

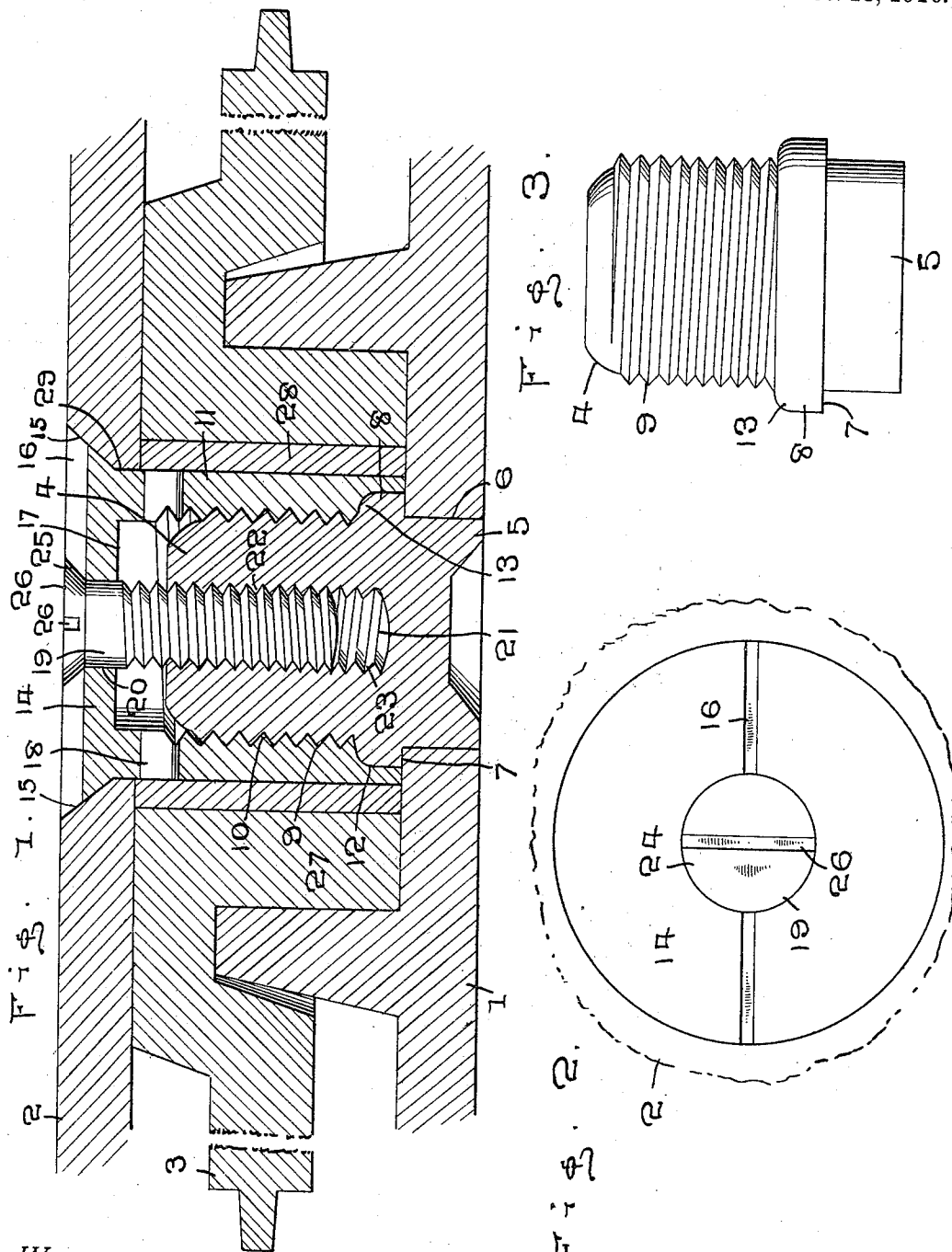
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BEARING STUD.

APPLICATION FILED JULY 13, 1909.

948,987.

Patented Feb. 15, 1910.



WITNESSES:

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# UNITED STATES PATENT OFFICE,

WILLIAM A. BUETTNER AND ARTHUR SHELburnE, OF TERRE HAUTE, INDIANA.

## BEARING-STUD.

948,987.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed July 13, 1909. Serial No. 507,343.

*To all whom it may concern:*

Be it known that we, WILLIAM A. BUETTNER and ARTHUR SHELburnE, citizens of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Bearing-Studs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to new and useful improvements in bearing studs and more particularly to that class adapted to be used in connection with cutter head chain carrying wheels for mining machinery and our object is to provide means for securing the chain carrying wheel between the cutter head plates or sections.

A further object is to provide means for interlocking the parts of the stud together and a further object is to provide an oil chamber in the stud.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of this application, Figure 1 is a central sectional view through the stud and parts mounted thereon. Fig. 2 is an end elevation thereof, and, Fig. 3 is a detail view of a portion of the stud.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 and 2 indicate the lower and upper plates of the cutter head and 3 indicates the chain carrying wheel and as these parts are old and form no part of our invention, it is not deemed necessary to further describe the same.

In providing means for holding the plates in their proper assembled positions and at the same time form a bearing for the chain carrying wheel, we provide our improved stud which consists of a stem 4, one end of which is provided with a shank 5, which shank is introduced through an opening 6 in the lower plate 1 and is fixed therein in any suitable manner as by expanding or upsetting the same or if preferred, it may be exteriorly threaded.

That portion of the stem immediately above the plate 1 is provided with shoulders 7, which shoulders rest on the lower

plate to limit the downward movement of the stem, the shoulders being produced by forming a collar 8 around the stem.

That portion of the stem 4 above the collar is provided with left hand threads 9 substantially its full length, which threads are adapted to engage similarly constructed threads 10 on the interior of a sleeve 11, the lower end of said sleeve having a circumferential recess 12 to receive the collar 8 and the upper edge of the collar and recess are curved as shown at 13 to render a more perfect fit between the wall of the recess and the collar.

The upper end of the sleeve 11 is provided with a cap 14, which is adapted to close the end of the sleeve, the peripheral edge of said cap being flared outwardly to enter a flared seat 15 in the upper plate 2 and thus form a lock to hold the upper plate in position when the sleeve is properly seated on the stem and to better enable the sleeve to be turned onto the stem, a slot 16 is formed across the upper face of the cap in which a screw driver or other instrument may be introduced to rotate the sleeve.

That portion of the stem 4 above the collar 8 is of less length than the opening in the sleeve 11, thus forming a chamber 17 between the end of the stem and the inner face of the cap 14 in which any suitable form of lubricant is to be introduced and in order to gradually feed the same onto the bearing surface of the sleeve, ports 18 are formed in the wall of the sleeve, preferably at a point in alinement with the upper end of the stem and by using a solidified lubricant it will be gradually fed to the bearing surface and thus avoid dripping or waste of the lubricant.

The sleeve and stem are securely locked together by means of a bolt 19, which is introduced through an opening 20 at the central portion of the cap 14 and enters a threaded socket 21 in the stem 4, the bolt 19 and socket 21 being provided with right hand threads 22 and 23, respectively, while the outer end of the bolt is provided with a flared head 24, which enters a flared seat 25 in the cap, the head 24 being likewise provided with a slot 26, whereby the bolt may be readily turned into the socket. It will thus be seen that by forming left hand threads on the stem and in the sleeve and right hand threads on the bolt and in the socket, the sleeve and stem will be securely

locked together by means of the bolt and it will further be seen that the bolt may be removed to introduce lubricant into the chamber 17 when desired.

- 5 To reduce friction between the sleeve and the hub 27 of the wheel 3, any suitable form of bushing 28 may be introduced between the hub and sleeve.

In applying the device to use, the shank  
10 end of the stem is introduced into the opening 6 and fastened therein as described when the wheel 3 and plate 2 is introduced into position around the stem and the sleeve 11 introduced onto the stem through the opening  
15 29 in the plate 2 and turned inwardly until the lower end thereof is securely seated on the collar 8, thus locking the wheel and plates together.

Lubricant is then introduced into the  
20 chamber 17, and the bolt 19 entered into the socket 21, thus closing the opening 20 and in view of the differences in the trend of the threads as described, the sleeve will be securely locked on the stem.

25 It will thus be seen that we have provided a very cheap and economical form of stud and one wherein the parts may be quickly and readily assembled or separated as occasion may require and further that a convenient receptacle for lubricant is provided  
30 whereby a quantity of lubricant may be retained in position and gradually fed onto the wearing parts of the bearings.

What we claim is:

- 35 1. In a bearing stud, the combination with a pair of plates and a wheel positioned between said plates; of a stem fixed to one of said plates, a portion of which stem is exteriorly threaded, a hollow sleeve having interior threads cooperating with said threads  
40 on the stem, said sleeve having an oil chamber and ports in the walls thereof, said sleeve having a cap engaging one of the plates and means to interlock the sleeve on the stem.

45 2. In a bearing stud, the combination with an upper and lower plate and a wheel between said plates: of a stem fixed to the

lower plate, a shoulder on said stem resting on said plate, a hollow sleeve adapted to  
50 fit over said stem, said sleeve having an oil chamber and feed ports, said sleeve having a flared cap adapted to engage a flared opening in the upper plate and means to lock the sleeve on the stem.

55 3. The herein described bearing stud, comprising a stem having a shank at one end, a collar on said stem forming a shoulder, the peripheral surface of the stem beyond the collar being threaded, a hollow sleeve having threads adapted to engage the threads  
60 on the stem, said sleeve having an oil chamber and ports and means to lock said sleeve against rotation on the stem.

65 4. A bearing stud comprising a stem having a part of its periphery threaded, a collar surrounding the stem, a shank at one end of the stem, said stem having a socket interiorly threaded, a sleeve having threads therein adapted to engage the threaded portion of the stem, said sleeve having a flared  
70 cap at one end, a bolt extending through said cap and into the socket and having threads to engage the threads in the socket, the trend of the threads on the bolt and in the socket being opposed to the trend of the threads on the stem and in the sleeve.

75 5. In a bearing stud, the combination with an exteriorly threaded stem, a collar surrounding said stem and forming a shoulder, 80 a shank at one end of the stem, said stem having an interiorly threaded socket; of a sleeve having threads therein adapted to engage the threads on the stem, said sleeve having a cap, said cap being spaced from  
85 the stem to form an oil chamber, and a bolt extending through the cap and into the socket to lock the sleeve on the stem.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM A. BUETTNER.  
ARTHUR SHELBURNE.

Witnesses:

LOUIS C. BUETTNER,  
O. M. BUETTNER.