E. B. SCHNABEL.

Buckles for Driving-Belts.

No. 150,259. Patented April 28, 1874.

Fig. 1.

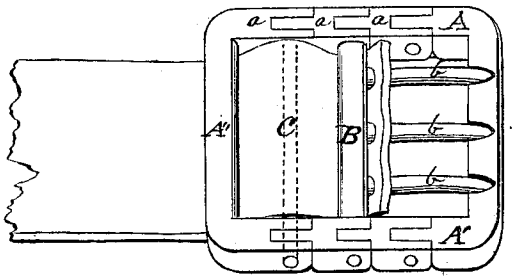


Fig. 2.

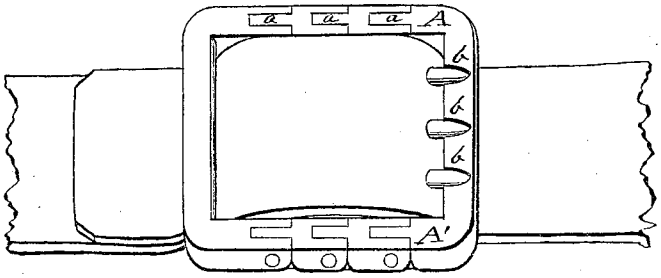
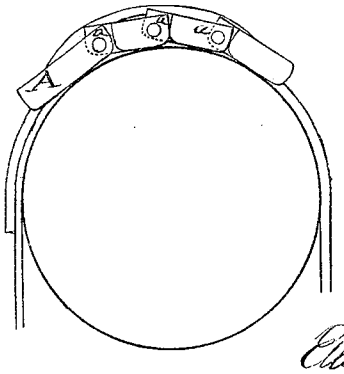


Fig. 3.

Fig. 4.



Witnesses.

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ELLIS B. SCHNABEL, OF NEW YORK, N. Y.

IMPROVEMENT IN BUCKLES FOR DRIVING-BELTS.

Specification forming part of Letters Patent No. **150,259**, dated April 28, 1874; application filed February 16, 1874.

To all whom it may concern:

Be it known that I, ELLIS B. SCHNABEL, of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Buckles adapted for use in connecting the ends of belts or bands used in machinery and for other purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, and of their modes or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

Buckles, as heretofore generally constructed, when used with bands, straps, &c., have required to be secured or permanently fastened thereto, which has usually been effected by looping one strap or one end of the band over and around the back end bar of the buckle, and then sewing or riveting together such looped portion or end of the band or strap, thus not only demanding both time and labor to connect the buckle to the band or strap, but also rendering the removal of the buckle from the strap or band difficult when such removal is desirable or necessary; and, when buckles have been used with belting—particularly when running over small pulleys—there has been a great tendency or liability of the belt "bunching," thereby interfering with the uniform action and operation of the band. My improvements remedy or remove these objections, and also secure other desirable results.

The drawings illustrate the forms of my improvements.

Figure 1 shows a form of my improved buckle adapted for use on belting, running over small pulleys or large pulleys with equal facility, together with the manner of attaching the fixed end of the band or strap to the buckle. Fig. 2 shows both ends of the strap or band connected to the buckle. Fig. 3 shows a section of Fig. 1 through one of the sides, and also showing one of the tongues. Fig. 4 shows the jointed buckle as passing around a pulley.

My improved buckle has an outside frame, A A′ A″ and a tongue-bar, B, with tongues or catches *b b b*, substantially as ordinary buckles, but has also, besides such usual parts, an additional or supplemental bar, C, which may be called, from its action, a carrying or fastening bar, and which is located between the tongue-bar B and the back end bar A″. The introduction and arrangement of such supplemental bar C enable the fixed end, or one end, of a band or strap to be easily and quickly attached to the buckle without the necessity of sewing or riveting, or any fixed manner of connection, and in such a manner that the band will be as securely connected to the buckle as if sewed or riveted, and will be prevented from being detached therefrom, except when desired, when it can be removed by any intelligent person.

The manner of attaching and securing the end of the band to the buckle is as follows: Such band, having been punched, near its end, with proper holes to receive the tongues or catches *b b b*, is passed under the back end bar A″ of the buckle, and then over the supplemental bar C, and then under the tongue-bar B, and the tongues *b b b* then inserted in the holes made to take them. The band is then drawn back, so as to bring its end to the base of the tongues, or against the tongue-bar, when its fastening to the buckle is complete.

By the application and use of the supplemental bar C, and the method above described of fastening the strap or band to the buckle, any strain upon the band, even if it be no more than the mere weight of the buckle itself, tends to continually maintain and keep close and tight the connection between the buckle and the band, and renders such connection as complete and perfect, practically, as if the band were actually sewed or riveted to the buckle. Such method of connection also renders it easy, whenever for any reason desired—as to shorten the band, or insert the tongues in new holes—to at once remove the buckle without injuring or weakening either the buckle or strap; and such fastening or removing of the buckle can be done by any one of ordinary intelligence, and in a very few minutes. My improved buckle, by reason of its construction, permitting such mode of connecting and disconnecting a band or strap thereto, is peculiarly adapted for use in belting for machinery where the stretching and consequent loosening of the bands requires frequent shortening of the bands.

To secure uniform action of the belt in pass-

ing around both large and small pulleys, the sides of the buckle are jointed, as shown in Figs. 1, 2, 3, and 4. Such jointed construction of the sides of the buckle permits the buckle, and that part of the band therein, to take any curve required by the size or diameter of the pulley, and thus secures the same uniform operation and action of the band as if it were a single piece without a buckle, or its ends connected by lacing of any kind. Fig. 4 shows the position such a buckle with jointed sides would take in passing over pulleys of all diameters.

The "bunching" of a band is also much more liable to occur in passing over small pulleys than when the pulleys are large. To remedy or obviate this tendency or liability, in addition to jointing the side bars of the buckle, the end bars of the buckle, as well as the tongue-bar, may be cut away or sunk on their inner sides to an extent of about one-half the thickness of the belt, so as to furnish a seat or recess for the band, so that, while permitting the band to hug the pulley, the lower face of the buckle will be prevented from riding on the pulleys, and thereby increasing friction.

The supplemental bar C may also be placed somewhat below the plane of the upper or top surface of the frame of the buckle, so as to bring the under surfaces of the rear end bar, and of the tongue-bar, and the upper surface of the supplemental bar, more nearly in the same plane, and thereby cause that part of the band which is in the buckle to lie more in a straight line, thus avoiding the short bendings of the band in passing over and under the bars of the buckle. In all constructions, however, whether the bars be recessed or otherwise, the arrangement and use of the supplemental bar C are the same, and its action in securing the buckle and band together, and allowing their ready disconnection, is the same.

What is claimed as new is—

A belt-buckle constructed as described, with the jointed flexible sides A A′, the pivoted bar B, with tongues *b*, the rigid cross-bar C, and the end bar A″, combined and operating as and for the purposes set forth.

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Witnesses:
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