P. P. MIRTZ.

ROD HEAD.

APPLICATION FILED MAY 7, 1914.

1,133,874. Patented Mar. 30, 1915.

Fig. 1

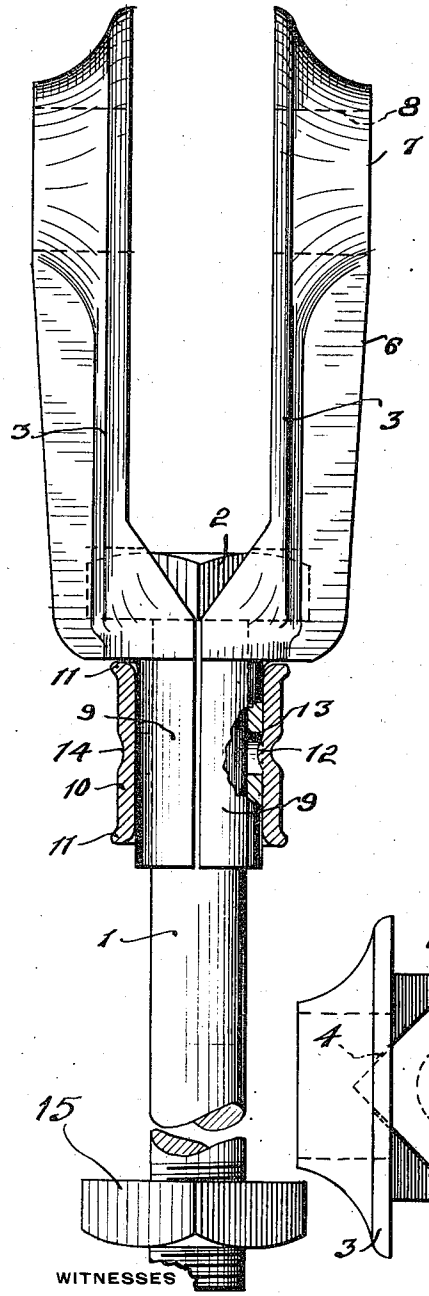


Fig. 2

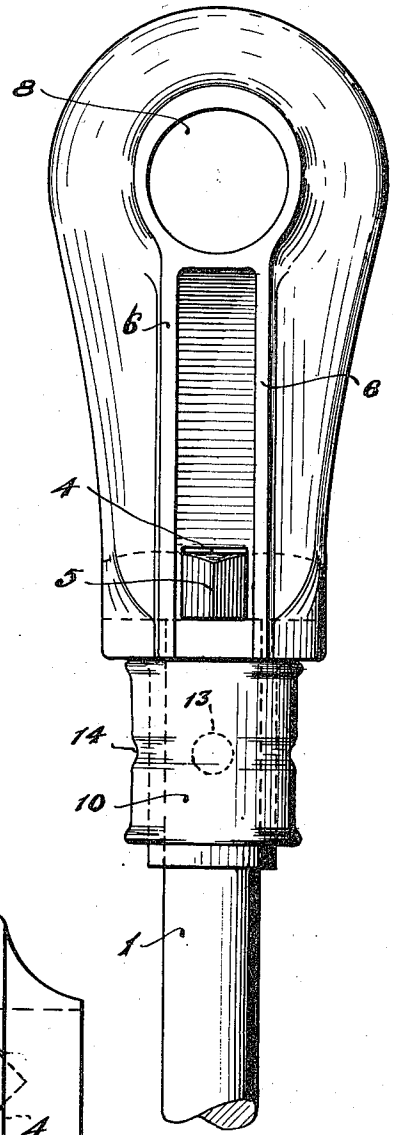
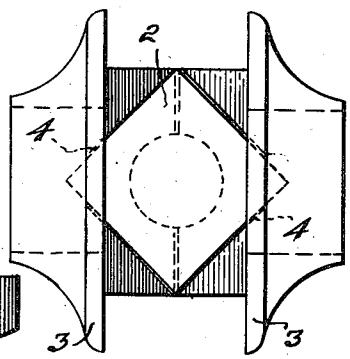


Fig. 3



WITNESSES

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ROD-HEAD.

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To all whom it may concern:

Be it known that I, PHILIP P. MIRTZ, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rod-Head, of which the following is a specification.

The invention relates to heads or jaws and is designed particularly for use in connection with brake rods, although applicable in other connections. It has for its primary objects; the provision of a head in which the jaw portion can be readily and conveniently connected to the rod or disconnected therefrom when desired, while at the same time very securely held against accidental disconnection; the provision of a jaw construction which can be very cheaply made and in which no machine work is necessary; and the provision of a construction requiring a minimum amount of forging of the rod, and in which the parts can be rapidly assembled and disassembled with the use of the ordinary hand tools always available.

One embodiment of the invention is illustrated in the accompanying drawings wherein Fig. 1 is an elevation of the rod head with the lower portion thereof partially in the section, Fig. 2 is an elevation taken at right angles to the elevation of Fig. 1, and Fig. 3 is a plan view of the device shown in Figs. 1 and 2.

Referring to the drawings, 1 is the rod provided with the four-sided head 2, and 3, 3 are the jaws of the head, such jaws being opposing and similar so as to be interchangeable. Each jaw is provided near its lower end with an angular recess 4 (Fig. 3) for the reception of one of the corners of the head 2. As indicated in Fig. 2 these recesses 4 extend clear through the walls of the jaws, the corner 5 of the head being exposed to view (Fig. 2), such arrangement constituting an advantage as hereinafter set forth. In order to strengthen the jaws and permit a proper casting thereof the sides are provided with the ribs 6 terminating in the bosses 7 surrounding the openings 8 through the ends of the jaws. It will be noted that the engagement of the corners of the head 2 in the jaws 3 prevent any rotary movement of the rod with respect to the jaws and also prevent longitudinal movement in both directions.

The ends of the jaws back of the head 2 are preferably provided with the shanks 9 each partially encircling the rod 1, and when the jaws are assembled as indicated in Figs. 1 and 2 they may be very firmly clamped in position upon the rod by means of the ferrule 10, preferably of malleable iron and provided at its end with the ribs 11 such ribs being useful in preventing a gripping tool from slipping off when it is desired to remove the ferrule. This ferrule is preferably made to fit snugly over the shanks 9 of the jaws and is held against accidental removal by indenting the metal indicated as 12 (Fig. 1). This indenting of the metal is accomplished by means of a punch, and each of the shanks is provided with a perforation or recess 13 in order to receive the metal forced in upon the body of the ferrule. In order that the workman may have no difficulty in locating the openings 13 the ferrule is preferably provided intermediate its end with the circumferential depression 14, such circumferential depression always coming in line with the openings 13 when the ferrule is brought to the position indicated in the drawing. As a further guide to the workman in locating these openings 13, such openings are located in line with the centers of the recesses 4 in the jaws, or in other words these recesses or openings 13 will always be found in line with the corners 5 of the rod head 2, such relation being indicated in Fig. 2.

The head as illustrated and described is cheap, serviceable and reliable. The head 2 is the only forging required upon the rod 1 and this head may be forged of standard size and dimensions so that the ordinary heading dies may be employed. The jaws 3 may be made of malleable castings and require no machine work whatever. The ferrules 10 may be made of either malleable iron or wrought iron, and are sufficiently strong for the purpose intended, since the lateral strain on the jaws 3 is negligible, the strain upon the device being either one of compression or tension and exerted longitudinally of the rod and jaws. The jaws 3 can be made equal in tensional strength with the rod, and the head 2 has a full bearing engagement with the jaws, so that the strength of the device at this point is the same as the other parts. Due to the indenting of the ferrule at the point 12, the accidental displacement of the ferrule is avoided, while at the same time the apparatus

may be very easily disassembled by the application of a powerful gripping tool to the ferrule, it being possible to twist the ferrule loose and then remove it endwise, thus releasing the jaws. No special tools of any kind are required for the assembling of the parts, such assembling being possible on the road as well as at the machine shop, all that is necessary for the assembling of the parts being a hammer and a punch, and for the disassembling of the parts a Stilson wrench for gripping the ferrule. No machine work whatever is necessary, and there is no screw parts liable to become disengaged under vibration or requiring nut locks, or similar devices more or less troublesome and expensive. In the same cases it may be desirable to use a nut 15 (Fig. 1) on an end of the rod 1 to permit the placing of the ferrules after the forging operation instead of using a forged head upon both ends of the rod, but in that case the nut cannot become accidentally unscrewed as the jaws themselves cannot turn (and then turn the nut) and the bolt is held against turning by the non-rotating engagement of the head 2 with the jaws 3, 3. Other advantages incident to the construction will be apparent to those skilled in the art.

What I claim is:

1. In combination, an angular headed rod, a pair of opposing perforated jaws spaced apart and each having its inner face fitting one side of the head and each having a shank portion partially encircling the rod back of the said head, and a ferrule for encircling the said shanks and clamping them on the rod.

2. In combination, a rod having an angular head, a pair of opposing similar jaws spaced apart, each having an angular recess adjacent its rear end for receiving and fitting one side of the head and preventing a rotary or longitudinal movement in either direction, and each having a shank portion encircling the said rod back of the head, and a collar for clamping the said shanks to the rod.

3. In combination, a rod having an angular head, a pair of opposing perforated jaws spaced apart, each having an angular recess for the reception of one side of the head and preventing a rotary or longitudinal movement in either direction and each having a shank portion partially encircling the rod back of the said head, and a ferrule for encircling the said shanks and clamping them on the rod, and provided with an indentation for preventing the accidental removal of the ferrule.

4. In combination, a rod having an angular head, a pair of opposing perforated jaws spaced apart, each having an angular recess for the reception of one side of the head and preventing a rotary or longitudinal movement in either direction and each having a shank portion partially encircling the rod back of the said head with one of such shanks provided with a recess, and a ferrule encircling the shanks and provided with an indentation engaging the said recess in the shank.

5. In combination, a rod having a square head, a pair of opposing jaws spaced apart, each having an angular recess to fit one of the corners of the said head and preventing a rotary or longitudinal movement of the head with respect to the jaws, and each having a shank partially encircling the rod back of the head, and a collar encircling the said shanks.

6. In combination, a rod having a square head, a pair of opposing jaws each having an angular recess to fit one of the corners of the said head, such recesses extending clear through the jaws, and each having a shank partially encircling the rod back of the head and provided with a recess in alinement with the corner of the bolt head, and a ferrule fitting around the said shanks and provided with an annular mark opposite the recesses in the shanks.

7. In combination, a rod having a square head, a pair of opposing jaws each having an angular recess to fit one of the corners of the said head, such recesses extending clear through the jaws, and each having a shank partially encircling the rod back of the head and provided with a recess in alinement with the corner of the bolt head, and a ferrule fitting around the said shanks and provided with an annular mark opposite the recesses in the shanks, the said ferrule having a greater diameter at its ends than at its central portion.

8. In combination, a rod having a square head, a pair of opposing jaws each having an angular recess to fit one of the corners of the said head, such recesses extending clear through the jaws, and each having a shank partially encircling the rod back of the head and provided with a recess in alinement with the corner of the bolt head, and a ferrule fitting around the said shanks and provided with an annular mark opposite the recesses in the shanks, the said jaws having their surfaces provided with longitudinally extending ribs lying on opposite sides of the recesses in the jaws.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

PHILIP P. MIRTZ.

Witnesses:
THEO. T. LONG,
ESTHER C. FRITZ.