

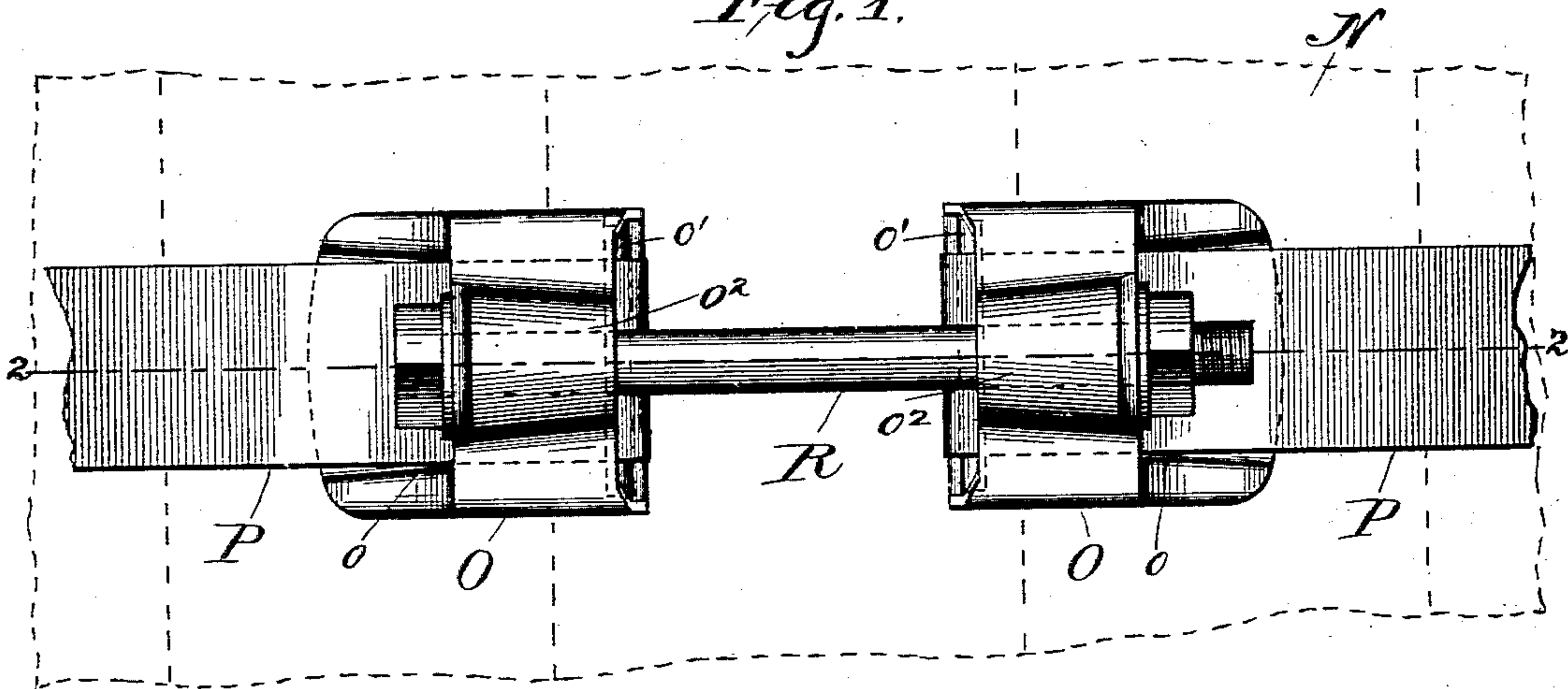
(No Model.)

H. W. FORD.  
HOOP COUPLING.

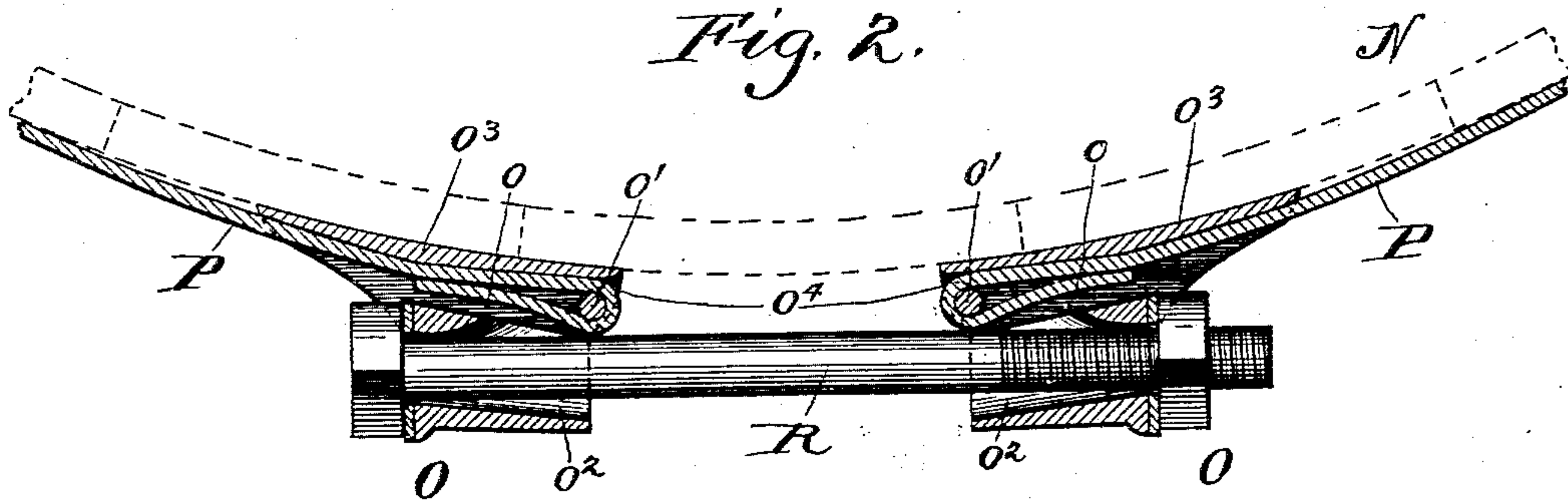
No. 504,677.

Patented Sept. 5, 1893.

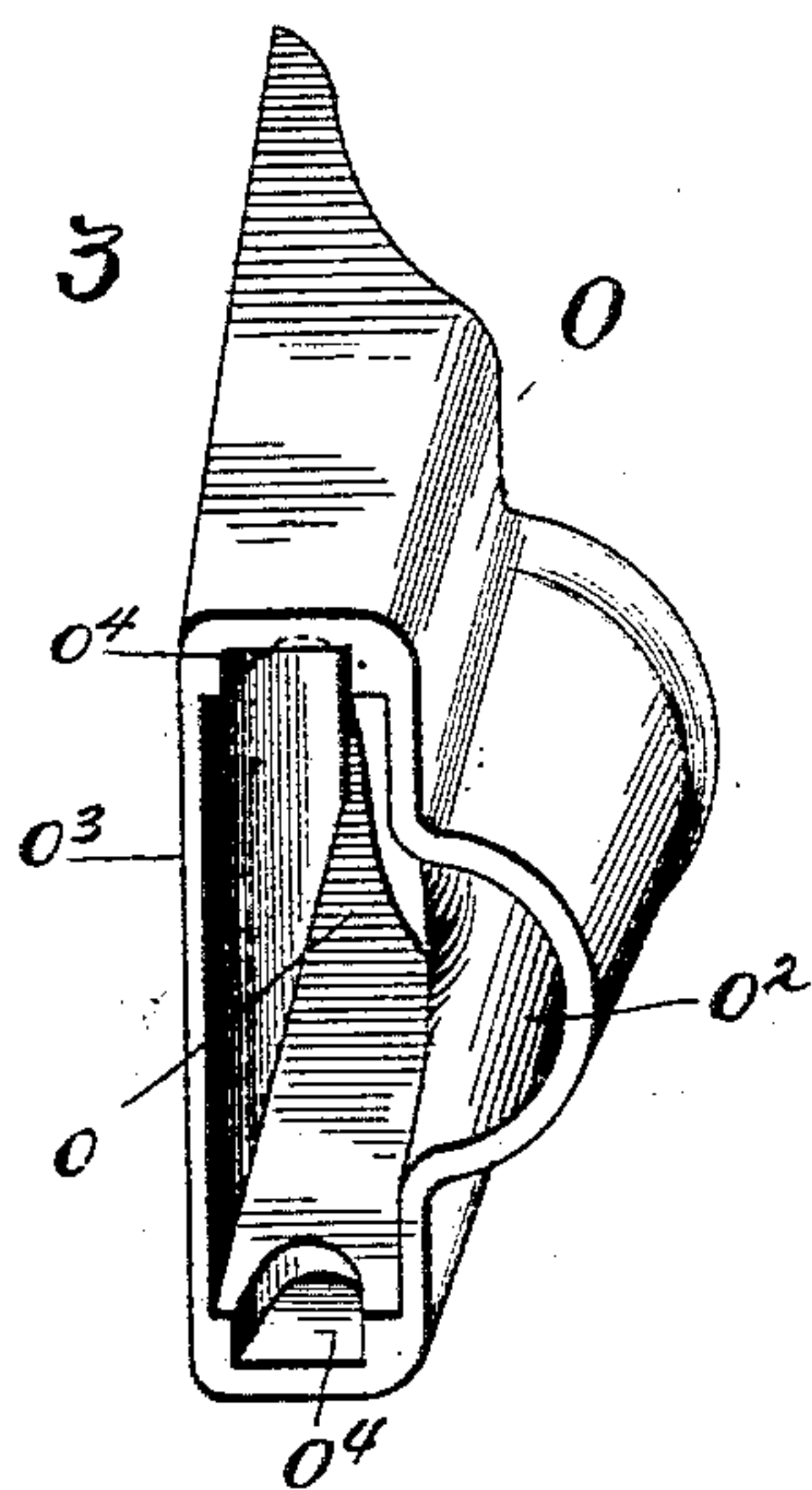
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
W. C. Corlies  
Martin H. Olsen.

Inventor  
Henry W. Ford  
By, Lyndal H. Hill  
his Atty.



# UNITED STATES PATENT OFFICE.

HENRY W. FORD, OF BELOIT, WISCONSIN, ASSIGNOR TO THE ECLIPSE WIND-ENGINE COMPANY, OF SAME PLACE.

## HOOP-COUPLING.

SPECIFICATION forming part of Letters Patent No. 504,677, dated September 5, 1893.

Application filed October 16, 1891. Renewed July 7, 1893. Serial No. 479,807. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. FORD, a citizen of the United States of America, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Hoop-Couplings, of which the following is a specification.

In the accompanying drawings, wherein like letters indicate like parts, Figure 1 is an elevation of the couplings and straining-rod in position. Fig. 2 is a central horizontal section of the same; and Fig. 3 a perspective view of one of the couplings detached.

My invention relates to that class of devices which serve as the connection for the ends of a metal hoop upon water tanks and similar structures, and properly belongs to that class of devices wherein the ends of the hoop are attached to couplings (sometimes called lugs), and the necessary strain secured by a straining-rod, connecting said couplings.

The object of my invention is to furnish a more simple, economical and durable coupling than is now to be found.

In the drawings, N. represents the outer surface of a tank, upon which rest the couplings O. O., attached to the ends of the hoop P., and connected by the straining-rod R. One of the couplings, and preferably each, contains the opening o., through which the hoop is passed; the transverse part or bar o' around which the hoop is bent; the part o<sup>2</sup>, through which the straining-rod is passed; and the part o<sup>3</sup>, which rests against the surface of the tank. The transverse part o'. may be cast integral with the other parts, or may be formed of a short bar, the ends of which rest against properly formed shoulders in the casting, which are preferably recessed as at o<sup>4</sup>. I prefer the latter way, and accordingly illustrate it in the drawings.

As an independent improvement, the opening o. may be made wedge-shaped in horizontal section to grip the ends of the hoop more firmly as they are drawn into the coupling by the action of the straining-rod.

The mode of operation is as follows:—The end of the hoop having been passed through the opening o., is bent around the transverse bar o', and then back into or through the

opening o. The straining rod is then adjusted, and a strain put upon the same, whereupon the cross-bar o'. draws the hoop taut while the doubling of the hoop in the opening o. keeps its end from spreading, and holds it fast. By making the opening o. wedge-shaped, the hoop, on being put under strain, tends to wedge into the opening, and is held with a firmer grip. The couplings are forced toward each other by the action of the straining-rod, and the hoop tightened to any extent desired. By this construction I dispense with the use of rivets, and bring the strain equally upon the entire width of the hoop, so that it is not liable to rupture at the point where it is fastened to the couplings. It is obvious that by this construction the parts can be readily and conveniently put together, and as readily taken apart.

I consider the position of the projecting part o<sup>2</sup> as an important part of my invention because when in the center and immediately over the hoop, the end of the latter, if too short to be affected by the wall of the opening o, would be prevented by the rod R from turning outward and thus drawing out. I also consider the "wedge shaped opening" as important, because in case the pin or transverse bar o' should be too short to be caught by the shoulders o<sup>4</sup>, the wedge-shaped opening would still prevent the hoop from being drawn out.

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

1. As a fastening and tightening device for tank hoops, a coupling, consisting of two metallic blocks connected by a straining rod, one of said blocks being provided with an opening in line with and adapted to admit the hoop, a transverse projecting part immediately over the center of the opening for the hoop to receive the end of the straining rod; and a transverse part around which the hoop is bent and doubled back into the opening; substantially as set forth.

2. As a fastening and tightening device for tank hoops, a coupling member O., consisting of a metallic block, provided with the projecting part o<sup>2</sup> immediately over the center of



the opening for the hoop for receiving the end of the straining-rod; the wedge-shaped opening *o*. to admit the end of the hoop; and the transverse part *o'*. arranged in the wider part of said opening around which the hoop is bent; substantially as set forth.

3. As a fastening and tightening device for tank hoops, the combination of the coupling member *O*., consisting of a metallic block, provided with the projecting part *o*<sup>2</sup>, for receiving the end of the straining-rod, and the opening *o*., to admit the end of the hoop, in line with the body of said hoop with the separate bar *o'*; said bar being adapted to extend transversely across the block *O*., its ends resting against the shoulders *o*<sup>4</sup>; and to have

the hoop bent around it substantially as and for the purposes set forth.

4. As a fastening and tightening device for tank hoops, the combination of a coupling member *O*., consisting of a metallic block, provided with the projecting part *o*<sup>2</sup>. for receiving the end of the straining-rod, and the wedge-shaped opening *o*. to admit the hoop, with the separate bar *o'*., said bar being adapted to extend transversely across the block, its ends resting against the shoulders *o*<sup>4</sup>; substantially as and for the purposes herein set forth.

HENRY W. FORD.

Witnesses:

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