(No Model.)

J. E. NAILL.

HORSE DETACHING DEVICE.

No. 413,240. Patented Oct. 22, 1889.

Fig. 1.

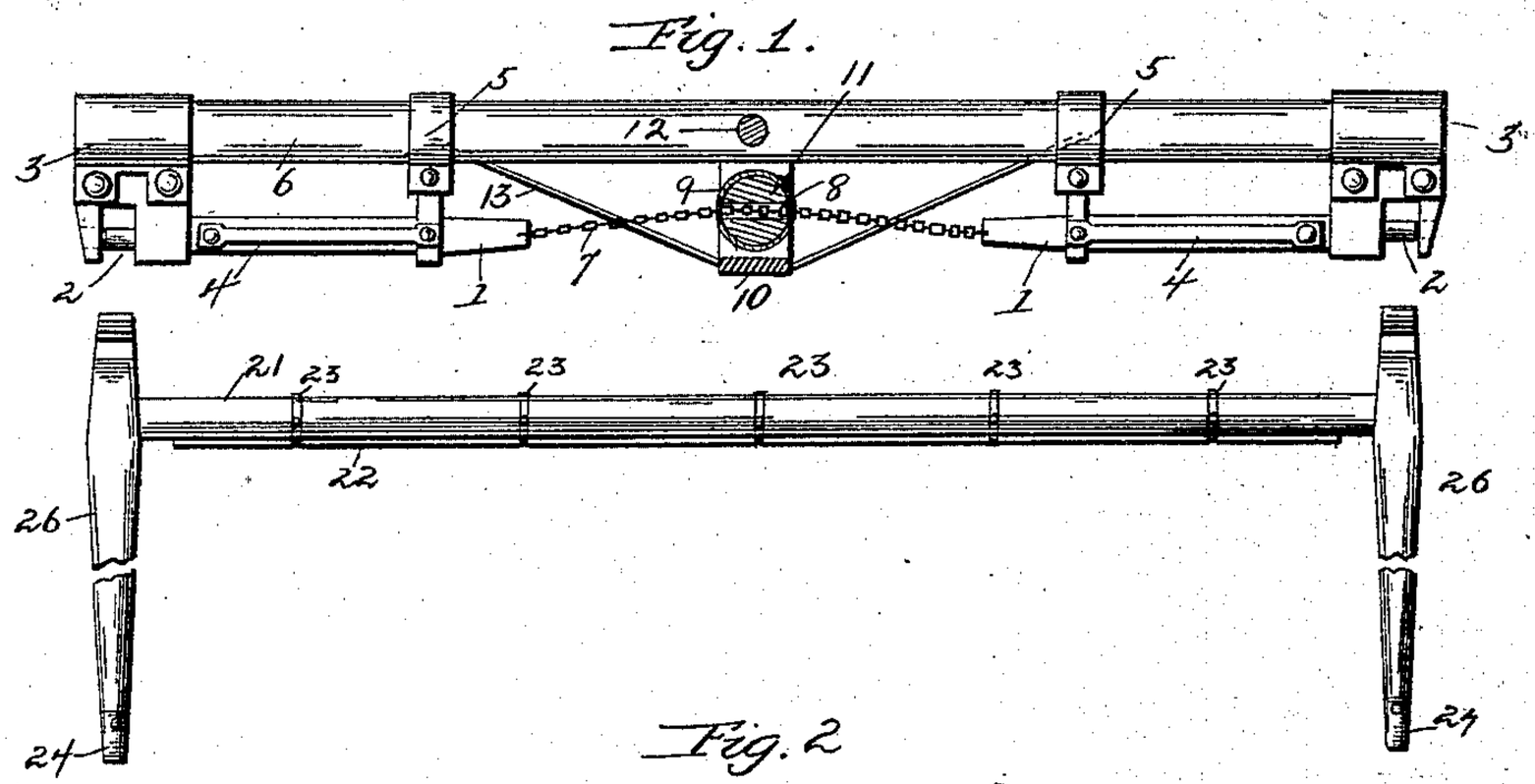


Fig. 2

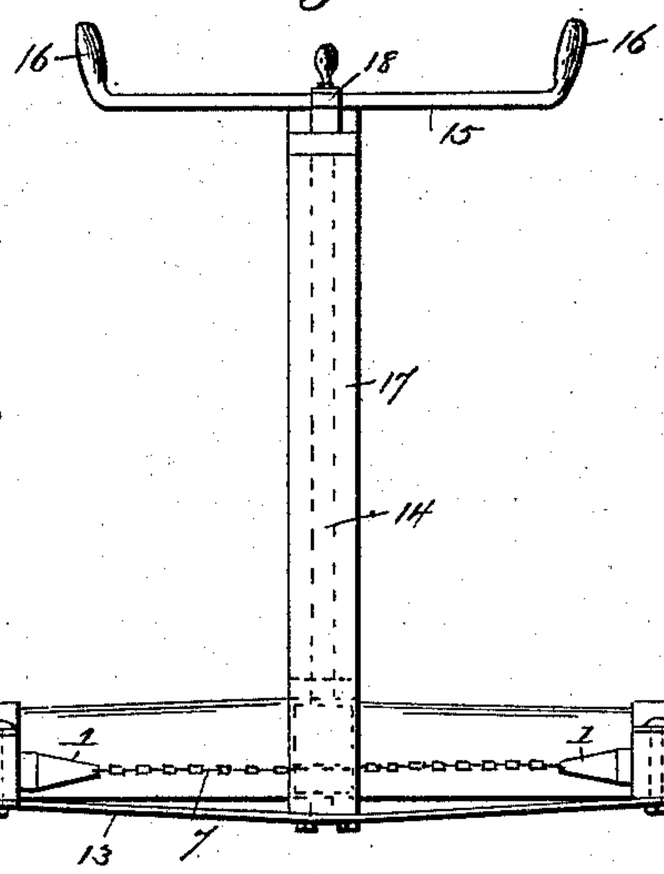


Fig. 4.

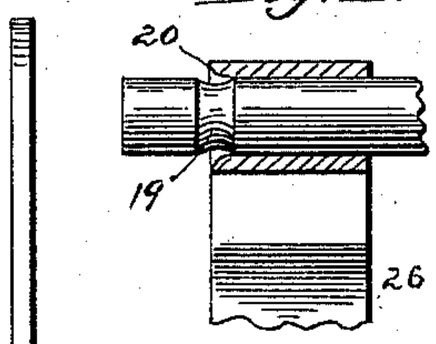


Fig. 5

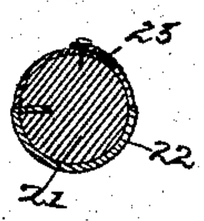
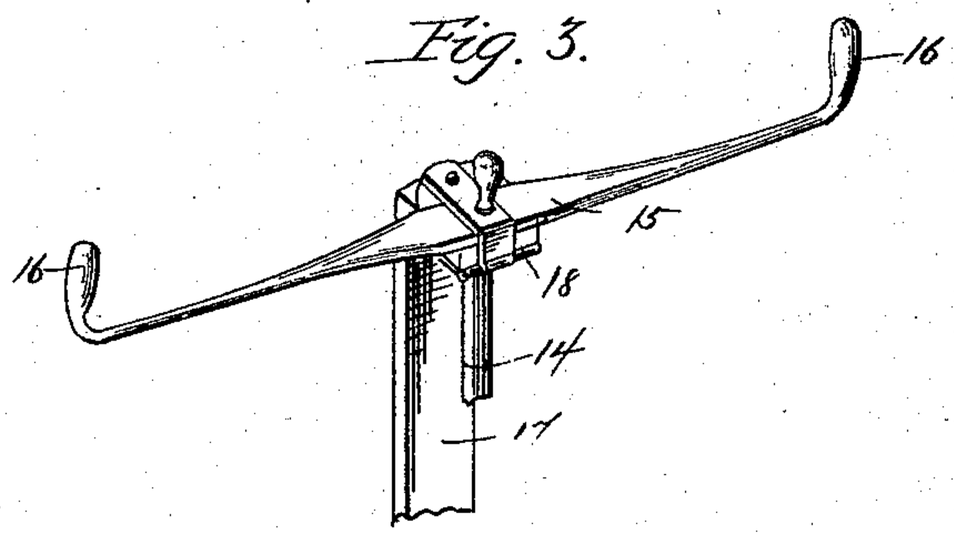


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN E. NAILL, OF BERRYTON, KANSAS.

HORSE-DETACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 413,240, dated October 22, 1889.

Application filed July 6, 1889. Serial No. 316,691. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. NAILL, a citizen of the United States, residing at Berryton, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Horse-Detachers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of devices known as "horse-detachers," and has for its object the speedy and certain detaching of a frightened or runaway horse from any vehicle, in order to avoid injury to the vehicle and its occupants. This object is accomplished by means of spring-held sliding bolts attached to the front axle, which secure the shafts to the shackle-boxes, and which are withdrawn by means of a chain secured to a revoluble post terminating in a double handle, which handle is made to serve as a rest for the reins.

My invention consists in certain novel means for attaching the device to the front axle, in certain means for preventing the wear of the securing-bolts from interfering with their prompt action, and in certain means whereby the shafts are prevented from injuring the detached animal and objects with which he may come in contact, all of which is fully and concisely set forth in the following description, reference being had to the accompanying drawings, of which—

Figure 1 is a top view, partly in section, with the shafts detached. Fig. 2 is a front view with the shafts removed. Fig. 3 is a perspective view, from the rear, of the handles and locking device. Fig. 4 is a detail showing the beveled groove in the end of one of the securing-bolts and the beveled shoulder on the eye of the shaft-shank; and Fig. 5 is a section through the cross-bar of the shafts, showing the rubber pad.

I provide two substantially flat sliding bolts 1 1 with cylindrical outer ends 2 2, which pass through eyes upon the ends of the shaft-shanks and through corresponding holes in the lugs of the shackle-boxes 3 3, thereby serving to hold the shafts in place. These bolts are kept in position by two flat springs 4 4, each of which springs is secured at one end to one of said bolts and at the other to one of the clips 5 5, which aid in securing the device to the axle 6, and are provided with ways in which the bolts may slide. The fixed end of the spring is fastened at a higher plane than the other, in order to permit bowing of the spring in the right direction. I find that flat springs are more reliable than the coiled springs usually employed, as the latter have a tendency to become loose and to lose their elasticity, as well as to become displaced when the vehicle is used upon rough roads. This will not happen when springs of the kind here shown are employed. The inner ends of the bolts are secured to a chain 7, which passes through and is fastened to a cylinder 8 by any suitable means. I have shown a wire 9, passing through two links of the chain around the cylinder and secured thereto; but it is obvious that many other means might be employed. This cylinder is journaled in a bracket 10, projecting forward from the axle and attached to it by means of a rearwardly-extending lug 11 below the axle, through which the king-pin 12 passes, and by means of a bent stay or brace 13, attached at its middle to the under side of the bracket and to the clips 5 5 at the ends. Extending upward from the cylinder 8 and concentric therewith is a rod 14, rigidly secured to said cylinder and provided at its upper end with a handle-bar 15. At the ends of this bar are two handles 16 16, turned up to form a rein-rest, in combination with the bar. The rod 14 is mounted in a standard 17, which is an extension of the bracket 10. To the upper part of this standard, in the rear, is hinged a clasp or locking device 18, which fits over the squared center of the bar 15 and holds it parallel with the axle, thus preventing the bar from turning and the bolts from being misplaced, unless the clasp is first turned back. The handle or knob of the clasp also serves as a rein-holder when such a device is found desirable. The reins may be looped over the knob or tied to it.

The outer end of the cylindrical portion 2

of each bolt at the point where it enters the outer lug of the shackle-box is provided with a beveled groove 19, and the outer end of the eye of each shaft-shank is provided with a beveled shoulder 20. There is a tendency in bolts of the ordinary construction to become worn, after having been used for some time, by the eye of the shank. A shoulder is thereby produced upon the bolt which tends to retard or to prevent its withdrawal. By the use of the beveled groove and shoulder here shown this danger is avoided. I also provide each bolt with a stop-pin 25, which limits the inward motion of the bolt by striking the clips 5. This pin is placed so as to allow the withdrawal of the bolt from the eye of the shaft-shank, but not from the inner lug of the shackle-box.

The under side of the cross-bar 21 of the shafts 26 is provided with a rubber pad 22, one edge of which is inserted in a slot in the cross-bar, while the body of the pad is bent around and secured to the bar by clips or bands 23. The front ends of the shafts are furnished with rubber tips 24 24, which help to prevent injury to objects against which the shafts may strike.

It will thus be seen that in the event of a fright or runaway it is simply necessary for the driver to throw back the clasp 18 and turn one of the handles forward or backward. The bolts will be withdrawn and the horse freed from the vehicle.

It is obvious that this device is applicable to the pole of a two-horse carriage, as well as to the form here shown.

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

1. In a shaft-detaching device, the combination, with detaching mechanism, a movable bolt, and a supporting-clip therefor, of a flat spring secured at one end to the bolt and at the other at a higher plane to the clip, substantially as set forth.

2. In a shaft-detaching device, a releasing-bolt co-operating with the eye of the shaft, said bolt being provided with a peripheral groove at a point corresponding to the side of the shaft-eye toward which the bolt moves in detaching, whereby liability of failure on account of wear is avoided.

3. In a shaft-detaching device, a securing-bolt provided at its outer end with a beveled groove, in combination with a shaft-shank having its outer shoulder beveled, substantially as described.

4. In a shaft-detaching device, the combination of sliding bolts for securing the shafts, means for limiting the play of said bolts, a bracket supported by a lug extending under the axle of the vehicle and perforated to allow the king-pin to pass through it, and by a brace secured at its ends to the axle and at its middle to the bracket, and a lever supported in the bracket for withdrawing the bolts, substantially as described.

5. In a shaft-detaching device, the combination, with sliding bolts, of a cylinder, chains connecting the bolts to the cylinder, a bracket supporting the cylinder, a rod rigid with the cylinder and extending upward therefrom, a standard to support the rod, and a handle-bar connected to the rod, substantially as described.

6. In a shaft-detaching device, securing-bolts, a cylinder, chains connecting the bolts to the cylinder, a rod rigid with the cylinder, a handle-bar surmounting the rod, and upturned handles at the extremities of the bar, in combination with a supporting-bracket, substantially as described.

7. In a shaft-detaching device, a handle-bar provided with upturned handles at its ends, and adapted thereby to serve as a rein-rest, and a clip for holding the bar rigid, said clip being provided with a knob to serve as a rein-holder, substantially as described, in combination with detaching mechanism, substantially as set forth.

8. In a detaching device for shafts, the combination, with movable connecting-bolts, of a shaft-shank provided with a beveled shoulder, as and for the purpose set forth.

9. In a shaft-detaching device, shafts the cross-bar of which is provided on the under side with a pad, in combination with detaching means, substantially as described.

10. In a shaft-detaching device, in combination, a handle-bar provided with upturned handles at its ends, a standard, and a clasp hinged to the rear of the standard and capable of being turned up over the handle-bar to lock it in place, substantially as described.

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

JOHN E. NAILL.

Witnesses:
J. H. EVANS,
J. W. VINCENT.