(No Model.) 2 Sheets—Sheet 1.

P. M. DOUGHTY.

HORSE DETACHING MECHANISM.

No. 477,358. Patented June 21, 1892.

Fig. 2.

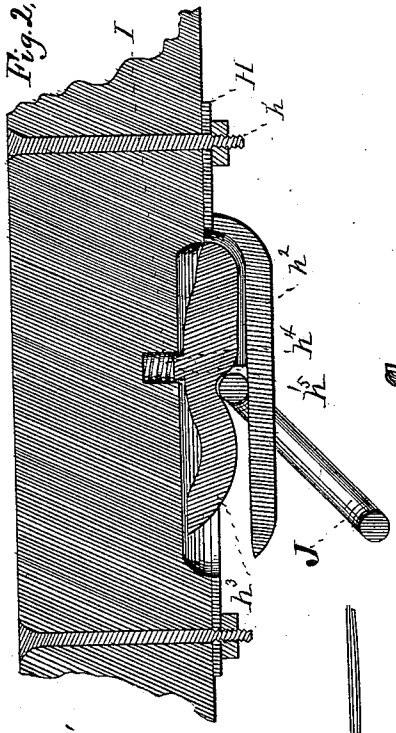


Fig. 1.

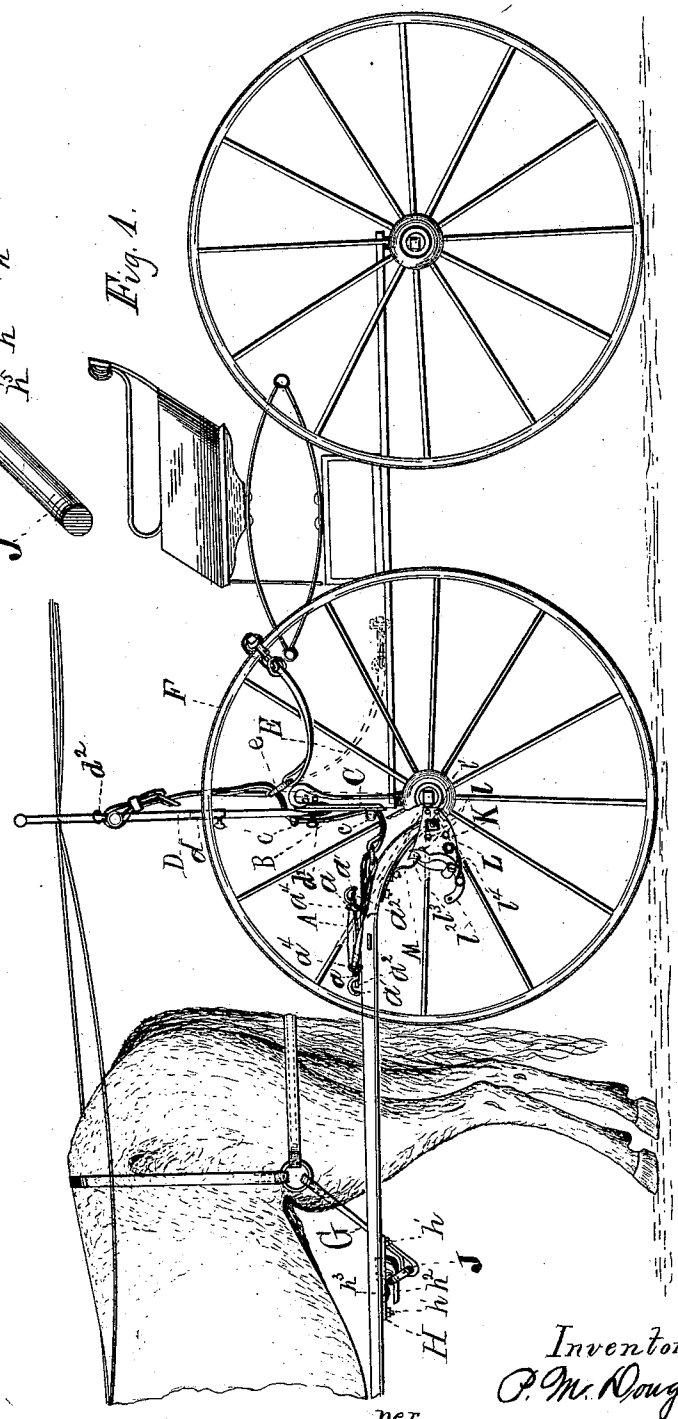
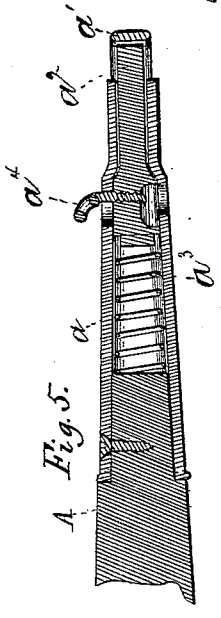


Fig. 5.



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(No Model.) 2 Sheets—Sheet 2.

P. M. DOUGHTY.

HORSE DETACHING MECHANISM.

No. 477,358. Patented June 21, 1892.

Fig. 3.

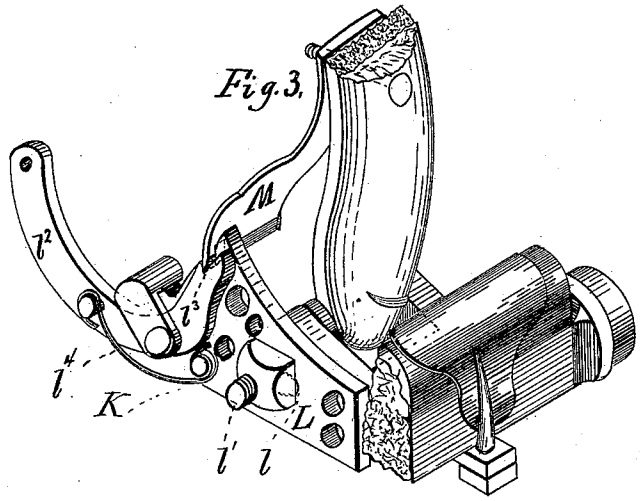
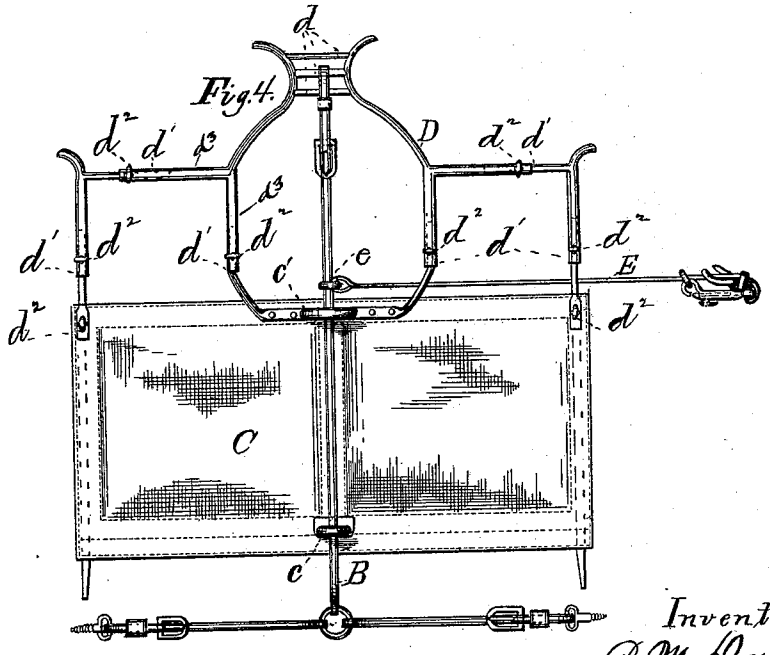


Fig. 4.



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UNITED STATES PATENT OFFICE.

PHILANDER M. DOUGHTY, OF CAMPBELLSVILLE, KENTUCKY.

HORSE-DETACHING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 477,358, dated June 21, 1892.

Application filed August 13, 1891. Serial No. 402,574. (No model.)

To all whom it may concern:

Be it known that I, PHILANDER M. DOUGHTY, a citizen of the United States, residing at Campbellsville, in the county of Taylor and State of Kentucky, have invented certain new and useful Improvements in a Mechanism for Detaching a Horse from a Vehicle; 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.

My invention relates to a mechanism for detaching a horse from a vehicle; and its object is to provide a mechanism whereby a horse can be quickly and readily detached from a vehicle without the driver getting out of same and while the vehicle is in motion, with a view of securing the safety of the occupants and vehicle in the event of a runaway. I attain said object by a certain combination and arrangement of parts fully described in this specification and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the vehicle with parts broken away, showing the relative arrangement of the different parts which constitute my invention and mutually contribute to produce a single result. Fig. 2 is a longitudinal sectional view of the device to which the holding-back strap of the harness is attached secured to a portion of the shaft. Fig. 3 is a detailed perspective view of the shaft-elevator, showing the relative arrangement of the parts which co-operate with it. Fig. 4 is a front view of the dash-board and rail and the forked strap. Fig. 5 is a longitudinal sectional view of the singletree.

Referring to the drawings, the letter A designates the singletree employed with a view of detaching the traces of the harness. It will be observed in Figs. 1 and 5 that said singletree is located upon the cross-bar of the shafts and that each end thereof is provided with a thimble a, which fits thereupon; that the outer ends of each of said thimbles have a curved downwardly-projecting guard a', which, in conjunction with the sliding bolts a^2, securely holds the traces in position when they are attached to the singletree; that the said bolts a^2 are kept in their normal position by means of spiral springs a^3, which fit upon the inner ends of the bolts and against the wooden ends of the singletree, and that said bolt is operated by the forked strap B, which is attached to the inwardly-bent screw-eyes a^4 of each of the bolts. It is well to mention the fact here that, owing to each of the screw-eyes a^4, respectively, being bent, as illustrated in Fig. 5, the bolts a^2 may be more effectually operated for the reason that the detachable forked strap B, Fig. 4, when pulled draws horizontally upon each of the bolts, and they therefore may be more readily drawn. It will be further seen, Fig. 1, that the forked strap B extends backward from the singletree A to the base of the dash-board C, thence through a ring c, thence to the top of the dash-board through another ring c', thence to the top d of an adjustable iron railing D, located upon the top of said dash-board. This railing is arranged and constructed as illustrated in Fig. 4 and may perform several important functions. Primarily it was designed as a safety-singletree reminder and a support for the detachable strap B, so that the same could be easily reached without danger of being kicked by the horse in the event of a runaway. Secondarily it has proven of untold value as a line-rest or means of elevating the lines to prevent the horse from switching his tail over the same. Said dash-rail may, therefore, by means of the horizontal and vertical bars d^3 and the telescopic features d', in conjunction with the thumb-screws d^2, be made adjustable to any desired width of dash-board or height of horse.

It is well to mention the fact that to the detachable strap B, at the point e, there is attached another strap E, designed to be fastened to the rim of the vehicle-wheel F in the event the horse should run or break loose while being hitched. It will be readily observed that in said event the strap E will be drawn by the revolution of the wheel F, which in turn will draw the detachable strap B, and that the horse will at once be detached by the mechanism which has in part been explained and will be more fully explained hereinafter. The dotted lines, Fig. 1, however, indicate the normal position of the strap E. After the traces have been extricated from the singletree A by the mechanism aforedescribed it is

apparent that some means must be devised to detach the holding-back strap G of the harness. With this end in view the holding-back-strap detacher is provided, which is illustrated in Fig. 2, in which the letter H represents a bar flat upon the top, so that the same can be bolted to the under side of the shaft by means of the bolts h'. Upon the under side of the bar H there is provided a guard h^2. Under this guard there is pivoted in a slot of the bar H the tongue h^3, which is operated by means of the spiral spring h^4, located centrally under the tongue h^3 and fitting over a small projection h^5 and resting in a cavity I in the shaft. It will be observed that said spiral spring h^4 holds the tongue h^3 in its normal position and that the ring J, to which the holding-back strap G is attached, may be pulled out of its bearings by the forward movement of the horse to which said strap is secured after the horse is detached from the singletree.

The horse being detached from the vehicle while running may be fruitful of harm if some means are not provided by which the shafts can be held up and prevented from falling to the ground, penetrating the same, and frequently capsizing the vehicle. Consequently I have invented a shaft-elevator K, (see Figs. 1 and 3,) by which said difficulty may be obviated. Said elevator comprises a perforated plate L, the perforation l being oblong and adapted to fit upon the inner ends of any shaft-bolt l' which secures the shaft to the axle-bar. The other perforations have no other object in view than that of making lighter the plate L. To the lower front end of this plate there is pivoted the curved lever l^2, which engages, by means of a notch l^3 in the upper end of the same, the downwardly-projecting bar M, which is bolted to the shaft. Said curved lever is held in its normal position by means of the spring l^4. This shaft-elevator is not only useful in the event of a runaway when the horse is detached, but is very valuable for the purpose of holding up the shafts when the vehicle is not in use. Besides it prevents the shafts from rattling, and in this sense may be called an "anti-rattler."

Having fully described my mechanism as afore indicated, and it being apparent that the same is very useful and practical, I deem it useless to further enlarge upon its merits.

What I claim is—

1. In a mechanism for detaching a horse from a vehicle, the combination of the singletree A, located and working upon the cross-bar of the vehicle-shafts, the adjustable railing D, located upon the top of the dash-board of the vehicle, the holding-back-strap detacher located near the center and upon the under side of the shaft, consisting of the bar H, bolted to said shafts, and the tongue h^3, pivoted upon the under side thereof and working in a slot therein and operated by the spiral spring h^4, located under the same, the forked strap B, secured to the screw-eyes a^4 and extending backward to the base of the dash-board, thence upward to the top of the adjustable railing D, and the shaft-elevator K, located upon the inner end of the bolt that secures the shaft to the axle-bar and adapted to engage the downwardly-projecting bar M of the shaft, all substantially as described, and for the purpose set forth.

2. In combination with a mechanism for detaching a horse from a vehicle, the holding-back-strap detacher comprising the bar H, bolted to the shaft, the tongue h^3, pivoted upon the under side thereof and working in a slot therein, and the spiral spring h^4, located in the cavity 8 of the shaft, having its upper end fitting over the projection h^5 of said tongue, in combination with the shaft, substantially as described and set forth.

3. In combination with the co-operating mechanism for detaching a horse from a vehicle, the shaft-elevator located upon the inner end of the bolt which secures the shaft to the axle-bar, said elevator comprising the plate L, having the curved lever or pawl 12, pivoted to the lower front end of the same and adapted to engage the downwardly-projecting bar M, and the said bar M, bolted to the shaft of the vehicle, substantially as shown and described.

4. In combination with the co-operating mechanism for detaching a horse from a vehicle, the forked strap B, secured to the screw-eyes a^4 of the singletree and extending backward to the base of the dash-board, thence upward to the top of the adjustable railing D, the strap E, secured to the strap B at the point e, and the singletree A and the adjustable railing D, substantially as described, and for the purpose set forth.

5. In combination with the co-operating mechanism for detaching a horse from a vehicle, the forked strap B, secured to the screw-eyes a^4 of the singletree and extending backward to the base of the dash-board, thence upward to the top of the adjustable railing D, the strap E, secured to the strap B at the point e, and the singletree A, substantially as described, and for the purpose set forth.

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

PHILANDER M. DOUGHTY.

Witnesses:

H. C. HORD,

JACOB ODEWAK.