

(No Model.)

2 Sheets—Sheet 1

W. H. BOLES.

TRACE BUCKLE.

No. 303,112.

Patented Aug. 5, 1884.

Fig. 1.

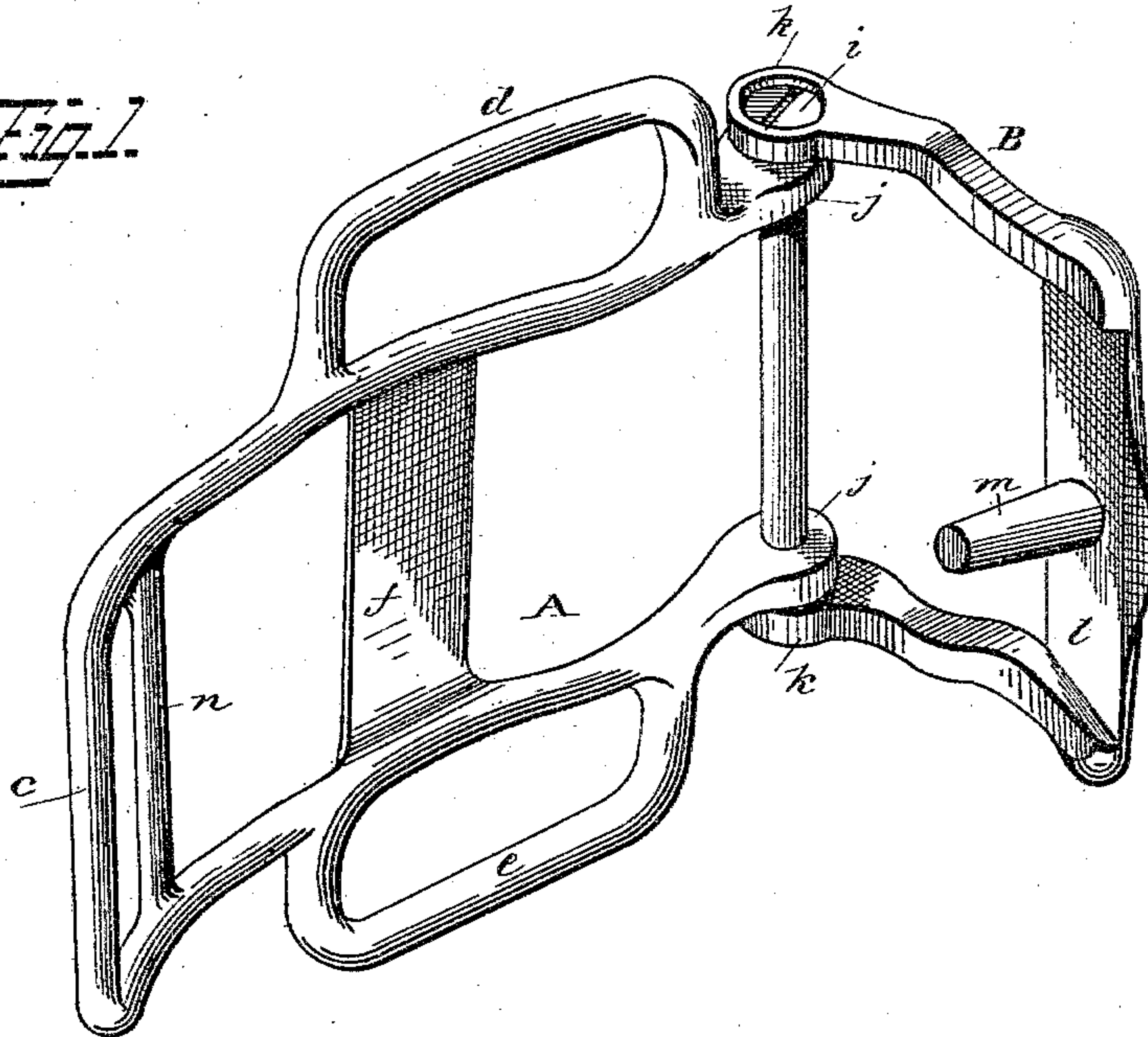


Fig. 2.

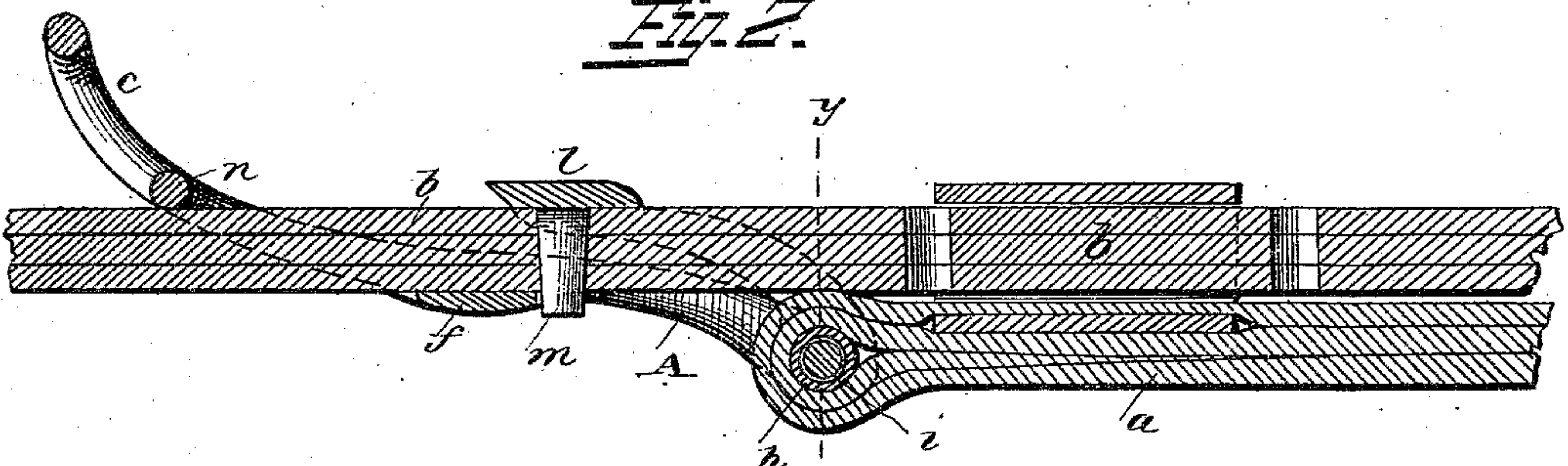
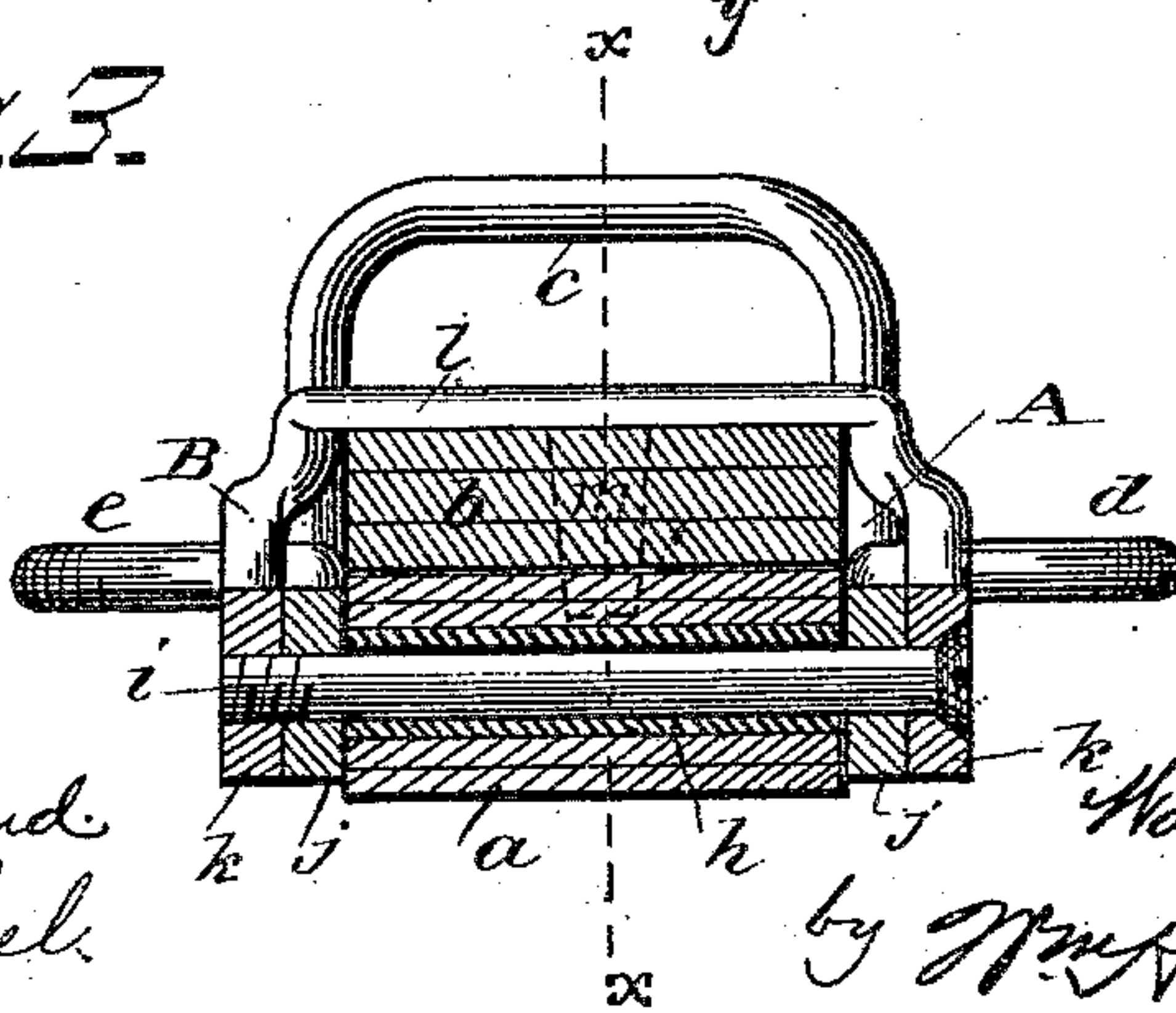


Fig. 3.



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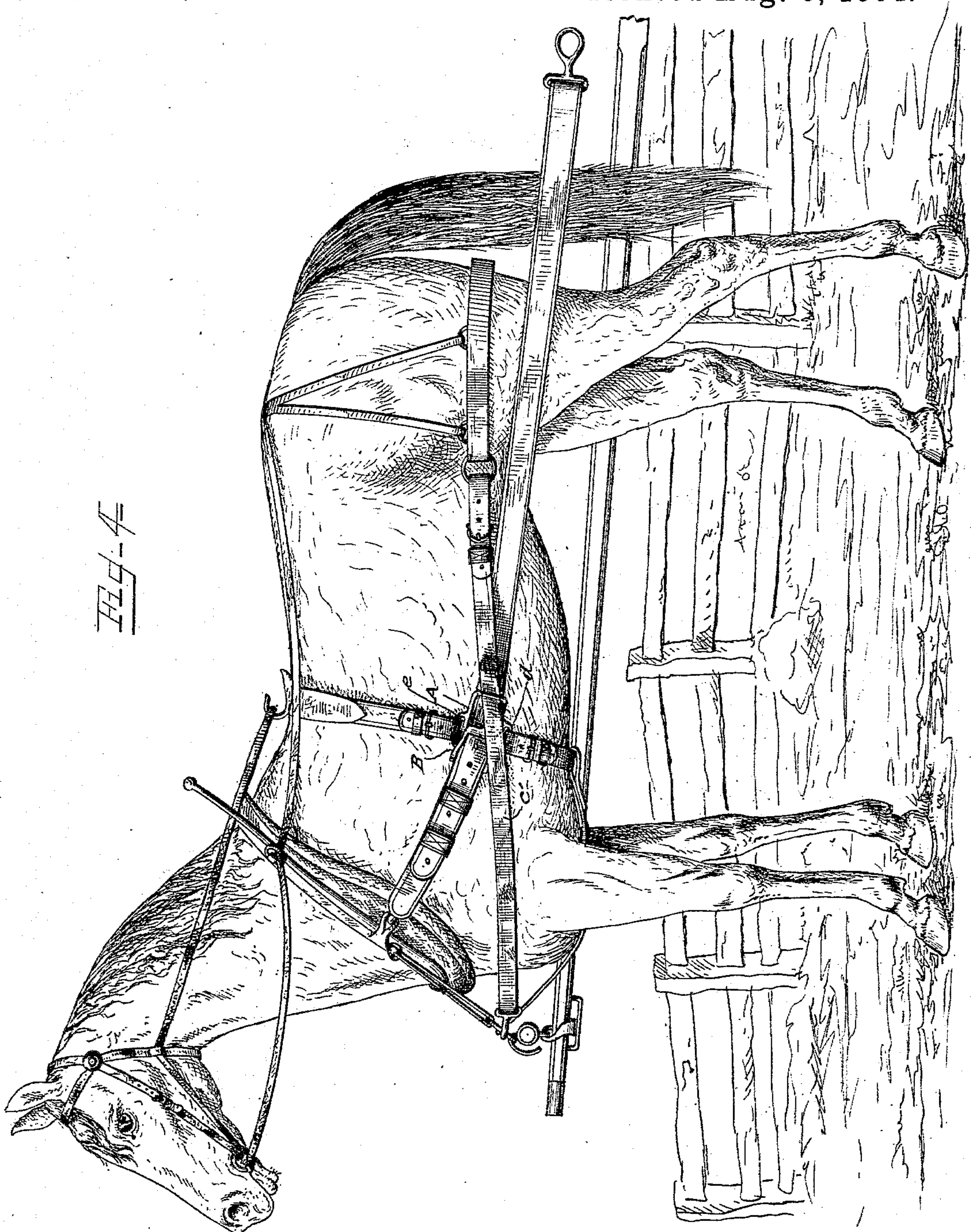
2 Sheets—Sheet 2.

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WITNESSES

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# UNITED STATES PATENT OFFICE.

WARREN H. BOLES, OF FORT PLAIN, NEW YORK.

## TRACE-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 303,112, dated August 5, 1884.

Application filed December 26, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WARREN H. BOLES, a citizen of the United States, residing at Fort Plain, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Trace-Buckles, of which the following is a full, clear, and exact description.

This invention is in the nature of improvements in buckles for harness-traces and the like; and the improvement consists in securing the buckle to its holding leather—as, for example, the hame-tug—by a metal tube inserted in a loop in said leather and a transverse screw, whereby the broken parts or the entire buckle may be removed or renewed without ripping the sewing of the leather, and also in the construction and arrangement of the tongue, whereby the trace may be unbuckled without any of the violent effort heretofore necessary in loosening the tongue or holding-member; also, in the combination, with the frame of the buckle and the tongue, of a stay-bar in the frame, which aids in taking the burden and strain of the tongue, and also in a buckle, constructed as above described, provided with a loop at the end of the frame for guiding the long side strap or holdback, which is now ordinarily employed on heavy draft harness, and runs from the breeching-ring either to a small whiffletree on the neck-yoke or to the long neck-yoke itself, all as hereinafter specified and claimed.

In the accompanying drawings, illustrating my invention and forming part hereof, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of my buckle detached and in reverse position. Fig. 2 is a longitudinal section, on line *x x* of Fig. 3, of the buckle in position on the harness. Fig. 3 is a transverse vertical section on the line *y y* of Fig. 2, and Fig. 4 represents a horse provided with harness containing my improvements.

In the example shown the hame-tug *a* is turned back upon itself to form a loop to receive the buckle; but instead of sewing the buckle to the leather in this loop in the formation of said loop I place in said loop a metal tube, *b*, and secure the buckle by a screw-bolt, *i*, passed through its attaching end and the metal tube in such manner that the screw may

be removed at pleasure for the renewal of broken parts or the securing a new buckle. The provision of the tube *b* permits the buckle to move easily, and obviates the binding so objectionable in trace-buckles as heretofore constructed.

My buckle has a frame, *A*, provided with eyes *j j* at its attaching end to receive the screw-bolt *i*. The tongue, bail, or lever *B* straddles the ends of the frame *A*, and is provided likewise with eyes *k k*, through which the screw-bolt is passed, and one of said eyes is screw-threaded to act as the nut into which the screw-bolt is screwed and by which it is held in place. The bail *B* has a stout cross-piece, *l*, from which projects at right angles, or thereabout, the lug or tongue *m*, formed therewith. The frame *A* is provided with a cross or stay bar, *f*, which serves to brace it, and also to relieve the strain upon the bail *B* when in use, the lug *m* of said bail abutting against it.

The frame *A* of my buckle is curved upwardly somewhat as an **S** from its attaching end, and terminates at the rear in a loop, *c*, separated from the body of the frame by the cross-bar *n*. This loop *c* stands up from the frame *A* at nearly a right angle to the leather, as indicated in Fig. 2, and its purpose is to guide the long side strap or holdback, *c'*, (shown in Fig. 4,) which is now usually found in heavy-draft harness, and which runs from the breeching-ring either to a small whiffletree on the neck-yoke or to the long neck-yoke itself. By passing the long side strap or holdback through this loop *c* it is held in proper position and is guided in a right line from the breeching-ring to the neck-yoke, thereby obviating the cramping of the strap incident to the old construction, wherein such strap was run through a ring ordinarily attached to the loop *d* by an **S**-hook or a loop in the belly-band. In the case of the hook the side strap was badly deflected from the line of pull, and in the case of the loop the movement of the strap soon cut it through or ripped it off. These evils my invention overcomes. It does not, however, deprive one from using a short holdback-strap, which might be advantageously employed for drawing light loads, and which might run from said loop to the breeching-ring.

The loop *c* is for the fastening of the back-



strap, and, as before said, loop *d* receives the belly-band.

*b* is the trace, and said trace by my construction of buckle passes through the buckle in a straight line, consequently can be easily handled without cramping and over exertion. The tongue in my buckle being a rigid member affixed to a swinging bail, and entering the trace at a right angle thereto, securely holds the trace with the pull in a right line, and hence there is no driving or hammering to remove the tongue from the trace, which has heretofore been necessary with the wedge-principle buckles used. My tongue is simply and easily lifted out of the trace-hole to release the trace.

With my buckle the trace never has to be taken from the loops on the hame-tug to shift it, but the tongue being raised, said trace is pulled in a straight line through the loops till the right hole comes next the tongue.

My buckle can be applied to single as well as double harness. In using it for single harness or light double harness the loops *c d e* will be dispensed with, and in some instances the loop *c* only will be dispensed with.

What I claim is—

1. A buckle provided with a frame having fastening-eyes, a tongue-bail also having fastening-eyes, a screw-bolt passed through said eyes, and a tube to be secured within a loop of the article to which the buckle is to be applied, through which tube the screw-bolt also passes, substantially as shown and described.

2. The frame *A*, having the eyes *j*, and the bail *B*, having eyes *k* and tongue *m*, combined with the screw-bolt *i* and tube *h*, substantially as shown and described.

3. The frame *A*, having the eyes *j* and stay-bar *f*, combined with the pivotal bail *B*, having the eyes *k* and cross-bar *l*, provided with tongue or lug *m*, constructed and arranged, substantially as described, to admit of the passage of the trace through the buckle and the securing thereof in said buckle in a straight line.

4. A buckle composed of a frame having end and side loops, a tongue stay-bar, a tongue formed upon a pivoted bail, and a screw-bolt and tube to secure the frame and bail in position, substantially as shown and described.

5. The combination, with the bail having the tongue *m*, the frame having the cross-bars *f* and *n*, and the bolt *i*, for securing the bail and frame together to permit the passage and securing of the trace in a straight line, of the loop *c* at the rear end and standing up from the plane of the frame, and of substantially the width thereof, as shown and described, to permit the running of the holdback or long side strap in a straight or right line through the buckle from the breeching-ring to the neck-yoke, as set forth.

6. The combination, with the buckle and the loop *c* at the rear end of its frame standing up therefrom, and of substantially the width thereof, of the holdback-strap, substantially as shown and described.

In testimony whereof I have hereunto set my hand this 22d day of December, A. D. 1882.

WARREN H. BOLES.

Witnesses:

NELSON H. ANIBAL,  
HARVEY E. CROMWELL.