lock the end gate in position on the wagon body box, the upper portion of the lever 20 is swung outwardly from the U-shaped member 15 so that the lower portion of the lever and the inner end of the rod 12 to which the same is connected will be swung inwardly and upwardly between the arms 18 and 19 respectively, of the U-shaped member 15 and the outer or upper end of the lever 20 will extend over the L-portion of the rod 12 in the manner as clearly shown in Figures 1 and 3 of the drawing. In this manner, the rod 12 will be drawn inwardly with respect to the rod 11 and the rod when in a locked position on the end gate will prevent any movement of the end gate between the side boards 2 and 3.

When it is desired to move the end gate from the wagon body box, the lever 20 is swung upwardly to the position shown in Figure 2 whereby the rods 11 and 12 may be freely moved through the openings 28 provided in the laterally extending portions 27 of the plates 24 and the hook portions 13 of the rods may be disengaged from the eyes 7 of the eye-bolts. The end gate 4 may then be raised vertically from engagement with the side boards and it will be understood that the supporting plate 24 will carry the end gate fastener when the same is removed, thus preventing the latter from being lost as frequently occurs with the end gate fasteners which removably are associated with the end gate.

The simplicity of my device enables the same to be easily and quickly actuated for locking the end gate between the side rails of the wagon body box. Furthermore the construction of the several parts of my invention enables the same to be manufactured at a minimum cost.

While I have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described my invention, what I claim is:

An end gate fastener comprising a pair of rods having hooked outer ends, one of said rods being of greater length than the other one, a pair of angular apertured plates secured on the end gate for supporting the rods thereon, said rods being slidable through the respective apertured plates, a substantially U-shaped member, an internally threaded socket member formed on the crown portion of said U-shaped member, the inner end of the shorter rod being threaded and adapted for detachable engagement with the threaded socket of said aforementioned U-shaped member, a lever pivotally supported intermediate its ends between the terminals of the U-shaped members, the lower end portion of the lever being bifurcated, and pivotally connected to the inner end of the longer rod, the upper end of the lever forming a handle which is U-shaped in transverse section, the inner end of the longer rod and the lower end of said lever being adapted to extend between the arms of the U-shaped member when the U-shaped handle portion of the lever is swung downwardly, and straddles the longer rod.

In testimony whereof I affix my signature.

FRANK CANTRALL.