W. B. HAYDEN.

Trace-Carrier.

No. 200,292. Patented Feb. 12, 1878.

Fig. 1.

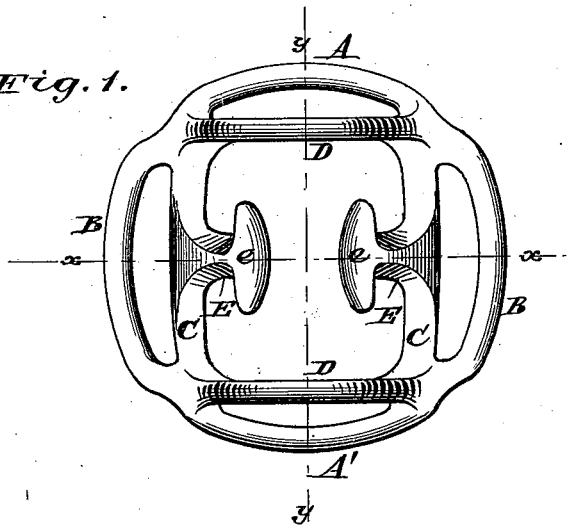


Fig. 2.

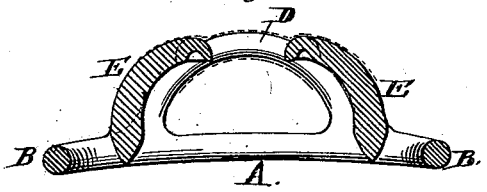
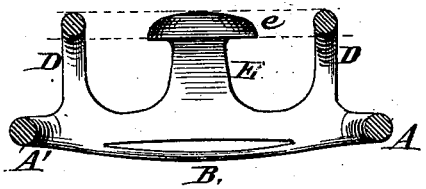


Fig 3



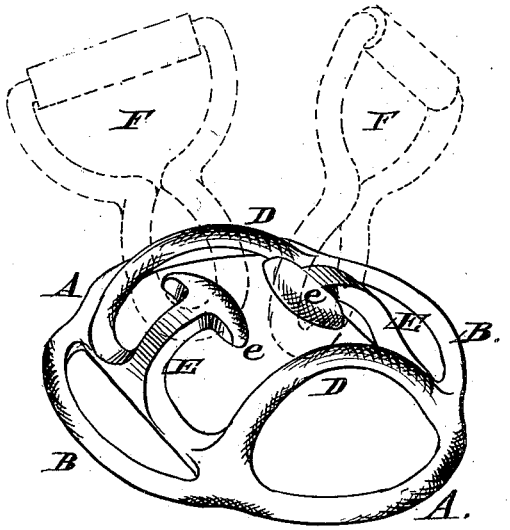


Fig 4

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UNITED STATES PATENT OFFICE.

WILLIAM B. HAYDEN, OF COLUMBUS, OHIO.

IMPROVEMENT IN TRACE-CARRIERS.

Specification forming part of Letters Patent No. **200,292**, dated February 12, 1878; application filed December 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM B. HAYDEN, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Combined Trace-Carrier and Back and Hip Strap Fastenings, of which the following is a specification:

My invention relates to an improved combined trace-carrier and back and hip strap fastening for harness.

The essential parts of such a device are a base-frame consisting of attaching-bars for the back and crupper straps and hip-straps, and loops or bridges over the hip-strap bars, upon which are formed devices for engaging the cockeyes of the trace-supporting straps; and besides there have been added guard-loops bridging the back and crupper strap attachments, for preventing entanglement of the reins.

Devices having in view the same object as mine have heretofore been formed of cast metal, with downward-turned hooks for engaging the trace-cockeyes, and they have also been constructed with vertical engaging-pins having cross-heads for securing the retention of the cockeyes by said pins; but these devices, when at all effective, have by the nature of their construction necessitated an expensive mode of casting, involving coring of the molds, or such delicate and insecure configuration thereof as rendered them liable to break during or before the process of casting, entailing much loss of time and labor.

It is the object of my invention to avoid these disadvantages and produce a cheap, convenient, and reliable cast-metal trace-carrier combined with a back and hip strap fastening; and to this end I arrange upon the loops which span the hip-strap fastenings inwardly-curved posts for engaging the trace-cockeyes, and these posts are provided with cross-heads having curved inner faces, or a shape approximating to that of a crescent, and these curved posts and their heads have, both for their outward and inward surfaces, approximately the same planes of curvature as the corresponding surfaces of the rein-guard loops spanning the crupper and hip strap fastenings, so that in forming the sand-mold the configuration thereof is within such limits and so disposed that prominent and fragile projections of the inner faces of said mold are avoided, and coring dispensed with.

In addition to the advantage of reduced expense in casting, I secure a more reliable attachment for the trace-cockeyes than has hitherto been produced, as, owing to the approximately-coincident curvature of the headed curved posts and the rein-guard loops, said loops prevent the cockeyes from swinging to a position from which they might be jolted upward out of engagement with the curved posts when the harness is upon a horse; and, further, the position of the curved posts and their heads relatively to the rein-guard loops is such that the cockeyes may be, by hand, engaged with or disengaged from the posts at either side thereof with perfect ease and facility, and in either direction of attaching said cockeyes they will assume a proper position for carrying the traces, and in all their lateral movements said cockeyes will be limited by the rein-guard loops, which precludes their rising above the heads of the curved posts; and for this reason these guard-loops may be termed both "rein" and "cockeye" guards.

In the accompanying drawings, Figure 1 is a plan view of a combined trace-carrier and back and hip strap fastening constructed according to my invention. Fig. 2 is a vertical section taken on dotted lines *x x*, Fig. 1. Fig. 3 is a vertical section taken on line *y y*. Fig. 4 is a perspective view, showing the positions in which a cockeye must be placed in order to be engaged with the curved posts.

The back-strap bar is indicated by the letter A, and A′ is the bar to which the crupper-strap is attached. B B are the hip-strap bars, and C C are loops or bridges springing from the junctions of these bars with the bars before mentioned, and spanning the hip-strap attachments. These loops or bridges, at their centers, support the inwardly-curved posts E E, which are provided with cross-heads *e e*, having their inner edges preferably curved. D D are more elevated loops, which span the back and crupper-strap attachments and form guards for preventing entanglement of the reins with the curved posts, and also for preventing the trace-cockeyes F from swinging laterally far enough to become disengaged

from the curved posts by jolting upward or any probable accidental displacement of the trace-straps. These loops also obviate the necessity of frequently engaging the cockeyes with the curved posts, as, when the harness is removed from a horse and handled in hanging up or putting away, the cockeyes seldom can get into a position for disengagement, but usually remain in place the same as other attached straps of the harness.

To persons acquainted with the art of molding or casting metal in sand it will be apparent that all the faces of matched molds for casting the loops and curved posts of the device, as shown, will not extend beyond the dotted lines shown in the drawing, and therefore will not require extra cores, as all the projections necessary for the proper inner configuration of the said mold will be self-supporting. The casting of my improved device may therefore be performed in the ordinary manner with two match-plates, and, while thus produced by the least expensive process known to the art, the attachment of the cockeyes to their curved posts is secure beyond all likelihood of disengagement, except purposely and by hand, as the limit of lateral play of these cockeyes, as shown in dotted lines, Fig. 1, will not permit of their rising above the post-heads. In fact, there are but two positions in which these cockeyes can be placed for engagement and disengagement.

The cockeyes can readily be brought to these positions by the handle, (see Fig. 4;) but such positions for engagement and disengagement are not liable to be brought about or assumed by the movements of a horse.

I am aware that trace-carriers have heretofore been constructed with end and side loops for the attachment of straps, and have also been provided with posts having cross-heads for retaining the trace-cockeyes; and I do not claim, broadly, such a device, nor the casting of the same without a core; but

What I claim, and desire to secure by Letters Patent, is—

The combined back and hip strap fastening and trace-supporter, substantially as herein described, consisting of the back and crupper strap bars, hip-strap bars, rein and cockeye guard loops D D, and loops C C, supporting the inwardly-curved posts E, provided with crescent-shaped cross-heads *e*, having inner curved faces, said posts and cross-heads having their curvature approximately in the same plane with the rein and cockeye guard loops or bridges D, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

WILLIAM B. HAYDEN.

Witnesses:
E. KIESEVOETTER,
CHESTER R. MOTT.