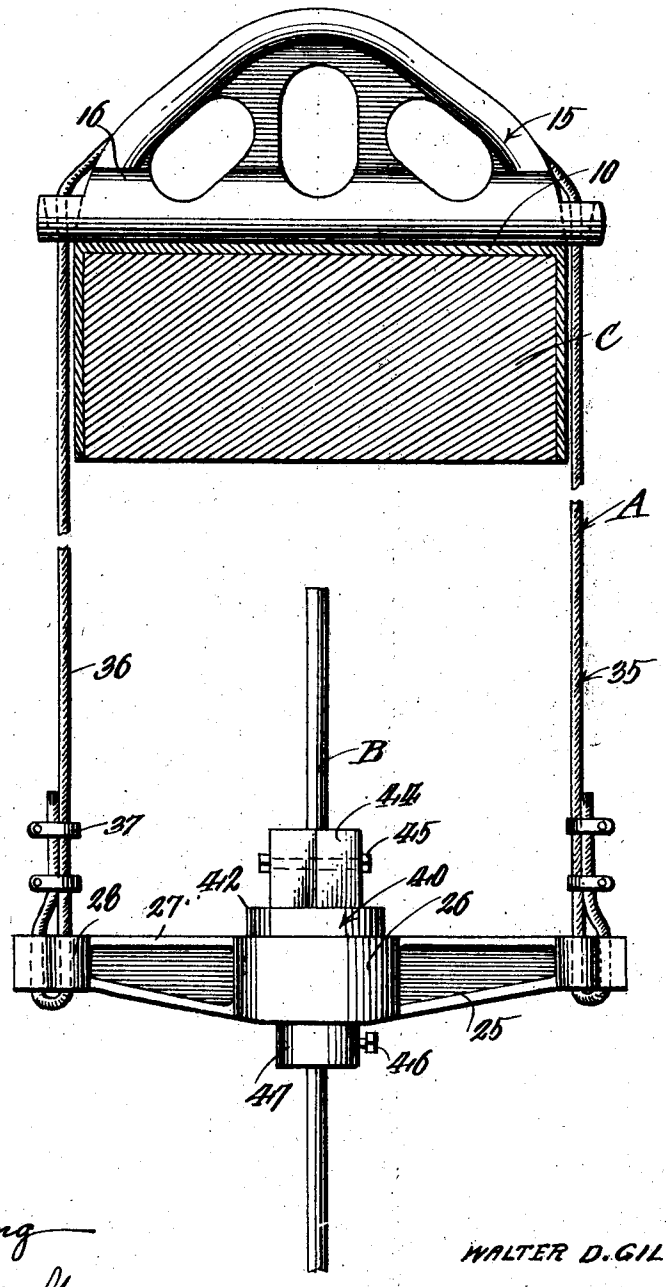
Mar. 3, 1925. 1,528,148

W. D. GILES

SADDLE

Filed Jan. 7, 1924 2 Sheets-Sheet 1

Fig. 1.



WITNESSES

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Filed Jan. 7, 1924 2 Sheets-Sheet 2

Fig. 2.

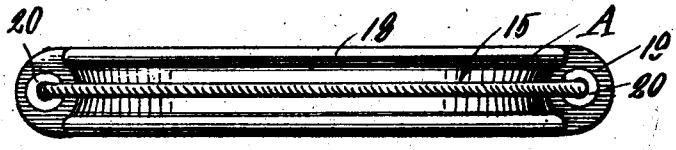


Fig. 3.

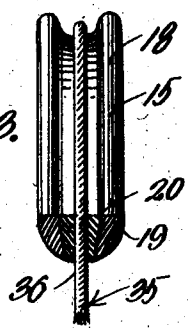


Fig. 4.



Fig. 5.

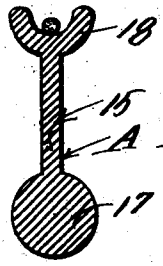


Fig. 6.

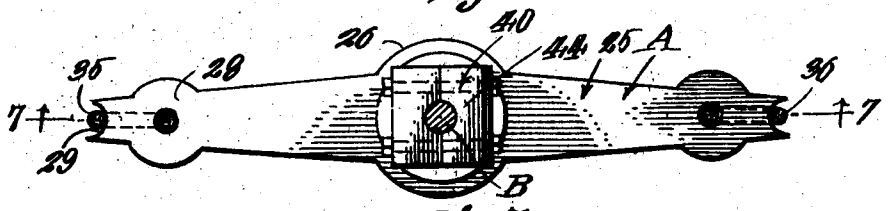
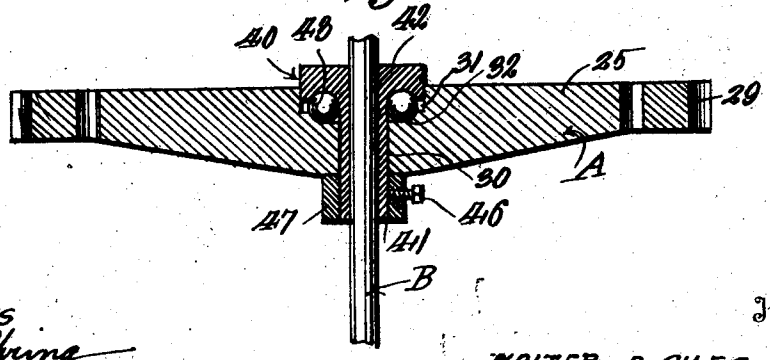


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER D. GILES, OF LEESVILLE, LOUISIANA.

SADDLE.

Application filed January 7, 1924. Serial No. 684,873.

To all whom it may concern:

Be it known that I, WALTER D. GILES, a citizen of the United States, residing at Leesville, in the parish of Vernon and State of Louisiana, have invented certain new and useful Improvements in a Saddle, of which the following is a specification.

This invention appertains to novel means for connecting the polish or pump rod of a pump structure and has for its primary object to provide novel means for supporting the polish or pump rod by said coupling, said means including a ball bearing support whereby rotary movement of the polish or pump rod is permitted, thereby effectively eliminating friction and preventing the separating of the sections of the rod and the elimination of all jars incident to the pumping operation.

Another prime object of the invention is the provision of a novel cap or saddle mounted upon the walking beam and novel means supported by said cap or saddle for connecting the same with the polish rod support.

A still further object of the invention is to provide an improved device of this character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a small cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a front elevation of the improved device for connecting a walking beam with a polish or pump rod, the walking beam shown in cross section.

Figure 2 is a top plan view of the saddle or cap forming a part of the invention.

Figure 3 is an edge elevation of the improved saddle or cap, showing parts thereof in section.

Figure 4 is a detail perspective view of one of the antifriction Babbitt metal plugs carried by the terminals of the cap or saddle.

Figure 5 is a central vertical transverse section through the improved cap or saddle.

Figure 6 is a top plan view of the cross bar, which forms an important part of the invention, and

Figure 7 is a vertical longitudinal section through the cross bar showing the ball bearing means for connecting the polish pump rod with the cross bar.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates the improved device for connecting a polish or pump rod B, with a walking beam C.

The walking beam C and the polish or pump rod B are of the usual or conventional construction and have been simply shown to illustrate the use of the improved coupling.

In accordance with this invention, a wear plate 10 formed of metal or the like can be fitted on the upper surface of the walking beam C, for a purpose, which will be hereinafter more fully described.

The improved coupling A is of the swinging type illustrated in my co-pending application filed April 3, 1923, Serial No. 629,645 and embodies an upper saddle or cap 15, a lower cross bar 25, means 35 for connecting the cross bar 25 with the saddle or cap 15 and the novel ball bearing means 40 for rotatably connecting the polish or pump rod B with the cross bar 25.

The improved cap or saddle 15 includes a longitudinally extending cast body 16 which is adapted to extend transversely of the walking beam C and the lower edge of this body is of a substantial cylindrical shape as indicated at 17 to form a rocker, which is adapted to rest upon the wear plate 11. The upper edge of the body 16 is provided with an arcuate guide 18 which is of a substantially U-shape in cross section, for slidably receiving the means 35 for connecting the cap or saddle 15 with the cross rod 25. The terminals of the body 16 adjacent to its lower edge is provided with eyes 19 which receive tapered antifriction plugs 20 which are preferably formed of Babbitt metal or the like.

The cross rod 25 is provided with a central hub 26 and outwardly extending diametrically disposed arms 27. This cross rod 25 is also preferably formed from a single casting and the arms 27 adjacent to the terminals thereof are enlarged to provide eyes 28 and the extreme terminals of the arms are grooved as at 29 to provide guides for a purpose, which will be hereinafter more fully described. The central hub 26 is provided with an axial bore 30 and the bore adjacent to its upper end is enlarged as at

31 forming a shoulder 32, which defines a raceway, as will be hereinafter more fully described.

The means for connecting the cross rod 25 with the saddle or cap 15 embodies a flexible cable or the like 36 which has its intermediate portion fitted within the guide 18 formed on the body portion 16 of said cap or saddle 15. The ends of the flexible cable 36 are then threaded through the antifriction plugs 20 after which the same are threaded through the eyes 28 formed in the cross rod 25 and up through the guide grooves 29. The terminals of the cable are then clamped to the portions of the cable directly above the eyes 28, as at 37.

The novel means 40 for connecting the polish or pump rod B with the cross head 25 includes a sleeve 41 which is adapted to extend through the axial way 30 in the hub 26 of the cross bar or rod 25. This sleeve 41 is provided with an enlarged annular head 42 which is adapted to fit within the enlarged portion 32 of the bore 30. Suitable ball bearings 43 are interposed between the head 42 and the shoulder 32 formed by the enlarged portion 22 of the bore and the inner face of the enlarged head 32 can be suitably formed to provide a raceway for the said ball bearing.

A two-part clamp 44 engages the polish rod and is firmly secured thereto by suitable bolts 45. This clamp 44 rests upon the upper surface of the enlarged head 42 of the sleeve 41. The lower end of the sleeve has connected therewith by means of a set screw 46 or the like a collar 47 which is adapted to engage the lower surface of the hub 26 of the cross bar or rod 25.

It thus can be seen that the cross bar or rod 25 is swingably supported by the means 35 and that the polish rod B is mounted for free rotary movement within the cross bar. The means of mounting the polish rod B within the cross bar precludes uncoupling of the various sections of the rod, in view of the fact, if any section of the rod has a tendency to turn, the whole rod will be permitted to freely turn therewith. Further the provision of the ball bearing relieves all jar incident to the pumping operation.

Changes in details may be made without departing from the scope or spirit of the invention.

What I claim is:

1. The combination with a walking beam and a pump rod, of means for connecting the walking beam and pump rod together including a saddle, the lower portions of the saddle being arcuate in cross section and arranged to rockably fit upon the walking beam, an arcuate guide channel formed on the upper edge of the saddle, guide eyes formed on the terminals of the saddle adjacent to the lower edge thereof, antifriction plugs carried by said guide eyes, a cable slidably mounted in said guide channel and said antifriction plugs, a cross bar, means connecting the terminals of the cable with the terminals of the cross bar, and means for connecting the pump rod with the cross bar at a point equidistant the ends thereof.

2. The combination with a walking beam and a pump rod, of means for connecting the walking beam and pump rod together including a saddle, fitted upon the upper surface of the walking beam, and a cross bar arranged below the saddle and walking beam, means swingably connecting the cross bar with the saddle, and means including a ball bearing support for rotatably connecting the pump rod with the cross bar.

3. A device for connecting a walking beam and a pump rod of a pumping structure together comprising a saddle arranged to engage the upper surface of the walking beam, a cross bar disposed below the saddle including a hub for receiving a pump rod, a sleeve mounted within the hub for rotary movement including a head, ball bearings fitted between the head of the sleeve and the cross bar, a clamp for engaging the pump rod and resting upon the head, and means connecting the terminals of the cross bar with said saddle.

4. A device for connecting a pump rod with a walking beam of a pumping structure comprising a saddle arranged to engage the upper surface of the walking beam, a cross bar arranged below the saddle including a hub, the hub having a portion of its bore enlarged providing a shoulder, a sleeve fitted within the hub including an enlarged head arranged to fit within the enlarged portion of the bore of the hub, ball bearings disposed between said shoulder and head, a two-part clamp arranged to engage a pump rod and engaging the upper surface of the head, a collar secured to the lower end of the sleeve engaging the lower surface of the hub, and a cable carried by the saddle having its terminals secured to the terminals of the cross bar.

5. The combination with a walking beam and a pump rod, of means for swingably connecting the walking beam with the pump rod including a saddle fitted upon the upper surface of the walking beam, an arcuate guide channel formed on the upper surface of the saddle, a cable slidably mounted within the channel, a cross bar receiving the terminals of the cable, and means rotatably connecting the pump rod with the cross bar.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER D. GILES.

Witnesses:
J. G. PALMER,
E. E. JORDAN.