(No Model.)

2 Sheets—Sheet 1.

H. FLEISCHHAUER.

HORSE DETACHER.

No. 253,690. Patented Feb. 14, 1882.

Fig. 1.

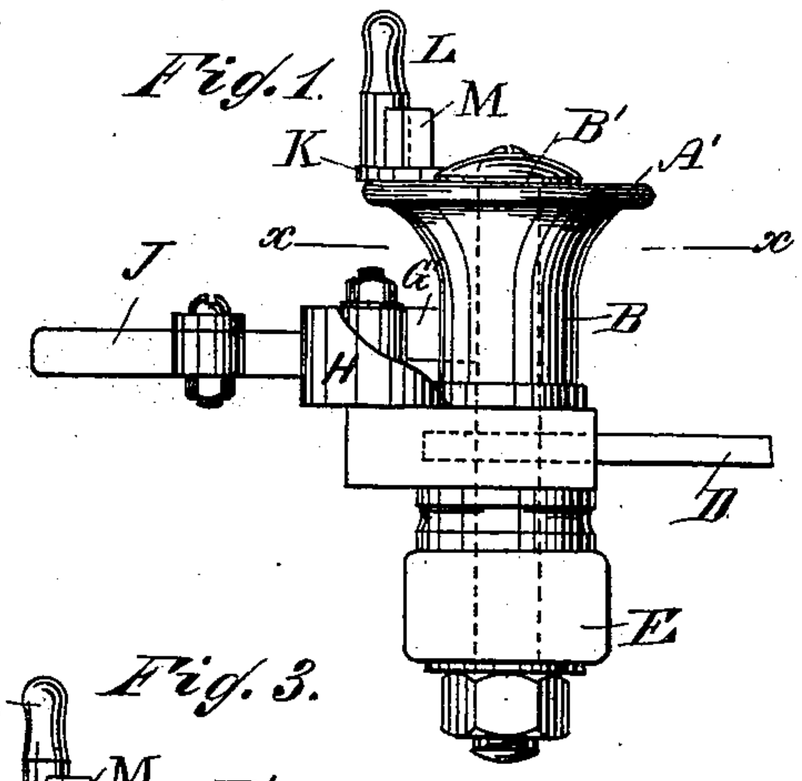


Fig. 2.

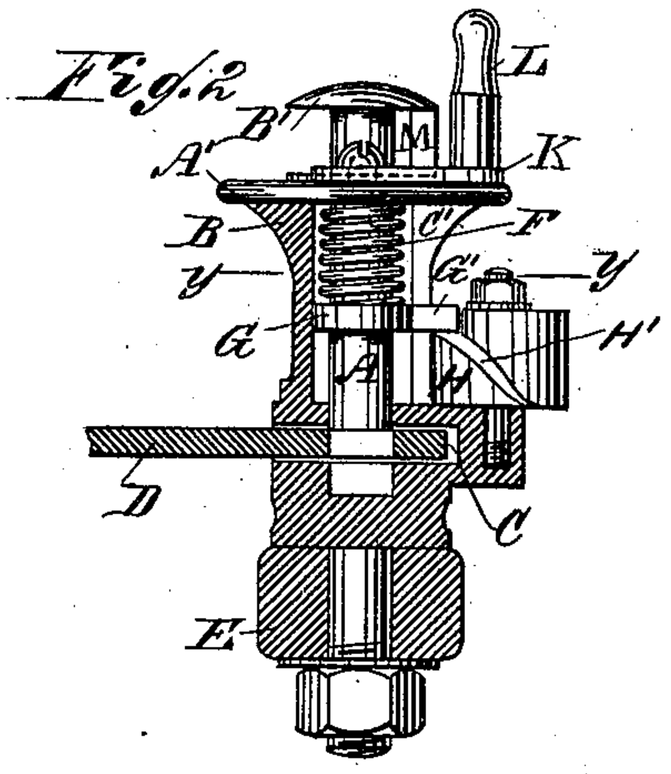


Fig. 3.

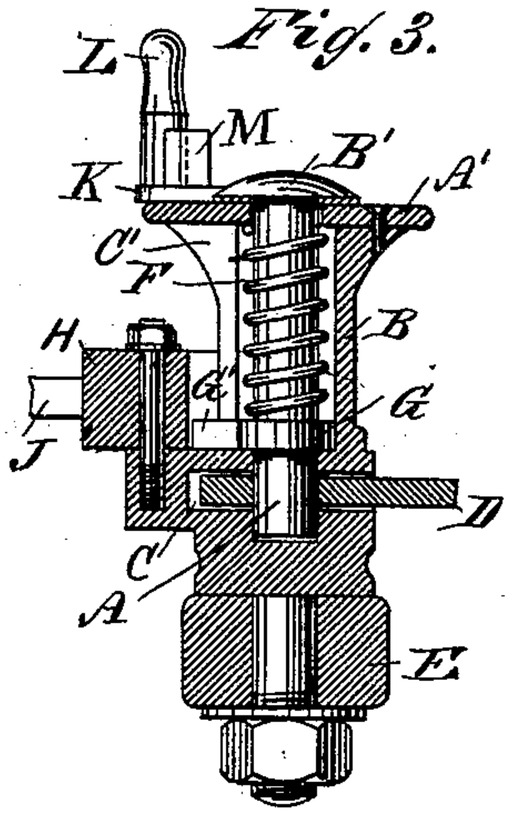


Fig. 4.

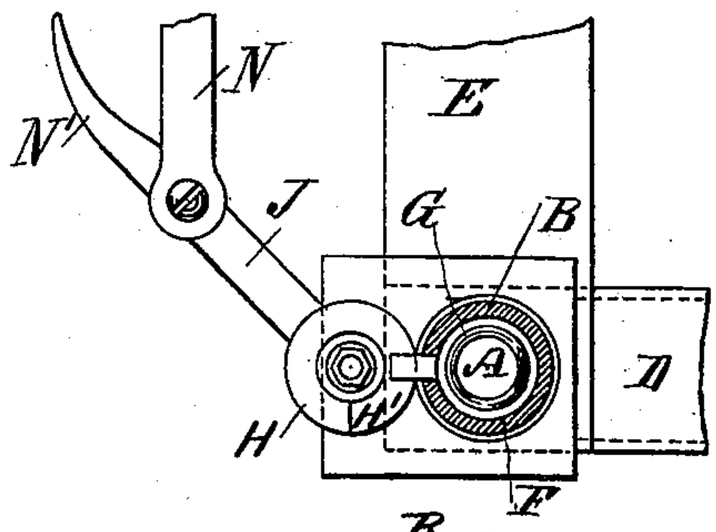


Fig. 6.

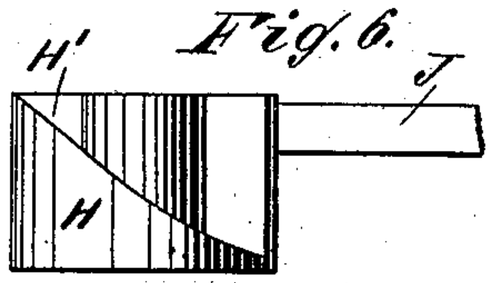


Fig. 7.

Fig. 8.

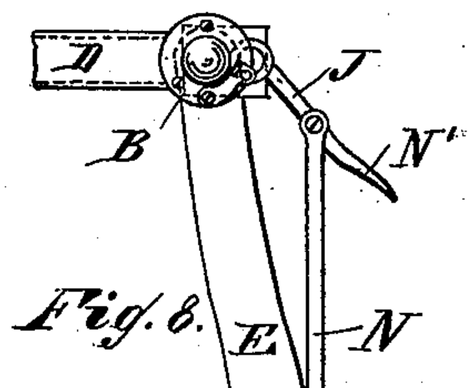


Fig. 5.

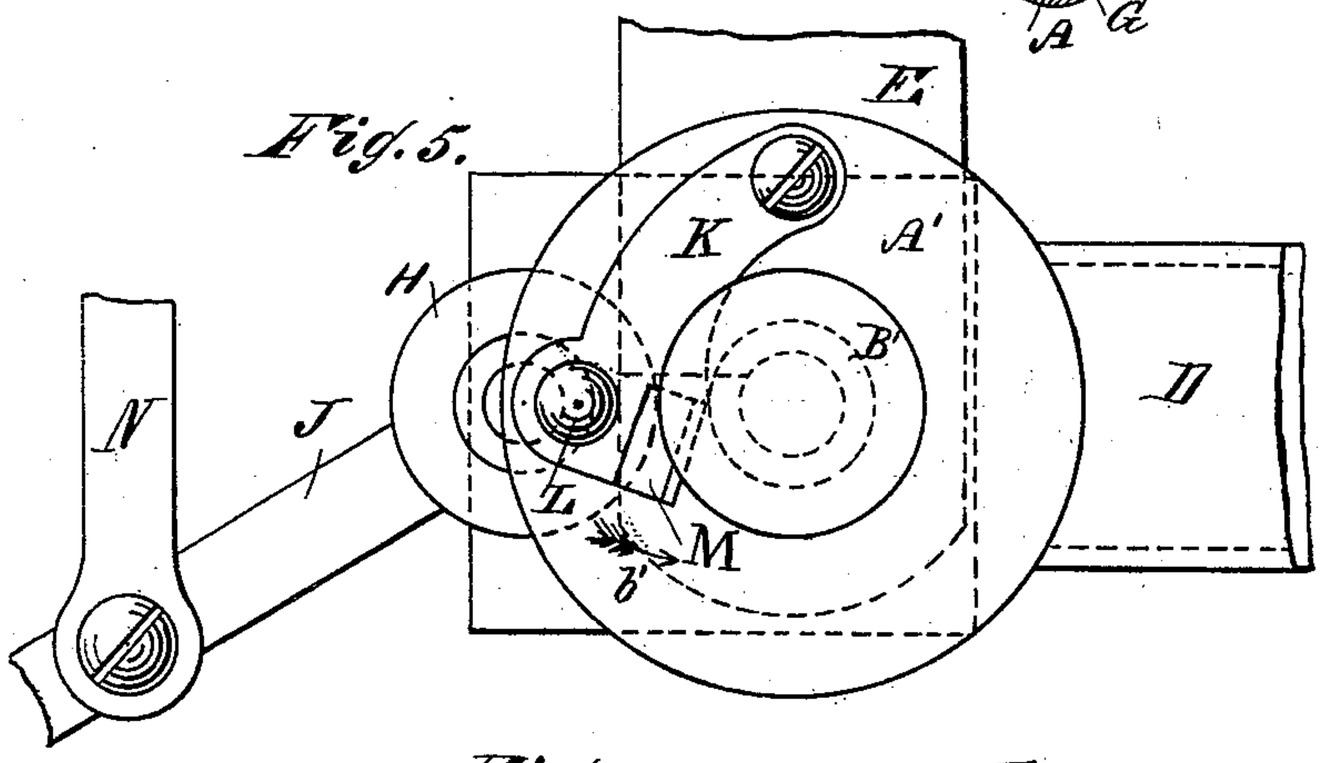
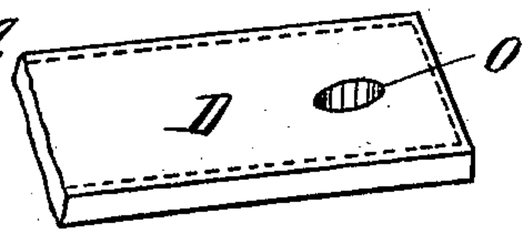


Fig. 9.



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(No Model.) 2 Sheets—Sheet 2.

H. FLEISCHHAUER.

HORSE DETACHER.

No. 253,690. Patented Feb. 14, 1882.

Fig. 11.

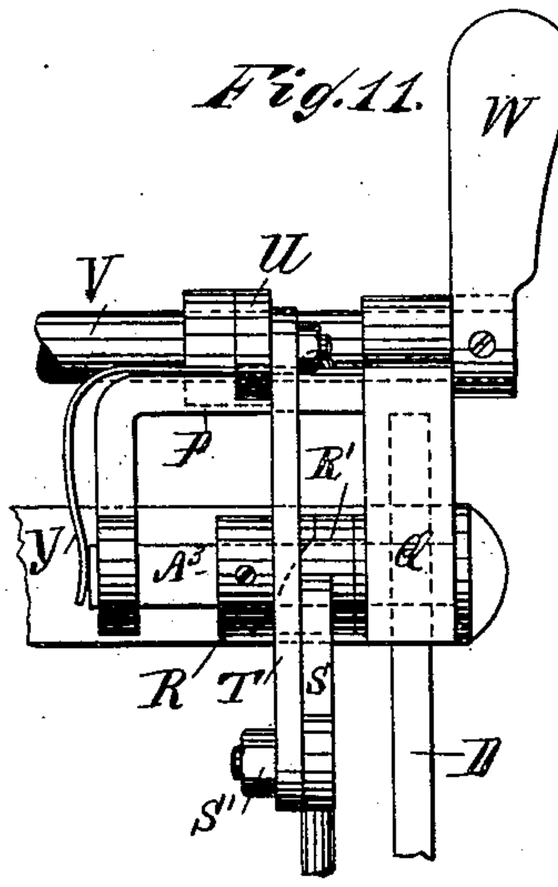


Fig. 12.

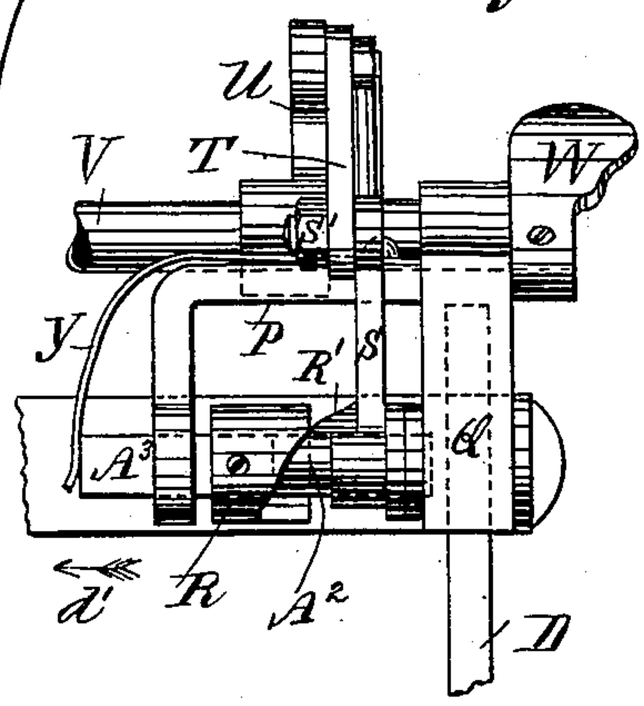


Fig. 10.

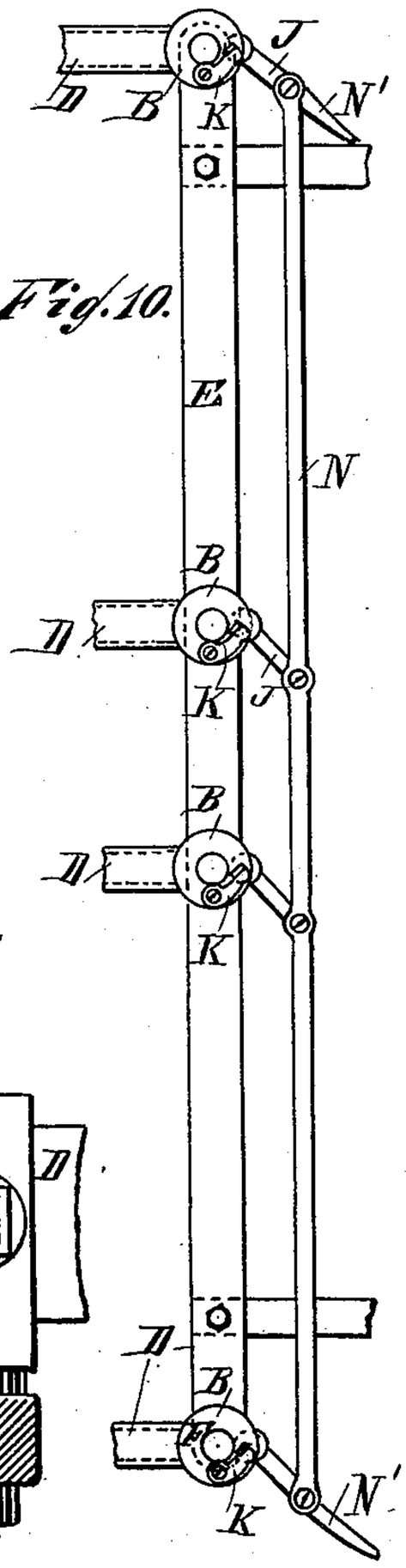


Fig. 13.

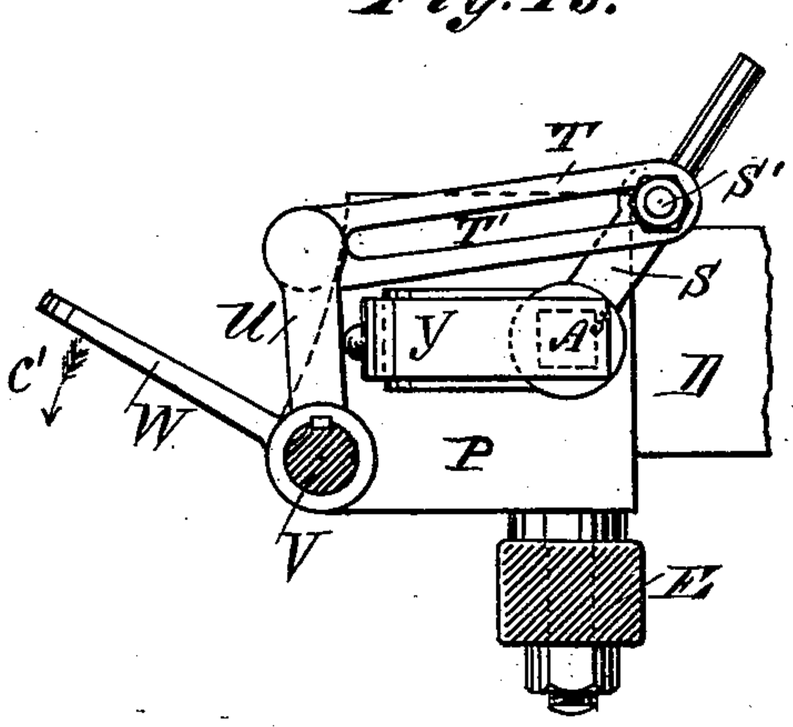


Fig. 14.

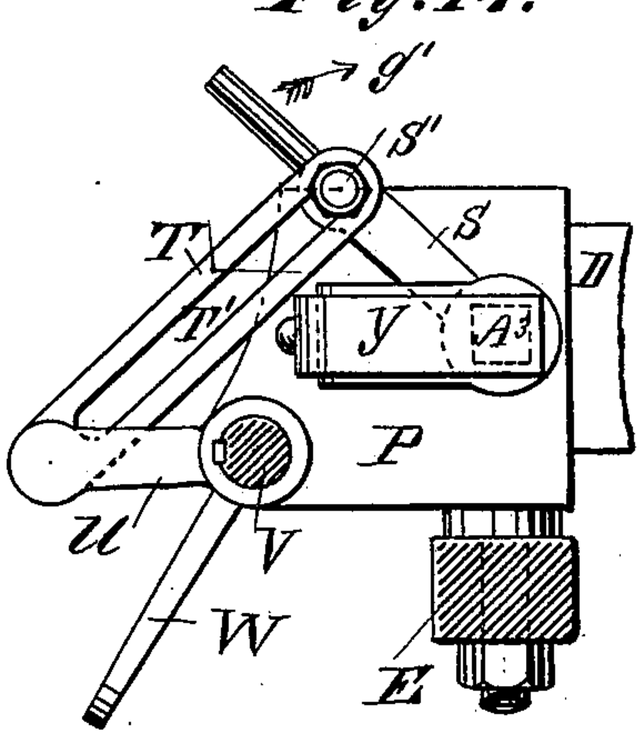
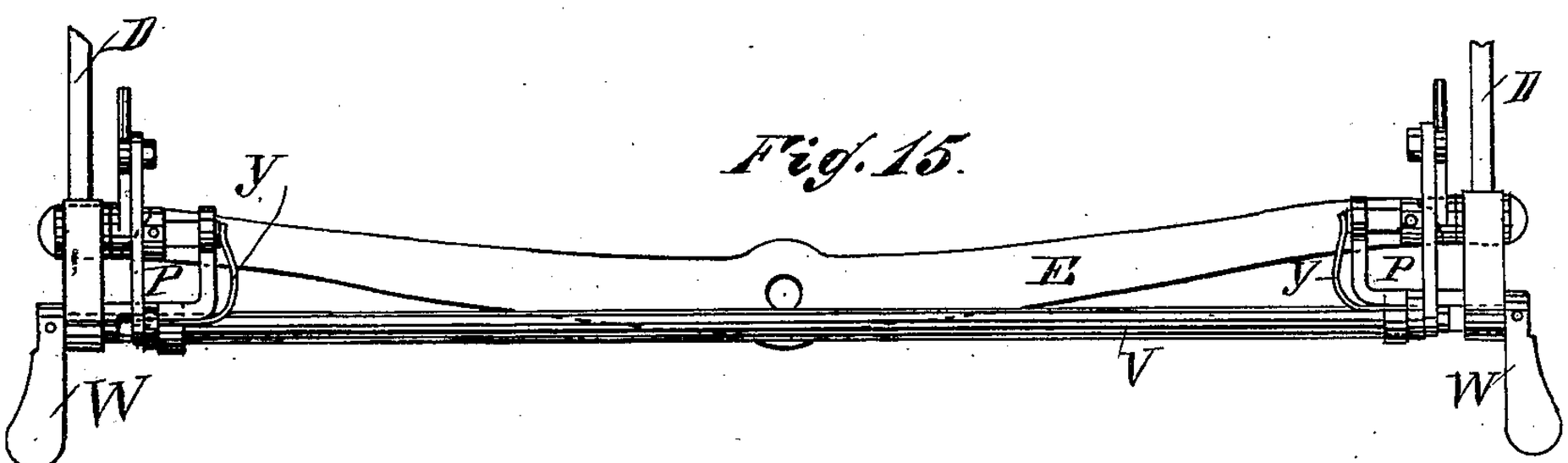


Fig. 15.



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UNITED STATES PATENT OFFICE.

HEINRICH FLEISCHHAUER, OF BERLIN, GERMANY.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 253,690, dated February 14, 1882.

Application filed October 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH FLEISCHHAUER, of Berlin, Germany, have invented a new and useful Improvement in Apparatus for Instantaneously Loosening Traces, of which the following is a specification.

The object of my invention is to facilitate attaching and detaching the traces of animals of draft to or from the whiffletree or draft-bar.

The invention consists in a spring-actuated sliding pintle or bolt for holding the traces, which bolt can be withdrawn from the aperture in the trace by turning a collar with a spiral or beveled track, which collar can be rotated from the driver's seat, thus permitting the animals to be released instantaneously in case of accident, as hereinafter fully described.

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

Figure 1 is a longitudinal elevation of one of the trace-holders of my improved device for releasing traces. Fig. 2 is a cross-sectional elevation of the same, showing the pintle or bolt raised. Fig. 3 is a cross-sectional elevation of the same, showing the pintle or bolt lowered. Fig. 4 is a sectional plan view of the same on the line *x x*, Fig. 1. Fig. 5 is a detail plan view of the same. Fig. 6 is a side elevation of the spiral cam for raising the pintle or bolt. Fig. 7 is a sectional plan view of the pintle or bolt on the line *y y*, Fig. 2. Fig. 8 is a plan view of a whiffletree provided with a trace-holder at each end, the two trace-holders being connected. Fig. 9 is a perspective view of the apertured end of the trace. Fig. 10 is a plan view of a whiffletree for a team, provided with four trace-holders connected with each other. Fig. 11 is a plan view of the modification of the trace-holder, showing the pintle or bolt passed through the trace. Fig. 12 is a plan view of the same, showing the pintle or bolt withdrawn. Fig. 13 is a cross-sectional elevation of the same, showing the positions of the several parts when the pintle or bolt is passed through the trace. Fig. 14 is a cross-sectional elevation of the same, showing the positions of the several parts when the pintle or bolt is withdrawn. Fig. 15 is a plan view of a whiffletree provided with trace-holders of the modified construction.

A pintle or bolt, A, slides in a casing, B, provided with a socket, C, for the trace D, and attached to a whiffletree, E, in such a manner that the opening of the socket C will be at the front edge of the whiffletree. The bolt or pintle A must be of such length that it can cross the socket C. The pintle or bolt A is provided with a removable head, B′, which rests on the top A′ of the casing B when the pintle or bolt A is in its lowest position. A spiral spring, F, surrounds the bolt A, and rests against the under side of the top A′ of the casing B and against an annular ridge, G, of the pin or bolt, this spring F having the tendency to press the bolt downward.

The ridge G is provided with a stud or projection, G′, extending through a vertical slot, C′, of the casing B, and resting on a spiral shoulder or track, H, of a small cylinder or collar, H, pivoted on an extension or projection of the casing B, and provided with an arm or lever, J, extending backward from the whiffletree. A latch-lever, K, provided with a handle, L, and with a vertical stud, M, is pivoted on the top A′ of the casing B. There is one casing B at each end of a single-tree, and the two arms or levers J are connected by a rod, N, and one of the arms J is provided with an extension, N′. If two animals draw on the same whiffletree, the whiffletree must be provided with four casings B, as shown in Fig. 10. Each trace must have an aperture, O, in its rear end large enough to admit the pintle or bolt A.

If the device described above is used, the end of the trace must be in a horizontal position. The construction of the details of the device may be modified without deviating from the main principle of the invention, as will now be described, reference being had to Figs. 11 to 15, inclusive. The pintle or bolt A^2 is arranged to slide horizontally in a casing, P, and has its end A^3 squared to prevent it from turning on its axis. A trace-socket, Q, is provided at the outer end of the casing P, and this socket is adapted to receive the end of the trace D when

the same is placed vertically or edgewise, as shown. A collar, R, with a spiral or beveled edge, is rigidly mounted on the bolt, and a sleeve, R′, also provided with a beveled or spiral edge, is loosely mounted on the bolt A^2, and is provided with an arm, S, which is held by a bolt, S′, to a longitudinally-slotted connecting-bar, T, the bolt S′ passing through the slot T′ of the bar T, which is pivoted to an arm, U, of a rod, V, journaled in the casings P and provided with a handle-lever, W. A spring, Y, attached to the casing P, presses the bolt A^2 in the direction toward the trace-socket Q—that is, the spring Y keeps the bolt closed.

In both the devices described the bolt or pintle is operated by means of a collar or sleeve with a spiral or beveled edge or ridge.

The operation is as follows: To fasten the traces in the trace-holders the arm N is moved in the direction of the arrow *a′*, whereby the cylinders H will be turned or rotated, and will thereby raise the studs G′ resting on the spiral or beveled tracks H′ of these cylinders H. Thereby the bolts or pintles A will be raised and the springs F compressed, as shown in Fig. 2. The latch K is then turned in the direction of the arrow *b′*, so that the stud M will pass under the head B′. The bolt or pintle A is thus held in a raised position, thereby permitting the trace D to be inserted in the socket C. Then the latch K is moved in the inverse direction of the arrow *b′*, thereby releasing the bolt A, which is forced downward through the aperture O of the trace by the spring F. Thus, if the animals run away or fall, or if at any time or for any reason they are to be released suddenly, all that is necessary is to push the lever N′ in the direction of the arrow *a′*. The bolts A will be raised, the traces D will be released, and can be drawn out of the sockets C by the animals.

The operation of the modifications shown in Figs. 11 to 15, inclusive, is similar. To draw the bolt A^2 out of the trace-sockets Q the handle-lever W is pressed downward, as indicated by the arrow *c′*, whereby the lever or arm S will be brought into the position shown in Fig. 14. The sleeve R′ is partially rotated, and the collar R and the bolt A^2 are moved in the direction of the arrow *d′*. Then the handle-lever W is raised in the inverse direction of the arrow *c′*, the levers or arms S remaining in the positions shown in Fig. 14. As soon as a trace is placed into a socket, Q, the corresponding lever, S, is swung in the direction of the arrow *g′*, thereby releasing the collar R and the bolt A^2, which is pressed in the inverse direction of the arrow *d′* by the spring Y, thereby passing through the aperture in the trace. Thus all the traces will be released simultaneously in case of accident by simply pressing the handle-lever W downward.

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

1. In a device for loosening the traces of animals of draft, the combination, with a sliding bolt, of a rotating collar with a spiral edge or ridge for operating the bolt, and of a spring pressing on the bolt, substantially as herein shown and described, and for the purpose set forth.

2. In a device for loosening the traces of animals of draft, the combination, with the casing B, of the sliding bolt A, the annular ridge G, the projection G′, and the rotating collar H, provided with a spiral ridge or shoulder, H′, substantially as herein shown and described, and for the purpose set forth.

3. In a device for loosening the traces of animals, the combination, with the casing B, of the sliding bolt A, the annular ridge G, the projection G′, the spiral spring F, and the rotating collar H, provided with a spiral ridge or shoulder, H′, substantially as herein shown and described, and for the purpose set forth.

4. In a device for loosening the traces of animals of draft, the combination, with the casing B, of the sliding bolt A, the annular ridge G, the projection G′, the spring F, the collar H, having a spiral ridge, H′, and the lever J, projecting from this collar H, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the whiffletree E, of the casings B, the sliding bolts A, the collars H, having spiral shoulders or ridges H′, the levers J. the bar or rod N, and the handle N′ of one of the levers J, substantially as herein shown and described, and for the purpose set forth.

6. In a device for loosening the traces of animals of draft, the combination, with the casing B, of the pintle or bolt A, the head B′, and the latch K, provided with a stud or projection, M, substantially as herein shown and described, and for the purpose set forth.

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