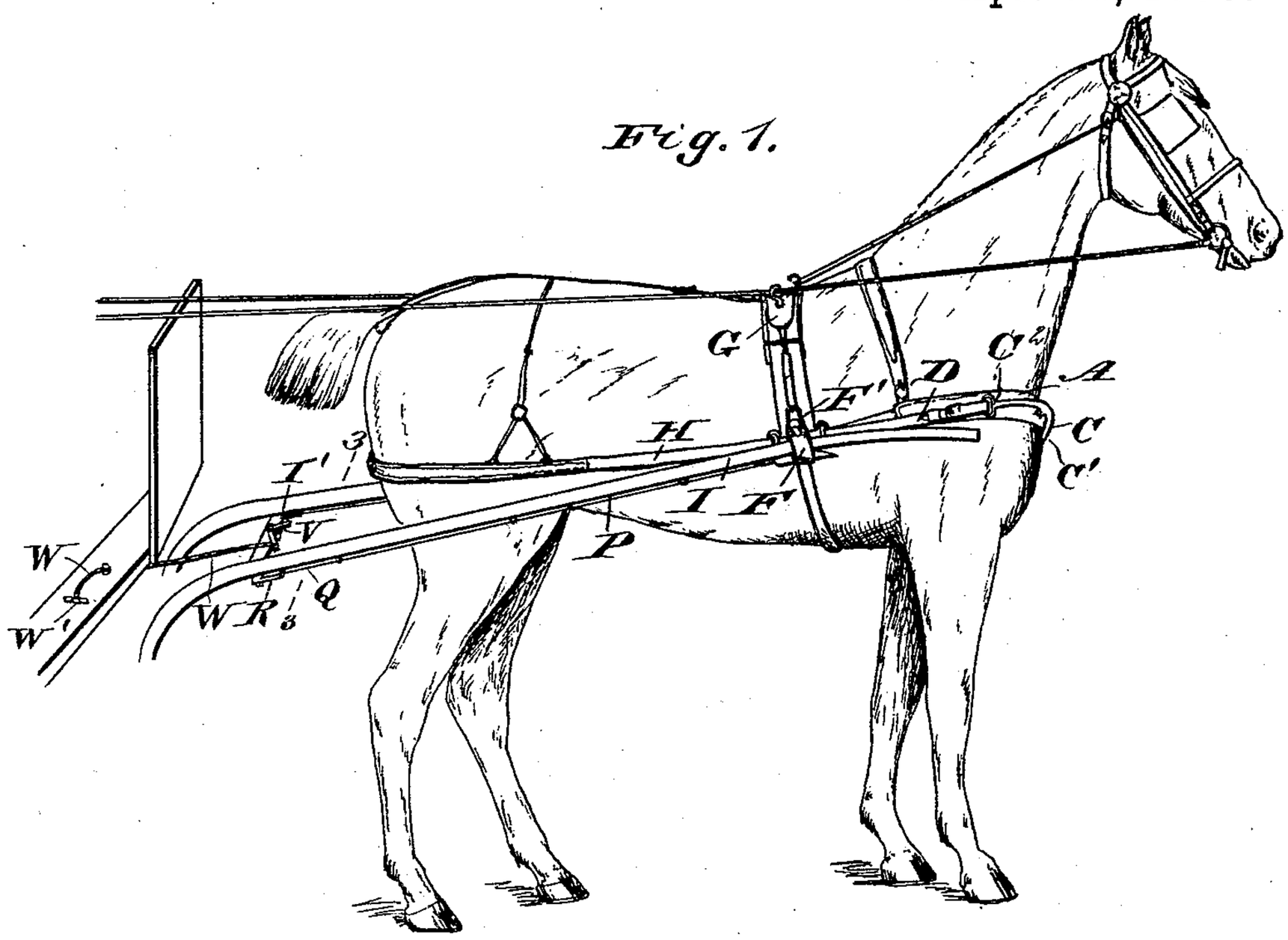
(No Model.) 2 Sheets—Sheet 1.

C. E. HARRIS.

HORSE DETACHING DEVICE.

No. 495,330. Patented Apr. 11, 1893.

Fig. 1.



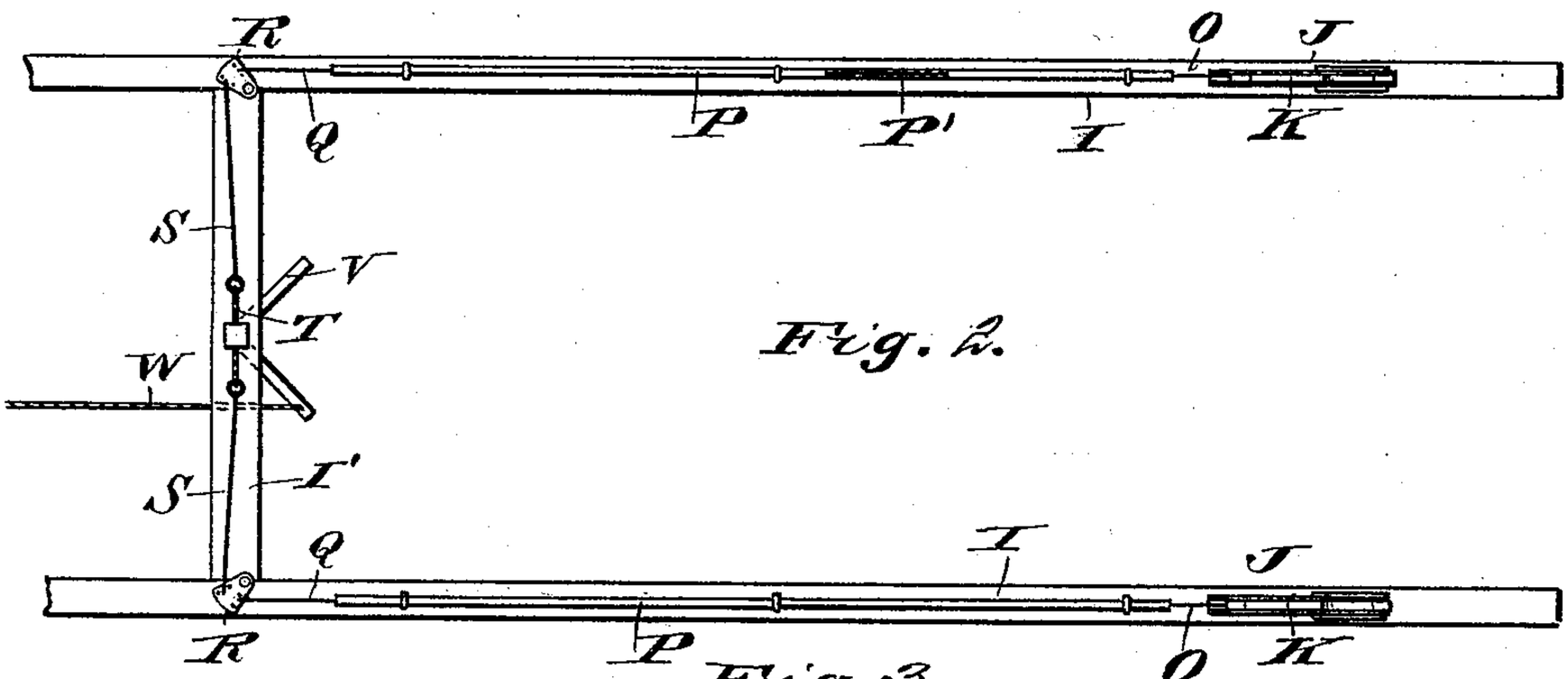


Fig. 2.

Fig. 3.

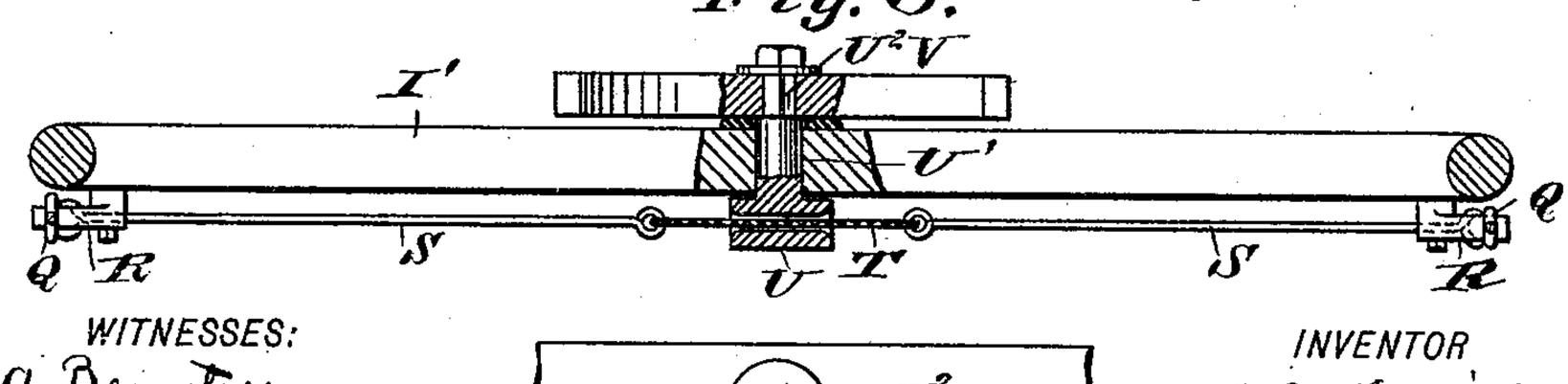
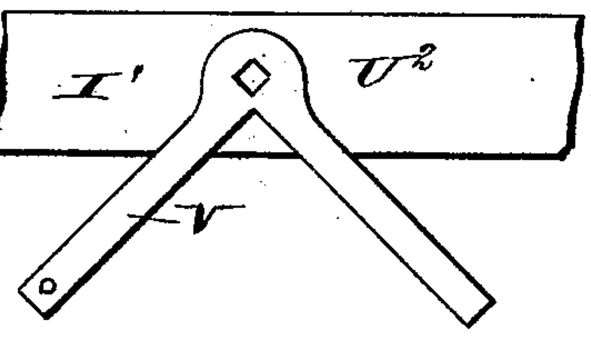


Fig. 4.



WITNESSES:
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(No Model.)

2 Sheets—Sheet 2.

C. E. HARRIS.

HORSE DETACHING DEVICE.

No. 495,330. Patented Apr. 11, 1893.

Fig. 5.

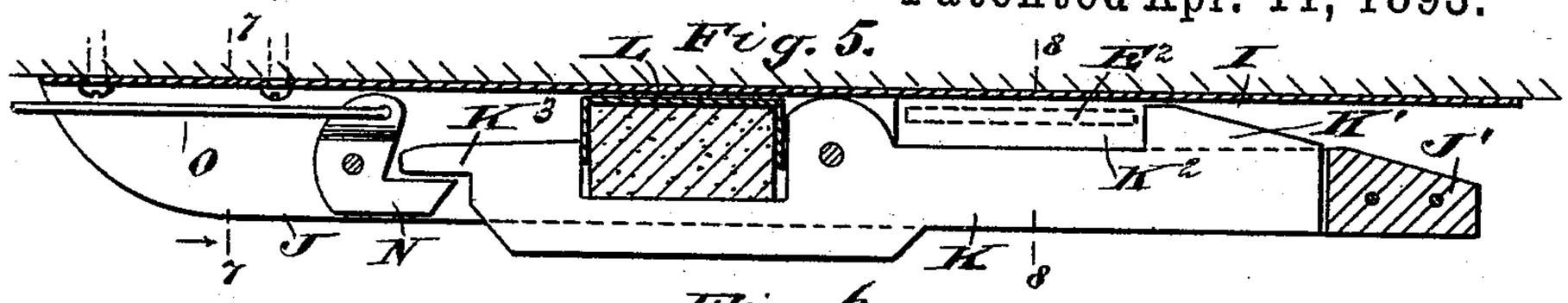


Fig. 6

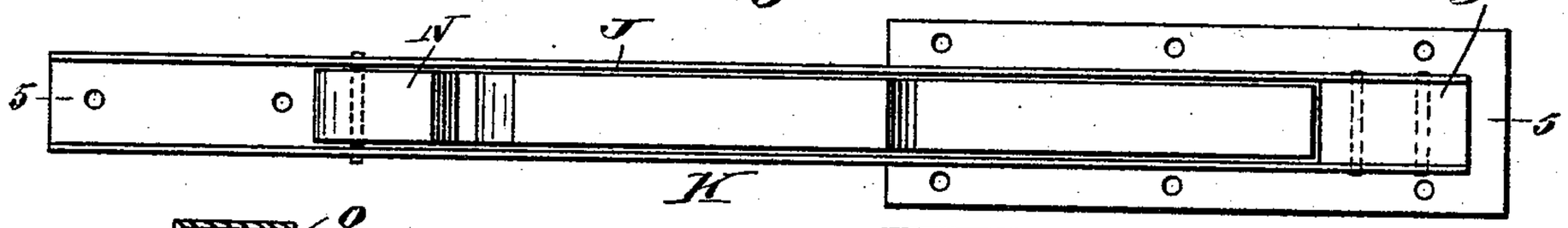


Fig. 7

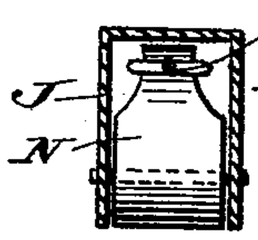


Fig. 8

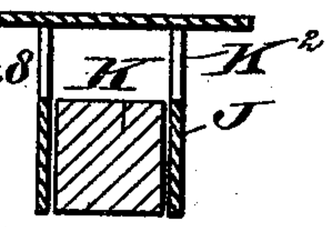


Fig. 9

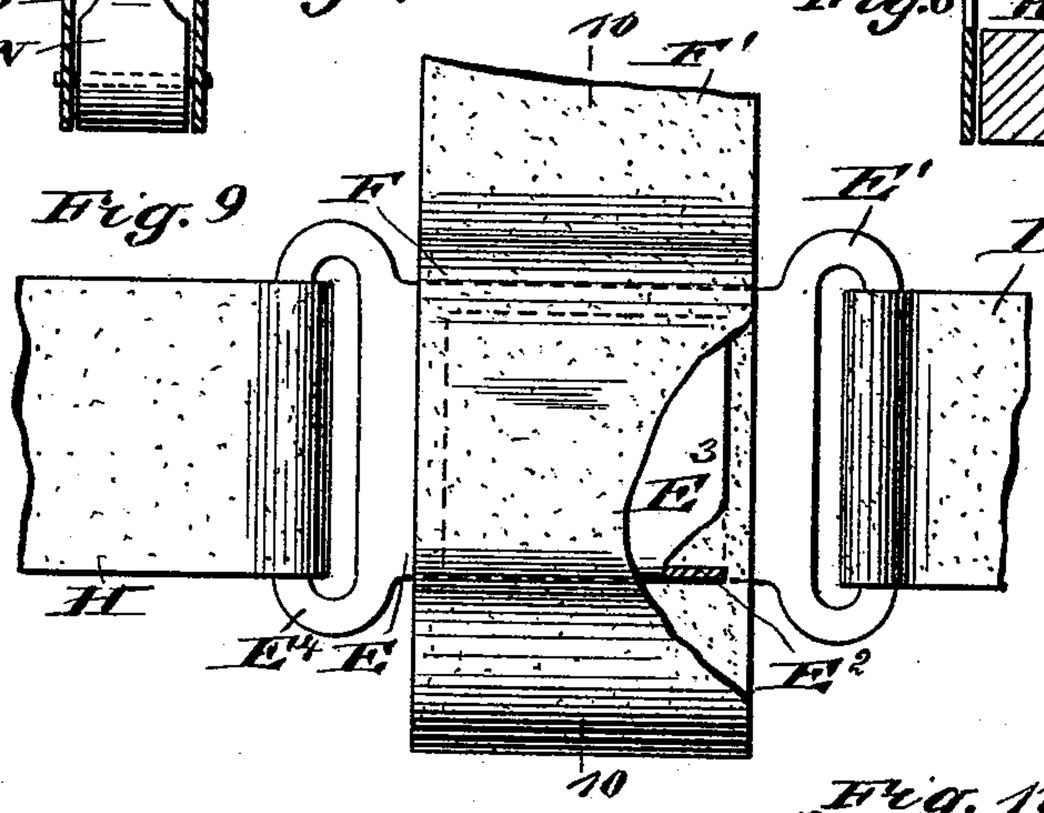


Fig. 10

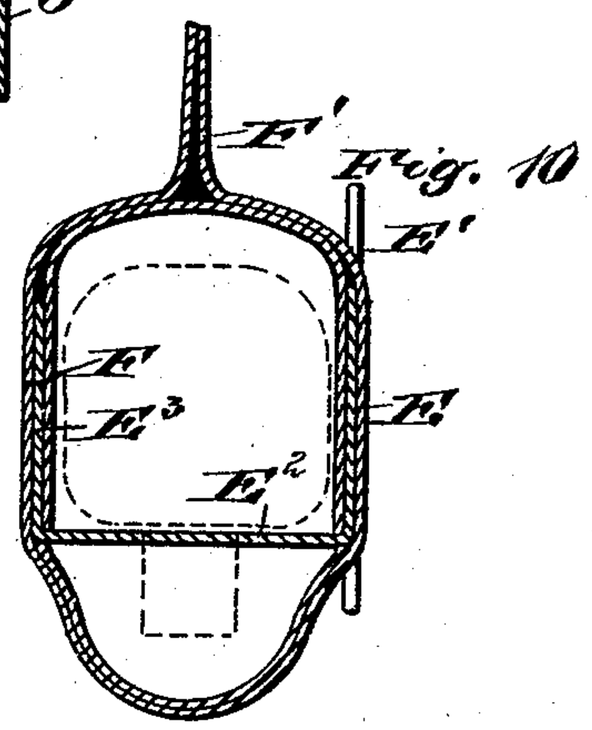


Fig. 11

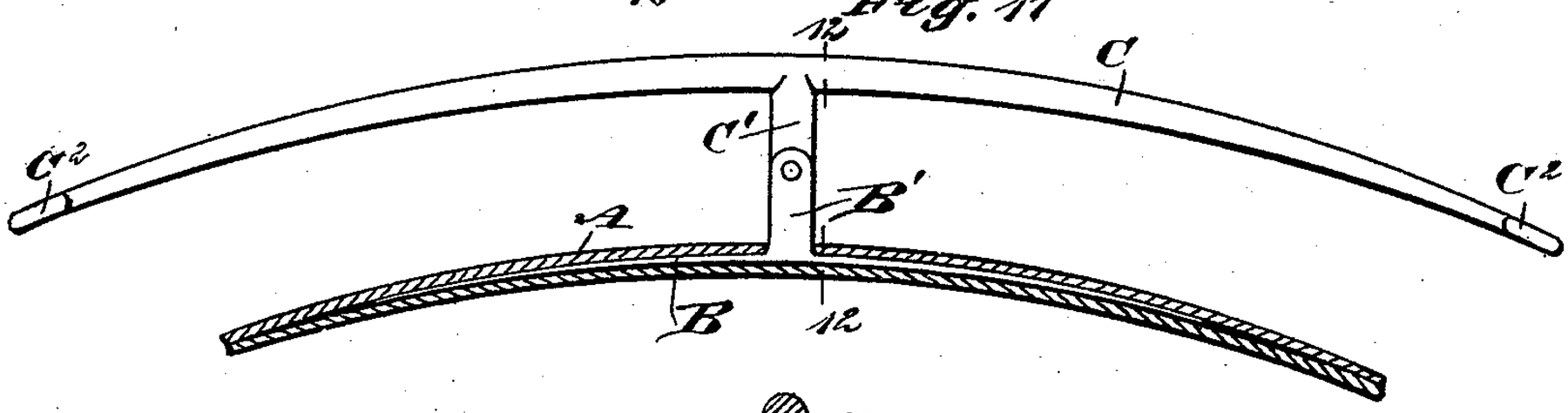
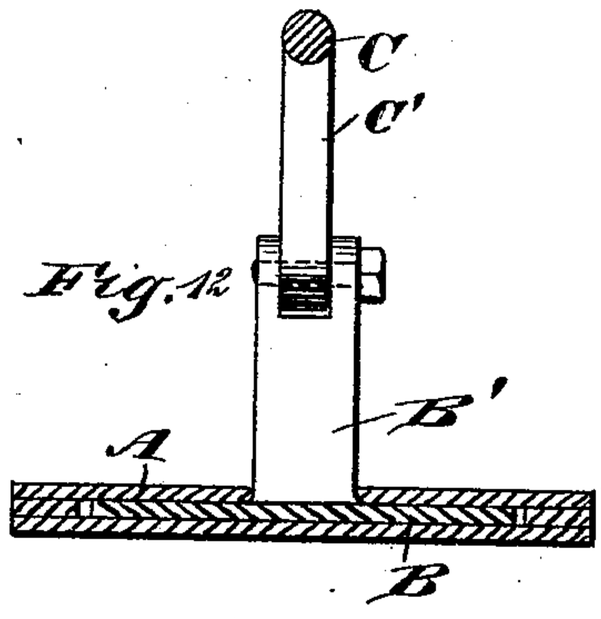


Fig. 12



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UNITED STATES PATENT OFFICE.

CHARLES EDWARD HARRIS, OF BRANDON, CANADA.

HORSE-DETACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 495,330, dated April 11, 1893.

Application filed June 29, 1892. Serial No. 438,372. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDWARD HARRIS, of Brandon, in the Province of Manitoba and Dominion of Canada, have invented a new and Improved Horse Attaching and Detaching Device, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved device for conveniently and quickly attaching horses to a vehicle, and detaching the same instantly in case of accident.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement as applied. Fig. 2 is an inverted plan view of the shafts with parts of the improvement attached thereto. Fig. 3 is an enlarged transverse section of the same on the line 3—3 of Fig. 1. Fig. 4 is a plan view of part of the unlocking device. Fig. 5 is an enlarged sectional side elevation of part of the locking device. Fig. 6 is an inverted plan view of the same. Fig. 7 is a transverse section of the same on the line 7—7 of Fig. 5. Fig. 8 is a similar view of the same on the 8—8 of Fig. 5. Fig. 9 is an enlarged side elevation of the casing with parts broken out. Fig. 10 is a transverse section of the same on the line 10—10 of Fig. 9. Fig. 11 is an enlarged plan view of the lever and part of the breast collar, the latter being shown in section; and Fig. 12 is an enlarged transverse section of the same on the line 12—12 of Fig. 11.

The improved horse attaching and detaching device is provided with a breast collar A, made in the usual shape and provided with a plate B arranged in the center of the same and preferably made of sheet metal sewed in between the leather of the collar; see Figs. 11 and 12. From this metal plate B extends outwardly and forwardly in the middle of the breast collar, an arm B′ on which is pivoted a projection C′ formed on the inside of a lever C mounted to swing from the said arm B′ by the projection C′. This lever C is curved and conforms approximately to the shape of the breast collar, but extends a suitable distance from the same so as to be free to swing slightly on the ends which latter extends to the sides of the animal. On each end of this lever C is formed an eye C^2 connected with a trace D attached to an eye E′ formed on a metallic plate E secured in a casing F made of leather, and having a longitudinal opening, the said casing being provided with an upwardly-extending strap F′ connected with the harness saddle G, so that the casing is supported from the latter on the sides of the animal, as will be readily understood by reference to Fig. 1.

The plate E previously mentioned, is formed at its bottom with a transverse extension E^2 passing through the casing F, as will be readily understood by reference to Figs. 9 and 10, the front end of this extension being provided with an upwardly-extending flange E^3 engaging the front side of the casing F. The plate as well as the flange E^3, are covered by the material of which the casing F is made, so that the said plate and its extension are not visible from the outside.

On the rear end of the plate E outside of the casing F, is formed a second eye E^4 connected with one side of the breeching H of the usual construction. The transverse extension E^2 of the plate E forms two longitudinal compartments in the casing F, of which compartments the upper one is adapted to be engaged by the shaft or pole I of the vehicle. It is understood that for two shafts, two casings F are provided on the sides of the animal for engagement with the two shafts.

The extension E^2 is adapted to be engaged and locked in place on the shaft by a suitable locking device presently to be described. This locking device is provided with a casing J fastened to the under side of the shaft I; see Figs. 1, 2, 5, 6, 7 and 8, and contains a pivoted latch K formed at its front end with a hook K′ adapted to engage the front edge of the transverse extension E^2, the latter resting in the rear of the hook K′ to lock the said extension in place on the under side of the shaft I, so as to form a convenient passageway for the extension E^2, the overhanging

end J′ of the casing passing into the lower compartment of the casing F formed by the extension E^2. When the extension E^2 engages the recess K^2 formed in the latch K in the rear of the hook K′ as illustrated in dotted lines in Fig. 5, then the casing F is locked to the shaft I.

On the rear end of the latch K presses a rubber or other spring L, so as to hold the hook K′ in engagement with the casing to lock the extension E^2 in place, to prevent accidental disconnection of the latter and the casing from the shaft I. The extreme rear end of the latch K is formed with an offset K^3 engaged by an L-shaped tripping lever N fulcrumed in the rear part of the casing J. This tripping lever N is connected by a rod or wire O with a rod P mounted to slide in suitable bearings on the under side of the shaft I. It is understood that such a rod P is on each side of the shafts, one of said rods being in two sections, joined by a flexible connection P′, and both rods are connected at their rear ends by rods or wires Q with levers R fulcrumed on the shafts I at the junction of the cross beam I′. The levers R are pivotally-connected with transversely-extending rods S, connected at their inner ends with a rope T, passing through a transversely-extending aperture formed in the head U, of a shaft U′ mounted to turn in suitable bearings in the middle of the cross beam I′ of the shafts I.

On the upper square end U^2 of the shaft U is secured an L-shaped arm V, connected with a wire W extending rearwardly and passing through an aperture in the bottom of the vehicle to the inside of the same, the inner end of this wire being provided with a handle W′ under the control of the operator.

The operation is as follows: When the harness is placed on the animal in the usual manner, and as shown in Fig. 1, then the casings F extend on both sides of the animal, being suspended from the harness saddle G. At the same time, each casing is connected at its front eye E′ by a trace D with one end of the lever C pivoted at the front end of the breast collar A. The animal is then backed into the shafts I which latter are passed through the upper longitudinal compartments of the casings F, the latter being pushed rearward so that the extensions E^2 pass over the end J′ of the casing J over the hooks K′ to finally engage the recesses K^2 of the latches K which latter thus lock the casings F in position on the shafts I. The animal is now attached to the vehicle and in moving forward pulls by the lever C, on the traces D connected to the casings F attached to the shafts I.

In case of accident or when it is desired to detach the animal from the shafts the operator pulls on the wire W so that the arm V swings and imparts a turning motion to the shaft U′, the head U of which pulls on the rope T so as to draw the rods S toward each other, whereby a swinging motion is given to the levers R which thus pull on the wires Q, rods P and wires O, to impart a swinging motion to the tripping levers N, which press onto the projections K^3 of the latches K, which thus swing downward with their front hooks K′, thereby unlocking the transverse extensions E^2 of the plates E in the casings F. The latter can then be slipped off the shafts, and the animal is detached from the vehicle.

It will be seen that the animal is very quickly attached to the vehicle, it only requiring to back the animal in the shafts and slip the casings F over the shafts and lock the same in place by the latches K, as above described. In case of an accident or runaway, the occupant of the vehicle simply pulls on the wire W so that the latches unlock the casings F which slide over the thills on the further forward motion of the animal.

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

1. In a device of the class described, the combination with a harness provided with a harness saddle and breast collar, of a lever pivoted on the said breast collar, traces connected with the said lever, a casing supported from the said harness saddle and connected with the said traces, and a locking device for fastening the said casings to the shafts or poles, said locking device, comprising the longitudinally extending latches on the under side of the shafts having notches in the upper edges of their forward ends to receive portions of the casings and tripping levers engaging the rear ends of the latches substantially as shown and described.

2. A device of the class described, provided with a casing supported from the harness saddle and formed with a metallic plate having eyes at its ends, one for attachment to the traces and the other for attachment to the breeching, the said metallic plate being provided with a transverse extension passing through the casing to form a compartment for the shaft or pole, and one for a locking device to fasten the casing to the shaft or pole, substantially as shown and described.

3. In a horse detacher, the combination with the longitudinally extending latch K provided in the upper edge of its forward end with a notch K^2, and a spring pressing the notched edge upwardly, of the tripping lever engaging the rear end of the latch to be operated by the driver from the vehicle, substantially as set forth.

4. The combination with the longitudinally extending latches on the lower sides of the thills having the upper edges of their forward ends provided with notches, and a spring pressing said notched end upwardly, of the tripping levers engaging the rear ends of the latches the shaft U′ on the cross bar of the thills and provided with an operating arm or lever provided with means for operating it from the vehicle, and connections between the shaft U′ and the tripping levers.

5. The combination in a horse detacher with the latches and their tripping levers, of the shaft U′ having an apertured head U on its lower end and an operating arm or lever V on its upper end, the cord or rope T extending through the said apertured head, the levers R R, and connections between said cord and levers and between the tripping levers and the said levers R, substantially as set forth.

6. The combination with the harness having casings connected with the harness saddle to receive the shafts and having a cross bar E^2, of the casings J secured along the lower sides of the shafts and having longitudinally extending spring pressed latches K provided with notches K^2 to engage the said cross bars E^2, the tripping levers N, engaging the rear ends of the latches, of the levers R R, connections O P, between the levers R N, the shaft U′ having an apertured head U and an operating arm or lever, the rope or cord T extending through the head U and rods S connecting the cord or rope with levers R, substantially as set forth.

CHARLES EDWARD HARRIS.

Witnesses:

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ARTHUR THOMPSON.