A. G. ANDERSON.

METHOD OF MAKING BALL CUPS.

APPLICATION FILED JAN. 6, 1908.

927,311. Patented July 6, 1909.

Fig. 1.

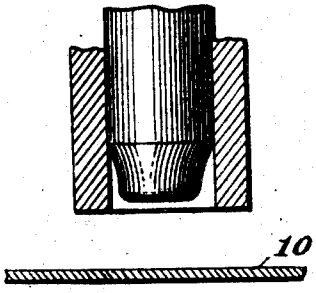
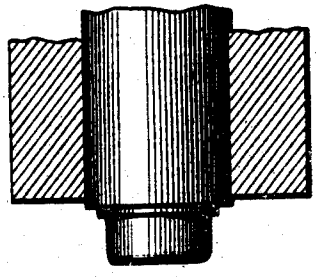
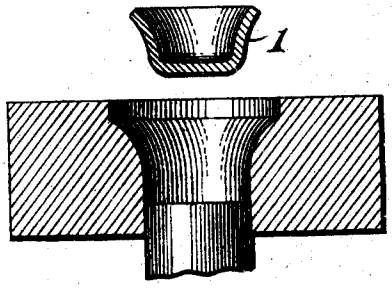


Fig. 2.





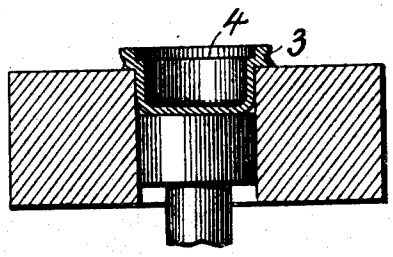


Fig. 3.

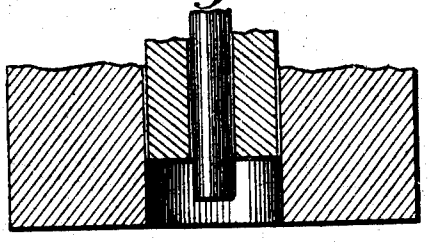
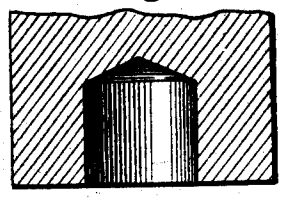
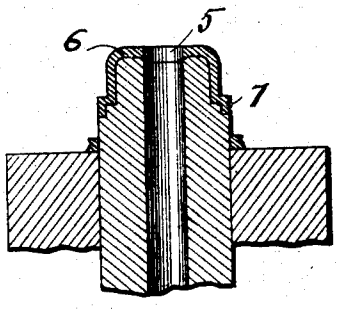
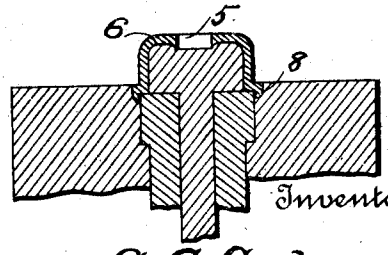


Fig. 4.







Witnesses

J. G. Stinkel

Prescott & Packer.

Inventor

A. G. Anderson,

by Howard Coombs,

his Attorneys

ANDREW, B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDERS G. ANDERSON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO WORCESTER PRESSED STEEL COMPANY, A CORPORATION OF MASSACHUSETTS.

METHOD OF MAKING BALL-CUPS.

No. 927,311. Specification of Letters Patent. Patented July 6, 1909.

Application filed January 6, 1908. Serial No. 409,544.

To all whom it may concern:

Be it known that I, ANDERS G. ANDERSON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Methods of Making Ball-Cups, of which the following is a specification.

My invention relates to ball-cups, such as are used to form the journals for ball-bearings in the wheels of roller-skates, caster-wheels, etc., and consists in certain improvements in the method of making such cups, which will be hereinafter particularly described and pointed out.

My improved ball-cup is made entirely of pressed-steel and has a rounded ball-race formed in the bottom of it as it is pressed up.

It has heretofore been customary to construct ball-cups, which are designed to be driven into wheels or rollers of wood, fiber or composition, with tapered sides, so as to increase the security with which they are held in place, but they cannot be so made when the wheels are of steel or other metal, unless the hub of the wheel is correspondingly tapered.

My improved process consists in the manner in which the flange is formed, the same consisting in forcing a portion of the wall of the cup longitudinally thereof toward the open end, by what may be termed, a scraping action, so as to form a rudimentary flange, which is afterward shaped in dies.

My improved method of constructing the cups, just described in a general way, will be explained in the following description in connection with the accompanying drawing, in which—

Figure 1 shows the dies in which the cup 1 is formed from the sheet metal stock 10. Fig. 2 shows the dies in which part of the metal of the wall of the cup is scraped upwardly to form the rudimentary flange 3. Fig. 3 shows the dies in which the cup is further shaped, and Fig. 4 shows the dies in which it is given its final shape.

The first operation is illustrated in Fig. 1, and consists in cutting a planchet from a plate 10 of sheet metal, and drawing said planchet into the form of the cup 1.

The second operation consists in forcing part of the metal of the wall of the cup 1 longitudinally toward the open end thereof, by means of a scraping action, so as to form the rudimentary flange 3, and, if desired, an internal recess 4 for the reception of a dust cap, if the cup is to be used for ball bearings.

The third operation consists in punching out the hole 5 in the bottom of the cup and shaping the bottom to form the ball-race 6, and pressing the flange 7 into the shape shown in Fig. 3, the surplus metal of the flange being sheared off as shown in the latter figure.

The fourth operation consists in pressing the flange into its finished shape, as shown at 8 in Fig. 4.

Having thus described my invention, what I claim is:—

In the manufacture of flanged metal cups, the process which consists in forcing a portion of the wall thereof longitudinally toward the open end of the cup by a scraping action, so as to form a rudimentary flange, and subsequently subjecting the latter to the compressed action of dies.

In testimony whereof I have affixed my signature, in presence of two subscribing witnesses.

ANDERS G. ANDERSON.

Witnesses:
PRESCOTT C. WHITE,
ELLENTON W. WARD.