No. 682,561. Patented Sept. 10, 1901.

J. M. NARSH.

ADJUSTABLE TUG HOOK FOR HAMES.

(Application filed Mar. 22, 1901.)

(No Model.)

Fig. 1.

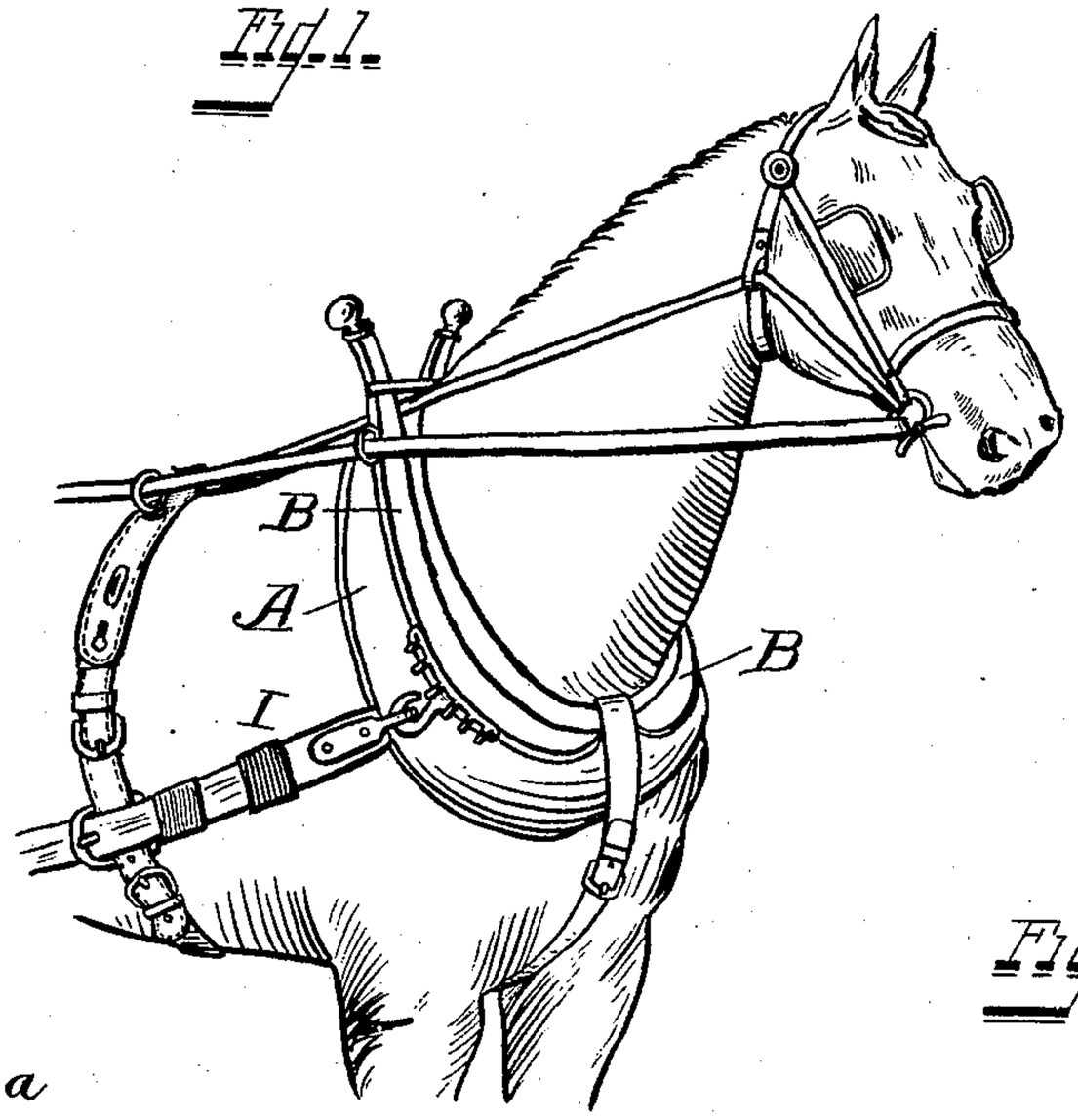


Fig. 2.

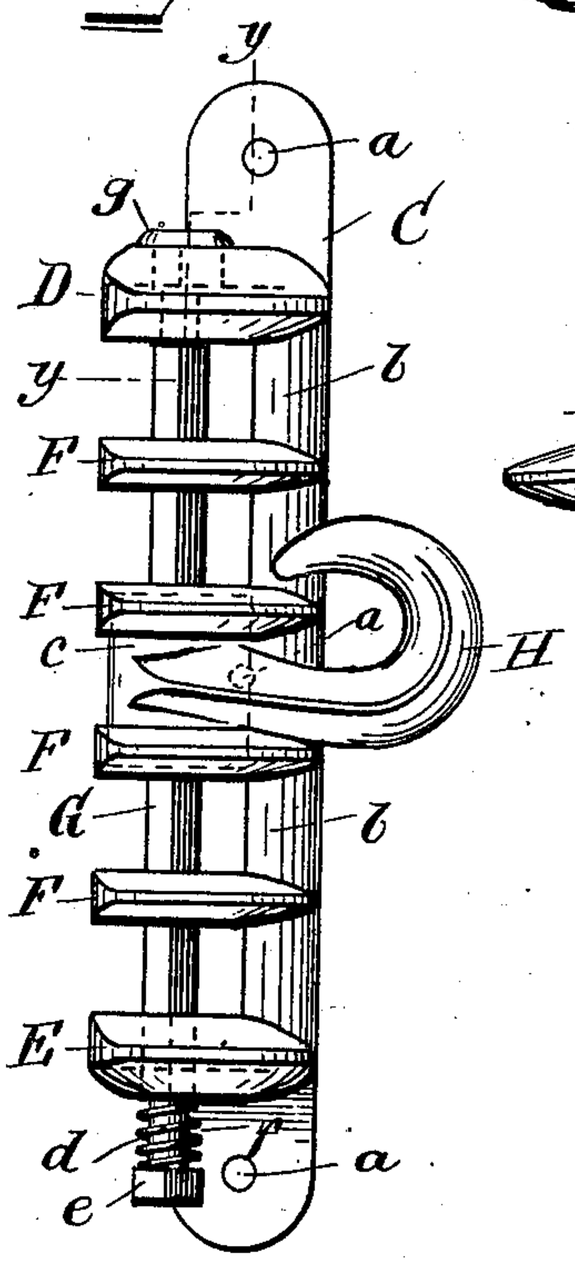


Fig. 3.

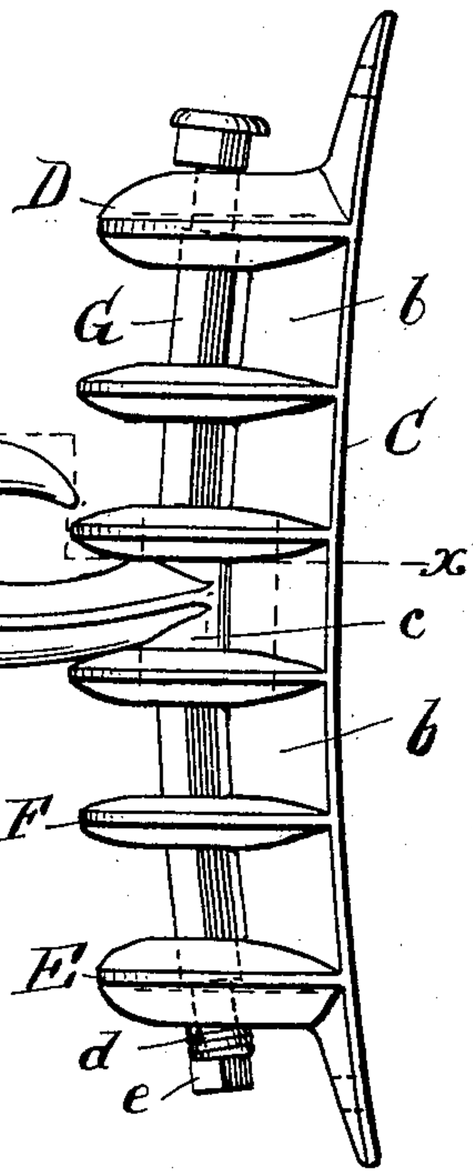


Fig. 4.

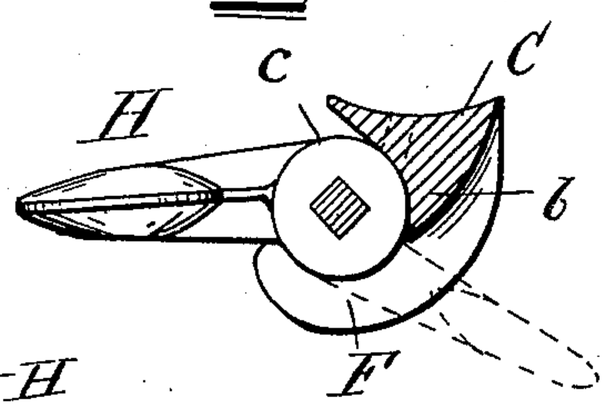


Fig. 5.

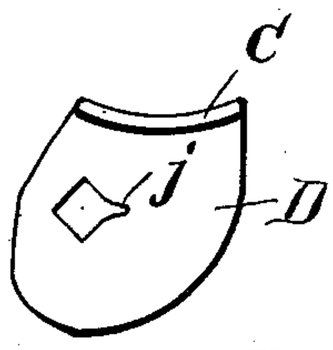
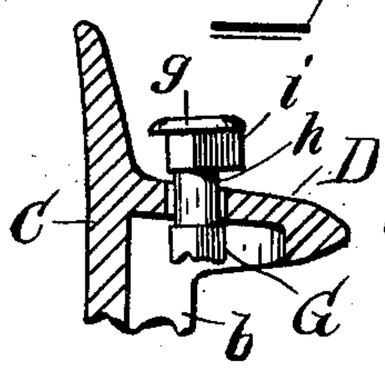


Fig. 6.



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ADJUSTABLE TUG-HOOK FOR HAMES.

SPECIFICATION forming part of Letters Patent No. 682,561, dated September 10, 1901.

Application filed March 22, 1901. Serial No. 52,334. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. NARSH, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Adjustable Tug-Hooks for Hames, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a novel draft attachment to be attached to harness-hames which has for its object the provision of an adjustable self-locked tug-hook applied to a plate secured to the hames on each side, which plate not only forms the bearing for the tug-hook and holds it in any of its adjusted positions, but also at the same time serves as a strengthening-brace for the hames at the point of draft, which has heretofore generally been the weakest point in the hames owing to the necessity of cutting them away to admit the draft-staples. By the feature of vertical adjustability of the tug-hooks I am enabled to regulate the point of draft strain to exactly suit the requirements of any horse without interfering in the least with fit of the hame on the collar. This is a very desirable feature, for it is well known to farmers and practical teamsters that no two horses pull exactly alike, even though they wear the same-sized collar and hames, and my construction enables the teamster in a moment's time to adjust the draft to the requirements of any horse, thereby preventing galling, collar-boils, and other serious discomforts to the horse, which result from improper draft connections at the collar.

The novelty of my invention will be hereinafter more fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the fore part of a horse harnessed and equipped with my improved adjustable tug-hook and hames. Fig. 2 is an enlarged side elevation of one of my improved tug-hook attachments, the same being intended for the left-side hame and with the hook locked for draft purposes. Fig. 3 is an end elevation, looking to the left of Fig. 2, with the shaft and hook unlocked, the latter being in position to be moved up or down on the shaft to the proper vertical position. Fig. 4 is a sectional plan view on the dotted line $x\ x$ of Fig. 3. Fig. 5 is a plan view with the shaft and hook removed. Fig. 6 is a detail sectional elevation at the top of the attachment on the dotted line $y\ y$ looking to the right of Fig. 2.

The same letters of reference are used to indicate identical parts in all the figures.

In Fig. 1, A represents the ordinary collar of a harness applied to the horse's neck and in the crease of which the hames B are secured in any suitable manner. Secured to each hame at the draft-point is a plate C of about six inches in length and which is preferably riveted to the hame through two end perforations and a central perforation *a*, Fig. 2. The plate C conforms to the curvature of the hame, so as to fit snugly thereon at all points, and it is preferably provided with an outwardly-projecting strengthening-rib *b*. Projecting at right angles from the plate C, near its top and bottom, are two bearing-lugs D E, whose upper and under sides are beveled, as shown, and also projecting from the plate C and rib *b*, intermediate of the plates D E and equidistant from each other, are a series of hook-shaped lugs F, likewise beveled on their upper and under sides. Pivoted in and between the lugs D E is a shaft G, in this instance square in cross-section, though any other shape with one or more flat sides would answer as well, and locked to but free to slide vertically on this shaft is the tug-hook H, having a hub *c*, with a bore through which the shaft G passes and of the same shape as the cross-section of the shaft.

In Fig. 2 the hook H is shown in its middle position upon the shaft and turned back so as to be locked between two of the hooked lugs F against vertical movement, and is also in this position locked to the plate C, so that it cannot be swung away therefrom to permit the disengagement of the trace ring or eye on the forward part of the trace I, Fig. 1, for in this position the point of the hook is in close proximity to the upper lug F, as indicated. The means for effecting this locking of the

shaft G and hook H when the latter is turned back is accomplished in the present instance by the ends of the shaft when lowered passing through perforations in the plates D E, which are of the same shape in cross-section as the ends of the shaft—that is to say, either flattened or polygonal. The lower end of the shaft, which projects through the plate E, is diminished in size and rounded, as seen at *d*, Fig. 2, and has screwed upon its threaded end a nut *e*, between which and the bottom of the plate E is a spring *f*, coiled upon the rounded portion of the shaft, so as to normally tend to draw the same down. The upper end of the shaft upon the top of the plate D is provided with a head *g* to serve as a stop to limit its downward movement, and a portion of the shaft just below the flat surface of the plate D is rounded, as seen at *h*, Fig. 6, so that when the shaft is pressed upward its flattened or polygonal ends are disengaged from the corresponding locking-openings in the plates D E, as seen in Fig. 3, and then the hook H can be swung forward out of engagement with the hooked lugs F, as seen in Figs. 3 and 4, and can be slid up or down on the shaft G to adjust it to the height desired, and when so adjusted it is swung back again to the position shown in Figs. 1 and 2 between any two of the hooked lugs, and thereby becomes immediately self-locked by the action of the spring *f* drawing the flattened ends of the shaft G down into their sockets in the plates D E, as will be readily understood.

To prevent the accidental relocking of the shaft G at any other point than when the hook H is turned back to working position, I provide a projection or rib *i*, Fig. 6, on the upper locking portion of the shaft, just beneath the head *g*, which when the shaft is locked to the plates D E fits into a correspondingly-shaped groove *j*, Fig. 5, in the bearing-aperture of the plate D, and which when the shaft is pressed up and partially turned, as seen in Fig. 3, rides over the top of the aperture and prevents the shaft from being depressed until it is again turned back to proper locking position, as will be readily understood.

It is apparent that the hooked lugs F constitute locking-stops to prevent the movement of the hook H up or down when the same is turned back and the shaft G is locked, as before described, and that this is their chief and essential function. In the sense of forming such locking-stops it is not essential that these lugs should be hook-shaped, though I prefer to so construct them.

Having thus fully described my invention, I claim—

1. In tug-hook construction for hames, a plate attached to the hame and having a series of locking-stops, a shaft journaled to said plate with means for locking it against rotation in one position, and a tug-hook free to slide on said shaft when turned to one position but locked from independent rotation thereon, whereby said tug-hook can be engaged with any of said locking-stops to regulate its vertical position and when so engaged is locked together with the shaft from turning.

2. In tug-hook construction for hames, a plate attached to the hame and having a series of hooked lugs, a shaft journaled to said plate with means for locking it against rotation in one position, and a tug-hook free to slide on said shaft when turned to one position but locked from independent rotation thereon, whereby said tug-hook can be engaged with any of said hooked lugs to regulate its vertical position and when so engaged is locked together with the shaft from turning.

3. In tug-hook construction for hames, a plate attached to the hame and having a series of hooked lugs projecting therefrom, a shaft journaled to said plate and having endwise movement thereon, locking-shoulders on said shaft for locking it against rotation in one position, and a tug-hook free to slide on said shaft when the latter is unlocked from the plate and swung around, whereby said tug-hook can be engaged with any of said hooked lugs to regulate its vertical positions and when so engaged is locked from turning, substantially as described.

4. In tug-hook construction for hames, a plate attached to the hame and having a series of hooked lugs projecting therefrom, a shaft journaled to said plate and having endwise movement thereon, locking-shoulders on said shaft for locking it against rotation in one position, a tug-hook free to slide on said shaft when the latter is unlocked from the plate and swung around, and a spring for holding said shaft in locked engagement, whereby said tug-hook can be engaged with any of said hooked lugs to regulate its vertical position, and when so engaged is locked from turning, substantially as described.

5. In tug-hook construction for hames, the combination of the ribbed plate C provided with hooked lugs F and top and bottom lugs D E, the shaft F having a flattened side and secured through and between the lugs D E, a locking-shoulder on the upper end of said shaft provided with a rib *i* and a correspondingly-shaped aperture in the plate D, and the tug-hook H free to slide on but locked against rotation on the shaft G, substantially as and for the purpose specified.

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