No. 767,473. PATENTED AUG. 16, 1904.

J. C. CONN.

BELT FASTENER.

APPLICATION FILED NOV. 10, 1903.

NO MODEL.

Fig. 1.

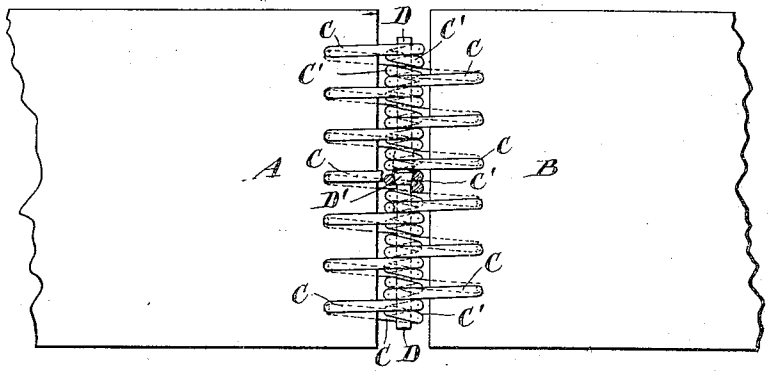


Fig. 2.

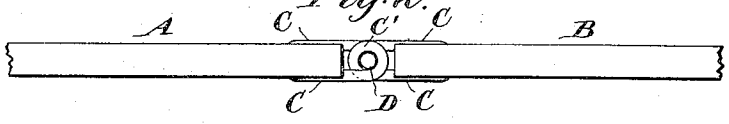


Fig. 3.

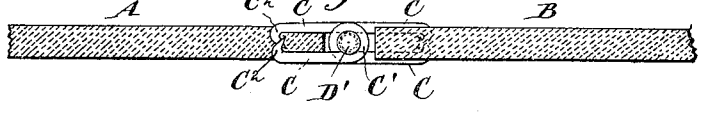


Fig. 6.

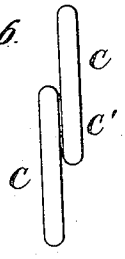
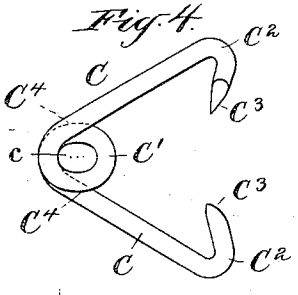


Fig. 4.



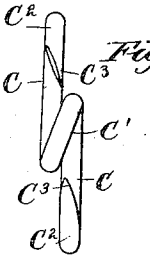


Fig. 7.

Fig. 5.

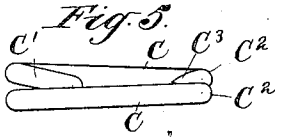
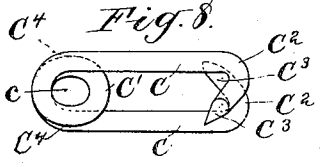


Fig. 8.



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No. 767,473. Patented August 16, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH C. CONN, OF BOONTON, NEW JERSEY.

BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 767,473, dated August 16, 1904.

Application filed November 10, 1903. Serial No. 180,510. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. CONN, a citizen of the United States, residing in Boonton, in the county of Morris and State of New Jersey, have invented a certain new and useful Improvement in Belt-Fasteners, of which the following is a specification.

The invention relates to means for joining the abutting ends of power-belts, and particularly to the class in which a series of metal loops or "belt-hooks" is secured to each belt end and connected by a pin thrust through the bights in the two series, thus forming a shackle or hinge-joint. While this form of fastening possesses many advantages, among which are great strength and flexibility, it has an objectionable feature which it is the object of this invention to eliminate—that is, the lateral movement or side play of the belt ends relatively to each other, permitted by the necessary spaces between adjacent loops. My improvement corrects this fault without lessening the strength and flexibility of the joint and offers the additional advantage of increased wearing-surfaces in the hinge members, thus insuring a longer period of useful service.

The invention consists in certain novel features and details of construction by which the above objects are attained to be hereinafter described.

The accompanying drawings form a part of this specification and show a preferred form of the invention.

Figure 1 is a face view of two adjacent belt ends joined by my improved fastening, a portion being shown in horizontal section. Fig. 2 is a corresponding edge view, and Fig. 3 is a section on a line extending transversely of the joint and longitudinally of the belt. Fig. 4 is a side view, on a larger scale, showing the condition before engagement with the belt end. Fig. 5 is a corresponding plan or top view. Fig. 6 is an elevation as seen from the left in Fig. 4, and Fig. 7 is a similar view from the right. Fig. 8 is a side view corresponding to Fig. 4, showing the condition when engaged in a belt end.

Similar letters of reference indicate the same parts in all the figures.

A and B are adjacent ends of a belt, which may be of leather or any of the materials used for the purpose.

The fasteners or belt-hooks are alike for each belt end and each is of wire formed in a single piece shaped, as shown, by machinery or otherwise.

Referring to Figs. 4 to 7, inclusive, which show the fastener before insertion in the belt, C C are straight arms extending angularly outward from one side of a coil C′, making about one turn and a half of the wire. The free ends of the arms are bent inwardly to form inclined hooks C^2 C^2, terminating in oppositely-beveled points C^3 C^3, adapted to enter the material of the belt when forced toward each other. The arms are also on a slight inward inclination, so that the points C^3 C^3 when engaged in opposite faces of the belt will lie side by side, the tendency in this direction being aided by the bevel of the points.

In the joint the fasteners lie close together, the arms of one being adjacent to the oppositely-extending arms of the other, and in applying them to a belt a series properly spaced to receive the other is engaged to each belt end. The coils are then matched together and locked by a pin extending through the openings *c* in each coil. Thus connected the coils and pin serve as a hinge-joint, with the members so closely adjacent to each other as to avoid lateral movement. The joint is completed by laying it upon a plane hard surface, as a plate of iron or steel, and flattening it by blows of the hammer, thus embedding the arms C in the material of the belt and insuring the engagement of the points C^3 therein. The result is a flat smooth connection projecting but little beyond the surface of the belt on either side and adapted to flex easily in both directions in passing around pulleys on either face.

In the most complete form of the invention the turn of the wire forming the coil is flattened, as shown at C^4 C^4 in Figs. 4 and 8, to lie within the outer faces of the arms C C, so that the latter will receive the wear and avoid weakening the coil on the single point of contact presented by the latter. Another important advantage offered by the coil is the dis-

tribution of the strain to two bights of the wire and a correspondingly-increased surface of the pin as against the single bight of the usual belt-hook. Instead of a single pin extending through the coils I prefer to employ two pins, which may be ordinary wire nails D, having small heads D'. These are preferably inserted, as shown in Fig. 1, oppositely from about the center of the joint, the heads abutting and preventing withdrawal and at the same time being concealed by the coils. The projecting points of the nails are cut off by a suitable tool. This mode of connecting the hinge members is inexpensive and neat in appearance and has the additional advantage of permitting the joint to conform partially to the curve induced by the crowning of the pulleys.

I claim—

1. A series of fasteners for each belt end, each formed of a single piece of wire and comprising a coil, a pair of arms extending in the same direction from said coil and having hooks adapted to clench into but not extend through opposite faces of its belt end, the coils of one series adapted to match closely between the coils of the other, and a pin extending through the coils of both series, all arranged to serve substantially as and for the purposes specified.

2. A series of fasteners for each belt end, each formed of a single piece of wire and comprising a coil, a pair of arms extending in the same direction from said coil and having hooks adapted to clench into but not extend through opposite faces of its belt end, the coils of one series adapted to match closely between the coils of the other, and a pair of wire nails extending in opposite directions, each through a portion of said matched coils, with their heads abutting between two of said coils, all arranged to serve substantially as and for the purposes specified.

3. The belt-fastener described formed of a single piece of wire and comprising a coil, a pair of arms extending in the same direction from said coil, and an inwardly-inclined hook on the free end of each of said arms adapted to engage a belt end.

4. The belt-fastener described formed of a single piece of wire and comprising a coil, a pair of arms extending in the same direction from said coil, and an inwardly-inclined hook on the free end of each of said arms adapted to engage a belt end, said hooks having oppositely-beveled points adapted to overlap the central portion of said coil being of less diameter than its ends, whereby said arms extending from said ends project beyond said central portion when said fastener is attached to its belt end, all arranged to serve substantially as and for the purposes specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

JOSEPH C. CONN.

Witnesses:

CHAS. A. HAUCK,

CHARLES R. SEARLE.