J. VIET.

POLE DISCONNECTOR.

APPLICATION FILED JULY 8, 1909.

944,224.

Patented Dec. 21, 1909.

2 SHEETS—SHEET 1.

FIG. 1

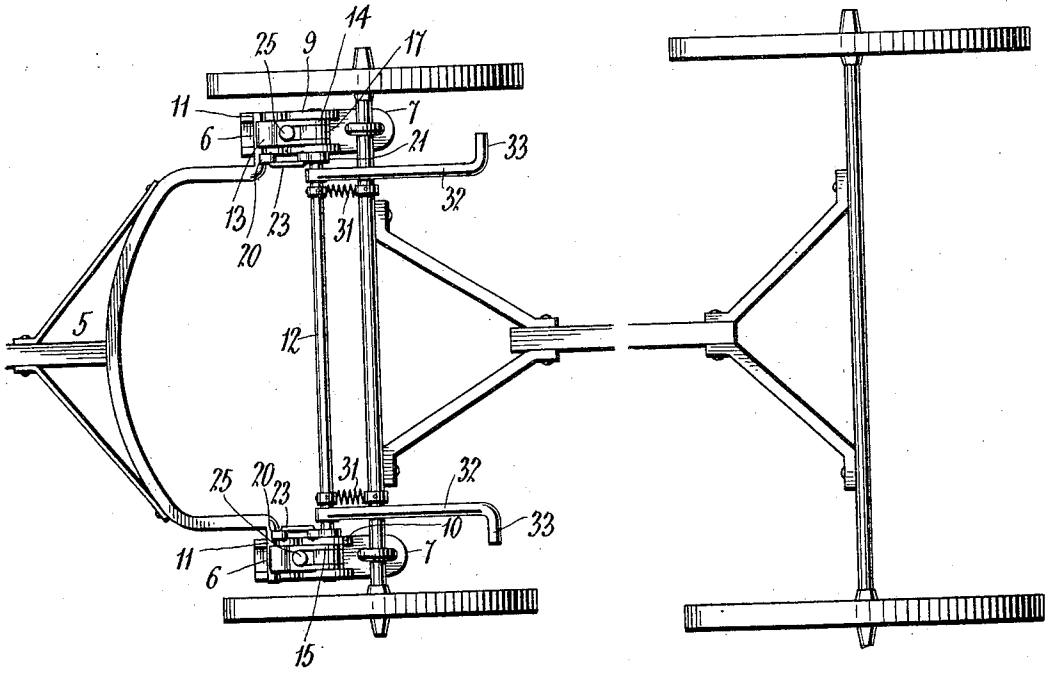
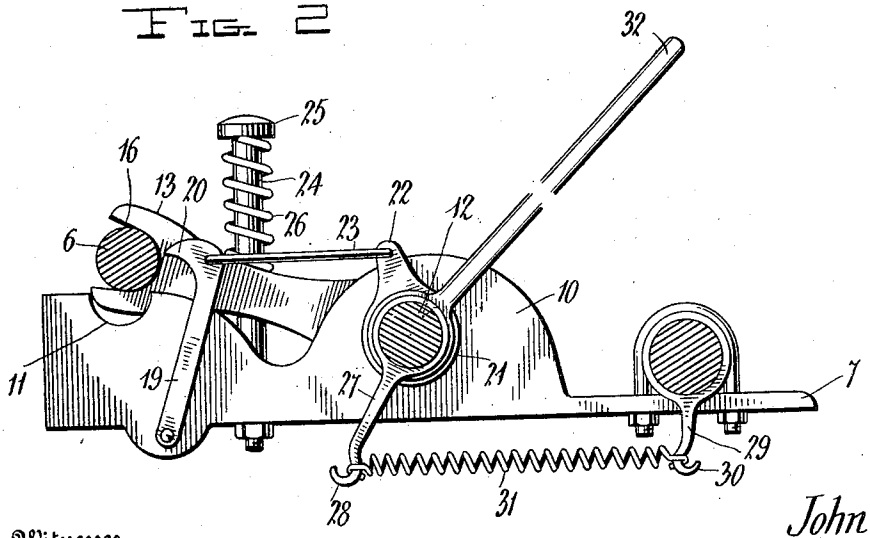


FIG. 2



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2 SHEETS—SHEET 2.

FIG. 3

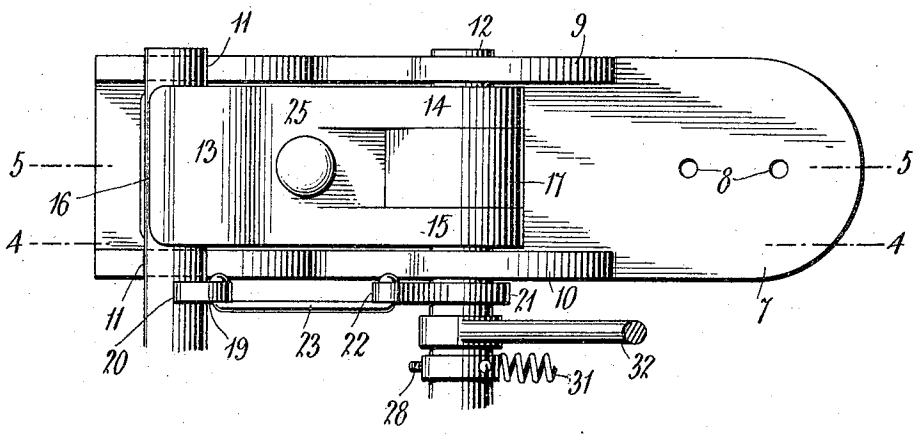


FIG. 4

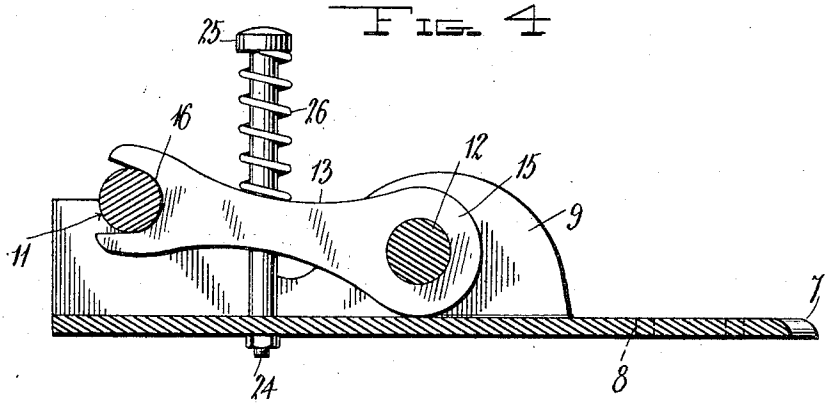
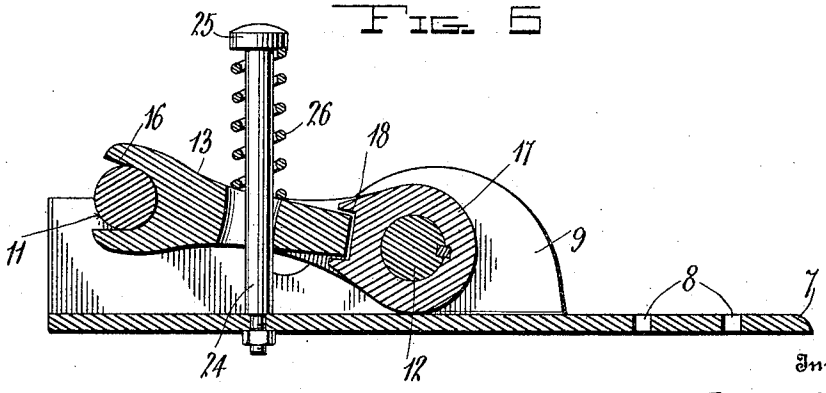


FIG. 5



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UNITED STATES PATENT OFFICE.

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POLE-DISCONNECTOR.

944,224. Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed July 8, 1909. Serial No. 506,547.

To all whom it may concern:

Be it known that I, JOHN VIET, a citizen of the United States, residing at Ackley, in the county of Hardin, State of Iowa, have invented certain new and useful Improvements in Pole-Disconnectors; and I 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 appertains to make and use the same.

This invention relates to improvements in pole detachers to be employed with carriages, wagons and the like.

The invention consists essentially in a device for holding the pole connected with the vehicle in such position that the same may be readily disengaged from the vehicle when the animals become frightened and attempt to bolt.

One object is the provision of a means for operating the disconnecting member within easy reach of the driver.

Another object is the provision of a means for yieldingly holding the parts in engaging position so as to prevent rattling.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a plan view of a vehicle and showing my improved device applied thereto. Fig. 2 is a side elevation of the device and showing the parts in pole releasing position. Fig. 3 is a plan view of the device. Fig. 4 is a vertical section taken on the line 4—4 of Fig. 3. Fig. 5 is a similar view taken on the line 5—5 of Fig. 3.

Similar numerals of reference are employed to designate corresponding parts throughout.

As shown in the drawings, the pole is designated by the numeral 5 and is provided at its rear or engaging end with the usual "U" shaped extension, the limbs of which are provided with laterally disposed bolts 6. The device for maintaining the pole in engagement with the vehicle consists of a pair of detachers secured to opposite ends of the vehicle axle; since these members are identical in structure a description of one will be sufficient. It is to be understood that I am not to be limited to this particular manner of securing the device, since it will be understood, from what will appear later, that the device may be equally as well secured to other parts of the vehicle.

As shown, each device consists of an elongated bottom plate 7, substantially rectangular in facial contour and cross section and provided at what will subsequently be termed its rear end with openings 8 for the reception of a "U" shaped clevis by which it is secured to the vehicle axle. Rising from the opposite sides of the plate 7 are the vertical side walls 9 and 10, which are provided at their upper edges and adjacent their front ends with semi-circular recesses or depressions 11. The recesses 11 are directly opposite each other and are of sufficient depth to seat one of the laterally extending bolts 6 at the rear end of the pole 5. Extending parallel with the vehicle axle and disposed in advance thereof is a shaft 12, the ends of which are journaled in the side walls 9 and 10.

A lifting dog is designated in general by the numeral 13 and is of a width to nicely fit between the side walls 9 and 10. The lifting dog is provided at its rear end with a longitudinal recess extending to a point adjacent the intermediate portion of the dog. The portions of the rear end on either side of the recess constitute lugs 14 and 15, which are provided with alining openings for the reception of the shaft 12. The openings in the lugs 14 and 15 are of sufficient size to permit the dog to be rotated on the shaft 12. The opposite or forward end portion of the dog 13 is provided with a horizontally disposed groove or recess 16 which corresponds in diameter to the recesses or depressions 11 of the side walls 9 and 10. The dog is of such length that the recesses 11 of the side walls will be in alinement with the recess 16 of the dog when the latter is in a horizontal position, or substantially

at right-angles to the shaft 12, as clearly shown in the drawings.

As before stated, the dog is loosely fitted on one end of the shaft 12 and in order that it may be moved with the shaft the following construction is employed: By referring now to Fig. 5 it will be seen that keyed to that portion of the shaft 12 between the lugs 14 and 15 is a lifting block 17. This member is annular in contour, or substantially so, and on its forward side is provided with a socket or recess 18, which straddles the floor of the recess or that portion of the dog disposed between the lugs 14 and 15. Thus it will be seen when the parts are in position as shown in Fig. 1 that by turning the shaft 12 to the right, the block 17 will be rotated, whereby the lower side of the walls of the recess 18 will bear on the dog and lift the outer or recessed end upwardly and beyond the side walls 9 and 10.

In order that the pole may be prevented from accidental disengagement from the frame, a keeper 19 is provided. This member is pivoted to the outer face of the side wall 10 and adjacent the rear side of the recess or depression 11. The upper or free end of the lever is provided with a forwardly extending finger 20, which is adapted to bear on that end of the bolt 6 of the pole 5 extending beyond the side wall 10, as clearly shown in Fig. 1.

In order that the keeper 19 may be rocked from its bearing position on the bolt 6, when the dog is lifted to disengage the bolt 6 of the pole the following construction is employed:—By referring now to Figs. 1, 2 and 3 it will be seen that the shaft 12 has keyed thereto at a point in advance of the side wall 9 a plate 21. This member is provided on its periphery with a projection 22, which is disposed, when the parts are in engaging position, a trifle in advance of the vertical plane of the shaft 12. Connection between the projection 22 and upper end of the keeper 19 is established by means of a link 23, the front end of which is pivoted or otherwise secured to the upper end of the keeper 19, and the opposite end likewise connected to the outer portion of the projection 22. Thus it will be seen when the shaft is rotated and the lifting dog operated in the manner before described, that the rotation of the shaft 12 will cause the plate 21 to rotate, whereby the projection 22 will move rearwardly carrying with it the link 23 and by virtue of the latter's connection with the keeper 19, the latter will be rocked from the position shown in Fig. 1 to that shown in Fig. 2 and disengaged from the bolt 6.

When the parts are in position as illustrated in Fig. 1 it is evident that more or less rattling will occur, owing to the loose engagement of the lifting dog with the shaft 12; in order to prevent this rattling and at the same time to provide a means for aiding the dog to return to its normal position after having been lifted, the following construction is employed:—By referring now to the drawings it will be seen that rising from the central portion of the bottom plate 7 is a vertical post 24, which extends through an opening formed in the middle portion of the lifting dog 13. The upper end of this post extends considerably beyond the plane of the dog and terminates in a boss or head 25 and encircling that portion of the post between the upper side of the dog and lower side of the head 25 is a coil spring 26, the terminals of which bear on the head and dog and serve to yieldingly hold the latter in horizontal position. With this construction it is obvious that the force exerted by the spring on the dog will positively prevent rattling of the parts during the movement of the vehicle.

In order to positively insure the rotation of the shaft 12 in the opposite direction after it has been moved to disengaging position and the pressure thereon released, the following construction is employed:—By referring now to Figs. 1, 2 and 3 it will be seen that depending from the shaft 12 and disposed beyond the plate 21 is a hook 27, which is arranged at right-angles to the shaft and terminates at its lower end in a bill 28, and depending from the front axle of the vehicle is a similar hook 29 terminating at its outer end in a bill 30. The hooks 27 and 29 lie in parallel planes and connection between the hooks 28 and 30 is established by means of a coil spring 31, the opposite ends of which are provided with eyes for the reception of the bills 28 and 30. Thus it will be seen when the parts are in position as shown in Fig. 1 and the shaft turned when the force which turned the shaft is withdrawn, the spring 31 will restore the parts to their normal positions.

In order that the shaft may be rotated by the driver a pair of operating levers 32 are employed, the lower ends of which are keyed or otherwise secured to the shaft 12 between the detachers while their upper ends extend through the floor of the vehicle and terminate in crank handles 33.

From the foregoing it will be obvious when either crank handle is pulled rearwardly or toward the operator that the shaft will be rotated through the lever 32, whereby the lifting dog 13 will bear on the bolt 6 and lift the same clear of the depressions 11 and at the same time the keeper will be rotated from engagement with the bolt, by now releasing the reins the animals will draw the pole from the vehicle and the latter will come to a stop. Thus it will be seen with a device of this kind that numerous accidents caused by runaways, will be

prevented. It will be further observed that the device may be applied to the numerous forms of vehicles now in use.

Having thus described my invention what is claimed as new, is:—

1. In a pole detacher, a support, a shaft journaled in said support, means for turning the shaft, a lifting dog on the shaft, means secured to the shaft for moving the dog, a keeper pivoted to the support and a link connection between the keeper and shaft whereby the keeper is moved simultaneously with the dog.

2. In a pole detacher, a support, a shaft journaled in said support, a keeper pivoted to the support and disposed in advance of the shaft, a plate keyed to the shaft and a link connection between the free end of said keeper and said plate.

3. In a pole detacher, a frame having vertical side walls provided on their upper sides with pole bolt receiving depressions, a shaft journaled in said frame, a lifting dog having one end combined with the shaft and its opposite end provided with a socket in alinement with the said depressions, a keeper pivotally combined with the frame and having a forwardly projecting finger in a plane with the upper side of the socket of the lifting dog and means combined with the shaft for simultaneously moving the socket of the lifting dog out of alinement with the recess and the keeper out of the plane of the upper side of the socket.

In testimony whereof, I affix my signature, in presence of two witnesses.

JOHN VIET.

Witnesses:

AREND BAKKER,

MARTEN PIETER VIET.