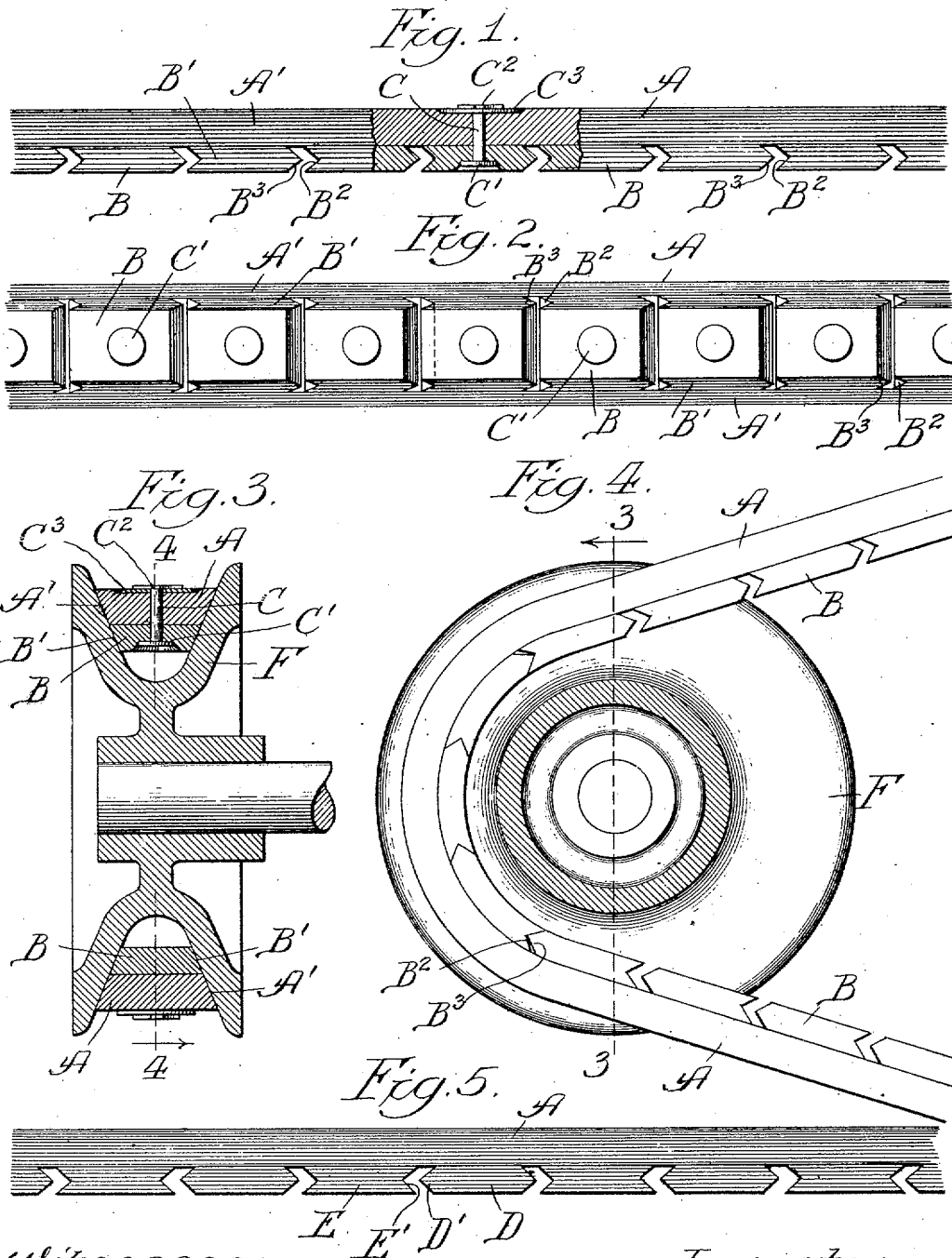


1.019,152.

Patented Mar. 5, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS HORSMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO BELTING COMPANY,
A CORPORATION OF ILLINOIS.

COMPOUND BELT.

1,019,152.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed November 3, 1911. Serial No. 658,435.

To all whom it may concern:

Be it known that I, THOMAS HORSMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Compound Belts, of which the following is a specification.

This invention relates to improvements in belts, and more particularly to improvements in compound belts.

The object of my invention is to provide a compound belt for use on sheave pulleys of groove construction, and more especially for use with groove pulleys of comparatively small radius, where a belt of one or more continuous strips is liable to wrinkle and decrease the frictional contact with the side surfaces of the belt, as well as to impair the life of the belt.

Other objects of my invention will be apparent from the following specification and claims taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved belt, part being shown in section to illustrate the fastening means; Fig. 2 is a bottom view of my belt; Fig. 3 is a transverse section through a groove pulley, showing the application of my belt thereto and taken on line 3 of Fig. 4; Fig. 4 is a longitudinal section through the pulley, the belt being shown in elevation, taken along the line 4 of Fig. 3; and Fig. 5 is a side elevation of a slight modification of my invention.

My improved belt comprises a main continuous band or strip A, to the lower face of which are secured blocks or pieces B, as shown in Fig. 1 of the drawings. These blocks are preferably secured to the band by means of rivets C, formed with a head C'. These rivets are driven through the blocks B and the band A, the other end of said rivets being inserted through washers C² and turned over or burred at C². Any suitable means of securing the blocks to the band may be substituted therefor, as desirable or necessary.

In the form of belt shown in Figs. 1, 2 and 4 inclusive, each of the blocks B is formed at one end with a tongue or V-shaped projection B³ and at the other end with notches or grooves B². The blocks are spaced apart, as shown in Fig. 1, the lateral

edges of the band being formed with inclined surfaces A', and the lateral edges or sides of the blocks or pieces being inclined at B' so as to practically form a continuation of the inclined lateral edges of the band portion. The blocks are so arranged and designed that when said blocks are in position, the inclined surfaces A' of the band and B' of the blocks form converging surfaces, so as to provide contacting sides for use with a V-shaped sheave or grooved pulley F, as shown in Fig. 3.

In the operation of my belt upon a pulley—such as F, shown in Figs. 3 and 4—of a comparatively small radius, the outer band A of the belt when curving around said pulley will cause the tongues or projections B³ of the blocks to fit into or interlock with the adjacent grooves or notches B² of the adjacent blocks, as shown in Fig. 4, owing to the temporary difference in length between the inner circular surface of the belt and its outer circular surface. These blocks, contacting in the manner shown and described, furnish another locking connection and tend to provide a continuous frictional contact between the belt and the pulley, as will be obvious from the drawings and the above description. This continuity of friction surface makes for greater efficiency and obviates the wrinkling or distortion of the belt, owing to the spacing apart of the blocks. This distortion has been found to be an objectionable feature in the ordinary form of belt which tends greatly to decrease the efficiency and life of the belt.

In Fig. 5 I have shown a slight modification. The blocks D and E are secured to the lower face of the band A', these blocks being similar to the blocks B of the preferred form of belt, the difference being that the blocks D are formed at each end with tongues or projections D' and alternate with blocks E, which are formed with grooves or notches E', the tongues D' being adapted to fit into the notches E' to form a tongue and groove connection when the belt is in use. The function of this modification is the same as in the preferred form shown in the drawings and described above and merely illustrates one of the many modifications in which my invention is susceptible of being embodied.

While I have described my invention with

more or less minuteness and as being embodied in certain precise forms, yet it will be understood that I do not desire to limit myself unduly thereto, or any more than is pointed out in the claims: On the contrary, I contemplate all proper changes in form, construction, and arrangement, the omission of immaterial parts and the substitution of equivalents as circumstances may suggest or necessity render expedient.

I claim:—

1. In a compound belt, the combination of a flexible substantially continuous main band portion forming the widest portion of the belt, and a series of pieces secured to the lower face thereof and spaced apart when lying in one plane and provided with end portions adapted to interlock with the adjacent pieces when closed together as in the taking of a pulley.

2. In a compound belt, the combination of a flexible substantially continuous main band forming the widest portion of the belt and provided with inclined lateral edges, a series of pieces secured to the lower face of the main portion and spaced apart when lying in a single plane and provided with lateral edges forming continuations of the inclined lateral edges of the main portion, each of said pieces having its ends so formed as to interlock with the ends of the adjacent pieces when bent around a curved surface.

3. In a compound belt, the combination of a flexible substantially continuous main portion or band forming the widest part of the belt and provided with inclined lateral edges, and a series of pieces secured to the lower face of said belt and spaced apart when lying in one plane, said pieces having inclined lateral edges forming a continuation of the inclined lateral edges of the main portion of the belt and provided with tongued and grooved end portions adapted to interlock when said belt is taking a curved

position of small radius as on a grooved pulley.

4. In a compound belt, the combination of a flexible substantially continuous main band portion forming the widest part of the belt and provided with inclined lateral edges, a series of pieces secured to the lower face of said belt so as to provide spaces therebetween when lying in a single plane, said pieces having inclined lateral edges forming a substantial continuation of the inclined lateral edges of the main band portion, and a V-shaped tongue on one end of each of said pieces and a V-shaped groove on the other end of each of said pieces so arranged that each of said pieces will interlock with the adjacent pieces when taking a curved path of small radius as around a pulley.

5. In a compound belt, the combination of a flexible substantially continuous main band portion forming the widest part of the belt and provided with inclined lateral edges, a series of pieces secured to the lower face of said belt so as to provide spaces therebetween when lying in a single plane, said pieces having inclined lateral edges forming a substantial continuation of the inclined lateral edges of the main band portion, a V-shaped tongue on one end of each of said pieces and a V-shaped groove on the other end of each of said pieces so arranged that each of said pieces will interlock with the adjacent pieces when taking a path of small radius as around a curved sheave pulley, and rivets securing said pieces and main band together.

In testimony whereof, I have subscribed my name.

THOMAS HORSMAN.

Witnesses:

G. O. THOMAS,

HENRY A. PARKS.