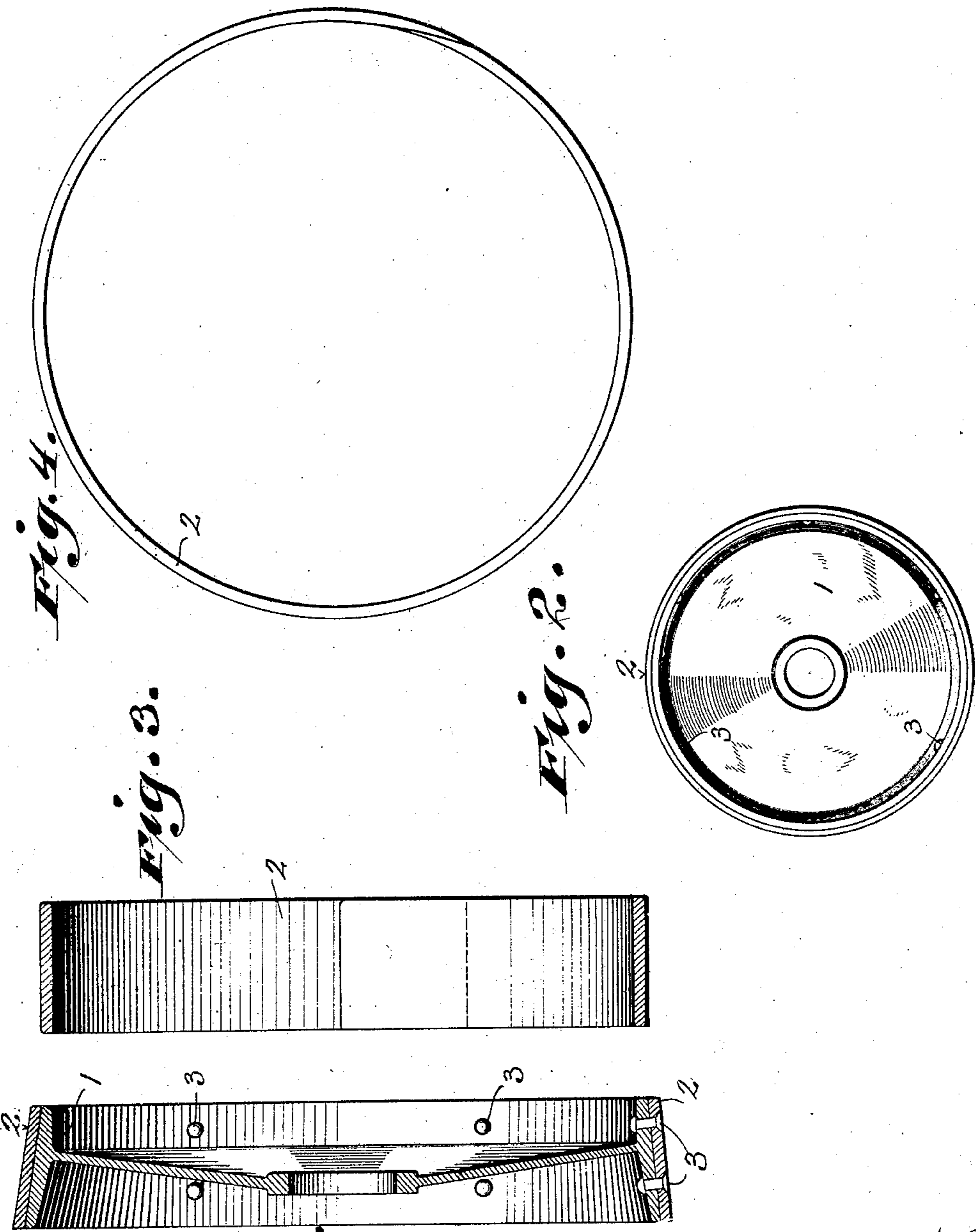


E. W. SIKES.
METHOD OF LEATHER COVERING CONICAL CLUTCH MEMBERS.
APPLICATION FILED MAY 17, 1910.

992,815.

Patented May 23, 1911.



Witnesses:
Casimir Young
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fig. 1.

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UNITED STATES PATENT OFFICE.

EGBERT W. SIKES, OF MILWAUKEE, WISCONSIN.

METHOD OF LEATHER-COVERING CONICAL CLUTCH MEMBERS.

992,815.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed May 17, 1910. Serial No. 561,857.

To all whom it may concern:

Be it known that I, EGBERT W. SIKES, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Methods of Leather-Covering Conical Clutch Members; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention is to provide a simple and economical method for leather covering conical faced clutch members, the method being such that by a succession of steps a dry leather belt of uniform thickness is expanded upon the conical clutch member face to form a smooth surface of predetermined thickness, of gradually decreasing density from the major axes of said clutch face, whereby a trued surface is insured as a gripping face, its efficiency and economy being further increased due to the fact that the method renders it possible to reduce the number of retaining rivets as would ordinarily be used in the standard method of applying leather belts, the standard method requiring a greater number in order that the belt or friction face be held against bunching incidental to a gripping strain between the clutch members.

With the above objects in view the method consists in a series of successive steps as set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a cross-section of a conical faced pulley provided with a leather sheath placed thereon in accordance with my invention, the pulley constituting a clutch member; Fig. 2, a face view of the same; Fig. 3, a sectional elevation of a leather belt adapted to be inserted upon the pulley, the belt, as shown, having circular edges of primarily equal diameters with a face of greater width than the conical face of the pulley to which it is to be applied, and Fig. 4, a face view of the belt illustrating the joint formed by lapping skived ends of a single leather strip.

Referring by characters to the drawings 1 represents a conical faced pulley of standard type provided with a leather friction belt 2, which belt is secured to the conical face of the pulley by a series of sets of rivets 3, that pass through and clench the leather belt in the usual manner.

In carrying out my improved method a cylindrical belt of leather 2, is first formed from a single straight strip having its ends skived and lap-jointed as shown in Fig. 4, the ends being secured by cementing or other suitable means. This belt, as shown in Fig. 3, is of greater width than the conical face of the pulley to which it is to be attached and its circular edges are primarily of equal diameters, these primary equal diameters being of less proportion than the smallest diameter of the conical face of the pulley. The interior surface of the leather belt is also shaved down before or after the ends of the strip are united into a belt, so that said belt has a uniform thickness throughout. The belt, as shown in Fig. 3, is then expanded in its dry state upon the conical face of the pulley without any appreciable reduction in its thickness, the expansion being compensated for by contraction of the width of the belt, whereby when the same is in position upon the conical face it will be, as shown, equal in width to said pulley face. By applying the belt in the manner stated a smooth, taut working face having an absolutely true surface is obtained. The belt is thereafter secured to the pulley face or flange by boring a series of sets of holes through the belt and flange simultaneously, through which bored apertures securing rivets are inserted. Owing to this method of applying the belt it is also possible to eliminate machining the friction face of the pulley, which face, if primarily true, can be left in the rough and when the leather belt is expanded thereon the gripping face will be perfectly true and smooth. It will also be observed that the leather belt is expanded in progressive increased proportions from one edge to the other and when adjusted to its position its face of lesser diameter will be necessarily under less compression and thus the fiber of the belt at this point is capable of proportionately greater resiliency. The result of this resiliency insures a positive and more perfect grip between the clutch members, due to the fact that it is at this point that the clutching gripping engagement of the members initially takes place and as the face of the belt wears, the initial gripping efficiency will necessarily be distributed throughout the entire face.

While I have shown the leather belt as made from a single strip of leather, it is

obvious that when greater thickness is required two or more layers of leather may be secured together.

5 The usual method for leather covering conical pulleys employed is to first form a blank that is cut upon the arc of a circle whereby a conical belt corresponding to the conical face of the pulley is obtained. The
10 conical belt is then applied to the clutch by wrapping the same thereabout and drawing the ends together with the proper tool, whereby only a slight stretch is obtained, the belt ends being thereafter riveted. The
15 belts are then riveted to the face of the pulley through holes in said pulley-face made prior to inserting the leather thereon. After these rivets are in place, owing to the slight stretch of the leather, the same will have a tendency to full up, this being so
20 even though a great number of rivets are utilized. With my improved method as stated heretofore, a great saving in rivets is attained over this old method. A further economy lies in the fact that belts used in
25 my method are cut in straight strips and thus all material can be utilized in the stock or blank from which they are cut. In the ordinary method employed, the strips being cut from the arc of a circle in order that

they may conform to the conical clutch face, 30 there is great waste of leather for the reason that the belts are cut circular and therefore a number of inches in the given area of leather must go to waste, the expense under such conditions being apparent. 35

I claim:

A method of leather covering a conical face pulley, the same consisting of cutting a straight strip of dry leather having an approximately uniform thickness in cross-section, lap-joining and securing the ends of the strip to form a cylindrical belt of lesser diameter than the minor diameter of the conical face pulley, expanding the cylindrical belt upon the face of said pulley 40 whereby said belt is converted from cylindrical to conical form incidental to its incasement of the aforesaid pulley face, and thereafter riveting the belt to the face of the pulley. 45 50

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.
EGBERT W. SIKES.

Witnesses:

GEO. W. YOUNG,
MAY DOWNEY.