

No. 663,877.

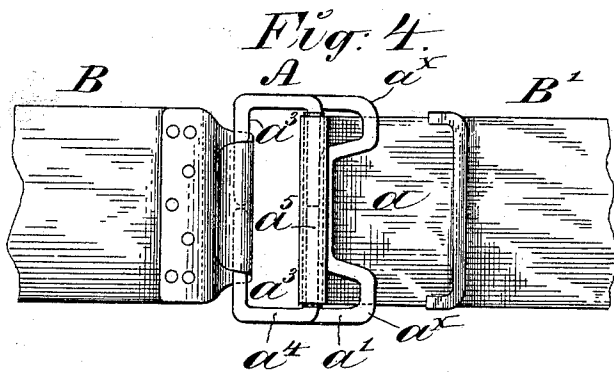
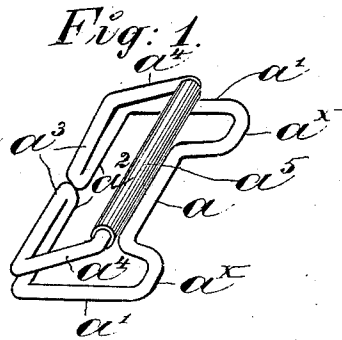
Patented Dec. 18, 1900.

L. I. FRIEDENBERG.

BUCKLE.

(Application filed Feb. 2, 1899. Renewed May 11, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LOUIS I. FRIEDENBERG, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE COLUMBIA BUCKLE COMPANY, OF SAME PLACE.

## BUCKLE.

SPECIFICATION forming part of Letters Patent No. 663,877, dated December 18, 1900.

Application filed February 2, 1899. Renewed May 11, 1900. Serial No. 16,357. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS I. FRIEDENBERG, a subject of the Emperor of Russia, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Buckles, of which the following is a specification.

This invention relates to the class of tongueless buckles in which the adjustable strap or part is held by friction; and the object is to produce a simple and inexpensive buckle which may be formed from a single piece of wire.

The buckle is provided with a spring-bail or cross-bar and a peculiarly-formed gripper-bar, all as will be hereinafter described.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a perspective view of the buckle alone, and Fig. 2 is a back view thereof. Fig. 3 is a side or edge view of the buckle, illustrating its application to a strap; and Fig. 4 is a plan of the same.

A designates the buckle as a whole, and B B' two straps connected by the buckle. It will be convenient to describe the construction and form of the buckle by supposing that a piece of wire of the proper length is so bent at its middle as to form the gripping-bar  $a$  and the two bends  $a^x a^x$  at the respective ends of said bar. Then the two ends of the wire are bent back to form the end bars  $a' a'$  of the buckle-frame. Then the two ends of the wire are bent inward toward each other to form together the back bar  $a^2$  of the frame. This brings the wires together at the middle of the back of the buckle, where they are bent back, outward, upon themselves to form the torsion-spring  $a^3$  of the spring-frame of the buckle, then forward to form the end bars  $a^4$  of the spring-frame, and thence inward and meeting to form the spring-bar  $a^5$  of the buckle. Preferably this bar will be embraced by a ferrule of thin sheet metal in order to cover the joint in the bar and impart strength.

Figs. 3 and 4 illustrate the application of the buckle. The strap B is hooked or otherwise attached to the back bar of the buckle-frame, and the strap B' is adjustably attached by passing it up back of the spring-bar  $a^5$ ,

over said bar, and down back of and under the gripping-bar  $a$ , the two plies of the strap being applied one on the other and the bight taking over the spring-bar. Strain on the strap B' draws down the spring-bar  $a^5$  and grips the strap between said spring-bar and the gripping-bar. The bends  $a^x$  form outwardly-projecting loop-like lugs which rest on the strap, and by raising the gripper-bar and so rocking the buckle backward the grip on the strap is slackened.

It will be noted that the gripper-bar  $a$  is less in length than the width of the buckle-frame to the extent of the space taken up by the two loops  $a^x a^x$  and that it presses only on the middle portion of the strap B', leaving the margins of the strap free. This construction I find very advantageous in holding the strap flat, preventing it from rucking edgewise and preventing it from contracting laterally. This is especially the case where the strap is of webbing or other woven fabric.

As the bar  $a^4$  is a spring-bar held up by the tension-springs at the back, it is obvious that a slackening of the strain on the straps will serve to release the grip on the latter.

Having thus described my invention, I claim—

1. As an improved article of manufacture, a buckle having an open frame with a back bar for the attachment of a strap, a recessed front gripper-bar to bear upon the adjustable strap, and a spring frame and bar, said spring-bar being situated above the gripper-bar, and the end bars of the buckle-frame extending out beyond the spring-bar and connected thereto by bends, substantially as set forth.

2. As an improved article of manufacture, a buckle having an open frame with a back bar for attachment of a strap, and a short, front, gripper-bar  $a$ , adapted to bear only on the middle portion of the adjustable strap, and a spring-frame, rigid with the back bar of the buckle-frame, and having a bar on the spring-frame situated above the gripping-bar and adapted to receive the bight of the adjustable strap, substantially as set forth.

3. As an improved article of manufacture, a buckle made from a single piece of wire and comprising a buckle-frame open at the middle of its back bar, and a spring-frame inte-

grally connected by its back bar with the back bar of the buckle-frame open at the middle of its front bar, and a ferrule on said front bar, substantially as set forth.

5 4. As an improved article of manufacture, a tongueless buckle made from a single piece of wire and consisting of the relatively short gripping-bar  $a$ , the loop-like bends  $a^x$ , between the respective ends of the bar  $a$  and the  
10 end bars of the buckle-frame, the said end bars, at right angles to the gripping-bar, the back bar  $a^2$ , formed of two sections parallel with the gripping-bar, the two springs  $a^3$ , connected integrally at their meeting ends with

the ends of the respective sections of the back 15 bar  $a^2$ , the end bars  $a^4$ , of the spring-frame, and the transverse bar  $a^5$ , parallel with and above the gripping-bar and formed of the two extremities of the wire which meet end to end, substantially as set forth. 20

In witness whereof I have hereunto signed my name, this 27th day of January, 1899, in the presence of two subscribing witnesses.

LOUIS I. FRIEDENBERG.

Witnesses:

PETER A. ROSS,  
HENRY CONNETT.