E. G. ISAACS.

Driving Belts and Bands.

No. 167,838. Patented Sept. 21, 1875.

Fig. 4

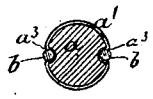


Fig. 3

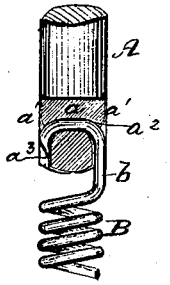


Fig. 2

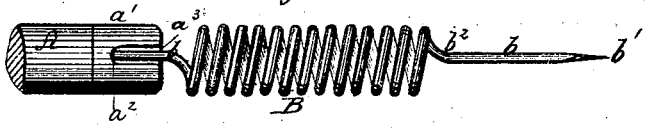


Fig. 5.

Fig. 1

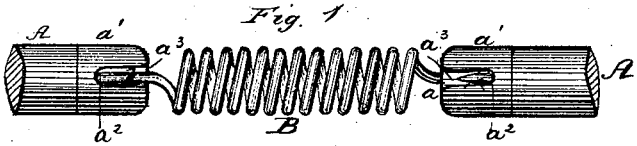


Fig. 7.

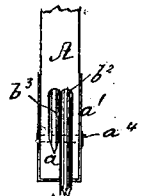
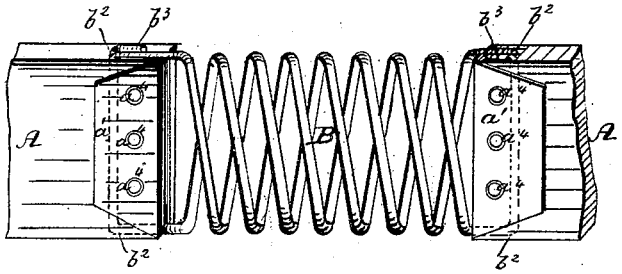


Fig. 6.



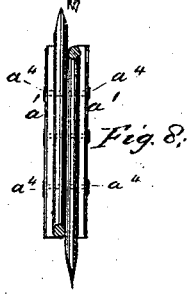


Fig. 8.

Witnesses:

Colborne Brookes

Edith Brookes

Inventor:

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UNITED STATES PATENT OFFICE.

ERNEST G. ISAACS, OF KINGSTON, JAMAICA, BRITISH WEST INDIES.

IMPROVEMENT IN DRIVING BELTS AND BANDS.

Specification forming part of Letters Patent No. **167,838**, dated September 21, 1875; application filed July 14, 1875.

To all whom it may concern:

Be it known that I, ERNEST GEORGE ISAACS, of the city and parish of Kingston, Jamaica, British West Indies, have invented certain new and useful Improvements in Driving Belts and Bands; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved elastic self-adjusting driving belt or band, the nature of which will be fully explained by reference to the drawings.

Figure 1 represents an elevation of portions of a circular belt or band, the ends of which are connected together according to this invention. Fig. 2 is a similar view of one end of a circular belt or band with the attachment connected thereto in position to be attached to the other end thereof. Figs. 3 and 4 are sectional views of parts, and Fig. 5 is an end view of the connector separately. Fig. 6 represents an elevation, and Figs. 7 and 8 detail views, of portion of a flat belt or band constructed according to this invention.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A A represent the two opposite ends of a belt or band, the extremities *a a* of which are, by preference, formed with caps or ferrules a^1 a^1, through which and the extremities *a a* are formed holes a^2, for the passage of the ends of springs B. The springs B, in Figs. 1 to 5, are formed round, and are shown applied to circular belts or bands A. The round springs B are, by preference, formed of highly-tempered steel wire, by any suitable apparatus, and before application to the bands are left, with the extremities *b* of the wire forming the spring, extending in a direction parallel with, or nearly so, to the axis of the spring B, as shown at Fig. 2. The extremities *b*, from the point b^1 to about the point b^2, are then softened, so as to be capable of being readily bent after being passed through a hole, a^2, into the form of a loop or hook, as shown by Figs. 1 and 3. The cap or coverings a^1 are, by preference, formed of thin metal, and they have constructed on each side grooves or channels a^3 for the reception of the ends *b* of the wires B, so that when the belt is in use the ends *b* may lie within or on a level with the line of the exterior or periphery of the belt A. In Figs. 6, 7, and 8 I have represented my invention applied to flat belts or bands A. In this case the springs B are also formed of corresponding section, and are, by preference, constructed of two or more wires or strips bent or formed so that their coils shall lie alternately one beside the other throughout the length of the spring. In this case the caps or coverings a^1 are shown formed of flat metal turned over the ends *a* of the belt A, and connected thereto by rivets a^4. They may, however, be made to embrace all four sides of the ends *a*, and be otherwise connected thereto. The ends *b* of the wires forming the spring B, as shown by Figs. 6, 7, and 8, are passed through opposite sides of the belt A, as shown at b^2, and are turned or bent down into the leather or material, as shown at b^3. The flat belt fastener or connector, shown by Figs. 6, 7, and 8, is made in the following manner: Take, say, for forming a connector for a driving-belt one foot wide and three-fourths inch thick, steel wire of the thickness, say, three-sixteenths of an inch, which is then rolled on a plate just sufficiently less in diameter than the belt itself that the spring shall be exactly the same width and depth externally as the belt. When steel wire is used it should be softened by passing it through a charcoal or other fire, in order that each coil may lie flat and close to the plate onto which it is rolled, and also to enable the spring to retain its shape when removed from the rolling plate. It is afterward retempered in the usual way.

In place of forming the springs B of wire, they may be formed of thin strips of steel or of india-rubber or other suitable material.

By thus constructing belts or bands with springs B interposed between the ends thereof, as described, constant tension, uniformity of

motion, simplicity of application, as well as the saving of wear and tear of the bands and machinery, are obtained.

Having thus described my invention, I would have it understood that I lay no claim, separately, to the spring B; nor do I claim a round belt united at the ends by means of a helical spring, the ends of which are screwed into the helical spring in the manner described and set forth in the specification of Letters Patent granted to James Hare, dated March 30, 1875, and numbered 161,508; but

What I do claim and desire to secure by Letters Patent, is—

1. A driving belt or band, A, the ends *a* of which are provided with caps or ferrules a^1, holes a^2, and grooves or channels a^3, and connected together by means of a spring, B, interposed between (and having its periphery or sides in a continuous line with the periphery or sides of the belt or band and connected to) the ends *a* by means of extensions *b* passing through the holes or eyes a^2, and resting within the grooves or channels a^3, in the manner and for the purpose described.

2. A flat driving belt or band, A, provided at each end with a cap or cover, a^1, and having its ends *a* connected together by means of a spring, B, composed of a series of wires or strips of material, the extensions *b* of each end of which are passed through the ends and bent down against the opposite sides of the band A, in the manner and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ERNEST G. ISAACS.

Witnesses:

THOS. J. MYERS,

COLBORNE BROOKES.