

No. 732,876.

PATENTED JULY 7, 1903.

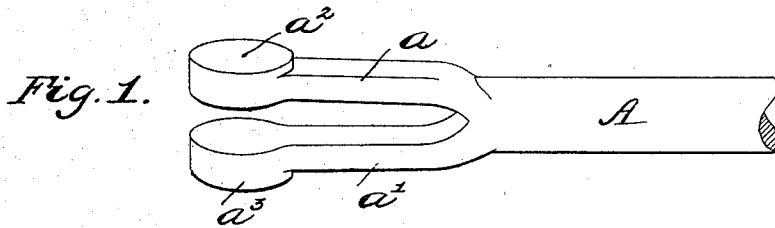
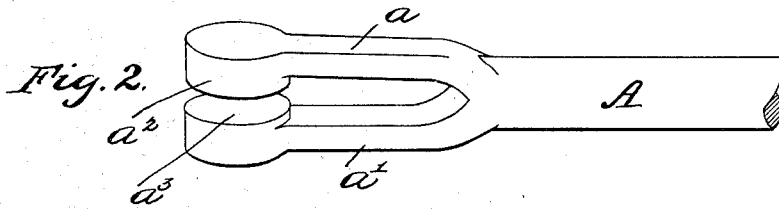
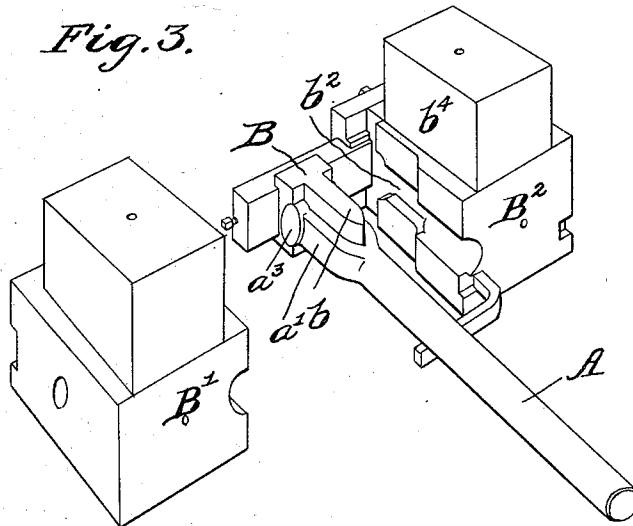
P. MEYER.

MANUFACTURE OF JAWS FOR COUPLING RODS.

APPLICATION FILED JAN. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

*W. H. Coleman*  
*E. Harmel*

INVENTOR

*Paul Meyer.*

BY

*J. E. Cruise.*  
HIS ATTORNEY

No. 732,876.

PATENTED JULY 7, 1903.

P. MEYER.  
MANUFACTURE OF JAWS FOR COUPLING RODS.

APPLICATION FILED JAN. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 5.

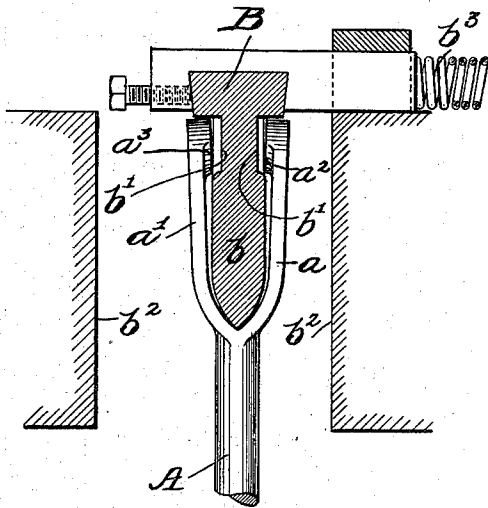


Fig. 4.

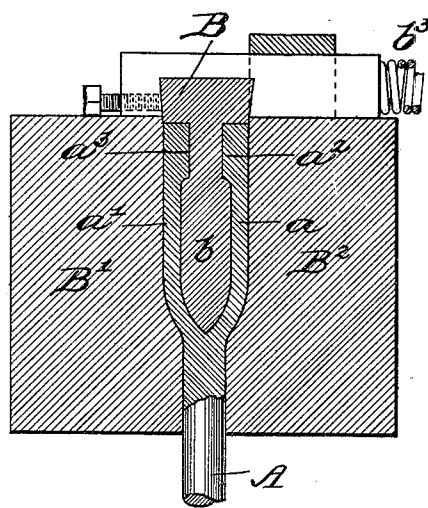


Fig. 6.

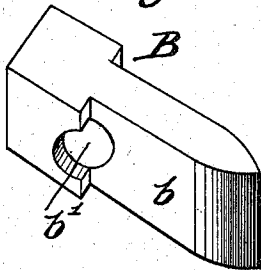


Fig. 7.

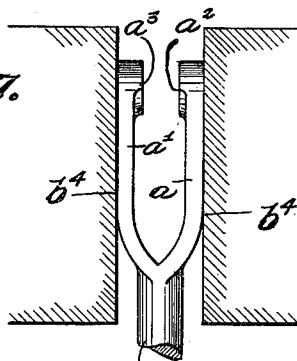
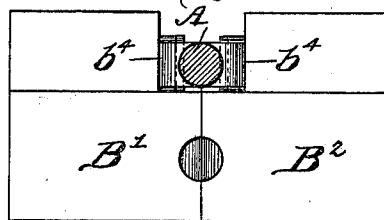


Fig. 8.



WITNESSES:

A. W. Coleman  
E. Hannel

INVENTOR

Paul Meyer.

BY

J. E. Cruse.  
HIS ATTORNEY

# UNITED STATES PATENT OFFICE.

PAUL MEYER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE UNION SWITCH AND SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## MANUFACTURE OF JAWS FOR COUPLING-RODS.

SPECIFICATION forming part of Letters Patent No. 732,876, dated July 7, 1903.

Application filed January 12, 1903. Serial No. 138,602. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL MEYER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Jaws for Coupling-Rods, of which the following is a specification.

My invention relates to a process for manufacturing jaws for coupling-rods, and is designed as an improvement upon the process of manufacturing jaws which is set forth in United States Patent No. 501,851, issued July 18, 1893, to S. H. Stupakoff.

The principal improvement resides in the formation of the bosses on the inside of the jaw members instead of on the outside, as described in the said Letters Patent.

I will describe a process of manufacture embodying my invention and then point out the novel features thereof in claims.

In the accompanying drawings, Figure 1 is a perspective view of a jaw manufactured in accordance with the process set forth in the hereinbefore-mentioned patent. Fig. 2 is a perspective view of a jaw manufactured in accordance with the present invention. Fig. 3 is a detailed perspective view of a shaping die and mandrel employed in the present invention. Fig. 4 is a detailed horizontal sectional view of Fig. 3, showing the jaw in the dies under compression. Fig. 5 is a detailed sectional view similar to Fig. 4, but showing the parts of the die in their original position and the shape of the jaw after it has been disengaged from the mandrel. Figs. 6, 7, and 8 are detailed views.

Similar letters of reference designate corresponding parts in all of the figures.

Referring now to Fig. 1, A designates the arm or shank of the jaw,  $a a'$  the two members which constitute the jaw, and  $a^2 a^3$  bosses, which are shown as formed on the outsides of the members  $a a'$ . This jaw is preferably made in the manner set forth in the said patent, owing to the cheapness and quickness of manufacture. The jaw of Fig. 1 may, however, be made by any other process, as this process is immaterial in this invention, the present invention being designed to prefer-

ably treat the jaw of Fig. 1 to form the jaw of Fig. 2. This is preferably accomplished by first heating the jaw and then working it in a pressing-machine—as, for example, a forging-machine. But two operations are required after heating the jaw, the first being to press the two members in a die comprising a mandrel to flatten the outside bosses of the members  $a a'$  and to form bosses on the inside faces of the members, after which they are spread apart in order to remove the jaw from the die and mandrel, and the second being to compress the two members  $a a'$  to bring them into parallelism. Instead of having a blank similar to Fig. 1 the bosses may be omitted and the inside bosses formed by indenting the outside faces of the jaw members to obtain the inside bosses.

B designates a mandrel, (see Fig. 6,) here shown as comprising a tongue of a length equal to the length of the recess between the jaw members and as having oppositely-arranged circular recesses  $b'$ , in which the metal is pressed to form the bosses.

$B' B^2$  designate two parts of the die, having matrices  $b^2$  formed on their opposite faces, which matrices correspond in shape to the outside surfaces of the jaw members (of the jaw shown in Fig. 2) and a portion of the shank.

The several parts of the die may be employed in a pressing-machine—as, for example, a forging-machine. The parts of the die are so arranged that the part  $B^2$  will be stationary, while the part  $B'$  and mandrel B are movable. The mandrel B is moved by the engagement of it by the part  $B'$  of the die, and when the part  $B'$  is withdrawn the mandrel B will be given a reverse movement by any desired means—as, for example, by a spring  $b^3$ .

In the practice of the invention after the blank, Fig. 1, has been sufficiently heated it is placed in position in the die, as shown in Fig. 3, with the mandrel B entered between the jaw members. The machine is now operated to bring the part  $B'$  and mandrel B against the part  $B^2$ , as shown in Fig. 4. This operation of the machine will press the metal contained in the end portions of the jaw mem-

bers into the circular recesses formed in the mandrel B. The machine is then operated again to move the part of the die B' in a reverse direction and to permit the mandrel B 5 to move away from the part B<sup>2</sup>, carrying with it the jaw. The several parts of the die and the mandrel will then be in the position shown in Fig. 5. The blank is then worked on the mandrel B (it being still heated) by moving 10 the shank in opposite lateral directions to spread the jaw members, so that they may be removed from the mandrel. The next step is to again bring the jaw members into parallelism, and this may be accomplished by placing 15 the jaw members between the anvil portions b<sup>4</sup> b<sup>4</sup>, carried by the die parts B' B<sup>2</sup>, and operating the machine to bring the die part B' toward the die part B<sup>2</sup> to compress the jaw members into parallelism. (See Figs. 7 and 8.) 20 What I claim as my invention is—

1. An improvement in a process of manufacturing jaws for coupling-rods which consists in placing a rod having jaws provided with exterior bosses a<sup>2</sup>, a<sup>3</sup>, between dies con-

forming to the shape of the jaws of said rod, 25 placing between said jaws a mandrel having recesses b', b', in its opposite faces, and then applying pressure to said dies whereby the exterior bosses will be flattened out and bosses 30 formed on the inside of the jaws.

2. An improvement in a process of manufacturing jaws for coupling-rods which consists in placing a rod having jaws between 35 dies conforming to the shape of the jaws and shaped to press a portion of the metal in the jaws, placing a mandrel having recesses b', b', in its opposite faces between said jaws, 40 and then applying pressure to said dies whereby a portion of the metal in the jaws will be forced into the recesses in the mandrel to form bosses on the inside of the jaws.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL MEYER.

Witnesses:

GEO. E. CRUSE,  
W. L. MCDANIEL.