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WAGON LIFTING BRACKET

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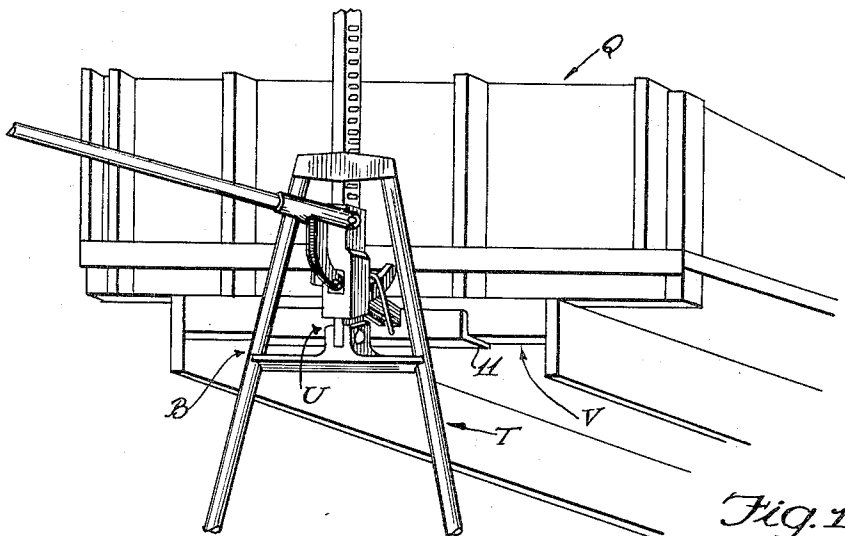


Fig. 1

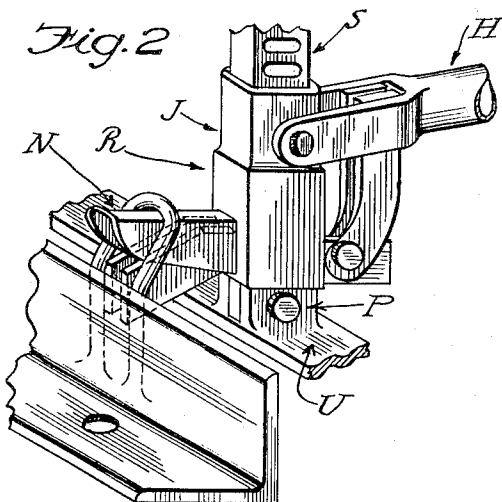


Fig. 2

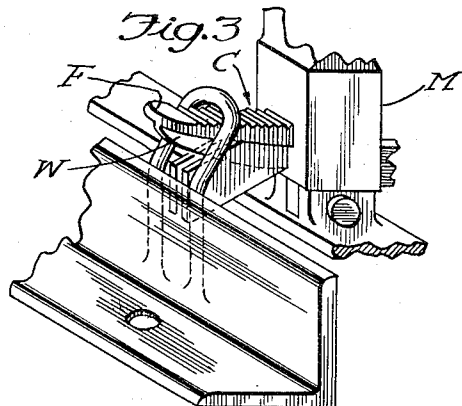


Fig. 3

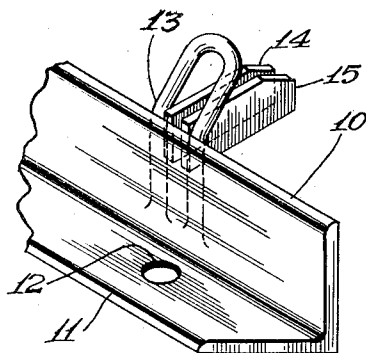


Fig. 4

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WAGON LIFTING BRACKET

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3 Claims. (Cl. 254—133)

This invention relates to improvements in wagon lifting bracket and has for a broad object the provision of a wagon lifting bracket which is adapted for use in connection with a lifting jack and wagon bed for the purpose of elevating one end of the wagon to dump the contents through the open end of the opposite end of the wagon.

In the harvesting of corn, as presently carried out in the United States of America, wagons are loaded in the fields and taken to storage or transportation facilities where it is necessary to remove the corn contained in the wagon bed. In the past it was quite customary for the farmer to unload the wagon bed by shoveling the corn therefrom. A later technique was to elevate one end of the wagon so as to allow the contents to slide from the opened opposite end of the wagon. In this type of operation it was necessary to employ some type of hoisting or elevating equipment and hydraulic and mechanical jacks came into quite widespread use.

Due to the fact that the wagon bed is customarily relatively high from the ground, specially designed jacks, capable of elevating a load to a relatively great height, were made and put into operation. Such jacks, of special design, were necessarily costly and in most instances were suitable only for the purpose of unloading wagon beds. The initial cost of such special-purpose jacks, as well as the fact that they deteriorated when not in use between harvesting seasons imposed a considerable financial burden upon the farmer.

In my copending application for "Jack and Support," filed December 22, 1950, under Serial No. 202,345, now abandoned, I have shown and described the use of a conventional jack (such as the ordinary farmer has for a multitude of different uses around the farm) in connection with a support which will place the jack at sufficiently high elevation to raise one end of the wagon bed to the desired height to dump the contents of wagon bed. When the harvesting season is over the jack may be removed from the support and be used for the purposes of raising tractors, automobiles and other machinery for repair, as well as for the purpose of pulling fence posts and stretching wire fencing.

More specifically an object of this invention is to provide a very simple and efficient lifting bracket which may be used in connection with the structure of the conventional jack and conventional wagon bed without the necessity of making any structural alterations to the wagon bed, and yet the lifting bracket may be easily disconnected from the jack so that it may be employed for its more conventional uses.

More limited objects of the invention are the provision of a lifting bracket which is relatively inexpensive, simple in construction, easy to use, and sufficiently sturdy in construction to render long service.

A more complete understanding of this invention may be had by referring now to the drawings, in which similar reference characters indicate similar parts hereinafter to be described, and in which:

Figure 1 is a perspective view of a portion of a wagon

bed being elevated by a jack support, conventional jack and the lifting bracket of this invention.

Figure 2 is a detail view, with parts broken away, showing portions of the jack with the lifting bracket assembled thereon and in a position to be used in elevating a wagon bed.

Figure 3 is a perspective view generally similar to Figure 2 showing a modified type of jack with which the lifting bracket of this invention is adapted to be used.

Figure 4 is a perspective view of the lifting bracket of this invention with a portion of one end broken away.

Referring now to Figure 2, a portion of the conventional jack is generally indicated by the letter J having a handle H, standard S, runner R and lifting jaw or nose N. The lower end of the standard S is provided with an opening for the reception of a pin P to secure the standard S to the upwardly extending U-shaped bracket U mounted upon the cross bar B as shown more clearly in Figure 1.

Referring now more particularly to Figure 4, the lifting bracket of this invention comprises generally an angular cradle 10 formed of heavy angle iron, the legs 10 and 11 of which are arranged at less than ninety degrees (90°) to each other. The lower leg of the cradle 10 is provided with an aperture 12 which is adapted to fit over the exposed bolt head which extends from the bottom of the end sill of this wagon bed—in cases where additional bolt heads are employed additional bolt head receiving openings, similar to aperture 12, should be provided in the lower leg 11 of the angular cradle.

To the upper leg 10 of the angular cradle a U-shaped loop 13 is secured preferably by welding, and the upper end of the loop 13 is preferably bent away from the leg 10 at an angle of approximately forty-five degrees (45°) for a purpose later to be described.

Between the depending legs of U-shaped loop 13 are preferably welded to the outer face of leg 10 of the angular cradle a pair of spaced struts or bars 14 and 15, thus leaving an opening between the two struts 14 and 15. The outer ends of these struts 14 and 15 are cut at an angle which makes their outer face lie in a plane parallel to the face of the leg 10 of the cradle.

Referring now to Figure 2, with the form of runner R and nose N illustrated it can be seen that the nose N is of a channel construction opening downwardly. In assembling the bracket upon the nose N and runner R the outer ends of struts 14 and 15 are slid into the open channel of nose N with the loop 13 straddling the upper face of the nose N. When the outer ends of struts 14 and 15 strike the main body of runner R the cradle of the lifting bracket is dropped, the closed end of the loop 13 is firmly suspended upon nose N, and the leg 10 of the cradle lies in a plane generally parallel to the axis of standard S, while the leg 11 of the cradle lies in a plane normal to the plane of leg 10 and the axis of standard S.

Referring now to Figure 3 a modified form of runner is indicated by the letter M and this runner is provided with a modified type of forged nose F which is provided upon its upper surface with a plurality of corrugations C and a centrally disposed and downwardly depending strengthening rib or web W.

In assembling the lifting bracket of this invention upon the modified runner M and modified nose F the loop 13 is placed over the modified nose F, the struts 14 and 15 straddle web W, and when the bracket is released the leg 10 of the cradle lies parallel to the standard upon which modified runner M is mounted, and the leg 11 lies normal to the said standard and said leg 10.

Referring now to Figure 1, when it is desired to elevate the end of the wagon bed generally indicated by the letter Q the jack is secured to the upwardly extending

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U-shaped bracket U on bar B of the jack support generally indicated by the letter T, the lifting bracket is mounted upon the nose of the jack, the lower leg 11 of the angular cradle is placed under the lower end sill V of the wagon bed Q, and the handle H of the jack is manipulated to elevate one end of the said wagon bed. Of course it is necessary to block the wheels at the opposite ends of the wagon to prevent rolling, but upon elevation of one end of the wagon bed the opening of the end-gate at the opposite end of the wagon will permit the contents of the wagon bed to be slid easily from the wagon bed itself.

In adjusting leg 11 upon the end sill V it is desirable to fit the bolt head receiving apertures 12 over any protruding bolt heads on the bottom of end sill V in order to obtain a good flat bearing surface relation between the bottom of the end sill V and the upper face of leg 11. As the end of the wagon bed is elevated there is a slight tilting of the end sill V in the angle of the angular cradle but the lifting bracket holds the end sill V securely for the intended operation.

It can now be seen that one jack support, one jack and one lifting bracket can be used for a plurality of wagon beds without adapting each of them, by expensive alterations, to the requirements of the lifting operations. When the harvesting work is completed the jack may be dismantled from the jack support T, the lifting bracket may be taken from the nose of the lifting jack, and the jack may be used for its more customary and conventional uses. In addition the lifting bracket may be used with the conventional jack base mounted upon the conventional standard, for the purpose of elevating a load which is too low for the jack nose to reach in its lowest position. When not in use the lifting bracket and jack are easily stored in some convenient place where they will be protected from rapid deterioration caused by weather changes.

While I have shown and described my preferred form of construction and operation I do not wish to be limited to the precise details shown and described but wish to avail myself of all variations coming fairly within the scope of the appended claims.

What is claimed is:

1. A universal wagon dumping jack serving to lift one end of a large variety of wagon beds in succession and dump the contents out the other end of such bed said jack including a lifting jack normally having an approxi-

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mately vertical standard, a runner slidably disposed on said standard and having an integrally extending lifting nose, an angle iron cradle having two legs one of which serves as a flat lifting contact and the other of which embodies a lifting loop directly engaging said nose, a stop strut fixed to said other leg and serving to bear directly against said nose in stabilizing said angle iron, and a two legged frame supporting and stabilizing said standard on a medial line thereof, the two legs of said frame being in planes parallel to the end wall of the wagon bed to which the invention is applied.

2. A wagon dumping jack including a dual leg construction having a pair of legs disposed convergingly toward their normally upper ends said construction having members uniting said legs, a jack standard substantially square cross sectionally attached to and supported in said structure on a medial line between said legs, a jack runner on said standard said runner being correspondingly square in cross section and having a lifting nose integrally situated thereon, a length of angle iron one leg of which serves as an extensive flat lifting surface the other leg embodying a lifting loop adapted to engage said lifting nose and embodying a stop strut which serves to bear directly against said lifting nose and stabilize said angle iron.

3. A lifting bracket to be used in connection with a lifting jack having a normally vertical standard, a runner slidably disposed on said standard embodying an integrally extending lifting nose of an inverted channel type with downwardly extending channel legs, an angle iron cradle having two legs normal to each other, a lifting loop adapted to straddle said lifting nose, said loop being embodied with one of said angle iron legs, a stop strut embodied with said one leg and adapted to contact said nose between said channel legs and thus cooperate with said loop in stabilizing said angle iron.

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