(No Model.)

G. W. HEFFNER.

DRIVING BELT.

No. 393,902. Patented Dec. 4, 1888.

Fig. 1.

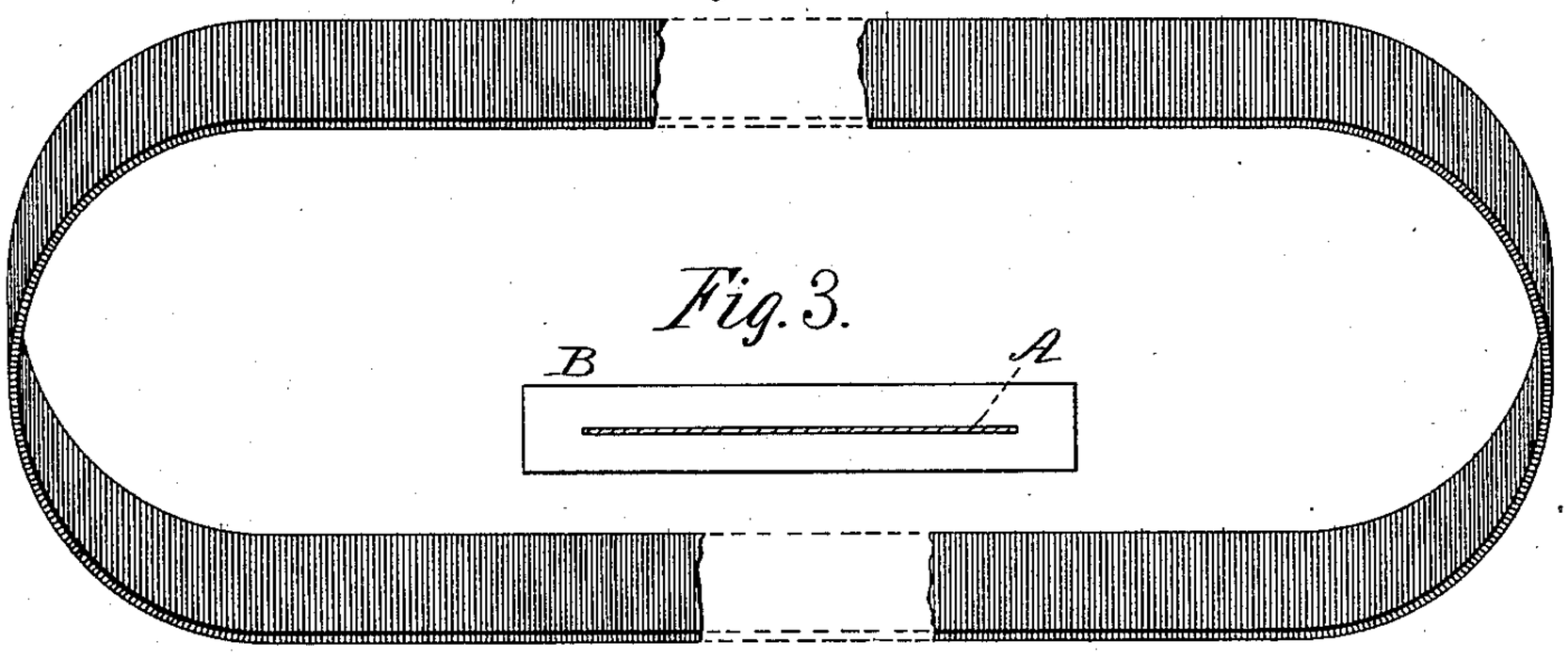


Fig. 2.

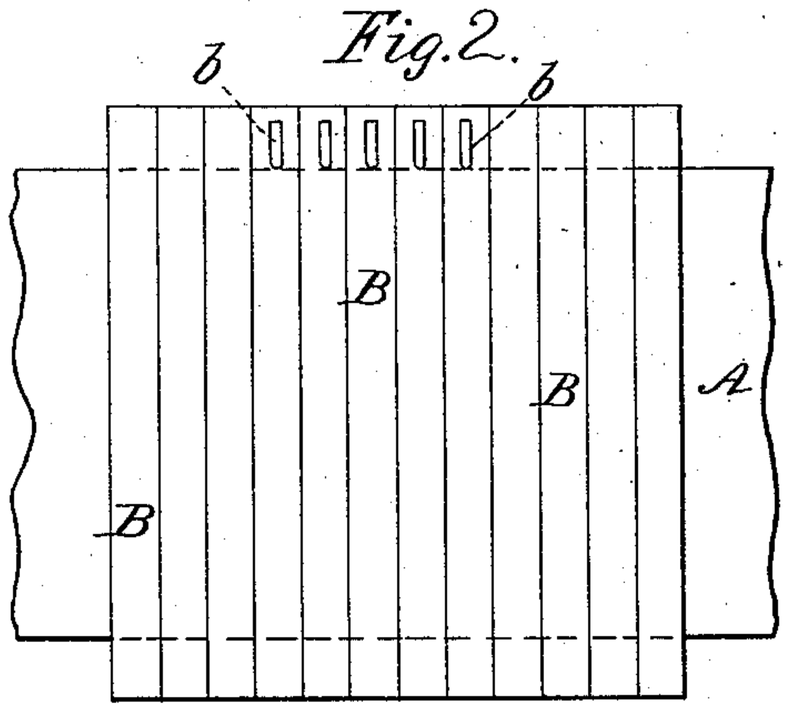


Fig. 4.

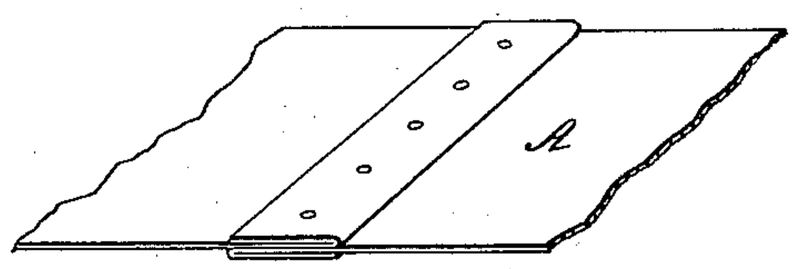


Fig. 7

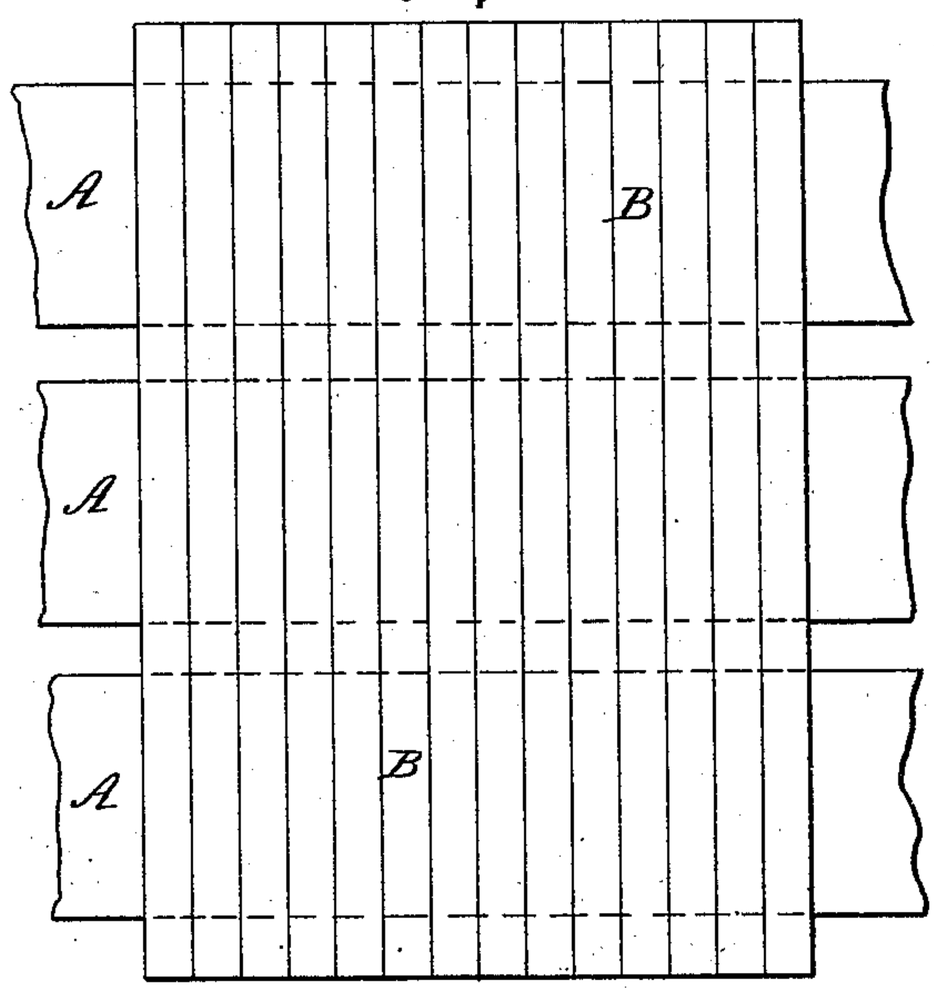


Fig. 6.

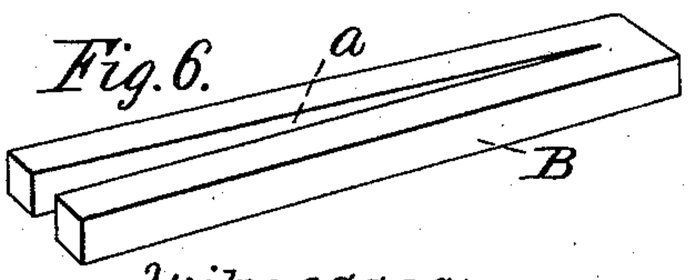
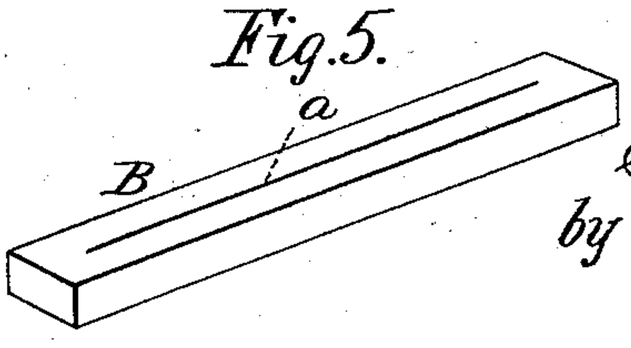


Fig. 5.



Witnesses:
W. C. Jirdinston.
Charles Billow.

Inventor:
George W. Heffner,
by Peck & Rector,
his Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE W. HEFFNER, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES WHEALAN, OF SAME PLACE.

DRIVING-BELT.

SPECIFICATION forming part of Letters Patent No. 393,902, dated December 4, 1888.

Application filed June 23, 1888. Serial No. 277,972. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HEFFNER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Driving-Belts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of driving-belts which convey motion and power from one pulley to another; and it has for its object an improvement in this class of belts, by which they are rendered cheaper and more durable.

The novelty of my invention will be herein set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a diminished perspective view of a belt embodying my invention. Fig. 2 is a detail plan of a section of the belt at a joint. Fig. 3 is an end elevation of Fig. 2. Fig. 4 is a detail perspective view at the metal joint. Fig. 5 is a perspective view of one of the leather strips. Fig. 6 is a corresponding view of one of the leather strips used at the joint. Fig. 7 is a detail representing a modification to be referred to hereinafter.

The same letters of reference are used to indicate identical parts in all the figures.

Heretofore it has been proposed to construct driving-belts with metal cores and rubber or leather exteriors by threading upon a wire or rope washers, disks, or strips of leather brought up close together throughout the entire length of the belt, for which purpose it has been necessary to interpose elastic washers at some point, or else jam on as many disks as possible, unite the ends of the core, and then distribute the disks evenly. While such constructions answer reasonably well for a small round belt, except for the fact that the disks cannot be brought near together, it has been found impracticable for a flat belt, in which several wires or rope's cores have to be employed, by reason of the fact that the cores are necessarily each a continuous band each occupying a definite space in each disk and each separated some distance from the others, thus allowing the center or one side of the belt to get ahead of the other, the strips of leather which have to be employed in this instance being deflected out of a line transverse to the length of the belt, narrowing the belt and causing slip or throwing the belt off the pulleys, as will be readily understood by those skilled in the art.

In my present invention I design to overcome the defects and difficulties above mentioned by filling the core tightly with the leather disks or strips in a manner to be presently pointed out, and by employing in flat belts, instead of the separated wire ropes or cores, a core formed of a wide flat belt, which will necessarily retain the belt at its proper width, as in order to become narrower it would be necessary to bend the core out at some point, all such tendency is prevented by the tension of the belt.

The method of constructing such a belt is illustrated in Figs. 1, 2, 3, 4, 5, and 6, where the core of the belt is a flat metal band, A, preferably of untempered or slightly-tempered steel, cut to the required length and with allowance for lapping at the joint. Upon this band leather strips B, rectangular in section and of slightly greater length than the width of the band and having a central slit, *a*, are strung and pressed close together, thereby forming a complete envelope to the band. I preferably place the strips so that the grain side will be inside to form the frictional surface of the belt. When the band is nearly covered with the strips, its projecting ends are overlapped and secured together by rivets, as seen in Fig. 4. The uncovered portion of the band at the joint is then covered by strips B, whose slits *a* are cut entirely through at one end, as seen in Fig. 6, and which are slipped over the band sidewise and have their open ends riveted together, as seen at *b*, Fig. 2. In this way scraps of leather may be used for the strips B and a driving-belt of any length and size produced, which will not stretch longitudinally or draw up narrow by the movement of the strips, and which for frictional contact will possess greater advantages than a solid leather belt. In very wide

belts, as seen in Fig. 7, two or more flat metal bands may be employed, the short sections of the strips between the bands not permitting sufficient deflection of the strips to narrow the belt to an appreciable extent.

From the above it will be seen that I have produced a driving-belt absolutely rigid, so far as stretch is concerned, which cannot become narrower, and upon which the strips are brought close together throughout the entire length of the belt—a desideratum not to be ignored in this class of belts, in which any slip of the strips or disks is fatal.

Having thus fully described my invention, I claim—

1. A driving-belt composed of a flat metal band or bands upon which leather strips are strung to form an enveloping-cover, said strips lying transversely to the length of the belt, substantially as described.

2. The combination, with the flat metal band or bands forming the core of the driving-belt, of the leather strips slitted longitudinally and threaded on said core to form the frictional surface, substantially as described.

3. In a driving-belt, the combination, with the flexible metal core and the sections of leather perforated and threaded thereon, of the bifurcated sections of leather covering the joint of the core, the separated ends of said strips being united by rivets or similar fastening devices, substantially as described.

GEO. W. HEFFNER.

Witnesses:
S. M. SULLIVAN,
C. BRADLEY.