Dec. 9, 1941. T. P. KNOEDLER 2,265,604

BELT SPLICE AND METHOD OF MAKING THE SAME

Filed April 10, 1939

Fig. 1.

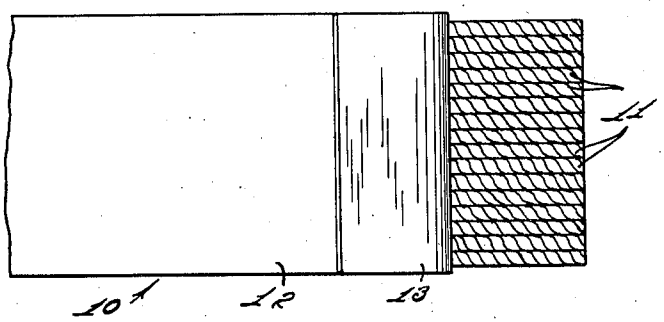



Fig. 2.

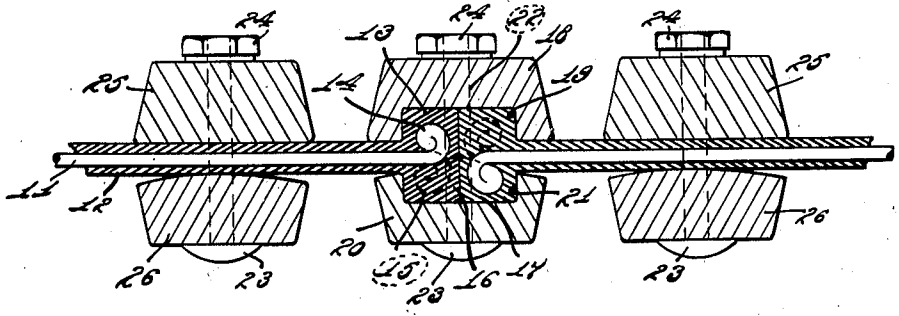



Fig. 3.

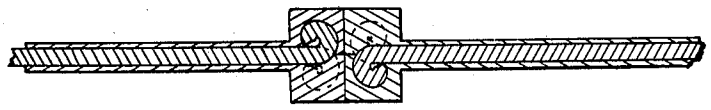
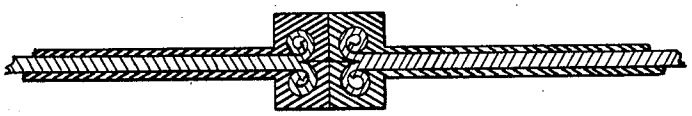


Fig. 4.



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Patented Dec. 9, 1941

2,265,604

# UNITED STATES PATENT OFFICE

2,265,604

## BELT SPLICE AND METHOD OF MAKING THE SAME

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Application April 10, 1939, Serial No. 267,197

4 Claims. (Cl. 24—31)

The present invention relates to a belt splice and a method of making the same. It has particular applicability to belts of the type used in Reeves variable speed transmissions which consist of a strip of fabric or a series of parallel, longitudinally extending strands encased in a cover, and which are provided with transverse stiffener blocks. These belts are subjected to heavy duty, and the provision of a splice which shall be strong and solid and which shall still permit ready flexing of the belt about relatively small-diameter pulleys has always been a serious problem in the commercial art.

The primary object of the present invention, then, is to provide a novel splice for a belt of the above-identified character, having the above specified and other desirable characteristics.

To the accomplishment of the above and related objects, my invention may be embodied in the form illustrated in the accompanying drawing, attention being called to the fact, however, that the drawing is illustrative only, and that change may be made in the specific construction illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is a fragmentary view of a belt of the character to which the present invention pertains, a flap of cover being stripped away and turned back;

Fig. 2 is a longitudinal section through a completed splice prepared in accordance with the present invention;

Fig. 3 is a section through belt ends prepared for a splice, fabric being used as the belt base; and

Fig. 4 is a view similar to Fig. 3 and showing a different arrangement of the fabric ends.

Referring more particularly to the drawing, it will be seen that I have illustrated a portion of a belt indicated generally by the reference numeral 10 and consisting of a plurality of parallel, longitudinally extending strands 11 which may be cord of any desired characteristics, encased in a cover 12 which may preferably be rubber-impregnated cloth. In preparing this splice in accordance with the present invention, the cover is stripped back as at 13 to expose the extremities of the strands at each end of the belt, and thereafter the extremities of such strands are displaced from the general plane of the belt, in any desired manner. In Fig. 2, for instance, I have shown the strand extremity 14 rolled back upon its own upper surface, and have shown the next adjacent strand extremity 15 rolled back upon its own lower surface. Thereby, protrusions beyond the general plane of the belt, in opposite directions, are formed. Alternatively, the strand extremities may be knotted upon themselves.

While I consider it best to displace the extremities of alternate strands in opposite directions from the plane of the belt, I do not believe that that is essential to the accomplishment of at least some of the objects of the present invention. Essentially, certain of the extremities of the strands at each end of the belt are displaced from the plane of the belt to form protrusions beyond the plane of the belt.

After the strand ends have been suitably displaced, the cover flap 13 may be folded back over the displaced extremities; and thereafter a block 16 of rubber or the like is vulcanized onto the belt end, embedding in itself the displaced strand extremities. Where, as in the illustrated embodiment, the alternate strand extremities are displaced in opposite directions from the plane of the belt, the block 16 will project oppositely beyond the plane of the belt, certain of the strand extremities being embedded in one projecting portion of the block and the other displaced strand extremities being embedded in the oppositely projecting portion of the block.

The opposite end of the belt is similarly treated, the displaced strand ends being embedded in a similar block 17 of vulcanized rubber, or the like; and preferably the two blocks 16 and 17 will be allochiral.

A block of wood or similar suitable material 18, similar in external size and shape to the transverse stiffener blocks 25 applied at intervals to the outer surface of the belt, is formed with a socket or cavity 19 shaped to receive the portions of the blocks 16 and 17 projecting from the outer surface of the belt; and a cooperating block 20, similar to the transverse stiffener blocks 26 applied at intervals to the inner surface of the belt, is formed with a socket or cavity 21 shaped to receive the portions of the blocks 16 and 17 which project from the inner surface of the belt ends. A bolt 22, having a rivet head 23, is now passed through the blocks 20 and 19, the head 23 seating against the inner surface of the block 20; and a nut 24 is applied to the projecting end of the bolt 22, seating against the outer surface of the block 18. Preferably, a plurality of the bolts 22 and nuts 24 will be used to clamp the blocks 18 and 20 to the opposite surfaces of the belt, the sockets 19 and 21 embracing the projecting portions of the blocks 16 and 17 to hold the same together.

I have found that the structure disclosed and

claimed herein provides an unusually strong and solid splice for belts of the character here under consideration, while providing for necessary flexibility at the splice.

In the case of a belt having a fabric base, tongues may be formed at the ends of the strip and alternately bent in opposite directions as shown in Fig. 3; or the strip ends may be split and bent oppositely as shown in Fig. 4.

I claim as my invention:

1. A belt splice comprising a pair of belt ends each consisting of a plurality of parallel strands, the free extremities of certain of the strands of each belt end being rolled back upon themselves to form protrusions beyond the plane of the belt in one direction and the free extremities of others of the strands of each belt end being rolled back upon themselves to form protrusions beyond the plane of the belt in the opposite direction, means holding the strand extremities in their rolled-up condition, and clamping means engaging the holding means of both belt ends and preventing relative movement between the holding means of the respective belt ends.

2. In a belt having a continuous base and a cover, a reinforced belt end comprising a portion of an end of said base rolled back upon itself to form a protrusion in one direction beyond said cover, another portion of said end of said base rolled back upon itself to form a protrusion in the opposite direction beyond said cover, and a block of rubber or like material fused to said cover, embedding both of said rolled-back portions, and projecting oppositely beyond said cover.

3. In a belt having a base, comprising a plurality of continuous strands, and a cover, a reinforced belt end comprising end portions of certain of said strands rolled back upon themselves to form protrusions in one direction beyond said cover, corresponding end portions of others of said strands rolled back upon themselves to form protrusions in the opposite direction beyond said cover, and a block of rubber or like material fused to said cover, embedding all of said rolled-back portions, and projecting oppositely beyond said cover.

4. In a belt having a base, comprising a plurality of continuous strands, and a cover, a reinforced belt end comprising end portions of alternate ones of said strands rolled back upon themselves to form protrusions respectively in opposite directions beyond said cover, and a block of rubber or like material fused to said cover, embedding all of said rolled-back portions, and projecting oppositely beyond said cover.

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