Nov. 18, 1924. 1,516,069

W. P. WITHEROW

DIE ROLLED BLANK

Filed Sept. 9, 1922

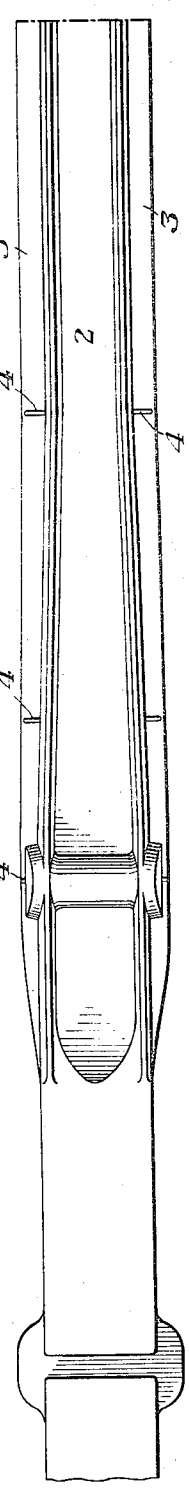

Fig. 1.

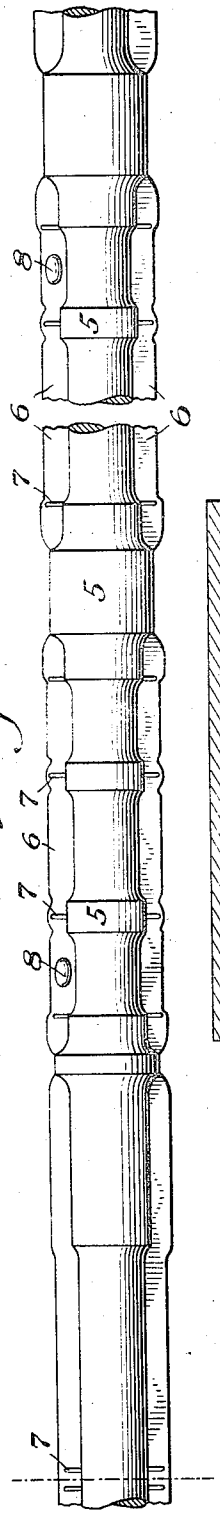

Fig. 2.

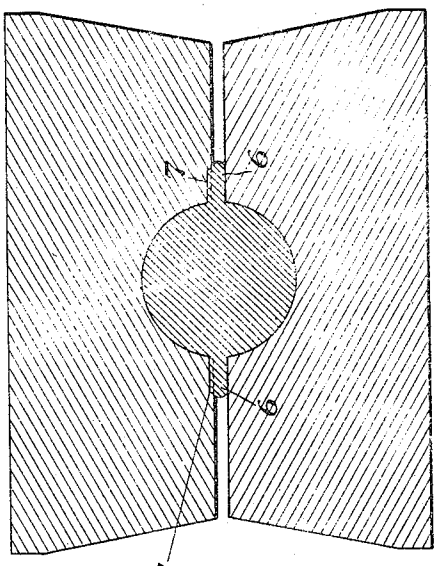

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM P. WITHEROW, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO WITHEROW STEEL COMPANY, OF NEVILLE ISLAND, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

DIE-ROLLED BLANK.

Application filed September 9, 1922. Serial No. 587,200.

To all whom it may concern:

Be it known that I, WILLIAM P. WITHEROW, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Die-Rolled Blanks, of which the following is a full, clear, and exact description.

The present invention relates broadly to blanks produced by the action of rolls on a billet or leader, and more particularly to a blank produced by the action of die rolls.

At the present time it frequently happens that the upper and lower rolls in a roll housing being used for die rolling become circumferentially displaced one with respect to the other, or that one of the rolls becomes slightly more worn, or slightly differently machined, than the other roll. It will be apparent that this results in a rolled blank having slightly different characteristics on opposite sides of the center line thereof. If the blank being produced is one which is adapted to have successive finishing operations performed thereon, these irregularities frequently result in serious defects, as the blanks are not always finished with the same side up or down.

Also, at the present time, considerable difficulty is experienced in accurately gaging the lengths of die rolled blanks during the die rolling operation. Uniformity in lengths is essential in the production of uniform products.

By the present invention there is provided means whereby uniform products can be produced irrespective of variations in the registration, dimensions or wearing of the die rolls. This invention also provides means for accurately gaging the length during the rolling operation, of die rolled blanks.

In the accompanying drawings there is shown, for purposes of illustration only, certain forms of blanks produced in accordance with the present invention, it being understood that the drawings do not define the limits of the invention, as changes may be made in the form and arrangement illustrated in the drawings without departing from the spirit of the invention or scope of my broader claims.

In the drawings,—

Figure 1 is a side elevation of a portion of a connected series of axles for motor vehicles produced by die rolling;

Figure 2 is a similar view of a connected series of cam shafts produced by die rolling; and

Figure 3 is a transverse sectional view through a section of the die rolls for producing the article illustrated in Figure 2.

Referring more particularly to the drawings, there is illustrated in Figure 1 a portion of a die rolled blank particularly adapted to be formed into a front axle for automotive vehicles. The blank as illustrated comprises an intermediate body portion 2 which may be generally of channel shaped cross section, having a flash 3 projecting therefrom. At different points throughout the length of the blank the cross section thereof either gradually or abruptly varies in order to insure the necessary disposition of metal for the formation of the finished article. It is essential that the distances between such points be uniform, and in order to permit these distances to be accurately gaged during the rolling operation, I provide suitable indicia 4 on the flash 3. This indicia may be formed by providing depressions or projections in the cooperating surfaces of the die rolls adjacent the impressions therein, as will be apparent. As shown in Figure 1, this indicia may be in the form of short lines by means of which the distances between different points may be accurately determined by means of calipers or the like. As the flash is adapted to be trimmed away at some subsequent stage, it will be apparent that the formation of any desired indicia thereon does not impair the finished product. Where a series of die rolled blanks are produced in end-to-end relationship as a continuous piece of metal, it will be apparent that the indicia on the flash may be so disposed as to indicate the line of severance between successive blanks.

In Figure 2 there is illustrated a portion of a connected series of cam shafts for motor vehicles, these blanks being also die rolled and having suitable spaced enlargements 5 adapted by suitable finishing operations to be formed into the shape of actuating cams. The flash 6 provided during the

die rolling operation is also utilized to carry indicia 7 by means of which the line of severance may be determined or the distances between different points accurately determined. In addition, and in order to enable the blanks to be subsequently finished with the same side up at all times, one side of the flash may be provided with a modified form of indicia, here illustrated as comprising enlargements 8, by means of which it is possible to easily determine which side of the blank was produced by a certain roll. During the subsequent operations it will be obvious that the blank is always positioned with the enlargements 8 in a definite position whereby the die rolled blanks are uniformly finished.

The advantages of the present invention arise from the provision of a rolled blank having a flash which is utilized to carry indicia which insures the formation of uniform products without impairing the quality of such products.

I claim:

1. As an article of manufacture, a rolled blank having a flash, and indicia on said flash at spaced points, substantially as described.

2. As an article of manufacture, a die rolled blank having a flash, and indicia on said flash at spaced points throughout the length of the blank, substantially as described.

3. As an article of manufacture, a die rolled blank having similar upper and lower surfaces and an intermediate flash, and indicia on said flash indicating the top and bottom of the blank, substantially as described.

4. As an article of manufacture, a die rolled blank adapted to have subsequent operations performed thereon, said blank formed with indicia thereon at spaced points in the same plane, substantially as described.

5. As an article of manufacture, a die rolled blank having a flash throughout the major portion of the length of the blank adapted to be trimmed away during the production of the finished article, said flash carrying indicia at spaced points throughout the length thereof, substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM P. WITHEROW.