

No. 736,551.

PATENTED AUG. 18, 1903.

E. ROEMER.  
MANUFACTURE OF WHEELS AND PULLEYS.  
APPLICATION FILED SEPT. 5, 1902.

NO MODEL.

Fig. 1.

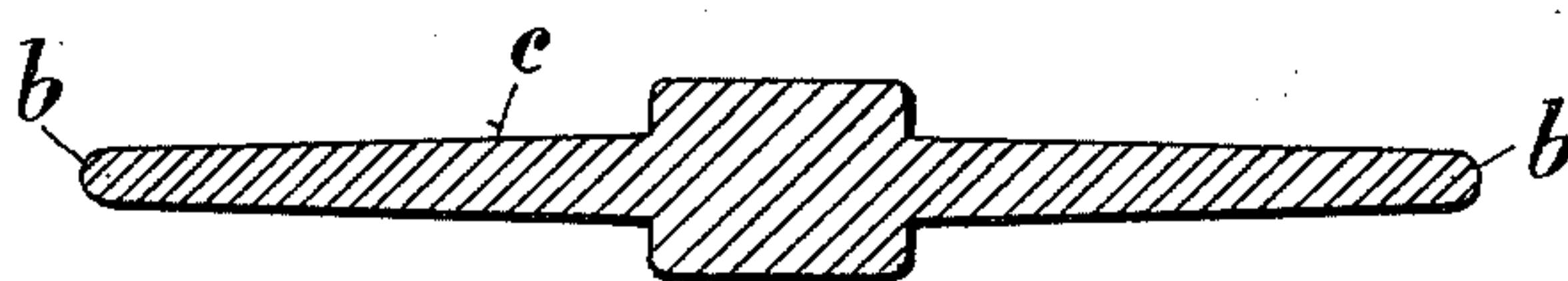


Fig. 2.

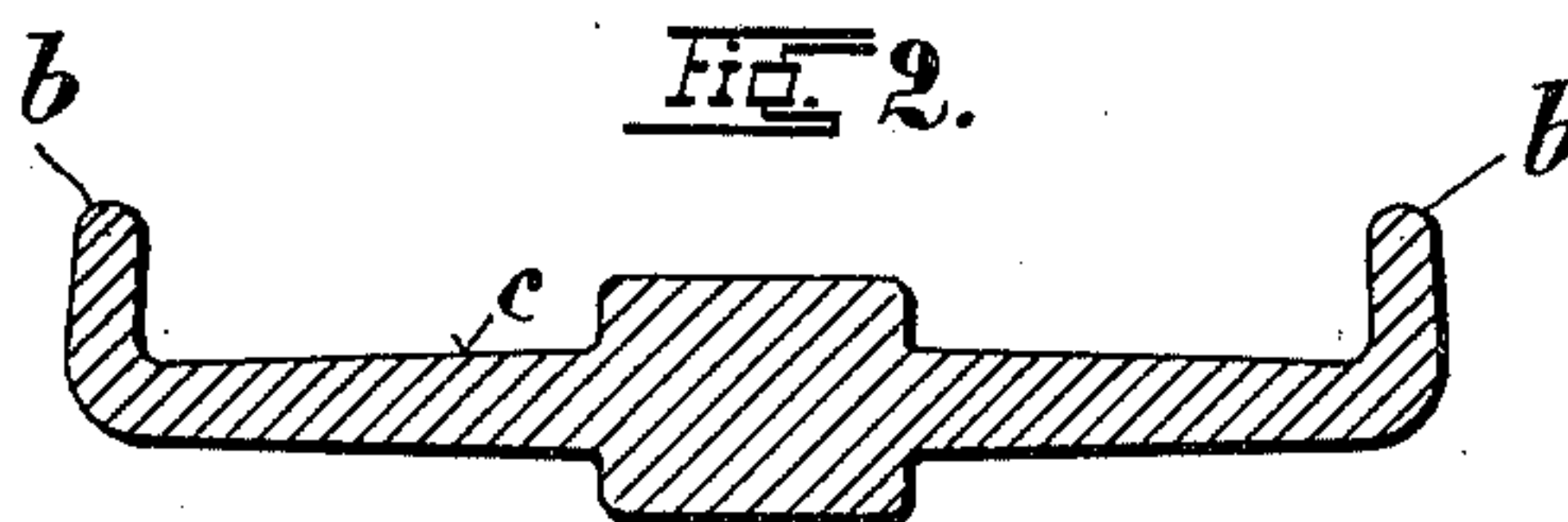
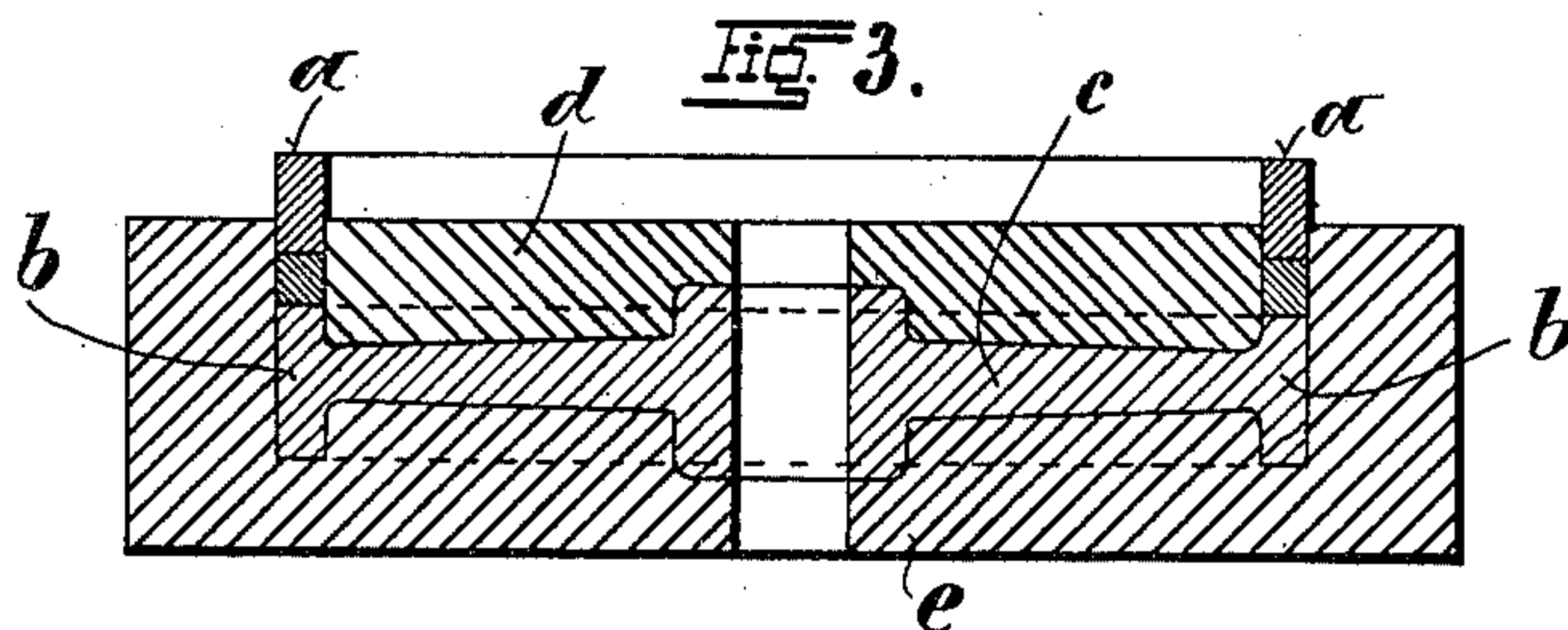


Fig. 3.



WITNESSES:

*W. M. Alden*  
*Canis Judge.*

INVENTOR.

*Ernst Roemer*  
BY *Richardson*

ATTORNEYS.

## UNITED STATES PATENT OFFICE.

ERNST ROEMER, OF GLEIWITZ, GERMANY.

## MANUFACTURE OF WHEELS AND PULLEYS.

SPECIFICATION forming part of Letters Patent No. 736,551, dated August 18, 1903.

Application filed September 5, 1902. Serial No. 122,271. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST ROEMER, engineer, of 6 Rossmarktstrasse, Gleiwitz, in the Empire of Germany, have made a new and useful Improvement in the Manufacture of Wheels or Pulleys, of which the following is a full and clear description.

This invention relates to the manufacture of wheels or pulleys, either disk wheels or pulleys—that is to say, having full bodies—or spoke wheels or pulleys; and its object is to improve and simplify the manufacture of such wheels.

According to my invention I take a circular blank of steel or other suitable metal which has been wrought or pressed from a sheet or plate of the metal, or, which is better, cast in a chill-mold, or it may be otherwise brought to a suitable form. The said disk is heated, and while in the heated condition it is brought between a male and female die of suitable form under the action of a powerful hammer, press, ram, or the like, whereby the edge is first flanged or bent up, the hub being preferably punched out with its central hole in the same operation. In order to bring the rim of the flanged blank to the required felly form, the blank, either at the same heat or after being again heated, according to the size of the wheel being made, is subjected while held between the male and female die to the action of a hollow punch or tool adapted to come upon the flange of the rim and force the metal thereof down into a circular recess provided for the purpose in or around the bottom die. The blank should be at a red heat during this operation.

The invention will be understood by ref-

erence to the accompanying drawings, in which—

Figure 1 is a section of a blank at the commencement of the operation; Fig. 2, a corresponding section of the blank after the edge has been flanged up, and Fig. 3 a section through the male and female dies and hollow punch or tool above referred to and showing the blank at the completion of the operation.

It will be readily understood that the rim *b* of the blank *c* is first flanged up by the action of the top and bottom dies *d e* and afterward by the descent of the hollow punch *a*. The metal of the rim is forced into the circular recess to bring the rim to the proper shape.

By means of my invention a compacting of the metal throughout the entire blank or disk is attained, and wheels and pulleys made in this way are at least equal in strength and reliability to the ordinary welded or cast-steel wheels.

I claim—

The herein-described method of forming wheels and pulleys which consists in first bending over the edge of a circular blank to form an annular flange on one side of the straight web or blank body and then forcing the flange at right angles to the plane of the web while the entire body of the web is held against movement until the flange is arranged with the web in substantially the center thereof, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ERNST ROEMER.

Witnesses:

RUDOLF FRIESS,  
ERNST KATZ.