

(No Model.)

J. McCRUDDEN.  
WHIFFLETREE HOOK.

No. 490,672.

Patented Jan. 31, 1893.

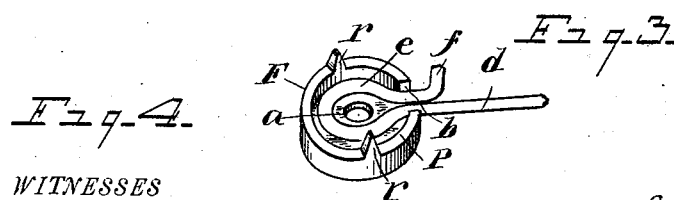
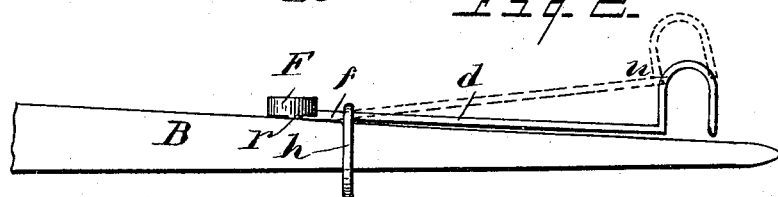
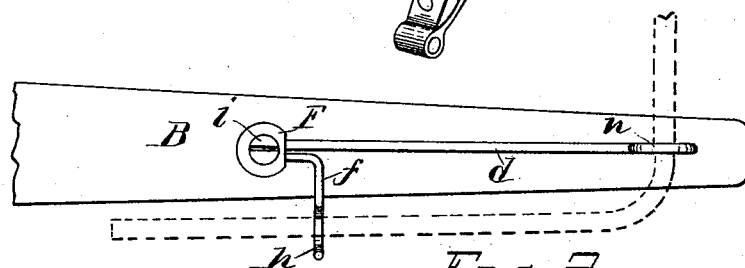
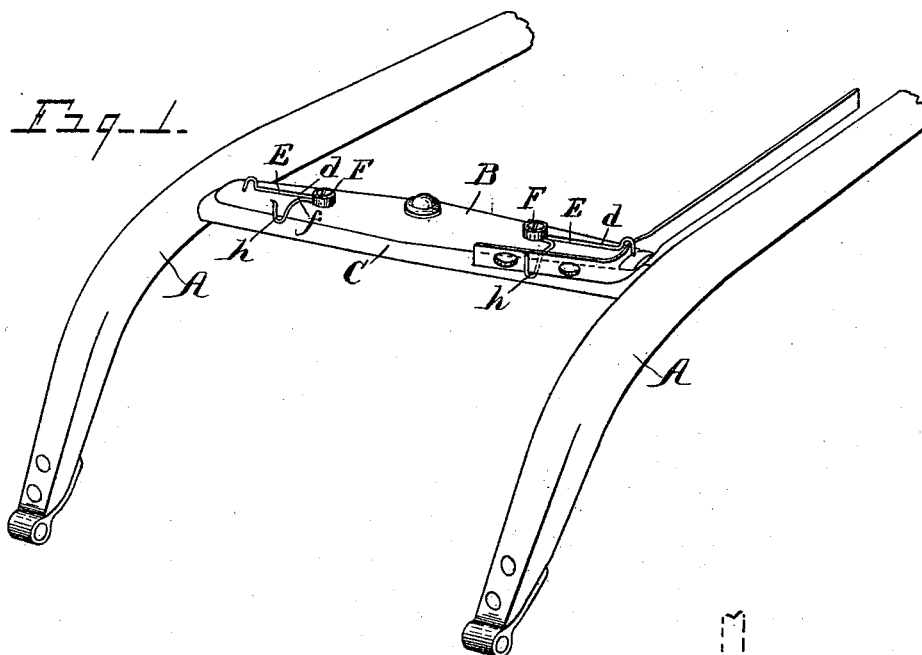


Fig. 4.

WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## WHIFFLETREE-HOOK.

SPECIFICATION forming part of Letters Patent No. 490,672, dated January 31, 1893.

Application filed April 14, 1892. Serial No. 429,103. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES MCCRUDDEN, a citizen of the United States, residing at Flint, in the county of Genesee, State of Michigan, have invented certain new and useful Improvements in Trace-Locks; 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 of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in attachments for singletrees; and especially to that class of devices known as "trace-locks," and has for its object to provide simple and effective means for locking the traces of a harness to the end of the singletree, and also to support and retain the projecting ends of the traces, in such manner as to render less liable the disengagement of such parts, which has heretofore been the frequent cause of serious accident.

To this end my invention consists in the arrangement of certain parts as will be hereinafter more fully set forth, and particularly in the claim.

In the accompanying drawings forming a part of the specification;—Figure 1 is a perspective view of a portion of a pair of thills and singletree having my improved device mounted on the ends thereof. Fig. 2 is a top-plan of one end of a singletree and attachment, showing by dotted lines the trace as held in position thereby. Fig. 3 is a side elevation of Fig. 2, the trace being omitted. Fig. 4 is a detail of the cap in perspective, for securing the body of the attachment to the singletree, a portion of which being also shown in position within the cap.

Referring to the letters of reference, A indicates an ordinary pair of thills with the singletree B centrally pivoted on the cross rail C thereof.

E, E, represent my improved attachments, of which there are two, and are mounted on the upper face of the singletree b at or near its ends, as clearly shown in Fig. 1. The body portion of the attachment E consists of a strand

of spring wire d of suitable gage and resilience in which is formed near its center the single loop or coil e, (see Fig. 4), thus bringing the remaining straight portions of the strand adjacent and parallel to each other, the shorter end f of said strand is then bent at right angle to the portion d at a point slightly in advance of the coil e, as shown in Figs. 2 and 4, the extreme end of the portion f of said strand terminating in a downwardly projecting U-shaped hook h while the end of the portion d of the strand terminates in an upwardly extending inverted U-shaped hook n. The extreme point of the hook n together with the portion d and coil e of the strand rests on the upper face of the singletree b, while the upper end of the hook h of the portion f projects at right angle to the former, and terminates on a line slightly above the face of the singletree B. (See Fig. 3.) The whole being secured to the upper face of the singletree by means of the screw i and cap F the latter being formed with the cavity a for the reception of the coil e, the connecting strands d and f of which pass through an aperture b formed in the flange P of said cap, as clearly shown in Fig. 4. Projecting from the edge of the flange P on the opposite sides of the cap F are lugs or spurs r having acuminate points that are adapted to enter the surface of the singletree when forced in contact therewith by means of the screw i which passes centrally through said cap and coil e (see Fig. 2) thus securing said cap against lateral movement; while the sides of the aperture b through which the strands f and d pass, serve to retain said strands against similar movement, whereby the parts are simply and effectually mounted by the employment of a single screw. The parts being thus mounted; to attach the trace to the end of the singletree, as shown in Fig. 1, the hook n is raised to the dotted position, shown in Fig. 3, the trace is then placed on the end of the singletree which extends through its opening, in the usual way being placed directly under the hook which, when released, by its resilient nature will spring back to its former position bringing the side portions of the hook n astride the trace, as shown in Figs. 1 and 2,

which prevents its shifting or being disengaged. And to further secure its security, the projecting end of the trace is folded back and placed in the U-shaped hook *h* which retains and supports it in a line parallel with the singletree, thus bringing the parts into a compact position and affording a neat and simple means for retaining the trace and singletree in engagement, as admitting of the disengagement with ease and dispatch, at will.

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

15 A trace-lock, consisting of a single strand of spring wire provided with an eye in the body portion thereof, one of the end portions of said strand extending directly from said

eye and along the upper face of the singletree parallel therewith, its outer end being provided with an upwardly bent hook, the other end portion extending at right angle to its companion part and laterally from the singletree and having the downwardly bent hook at its end, the recessed confining cap that receives said eye, said cap having the depending flange provided with an aperture therethrough through which said strands pass.

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

JAMES MCCRUDDEN.

Witnesses:

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L. R. BILLINGS.