No. 779,587. PATENTED JAN. 10, 1905.

J. C. CONN.

BELT FASTENER.

APPLICATION FILED APR. 18, 1904.

Fig. 1.

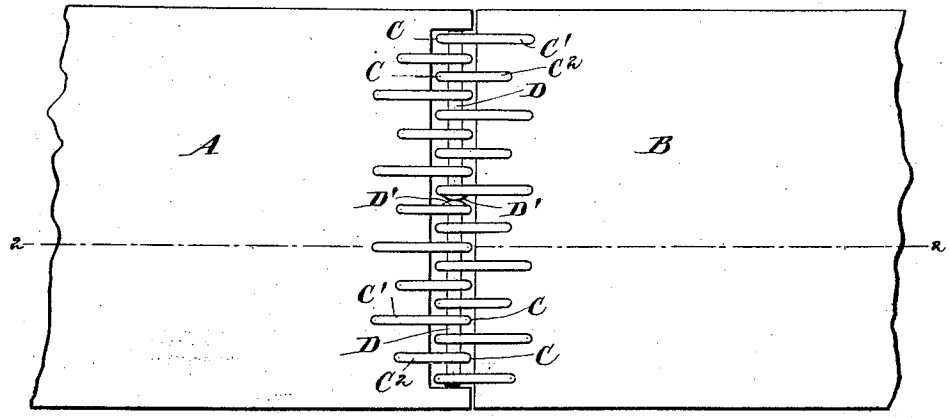


Fig. 2.

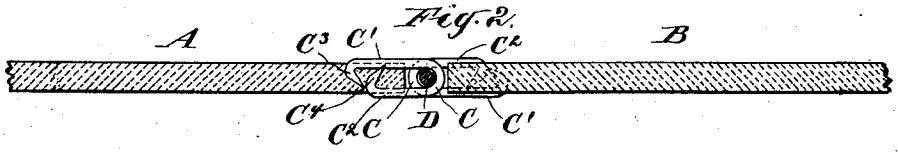
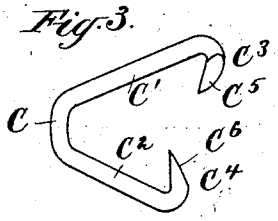


Fig. 3.



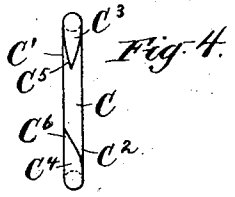
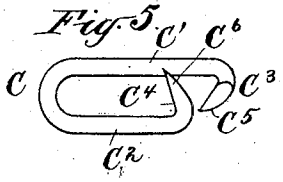


Fig. 4.

Fig. 5.



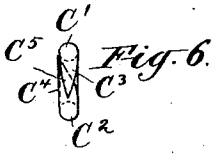


Fig. 6.

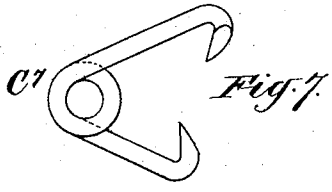


Fig. 7.

Witnesses:
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F. E. Eccardt.

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by his attorney,
Charles R. Searle.

No. 779,587. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

JOSEPH C. CONN, OF BOONTON, NEW JERSEY.

BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 779,587, dated January 10, 1905.

Application filed April 18, 1904. Serial No. 203,576.

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 that class of fasteners for power-belts in which each end of the belt is equipped with a series of metal loops or "belt-hooks" attached thereto by embedding the points of the hooks in the material of the belt, the two series connected by a pin extending through the bights of both series to form a flexible joint.

The object of the invention is to provide a fastener of this character which shall engage with increased security, avoid weakening the belt, and lessen the tendency of the belt ends to spread or widen in the vicinity of the joint.

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 the invention as I have carried it out.

Figure 1 is a face view of two adjacent belt ends joined by the improved fasteners. Fig. 2 is a corresponding longitudinal section taken on the line 2 2 in Fig. 1. The remaining figures are on a larger scale and show the fastener alone. Fig. 3 is a side view of a fastener before engagement with a belt, and Fig. 4 is a corresponding elevation. Fig. 5 is a side view showing the condition when the fastener is engaged, and Fig. 6 is a corresponding elevation. Fig. 7 is a side view corresponding to Fig. 3, but showing a modification.

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

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

The fasteners or belt-hooks are preferably of soft-steel wire formed each in a single piece, by suitable machinery or otherwise, to the shape shown in Figs. 3 and 4, which show the fastener before its attachment to the belt. Each fastener comprises two arms C' C^2, extending angularly outward from a bend or bight C, terminating in inwardly-bent hooks C^3 C^4, having points C^5 C^6 adapted to be forced into the material of the belt on opposite faces of the latter and firmly secured by clenching therein, but not extending through. The two arms differ in length, the arm C' being enough longer to allow its hook C^3 to clear the hook C^4 on the shorter arm C^2 when the arms are forced toward each other in engaging the belt, as illustrated in Figs. 5 and 6. The arms and hooks lie in the same plane with each other and with the bight, so that the strains are in straight lines, and the point C^5 of the hook C^3 is in the same plane and beveled equally on each side, so that it will enter the belt with no tendency in either direction laterally. The point C^6 of the hook C^4 is beveled to be deflected on entering the belt to the slight degree necessary to avoid striking the arm C' when fully engaged.

By making one arm longer than the other the respective hooks engage separated portions of the belt, thus distributing the strains over greater areas, increasing the strength of the grip, and lessening the destructive action of the hooks on the material of the belt in the operation of inserting the fasteners. This feature is of special importance in joining the ends of fabric belts. The hook on the long arm enters the belt several picks in advance of the short arm, and thus engages a different thread, beside lessening the danger of injury to a single thread, to which it is liable when entered by both hooks, as in the usual fasteners of this class. In practice the fasteners are secured to the belt ends at equal intervals with alternate long and short arms showing on each face, as indicated in Fig. 1. By this arrangement the hooks of each series of fasteners lie in two lines transversely of the belt end and are embedded in the material from each face alternately, thus still further distributing and equalizing the strains. Another important advantage due to the improved form is the reduction of the tendency of the belt end to spread or widen during the operation of inserting the fasteners. The difference in length of arms gives each hook

its independent area in which to sink, thus avoiding the crowding of the material caused by the insertion of all the points in a single line and allows one of the points (that on the long arm) to sink squarely into the belt, while the point on the short arm is but slightly deflected, as before described.

The two series of fasteners are joined by pins thrust through the bights of both series, thus forming a hinge-joint. I prefer to employ two pins, which may be ordinary wire nails D D, having heads D' inserted oppositely from about the middle of the joint, as shown in Fig. 1, with the heads abutting and preventing accidental displacement while affording a degree of flexibility transversely of the line of the belt.

Fig. 7 shows a modification in which the arms extend from a coil C' instead of from the simple bight shown in the preceding figures. The action is practically the same in both forms.

I claim—

1. The means described for joining belt ends, consisting of a series of belt-fasteners for each of said ends, each formed of a single piece of wire and comprising a bight, a long and a short arm extending in the same direction from said bight, and an inwardly-inclined hook on the free end of each of said arms, the said hooks adapted to engage the belt end on opposite faces, one of said hooks in advance of the other, and a pin extending through bights of both series.

2. The means described for joining belt ends, consisting of a series of belt-fasteners for each of said ends, each formed of a single piece of wire and comprising a bight, a long and a short arm extending in the same direction from said bight and lying in the same plane therewith, an inwardly-inclined hook on the free end of said long arm having its point beveled on both sides, and an inwardly-inclined hook on the free end of said short arm having its point beveled on one side, the said hooks adapted to engage the belt end on opposite faces, one of said hooks in advance of the other, and one or more pins engaging bights of both series.

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.