

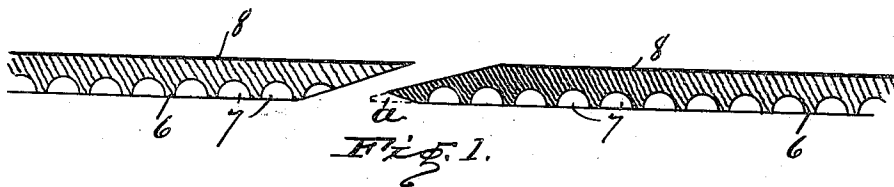
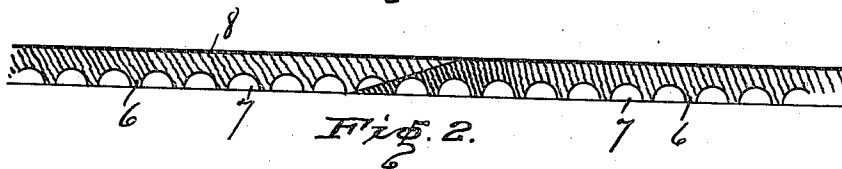
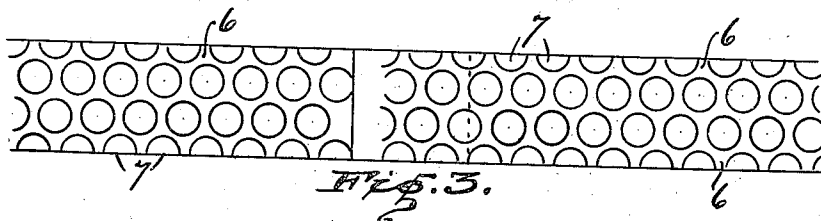
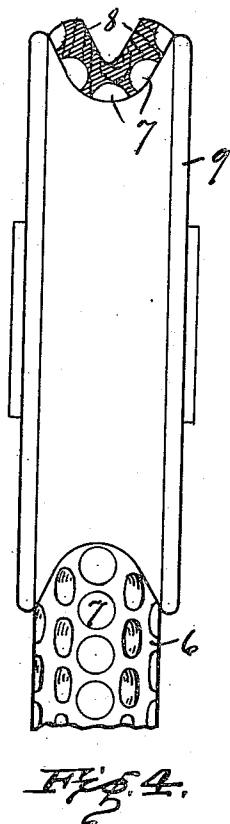
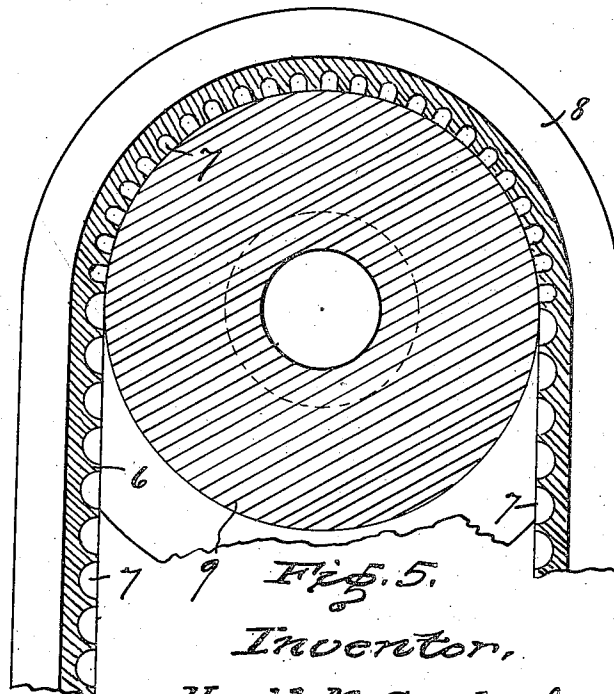
June 5, 1923.

H. M. GUSDORF

1,457,569

TRANSMISSION V-BELT

Filed May 25, 1921



Inventor,

Harold M. Gusdorf

By Joseph A. Minturn,
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Patented June 5, 1923.

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UNITED STATES PATENT OFFICE.

HAROLD M. GUSDORF, OF INDIANAPOLIS, INDIANA.

TRANSMISSION V-BELT.

Application filed May 25, 1921. Serial No. 472,336.

To all whom it may concern:

Be it known that I, HAROLD M. GUSDORF, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Transmission V-Belts, of which the following is a specification.

With the usual round, or solid V, leather belt there is a binding on the side and bottom of the groove of the pulley over which the belt runs, that takes power to pull the belt out of the groove and also destroys the belt; or, if the belt is so loose that it will not bind in the manner above described, it will then slip and the power transmitted is correspondingly reduced.

The object of this invention is to provide a belt which is of a grooved or hollow V-shape in cross section, and which has an elastic surface with cup-like indentations on the groove-contacting side, and a firm and more unyielding opposite surface, within the hollow V, having a tendency to flatten out and thereby yieldingly force the belt into contact with both sides of the groove of the pulley without destroying the contact of the belt against the bottom of the groove.

Another object is to utilize a natural product obtained by properly tanning hog-skin in a manner to secure the above described properties and to provide means for making a continuous belt of any required length out of a plurality of comparatively short strips of hog-skin.

I accomplish the above, and other objects which will hereinafter appear, by the means illustrated in the accompanying drawing, in which—

Fig. 1, is a longitudinal section of two strips of hog-skin, with adjacent ends beveled preparatory to uniting them by a lap-joint. Fig. 2, shows the same strips, with their ends joined. Fig. 3, is an under side view of a like jointed belt in the flat. Fig. 4, is a view in cross section of my V belt on a grooved pulley, and Fig. 5, is a longitudinal section of the belt on the pulley which is also shown in section.

Like characters of reference indicate like parts in the several views of the drawing.

My improved V-belt is formed from a material in the flat, having a surface 6, more or less elastic in its nature, pitted with numerous cup-like depressions 7. The opposite surface 8, is much firmer and unyield-

ing, because of a more compacted fibrous condition and the near or complete absence of the cups. This material may be artificially made in its entirety, but in practice I have found that hog-skin properly tanned has the desirable firm fibrous side on the grain side of the leather, and a more or less elastic flesh side pitted with cup-like formations; and when pig-skin leather is used, the strips are cut from the hide next to and parallel with the back bone and they therefore have a ham-end which is much firmer than the shoulder-end.

The material, no matter how produced, requires to be joined into a continuous belt, and in making the joint the ends to be united are beveled for the lap and are then lapped and cemented together. In making the lap for the joint the feather edge, upon the soft side of the material in particular, is cut away as shown at *a* Fig. 1, by a reverse bevel to secure a stronger part of the material.

In joints for connecting hog-skin strips the bevel is made so the ham-end underlies the shoulder-end, which is important in that the hard side of the shoulder-end is left intact and its weaker inner portion removed; and the inner portion of the ham-end is allowed to remain because it is the stronger in the two ends.

The material thus formed for the completed belt is bent longitudinally midway of the edges of the firm outer surface into V-shape in cross section. As the belt passes over a pulley the two sides of the V try to expand or flatten out, thereby gripping both sides of the groove of the pulley while also making contact with the bottom of the groove. The vacuum-cups assist in gripping at all points of contact and they also provide room for the displacement of material as the belt conforms with the curves of the pulley. The elasticity of the belt not only aids in causing the belt to grip the pulley but it also releases the belt without consuming power to pull it out of the groove and reduces the destructive wear and tear on the belt itself.

Having thus fully described my invention, what I claim as new and wish to secure by Letters Patent, is—

1. A belt for grooved pulleys, V-shape in cross section, formed of a plurality of sections of greater firmness at one end than at the other, said belt having a pulley-contacting surface of less compactness than the opposite belt surface, said sections being united

by lapped joints formed by beveling the firmer ends of the sections to an edge on the less firm side and by correspondingly beveling the less firm ends on their firmer sides.

- 5 2. A belt for grooved pulleys, V-shape in cross section, formed of a plurality of sections of greater firmness at one end than at the other, said belt having a pulley-contacting surface of less compactness than the opposite belt surface, said sections being united
10 by lapped joints formed by beveling the firmer ends of the sections to a thin edge on the less firm side and reversely for the cor-

responding bevel of the less firm ends said thin edge being removed before the ends are
15 joined.

3. A belt in the form of a hollow V in cross section made from hog-skin.

4. A belt in the form of a hollow V in cross section made from hog-skin cut in
20 strips from shoulder to ham with the shoulder-end of one strip joined to the ham-end of the next strip.

Signed at Indianapolis, Indiana, this the 23d day of May, 1921.

HAROLD M. GUSDORF.