T. W. & H. K. PORTER.
Holdback for Vehicles.

No. 216,756. Patented June 24, 1879.

Fig. 1.

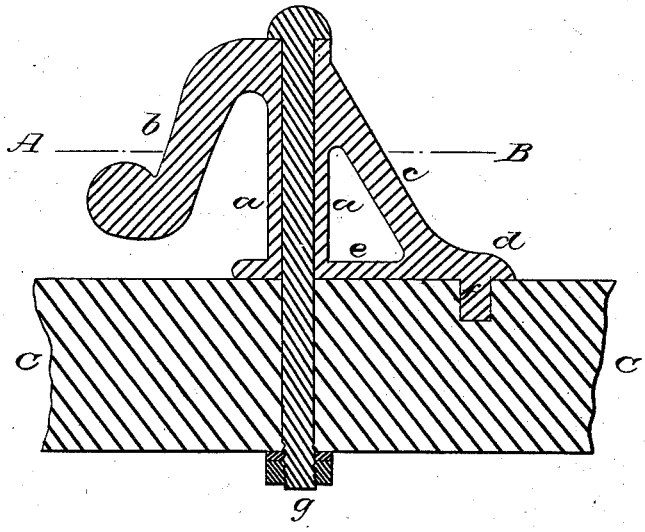


Fig. 3.

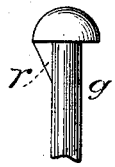


Fig. 4.

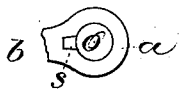
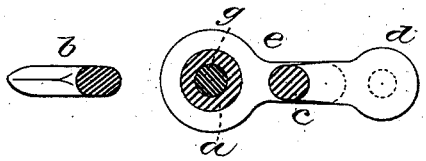


Fig. 2.



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UNITED STATES PATENT OFFICE.

THOMAS W. PORTER, OF CHELSEA, AND HENRY K. PORTER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN HOLDBACKS FOR VEHICLES.

Specification forming part of Letters Patent No. **216,756**, dated June 24, 1879; application filed June 27, 1877.

To all whom it may concern:

Be it known that we, THOMAS W. PORTER, of Chelsea, and HENRY K. PORTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Irons for Vehicles, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to the irons known as "breech-hooks" or "holdbacks," which are secured in the shafts of the vehicle, and by which the horse is so attached thereto as to prevent its too rapid movement when descending hills or other declivities; and the invention will be described and claimed in connection with the accompanying drawings.

In the drawings, Figure 1 is a vertical section of the breech-hook, taken in the axial line of the shaft and showing a section thereof. Fig. 2 is a horizontal section of the breech-hook, taken on line A B, Fig. 1. Fig. 3 is a modification of the bolt by which the breech-hook is secured to the shaft. Fig. 4 shows a corresponding modification in the breech-hook.

In these drawings, *a* represents the vertical and central member, which is shown as being formed hollow and with a circular cross-section, the hole *o*, Fig. 4, receiving the bolt *g*, by which the hook is secured to the shaft, this bolt serving the purpose in this behalf of the usual threaded terminal of part *a*. *b* is the member which secures the breeching-strap in place when the horse is harnessed to the vehicle. This member is formed in the usual manner, and is directly connected with part *a*, as is also brace *c*. Upon the foot *d* of brace *c* is formed the pin *f*, which prevents the hook from rotating, and also largely relieves bolt *g* of the consequent strain upon it when the vehicle is descending hills.

To insure the requisite strength the foot *d* should be arranged at the base of the oblique line of brace *c*, and should not be placed at a distance therefrom, as the weakness and consequent liability of the foot to bend is increased in the ratio of such extension and the resulting leverage.

To unite brace *c* with member *a* at their lower extremities we form our hooks with the horizontal member *e*, thereby constituting of the members *a c e* a triangle, and securing the lower ends of center *a* and brace *c* in proper positions relatively to each other, either during the processes of manufacture or when in use.

In Fig. 3 bolt *g* is shown with a slight and well-known modification—to wit, the fin *r*, formed beneath the head and adapted to fit into the corresponding slot *s* shown in the modified view of member *a*, Fig. 4.

This device, or any equivalent, may be employed to hold the bolt from turning when the nut fitted thereon is being manipulated.

We do not claim a breech-hook having the central portion, *a*, formed tubular when the portion *b* and brace *c* are not formed as an integral part of said central member; nor do we claim, broadly, a breech-hook provided with pivot *f*, but only when the member *a* is formed tubular, whereby the entire breech-hook may be cast in perfect form ready to be secured to the shaft for use without bending or manipulation of any kind, for the reason that the breech-hook need not be rotated to secure it in the shaft, as is necessary when it is formed with a threaded terminal in lieu of bolt *g;* and hence the foot *d*, with its pin *f*, need not be turned up until the hook is fastened into the shaft, as is necessary when the threaded terminal is formed upon the hook.

We claim as our invention—

1. A breech-hook formed with the members *a b c* cast entire in the relative arrangement, as shown, the member *a* formed tubular, substantially as described and shown.

2. A breech-hook having the central body, *a*, formed to be secured to the vehicle by a bolt in a central hole in the shaft thereof, with the depending member *b*, the brace *c*, and tie *e* all formed as integral parts of and directly connected with the body *a*, and such brace and tie terminating in foot *d*, all substantially as specified.

3. In a breech-hook, the tubular body *a* and the pivot *f* formed upon foot *d*, substantially as and for the purposes specified.

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