(No Model.)

E. HAYS.

HORSE DETACHER.

No. 483,059. Patented Sept. 20, 1892.

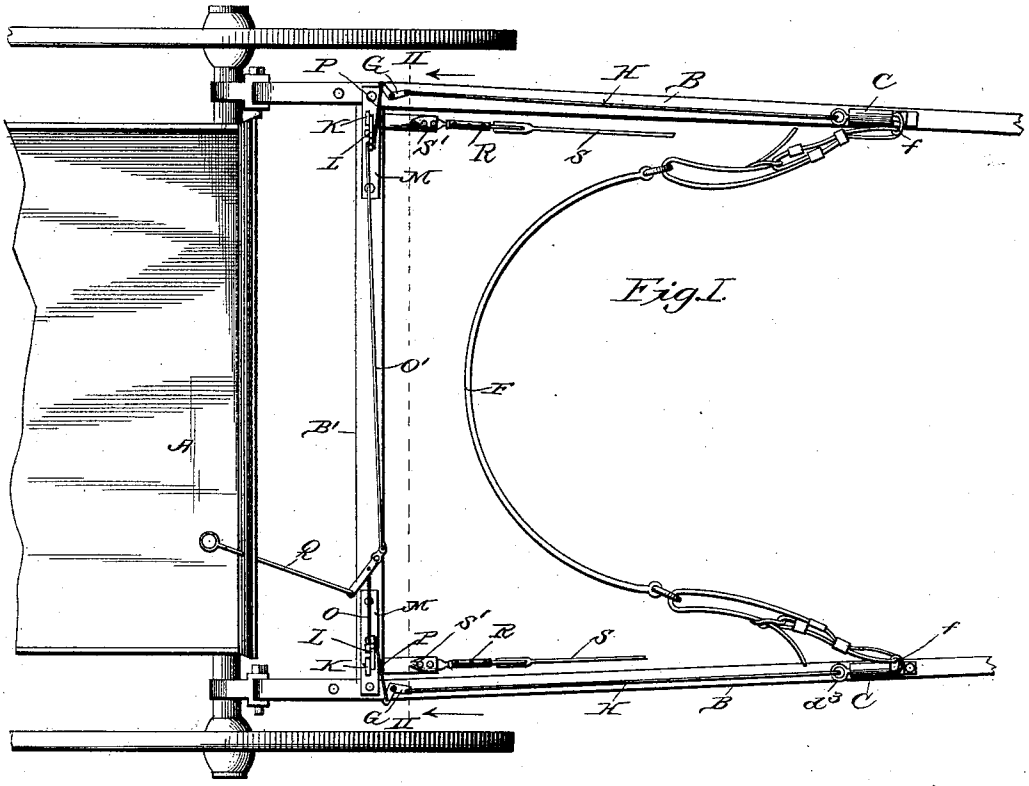

Fig. I.

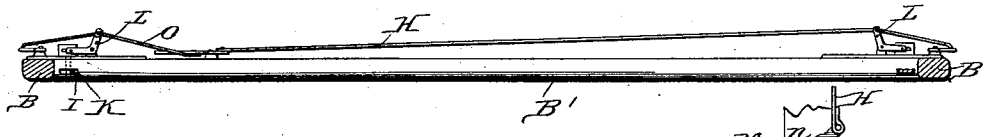

Fig. II.

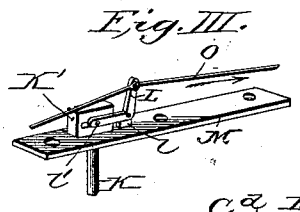

Fig. III.

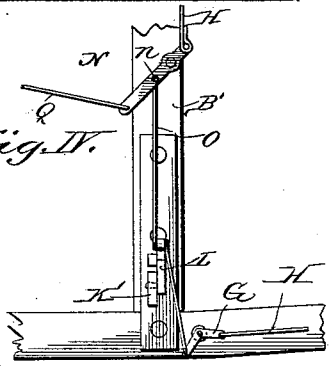

Fig. IV.

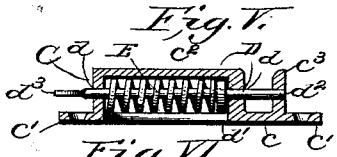

Fig. V.

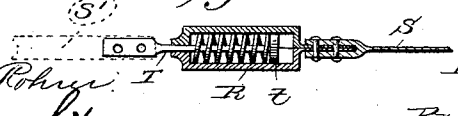

Fig. VI.

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UNITED STATES PATENT OFFICE.

ELIJAH HAYS, OF WARSAW, INDIANA.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 483,059, dated September 20, 1892.

Application filed November 6, 1891. Serial No. 411,072. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH HAYS, a citizen of the United States, residing at Warsaw, in the county of Kosciusko and State of Indiana, have invented certain new and useful Improvements in Horse-Detaching Devices, of which the following specification, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to simple and improved means for detaching a horse or horses from a vehicle by the occupant thereof; and it consists of certain features of novelty which will first be described with reference to the accompanying drawings and then more particularly pointed out in the claims.

In said drawings, Figure I is a top plan view of a portion of a vehicle with my improvements applied thereto. Fig. II is a sectional view of the thills, taken on the line 11 11 of Fig. I and looking in the direction of the arrows. Fig. III is a detail perspective view of one of the tug-detaching devices. Fig. IV is a detail plan view of a portion of the thills, showing the arrangement of the operating-levers. Fig. V is a sectional view of one of the breeching-detaching devices. Fig. VI is a sectional view of a portion of one of the tugs, showing the improved equalizer and adjuster.

As is customary with the class of devices to which my improvements belong, suitable detaching devices are provided for releasing the tugs and breeching, which devices are connected to an operating cord or lever supported in convenient position on the vehicle.

A represents a portion of a vehicle, and B the thills coupled to the vehicle. At the proper point on each thill a casting C is attached. This casting is formed of a base-plate *c*, having projecting perforated lips *c'*, by means of which it is secured to the thill, and a cylindrical portion c^2 and a vertical lip or lug c^3.

D is a sliding rod working in small perforations *d d*, formed through the ends of the cylindrical portion c^2 of the casting C, and provided with an annular shoulder or ring *d'* keyed to it.

E is a spiral spring surrounding the rod D and confined between one of the ends of the cylindrical portion c^2 and the shoulder *d'* for keeping the rod D normally thrust out and its end into engagement with the perforation d^2 in the lug c^3.

F represents the breeching, provided with the rings *f*, which are adapted to be inserted in the opening between the cylindrical portion c^2 and the lug c^3 and be retained therein by the rod D.

G are horizontally-operating bell-crank levers pivoted to the thills B adjacent to the thill cross-bar B' and connected by the rods H to the rings d^3, formed on the rear ends of the rods D for operating said rods and releasing the breeching-rings.

By referring to Fig. I it will be observed that I have done away with the customary singletree and attach the tugs to the cross-bar B' of the thills.

I are transverse slots formed through the cross-bar B' near its opposite ends, adapted to receive the ends of the tugs.

K are vertically-operating retaining-pins working in suitable perforations through the cross-bar B' and passing centrally through the slots I. The pins K are formed with slotted heads K' for the purpose which will presently appear.

L are vertically-operating bell-crank levers pivoted to vertical lugs *l*, extending up from the brace-plates M, which are secured to the thills and cross-bar. The horizontal arms of these levers are pivoted with pins *l'* near their ends, which engage in the horizontal slots of the heads K' of the pins K.

N is a double-armed operating-lever pivoted at *n* to the cross-bar B'.

O and O' are rods which connect the vertical arms of said levers L with the long and short arm, respectively, of said operating-lever N at equal distances from its pivot *n*.

P are rods connecting the vertical arms of the vertically-operating bell-crank levers L with the operating-arms of the horizontally-operating bell-crank levers G.

Q is a rod or cord extending from the long arms of the lever N through a perforation in the dash-board of the wagon in convenient position to the driver. By pulling this cord Q it is obvious that both the tugs and breeching will be disengaged.

By omitting the connections between the tug-detaching devices and the breeching-de-

taching devices a very convenient arrangement is provided for attaching and detaching the tugs, and, if preferred, this part of my invention may be used separately.

In order to allow for the motion of the horse, which is usually provided for by the single-tree, I insert in each of the tugs a spring-equalizing device, which will afford an easy movement for the horse, and in order that the rear ends of the traces may readily assume a horizontal position for insertion into the transverse slots I, I provide a swivel connection between the parts of the traces.

R is the hollow metal cylindrical piece attached to one portion of the tug S, and T is a rod attached to the other portion S′ of the tug and extending into the cylindrical piece and provided with an enlarged head *t* on its inner end and a spiral spring surrounding it and confined between the end of the cylindrical piece and the head *t*. This device affords a spring-equalizer and swivel for allowing the parts of the traces to assume the proper position.

The device, as above described, affords a very simple and effective means for hitching horses to any form of vehicle or horse-power machinery, and by it a horse can be quickly unhitched and released when the occasion arises.

Having thus fully described my invention and the manner of carrying the same into practice, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the thills and cross-bar, the breeching attachments mounted on the thills, and the tug attachments mounted directly on the cross-bar with the sectional draft-tugs, each consisting, essentially, of two sections provided, respectively, with a hollow cylindrical piece and a rod provided with an enlarged head, said rod being supported in said cylindrical portion and having a spring thereon for holding it normally in its inner position, all substantially as and for the purpose explained.

2. In a horse-detaching device, the combination of the thills and cross-bar, the breeching-detaching devices attached to the thills, the tug-detaching devices attached to the cross-bar, the horizontally-operating bell-crank levers for operating the breeching-detaching devices, the vertically-operating bell-crank levers for operating the tug-detaching devices, suitable connections between said bell-crank levers, and means for operating said bell-crank levers, substantially as set forth.

3. The combination, with the cross-bar, of the thills, the transverse slots in said cross-bar, the vertically-operating pins passing through said slots and provided with slotted heads, bell-crank levers engaging said slotted heads, and means for operating said bell-crank levers, substantially as set forth.

4. In a horse-detaching device, the combination of the thills and cross-bar, the breeching-detaching devices attached to the thills, the transverse slots in the cross-bar, the vertically-operating pins passing through said slots, the horizontally-operating bell-crank levers connected through suitable rods with the breeching-detaching devices, the vertically-operating bell-crank levers engaging the vertically-operating pins, suitable connections between said bell-crank levers, and means for operating said levers, substantially as set forth.

5. The combination, with the cross-bar, of the thills, the transverse tugs receiving slots in said cross-bar, the vertically-operating pins passing through said slots, suitable breeching attachments attached to the thills, and means for operating said pins, substantially as and for the purpose described.

ELIJAH HAYS.

Witnesses:
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F. E. BOWSER.