L. H. GILMER.

BELT.

APPLICATION FILED JULY 9, 1910.

994,150. Patented June 6, 1911.

FIG. 1.

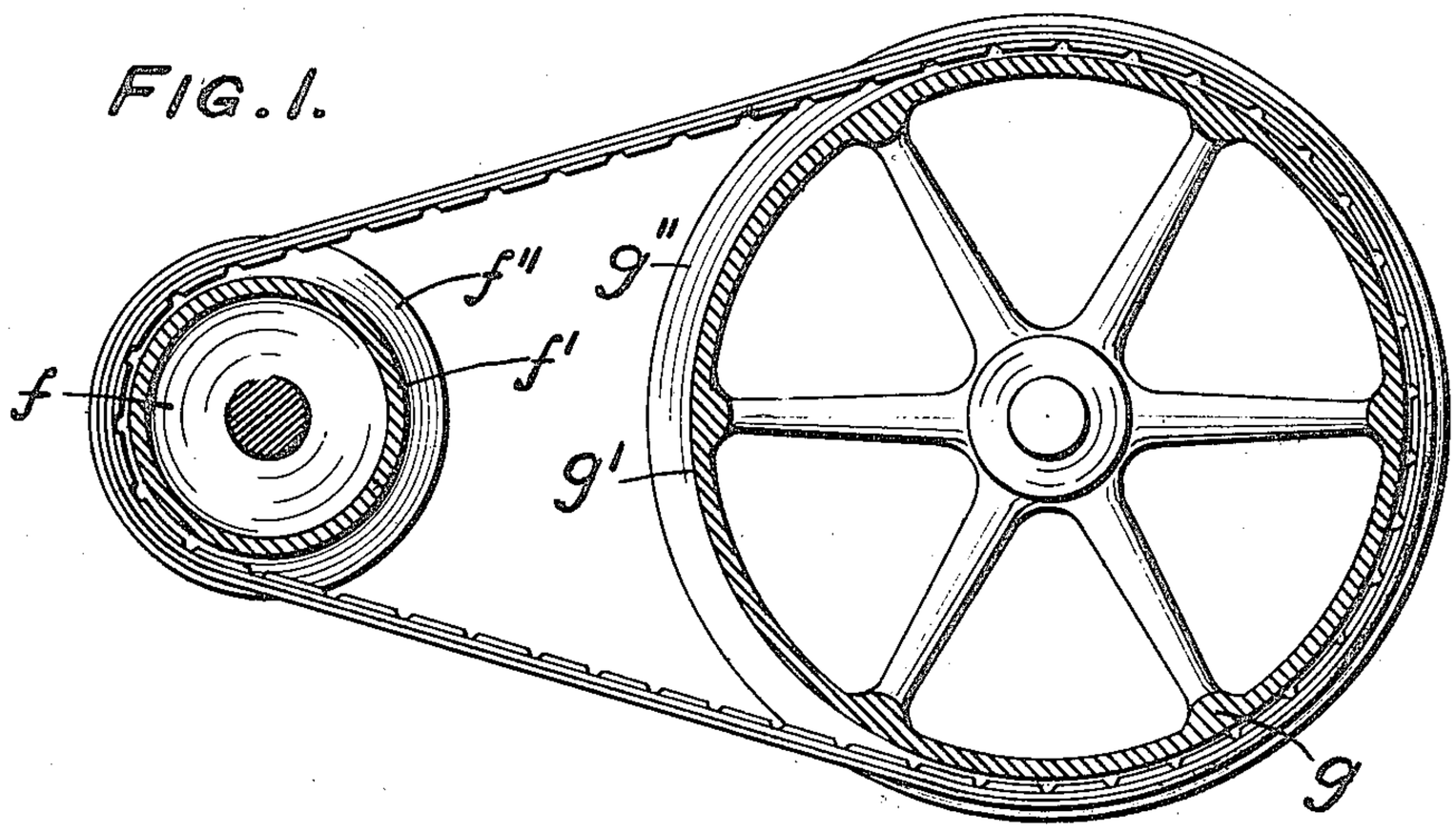


FIG. 2.

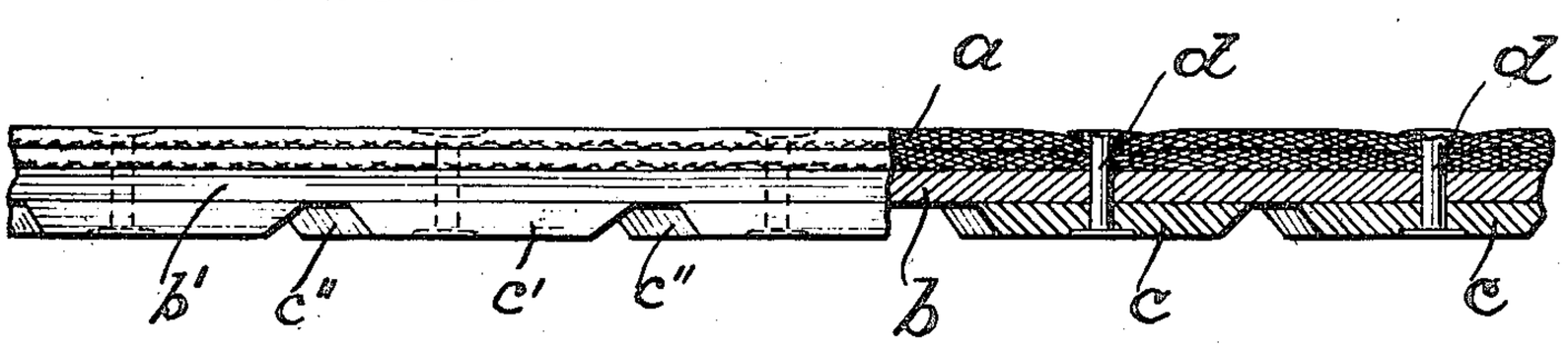


FIG. 3.

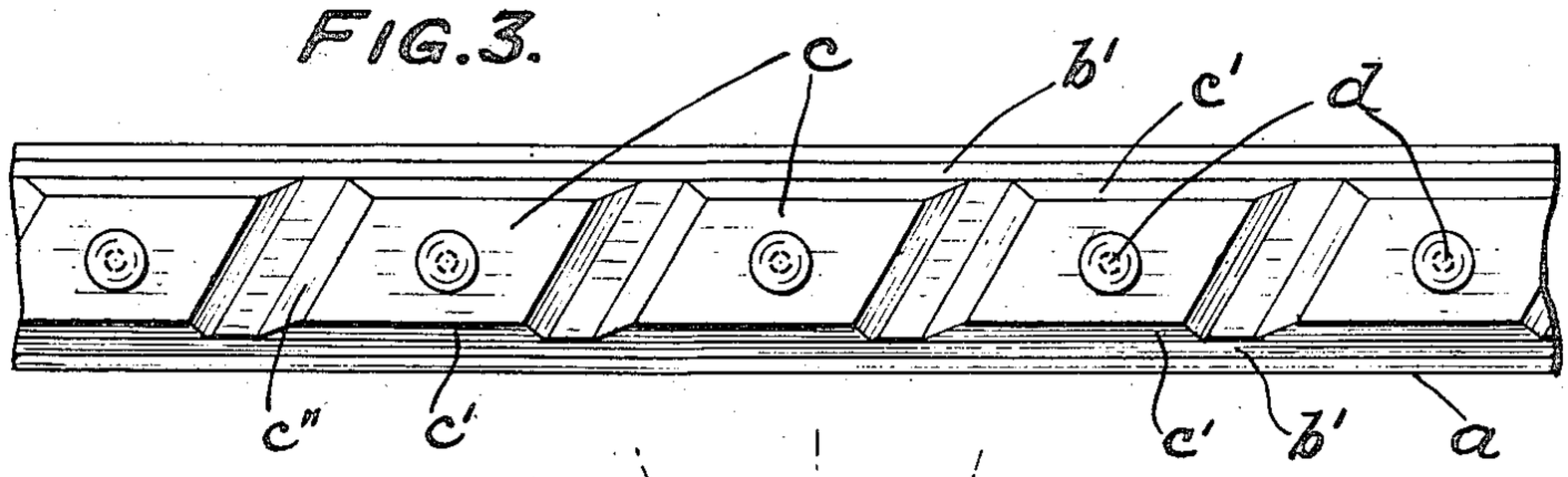
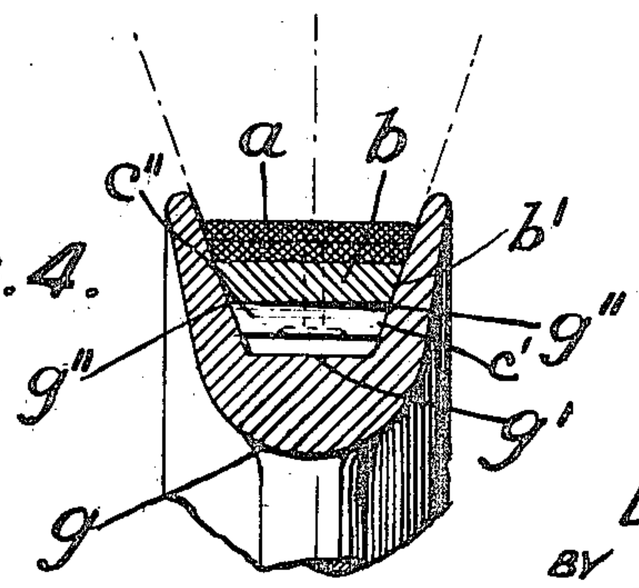


FIG. 4.



WITNESSES:

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BELT.

994,150. Specification of Letters Patent. Patented June 6, 1911.

Application filed July 9, 1910. Serial No. 571,153.

To all whom it may concern:

Be it known that I, LUDWELL H. GILMER, a citizen of the United States, and resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Belts, of which the following is a specification.

My invention is an improved belt, adapted for connecting a driving with a driven pulley by frictional engagement with inclined sides of peripheral channels in the pulleys.

The improvements are designed to provide a belt which is substantially non-extensible, has comparatively large wearing edges, is possessed of durability and strength, and can be made of comparatively inexpensive materials and in a comparatively simple manner.

The characteristics of my improved belt will be more clearly understood from the following description and the accompanying drawings in illustration thereof.

In the drawings, Figure 1 is a side elevation of my improved belt applied to pulleys having their rims shown in section, Fig. 2 is an enlarged side view of a section of the belt with parts broken away, Fig. 3 a plan view showing an inside of a section, and Fig. 4 is a transverse sectional view taken through the rim of a wheel having the belt applied thereto.

The belt is formed by laminating materials of different characteristic qualities to provide a substantially non-extensible outer element, a skewed sectional inner element for providing friction and preventing breaking while resisting wear, and an intermediate element having strength and durability.

The outer element *a* is composed of one or more endless layers or piles of material such as a woven cotton fabric or the like. To the inner face of this fabric is applied a tough and enduring leather layer *b* having its edges *b'* inclined inwardly. To the inner exposed face of the continuous leather lamination are applied scrap leather sections *c* having the form of oblique frustums of pyramids with the inwardly inclining edges *c'* in the planes of the edges *b'* and the edges *c''* inclined so as to form respectively unequal angles with the edges *c'* and with the parallel surfaces of the respective sections. Rivets *d* are passed through the several laminations, in the centers of the parts *a*, *b* and *c*. The belt thus formed, having inwardly beveled edges, connects wheels *f* and *g* having peripheral channels *f'* and *g'*, provided with inclined sides *f''* and *g''* respectively. The leather blocks or sections form the entering portion of a wedge which is drawn into and frictionally engages the sides of the channels of the pulleys without engaging the bottoms thereof, the frictional force being transmitted through the similarly engaged parts *b* and *a*.

As the belt is used with pulleys of comparatively small diameters, for short drives, the bending to which it is subjected tends to weaken the structure transversely as well as to stretch it, which tendencies the construction I have devised is especially adapted to resist. The blocks prevent the belt from bending sharply at right angles to its length since all sections of the belt at right angles to its length are reinforced by the oppositely extending acute angled parts of the blocks whose arrangement provides the belt with diagonal sections of least bending resistance. The transverse sections of the belt (crossing the right angled sections) which lie between adjacent blocks, provide a desired flexibility with the minimum tendency to breaking, in a structure adapted for resisting the lateral wear and longitudinal stress to which it is subjected, and providing the desired degree of friction. The leather blocks can be provided very satisfactorily and inexpensively from scraps which would otherwise be waste material.

Having described my invention, I claim:—

1. A laminated belt comprising a section of woven material, a section of leather having beveled edges, and oblique inner blocks having beveled edges, substantially as described.

2. A laminated belt comprising inner blocks having the form of oblique pyramidal frustums and arranged to render the belt section of least bending resistance diagonal to its length, substantially as described.

3. A laminated belt comprising inner blocks with beveled edges and oppositely extending portions, whereby the belt shall have a diagonal section between them of minimum bending strength, substantially as described.

In witness whereof I have hereunto set my name this 6th day of July, 1910, in the presence of the subscribing witnesses.

LUDWELL H. GILMER.

Witnesses:
ROBERT JAMES EARLEY,
JOHN C. HOWARD.