

No. 786,463.

PATENTED APR. 4, 1905.

H. J. RATH & F. W. KVECH.

CROSS LINE BUCKLE.

APPLICATION FILED FEB. 5, 1904.

Fig. 1.

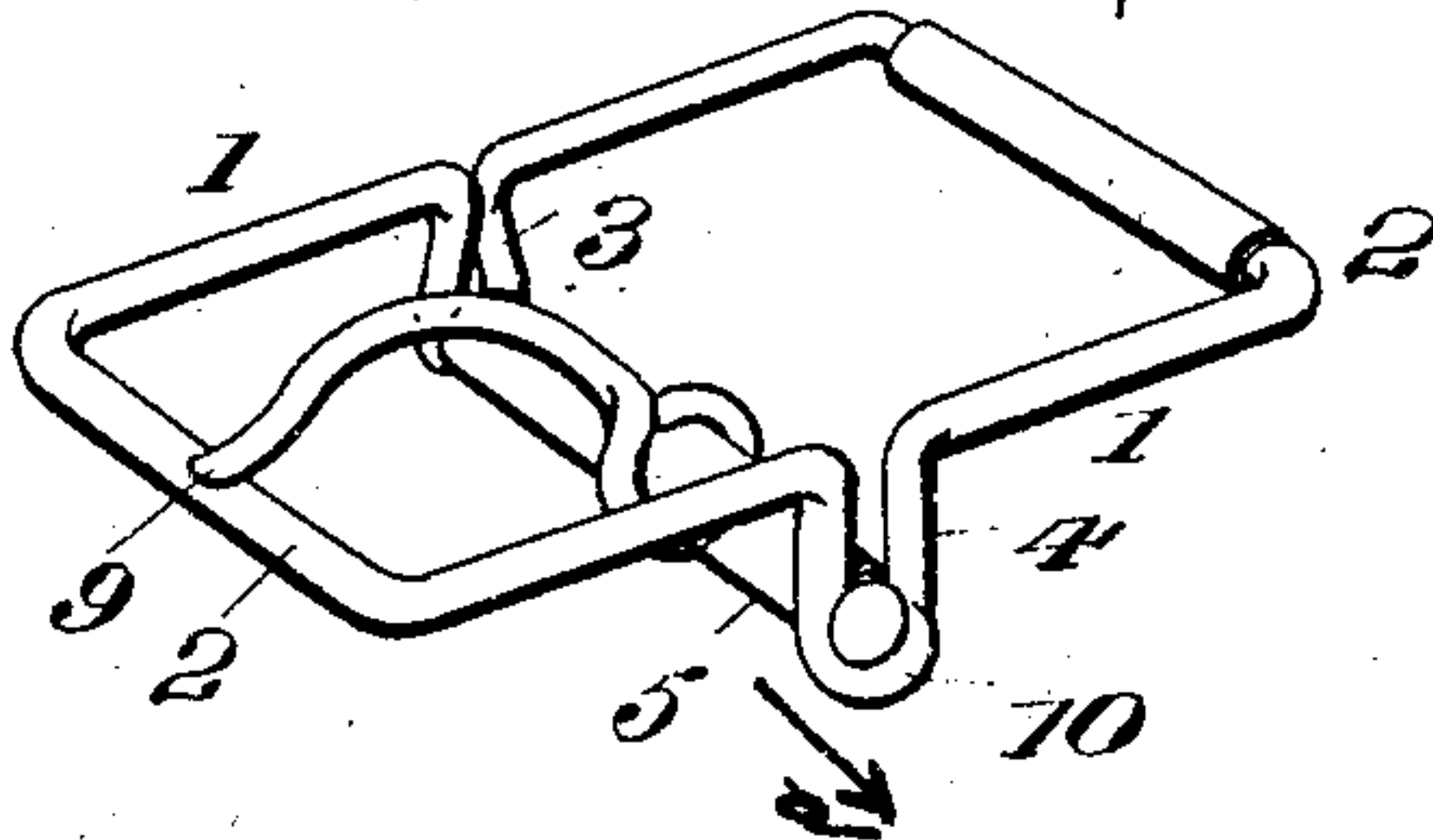


Fig. 2.

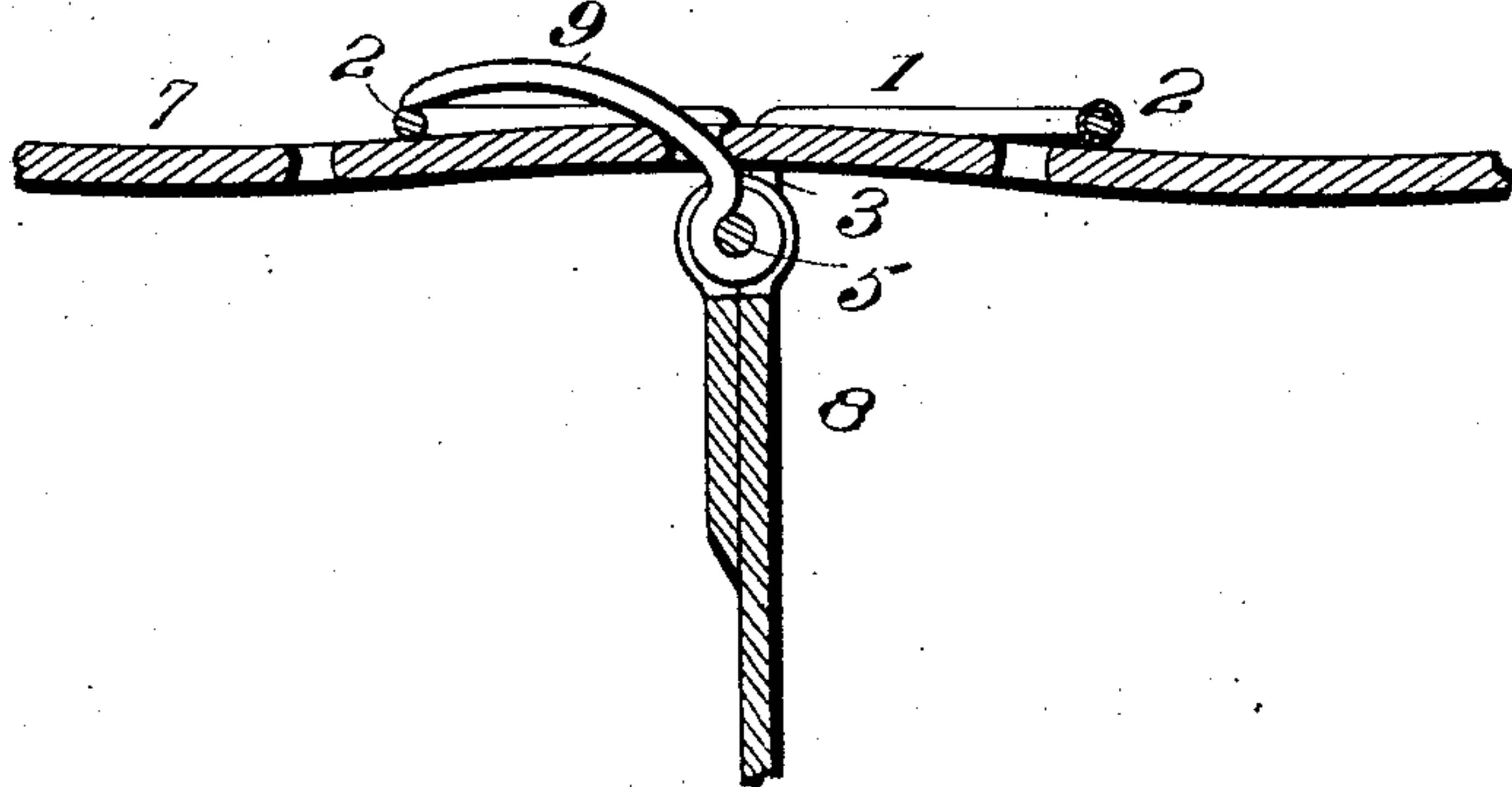


Fig. 3.

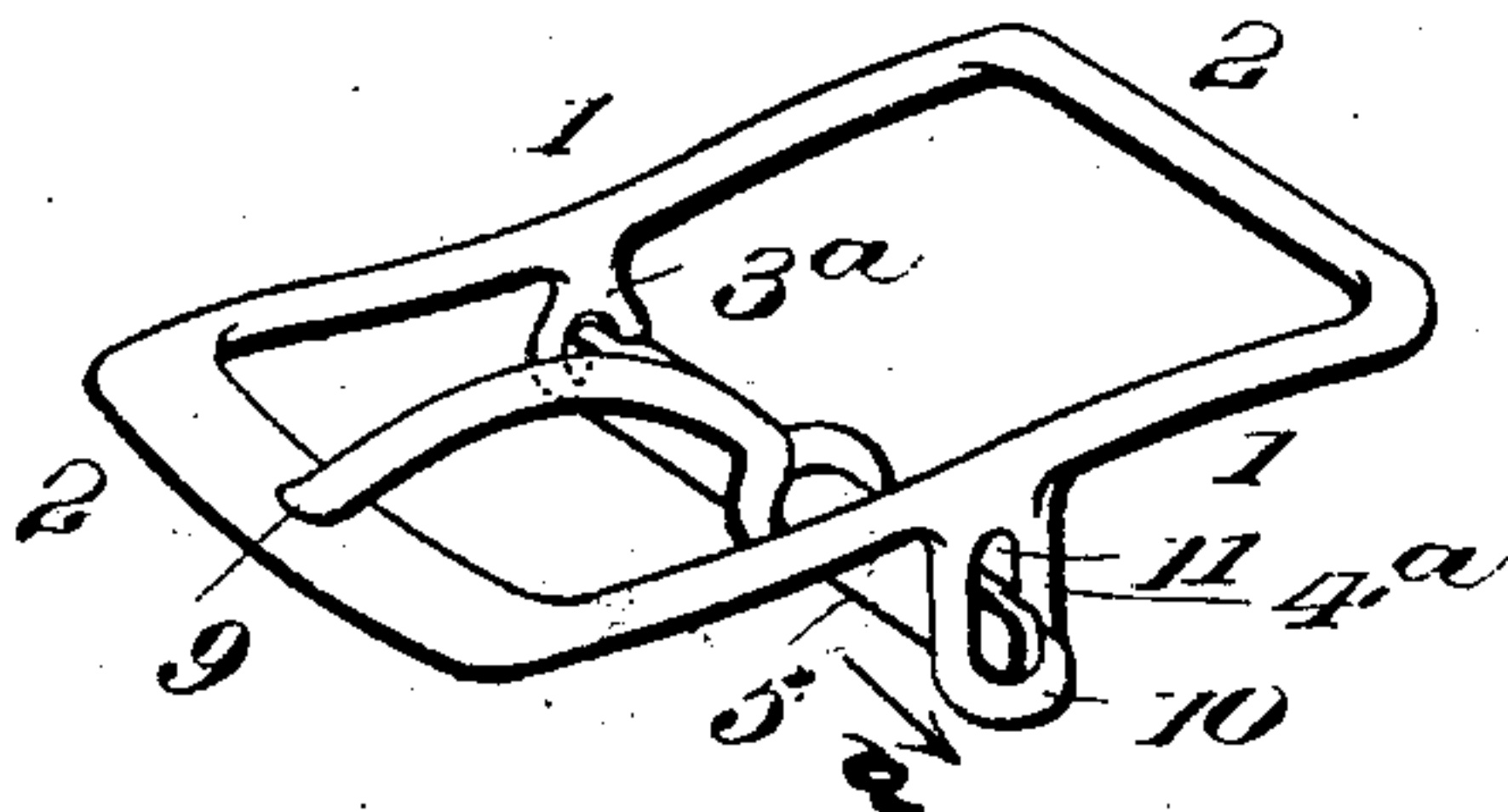


Fig. 4.

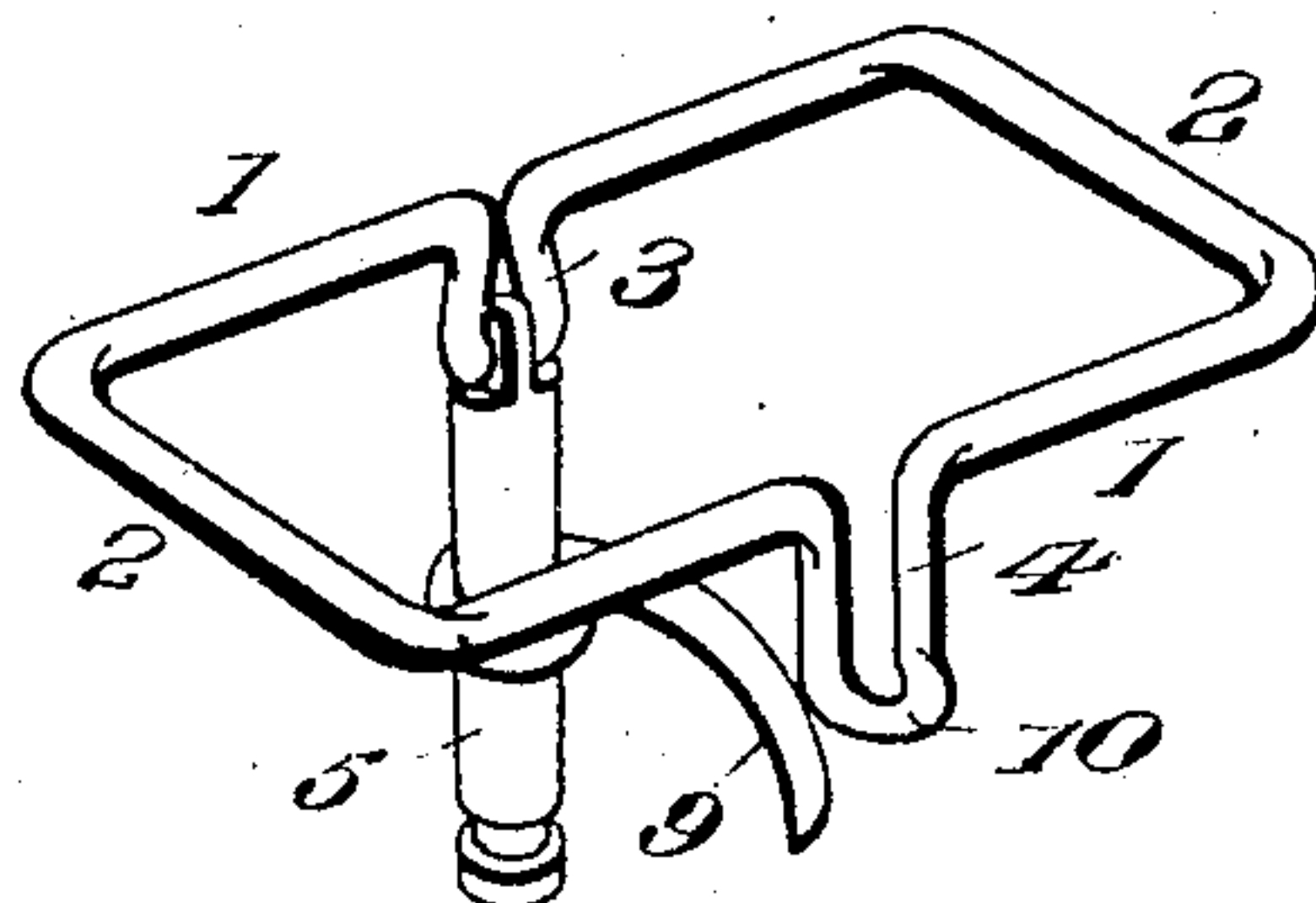
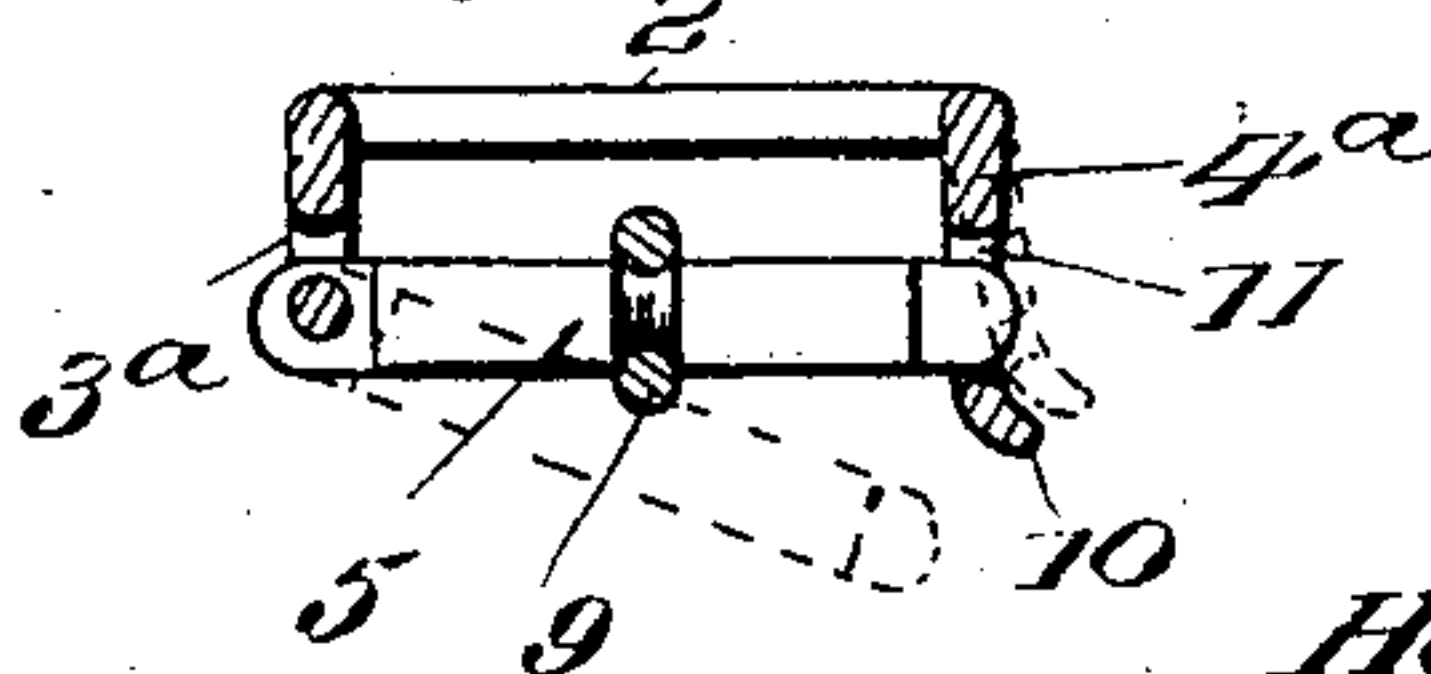


Fig. 5.



Witnesses

John R. Rath
John R. Rath

Inventors

Henry J. Rath
Frank W. Kvech

By

W. A. Racy, Attorney

UNITED STATES PATENT OFFICE.

HENRY J. RATH AND FRANK W. KVECH, OF PINE CITY, MINNESOTA.

CROSS-LINE BUCKLE.

SPECIFICATION forming part of Letters Patent No. 786,463, dated April 4, 1905.

Application filed February 5, 1904. Serial No. 192,215.

To all whom it may concern:

Be it known that we, HENRY J. RATH and FRANK W. KVECH, citizens of the United States, residing at Pine City, in the county of Pine and State of Minnesota, have invented certain new and useful Improvements in Cross-Line Buckles, of which the following is a specification.

This invention provides an improved form of buckle especially adapted for use on cross-lines of harness for adjusting the long rein relative to the short line. The buckle comprises a frame upon which is mounted a peculiar form of cross-bar which carries the buckle-tongue by which the position of the long rein is fixed at the desired adjustment.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the preferred form of the invention. Fig. 2 is a vertical longitudinal sectional view showing the relative arrangement of the strap parts. Fig. 3 is a view of a modified form of the buckle. Fig. 4 is a view showing the position of the cross-bar and the tongue carried thereby when adjusting the long rein. Fig. 5 is a vertical sectional view through the modified form of the buckle illustrated in Fig. 3, the cross-bar 5 being shown with its engaging end in the opening 11 of the engaging extension 4^a.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the buckle consists of a frame composed of side bars 1 and end bars 2. The frame may be constructed of stout steel wire of suitable gage or may be formed of solid metal, as is found most desirable in the embodiment of the invention. In

the preferred form of the invention the buckle is shown constructed of wire, the side bars 1 thereof being so bent as to provide downwardly-extended loops 3 and 4. The loops 3 and 4 are disposed at a point about intermediate of the end bars 2 of the frame of the buckle, and the loop 3 constitutes a supporting or pivotal loop, to which is pivoted the cross-bar 5. The cross-bar 5 is provided at one end with an opening which receives the loop 3 and constitutes the pivotal connection of the cross-bar with the frame. The loop 4, which is of a form somewhat corresponding to the loop 3, forms an engaging member which coöperates with the end of the cross-bar opposite the pivoted end to hold the said cross-bar in proper position after the long rein has been properly adjusted. The engaging loop 4 is an open loop, and the cross-bar 5 is preferably provided at the engaging end thereof with a groove which receives the sides of the loop 4 to more securely hold the cross-bar in engagement therewith. The short line 8 is secured to the cross-bar 5 and a buckle-tongue 9 is pivoted to the said cross-bar and is adapted to engage the long rein to hold the same at the desired adjustment.

From the foregoing it will be noted that the cross-bar 5, which is located about intermediate the end bars of the frame, is permanently carried by the frame at the point of pivotal support thereof by the supporting-loop 3. The cross-bar is loosely connected with the frame by its coöperation with the engaging loop 4 and is thus capable of being moved so as to leave the interior of the entire frame of the buckle unobstructed.

In operating the buckle the cross-bar 5 is designed to be disengaged from the engaging loop 4 of the frame, and in order to accomplish the above the said bar 5 is moved upwardly at its engaging end, after which the loop 4 is forced outwardly in the direction indicated by the arrow *a* and held in such position until the bar 5 has been forced downwardly past the said engaging loop 4. The long line 7 may now be readily adjusted as found necessary. When the line 7 has been properly adjusted, the cross-bar 5 is by a pivotal movement pressed upwardly and past

the loop 4 until its engaging end is disposed approximately above said loop 4, when it is pressed downwardly so the sides of the loop 4 receive and frictionally bind against the grooved end of the bar. The loop 4 has a spring action, and to facilitate its operation or outward movement, as above described, the lower end thereof is outwardly flared, as shown at 10, to facilitate manipulation of this member by grasping the same.

In the modified form of the invention, as shown in Figs. 3 and 5, the frame of the buckle is made of solid form, the bar 5 being pivoted to a supporting extension 3^a at one end, and the other end is adapted to be sprung into and out of engagement with an engaging extension 4^a, the latter having an opening 11. It is only necessary in the last-mentioned construction to press the extension 4^a outwardly, as indicated by the arrow *a*, in order to disengage the cross-bar 5. The extension 4^a, which is also provided with a flared end 10, will admit of engagement of the cross-bar 5 by forcing the engaging end of said cross-bar upwardly into the opening 11 thereof. In the structure shown in Fig. 3 the end of the cross-bar is positively interlocked with the extension 4^a, whereas in the preferred form of the buckle the engaging end of the cross-bar fric-

tionally interlocks with the loop 4. In both instances, however, the loop 4 and the extension 4^a are adapted for a spring movement.

Having thus described the invention, what is claimed as new is—

1. In a buckle, the combination with a frame comprising side and end bars, a supporting extension projected from said frame, a spring-engaging extension also projected from the frame, a cross-bar pivoted to the supporting extension and coöperating with the spring-engaging extension, and a tongue carried by said cross-bar.

2. In a buckle, the combination with a frame comprising side and end bars, of a supporting-loop projected from one of the side bars, an engaging loop extended from the other of said side bars and outwardly flared, a cross-bar pivoted to the supporting-loop and engaging the engaging loop, and a tongue pivotally mounted upon the cross-bar.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY J. RATH. [L. S.]
FRANK W. KVECH. [L. S.]

Witnesses:

CARRIE KUBICEK,
M. C. DEAN.