

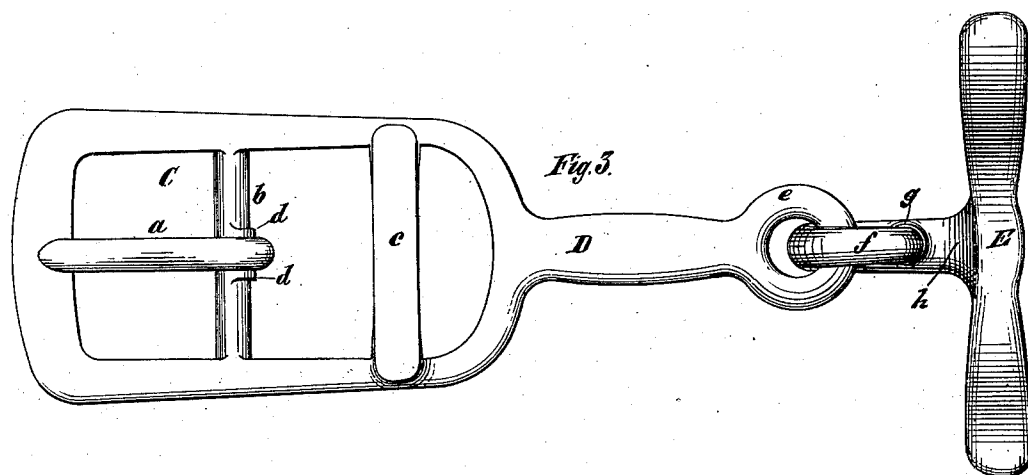
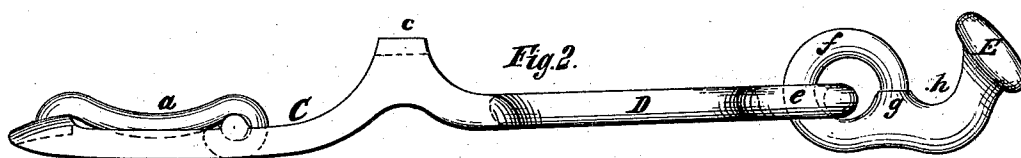
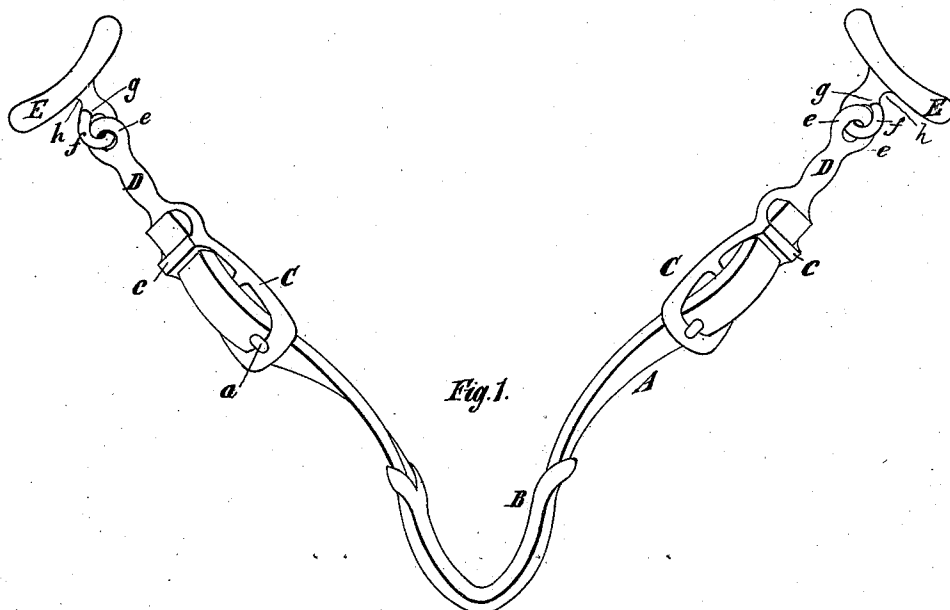
(No Model.)

R. G. HANFORD, Jr.

BREAST STRAP TOGGLE.

No. 310,510.

Patented Jan. 6, 1885.



Witnesses
James R. Bowen.
William G. Lipsey

Inventor
Robert G. Hanford, Jr.
by his attorney,
Edwin H. Brown.

UNITED STATES PATENT OFFICE.

ROBERT G. HANFORD, JR., OF NEWARK, ASSIGNOR TO THE NEW JERSEY
STEEL AND IRON COMPANY, OF TRENTON, NEW JERSEY.

BREAST-STRAP TOGGLE.

SPECIFICATION forming part of Letters Patent No. 310,510, dated January 6, 1885.

Application filed May 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. HANFORD, Jr., of Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Breast-Strap Toggles, of which the following is a specification.

My improvement relates to fastenings termed "toggles," whereby breast-straps of horses' harness are secured to the poles of vehicles, or to appurtenances of such poles.

The object of the improvement is to produce a toggle which will be more simple and less expensive in construction than those of ordinary kind, and less liable to become detached.

I will describe the improvement in detail, and then point it out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a breast-strap provided with toggles embodying my improvement. Fig. 2 is an edge view of one of the toggles drawn upon a large scale, and Fig. 3 is a side view of the toggle on the same scale as Fig. 2.

Similar letters of reference designate corresponding parts in all the figures.

The breast-strap A may be made of leather in the ordinary way, and it will preferably be provided with a metal wearing-piece, B, where it passes through a ring attached to a vehicle-pole, or one attached to a chain extending from such a pole.

My toggle comprises a buckle, C, a toggle-bar, D, and a bar, E. The buckle C may be made of any approved pattern. It has, as here shown, a tongue, a, pivotally connected to a bar, b. Preferably it will also be provided with a keeper-bar, c, under which the end of a strap secured by the buckle may be passed. The tongue a may be secured to the bar b by having one end bent around the same and maintained in place laterally by projections d on the said bar. It can, however, be combined with the bar in various other ways with good results, and may even be fixed, if desirable. The bar D extends from the buckle-frame, and is formed integral therewith. Preferably the buckle-frame with the bars b and c and this bar D will be cast in one structure of malleable iron. At the outer end the bar D is provided with an eye, e. This eye can advantageously be formed in the casting; but if

preferable, for any reason, it can be formed by casting the end of the bar in an appropriate shape and bending it to form the eye. As shown, the bar D is in the same plane as the principal portion of the side bars of the buckle-frame, and is made approximately flat. The eye e is in the same plane as the bar, or, in other words, it does not project beyond the flattened sides of the bar. The bar E is curved longitudinally and provided with an eye, f. This eye is formed by casting of malleable iron in the same structure as the buckle a shank or hook, which is afterward bent into a circular shape. A projection, g, is cast on this shank or hook, and the end of the shank or hook is bent over on to this projection to form the eye. The projection is adapted to take forward thrusts of the bar D. It also contributes to form a recess, h, in which a hame-ring can lie. This recess is partly formed, however, by bending the shank between the projection g and the bar E. It will be seen that the eye f is in a plane at right angles to that in which the eye e is located. This I deem the preferable arrangement. If desirable, however, the shank may be bent to form an eye in a different plane, and the position of the eye e can then be varied, if necessary. Of course the shank or hook of which I form the eye f is passed through the eye e before being bent to complete the forming of the said eye e. The recess h is advantageous for maintaining the bar E in proper relation to the hame-ring.

It will be observed that my toggle is composed of but two pieces, the buckle and bar D, with its eye e, forming one piece, and the bar E, with its eye f, forming the other piece. The substitution of the bar D, formed integral with the buckle-frame, in lieu of a link obviates, to a very great extent, the jerking and rattling that are always attendant upon the use of toggles comprising such links. It also lessens the wear entailed by the toggle upon the horse-collar to which it is connected. It is owing largely to the jerking that arises from the use of links in toggles that the buckle-tongues are pulled through the breast-strap, and as in my toggle this is materially lessened, the construction of my toggle is quite important. The relief afforded to horses by the construction of my toggle is also a great consid-

eration in favor of my toggle. The bar E and its eye *f* will be found useful for breast-chains. The arrangement of the eye which I have shown will cause the chain-link engaged with it to be presented sidewise instead of edge-wise to the collar, just as the eye *e* of the bar D will be presented to it. This lessens wear upon the collar. The toggle-bar E and the bar D are brought close together into a line parallel with each other when being inserted through the ring or chain link. In some cases I may cast the eye *f* with the bar E in the position shown.

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

1. In a breast-strap toggle, the combination of a buckle, a bar formed integral with the buckle, flattened at opposite sides and provided with an eye arranged in the same plane as the flattened sides of the bar, and a toggle-bar provided with an eye arranged in a plane

at about right angles to the length of said bar, and having its central aperture in a line approximately parallel with the length of said bar, and engaging with the eye first named, substantially as described, whereby the toggle-bar and the bar first named may be brought close together in approximately parallel lines.

2. The combination, with a bar designed for engagement with a hame or collar ring, of an eye integral with and arranged in a plane at about right angles to the length of the bar, and having its central aperture in a line approximately parallel with the length of said bar, substantially as specified.

3. The combination, with the bar D, of the bar E, the eye *f*, the recess *h*, and the projection *g*, substantially as specified.

ROBERT G. HANFORD, JR.

Witnesses:

HERBERT BOGGS,

WILLIAM H. CONOVER.