

(No Model.)

V. A. COLEMAN.
TRACE BUCKLE.

No. 405,247.

Patented June 18, 1889.

FIG - 1 -

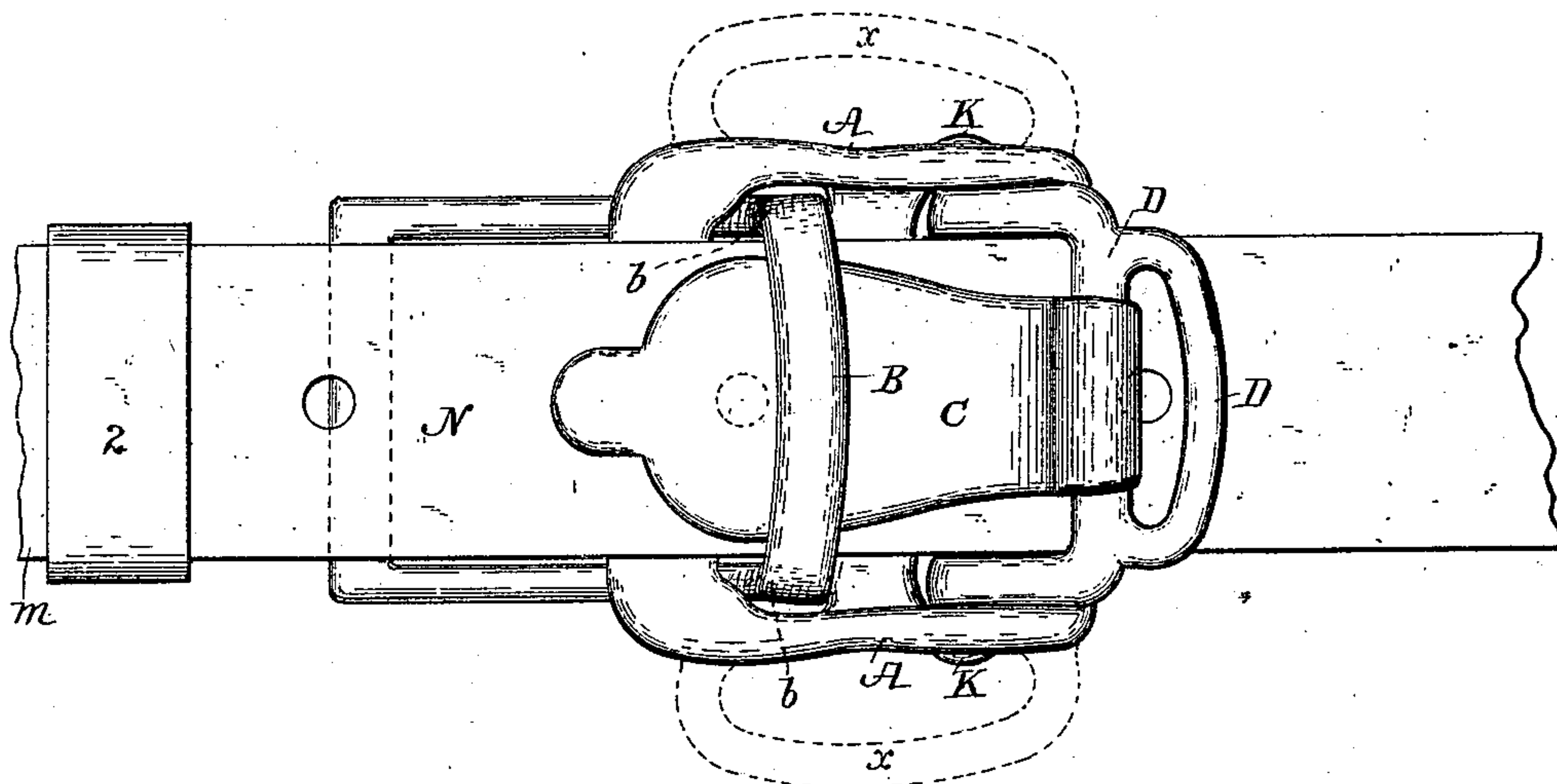


FIG - 2 -

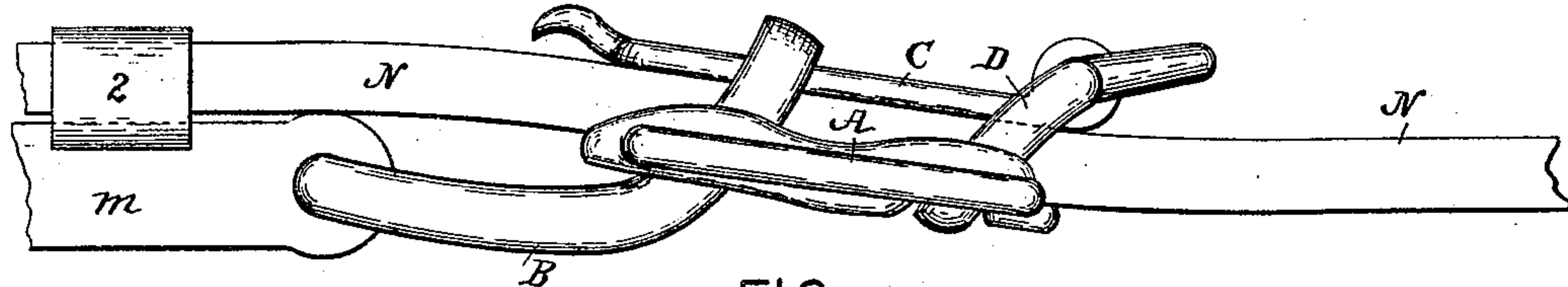


FIG - 3 -

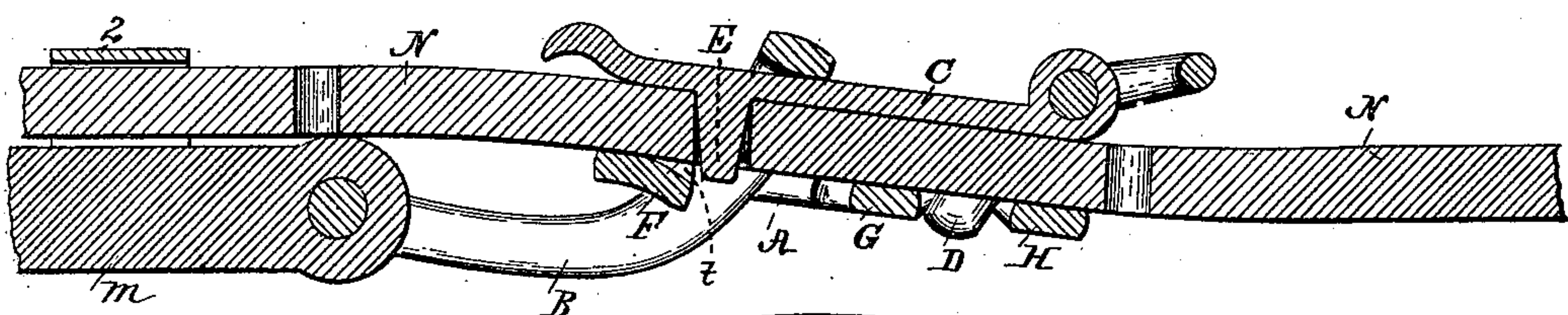
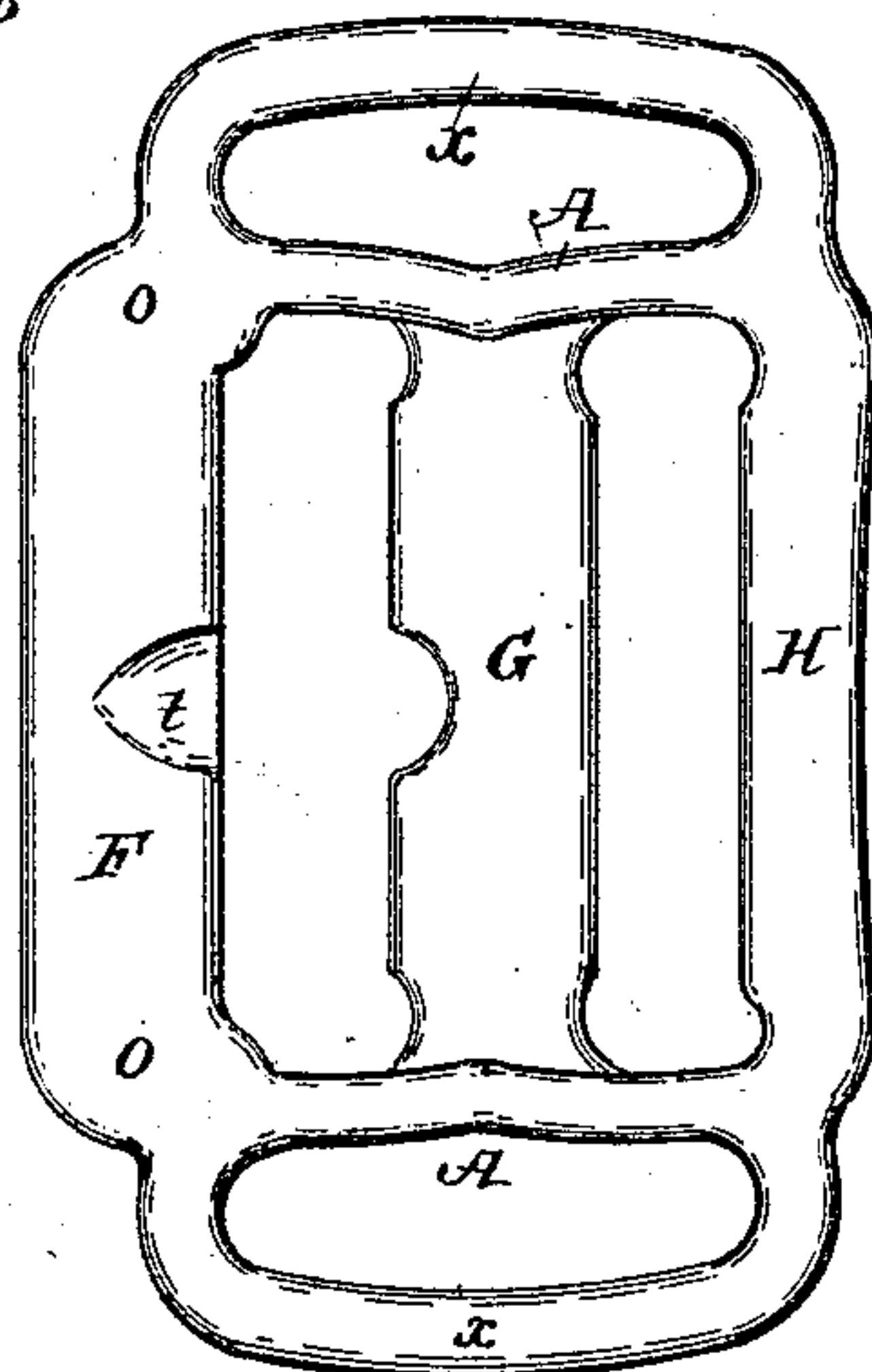


FIG - 4 -



Attest:
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VINCENT A. COLEMAN, OF PORT HOPE, ONTARIO, CANADA.

TRACE-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 405,247, dated June 18, 1889.

Application filed October 10, 1888. Serial No. 287,755. (No model.)

To all whom it may concern:

Be it known that I, VINCENT A. COLEMAN, a citizen of Canada, residing at Port Hope, in the county of Durham and Province of Ontario, Canada, have invented a new and useful Trace-Buckle, of which the following is a specification.

My invention relates to improvements in that class of trace-buckles in which a frame or body and a tongue-plate are used, and between which the trace is clamped by a curved-lever draw-link which is attached to the hame-tug; and the objects of my invention are to produce a cheap, neat, strong, and practical trace-buckle—first, that facilitates the adjustment of the trace; second, that clamps the trace between parallel surfaces sufficiently large, so as not to injure it by compression; third, that keeps the trace straight as it passes through the buckle, and does not crimp and injure or give it short curves by forcing it between cross-bars or against their edges; fourth, that has the tongue pass through either a thick or a thin trace at the same angle; fifth, that does away with a curved tongue-plate; sixth, that is conveniently put into harness; seventh, that may have any of its parts readily replaced in case of breakage, and, eighth, that gives increased strength to the draw-link by its form. I attain these objects by means of the device illustrated by the accompanying drawings, in which similar letters refer to similar parts in all the figures.

Figure 1 is a front view of my buckle as applied to the trace. Fig. 2 is an edge view of the same. Fig. 3 is a view of a perpendicular section of Fig. 2. Fig. 4 is a front view of the body of the buckle.

In the figures, N is the trace and M the hame-tug, and Q is a loop on the hame-tug to receive the loose ends of the trace. A A are the side bars of the body of the buckle.

F G H are three cross or bed bars, all in the same plane, between which and the tongue-plate C the trace is clamped. The body of the buckle may have the usual side loops *x x*.

D is a bail beneath which the trace passes, and is hung by its hooks or trunnions K K into recesses in the side bars A A, between the cross-bars G and H.

C is the tongue-plate, plane on the side which rests on the trace, and slightly rounded on the upper side, and is hinged at its rear end to the bail D in any suitable manner, and has the tongue projection E, which may enter any suitable hole in the trace to prevent its slipping through the buckle when pulled upon.

B is the curve-lever draw-link attached to the hame-tug M, which, when pulled upon, bears upon the tongue-plate C, the curved sides of the draw-link sliding in the grooves of the side pieces A A at the ends of the cross-bar F. These grooves are elevated, as shown, to about the height of half the thickness of an ordinary trace. Against the upper edges of these the draw-link bears. This causes the trace to draw nearly or quite straight as it passes through and from the buckle. That part of the draw-link passing over the tongue-plate is slightly curved to fit its oval surface, and is rounded at the corners to insure greater strength and render it less liable to shrinkage-flaws in casting.

The trace, when pulled upon, always, with all buckles, comes into the same straight line with the hame-tug, and must therefore curve its own thickness at the ends or in its passage through the buckle. By the construction given my buckle the trace takes its curve chiefly in front of the buckle, where there is no strain to injure it.

It is clear that when pulled upon the trace acts upon the tongue E and causes the bail D to decline and bear upon the rear end of the tongue-plate, while the draw-link B bears down the front end, always keeping it parallel to the cross-bars F, G, and H, or conforming to the surface of the trace and causing the tongue E to pass perpendicularly through the trace, of whatever thickness. In those buckles where the tongue-plate is hinged to a fixed bar raised from the rear end of the body this parallelism is not obtained, the tip of the tongue-plate rising or falling, as the case may be, for a thick or a thin trace, respectively. A thick trace is clamped between the rear cross-bed bar and a central portion of the tongue-plate, or a thin trace between the front bar and tip of the tongue-plate, as the case may be, the tongue, projecting forward in the former case, as it lies in the hole of the

trace its end receives the chief strain and is liable to be broken; also in this case the leverage upon the tongue-plate, as it rests over the rear bed or cross-bar, is apt to either break
5 it or the bed-bar, or else the bar to which it is hinged. My device overcomes all these difficulties.

In adjusting the trace in my buckle it is only necessary to shove the trace forward till
10 the bail D is near the draw-link B, when the draw-link is easily raised and the tongue readily released and removed to any desired hole in the trace. In using a thin trace, below which the tongue may project, the projecting
15 point may catch against the front cross-bar F when endeavoring to shove the trace forward. To prevent this, there is a groove L provided in the cross-bar, up which the tongue may slide.

20 While the tongue-plate hinged to the bail D can in no case be lost out, yet it can be readily taken out and put in at will, so that in case of breakage of the tongue-plate C or its tongue E or the bail D these parts, which
25 are hinged together before being put into the body of the buckle, may be readily replaced.

My buckle may be made of malleable iron

or any other suitable material, and of any size or strength suitable to the use for which it is intended.

What I claim is—

1. In the herein - described buckle, the tongue-plate C, having its innersurface, which comes in contact with the trace, plane and hinged at its rear end to the bail D, in combination with the bail D, with its hooks or
35 trunnions K K and the draw-links B, substantially as set forth.

2. The combination of the body of the buckle with its three cross-bars F, G, and H, forming a bed for the trace, between which
40 and the tongue-plate C the trace is clamped, and the recesses in the side pieces A A, between the bars G and H, for the reception of the hooks K K of the bail, with the bail D
45 and the draw-link B, substantially as described.

Dated at Washington this 10th day of October, 1888.

V. A. COLEMAN.

Witnesses:

GEO. A. HOWARD,

C. M. DAVIS.