

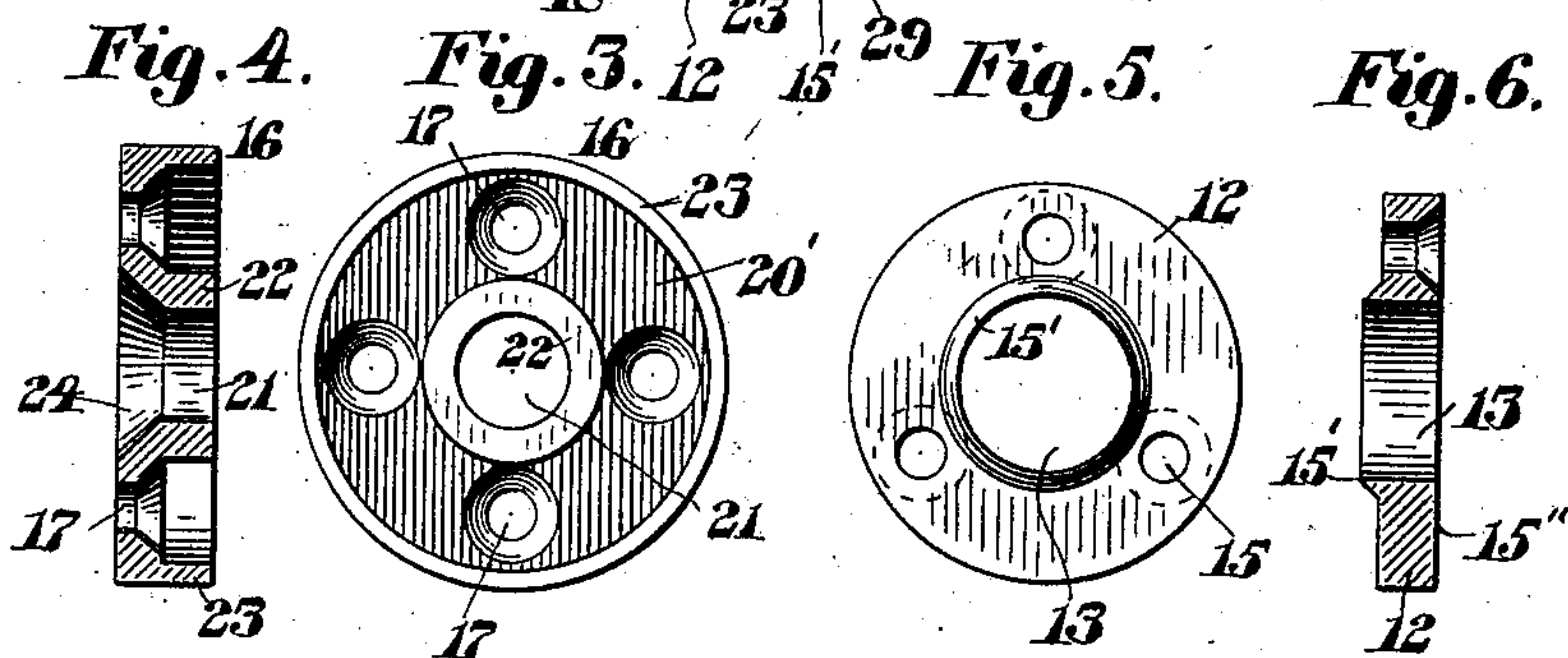
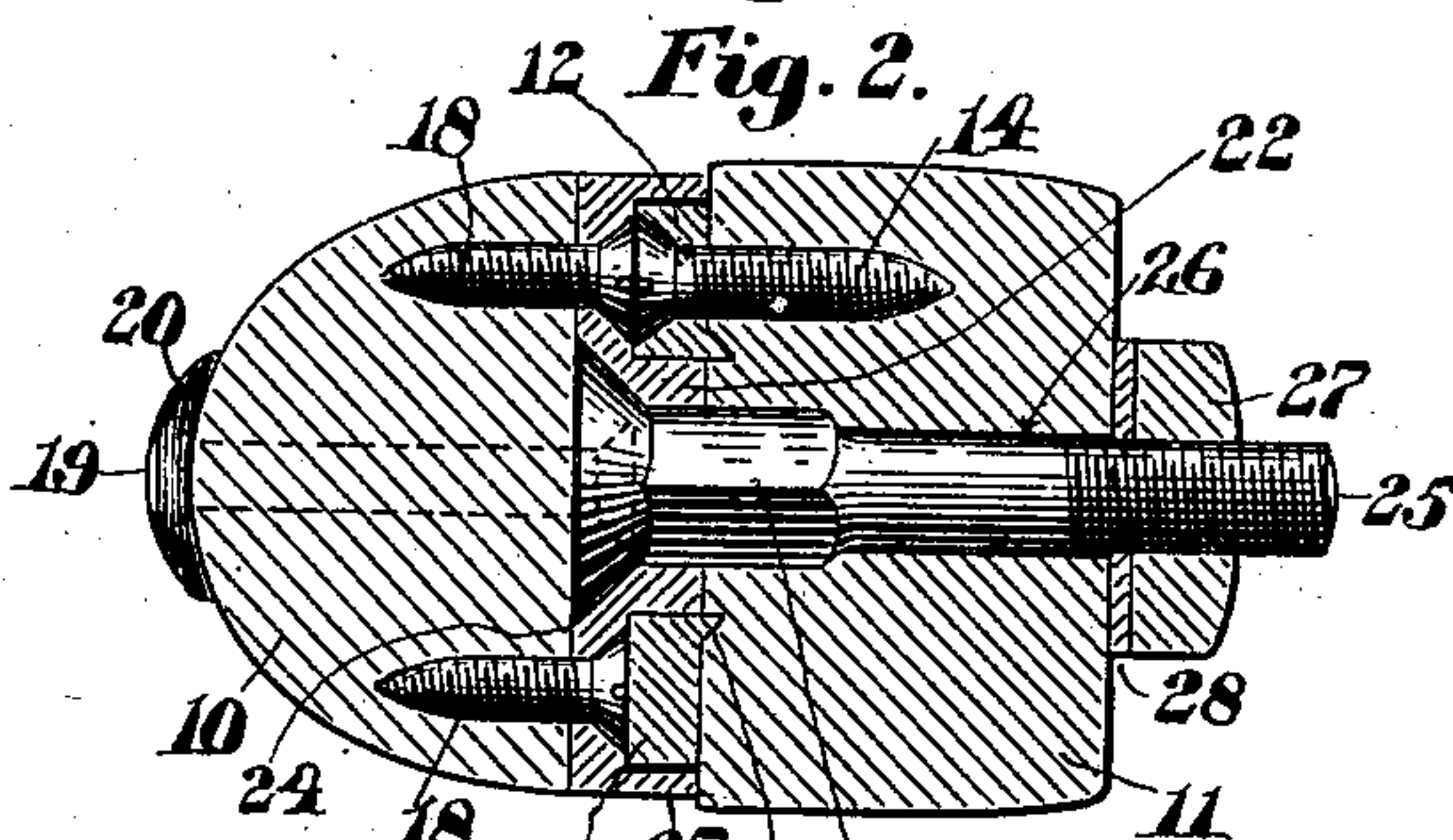
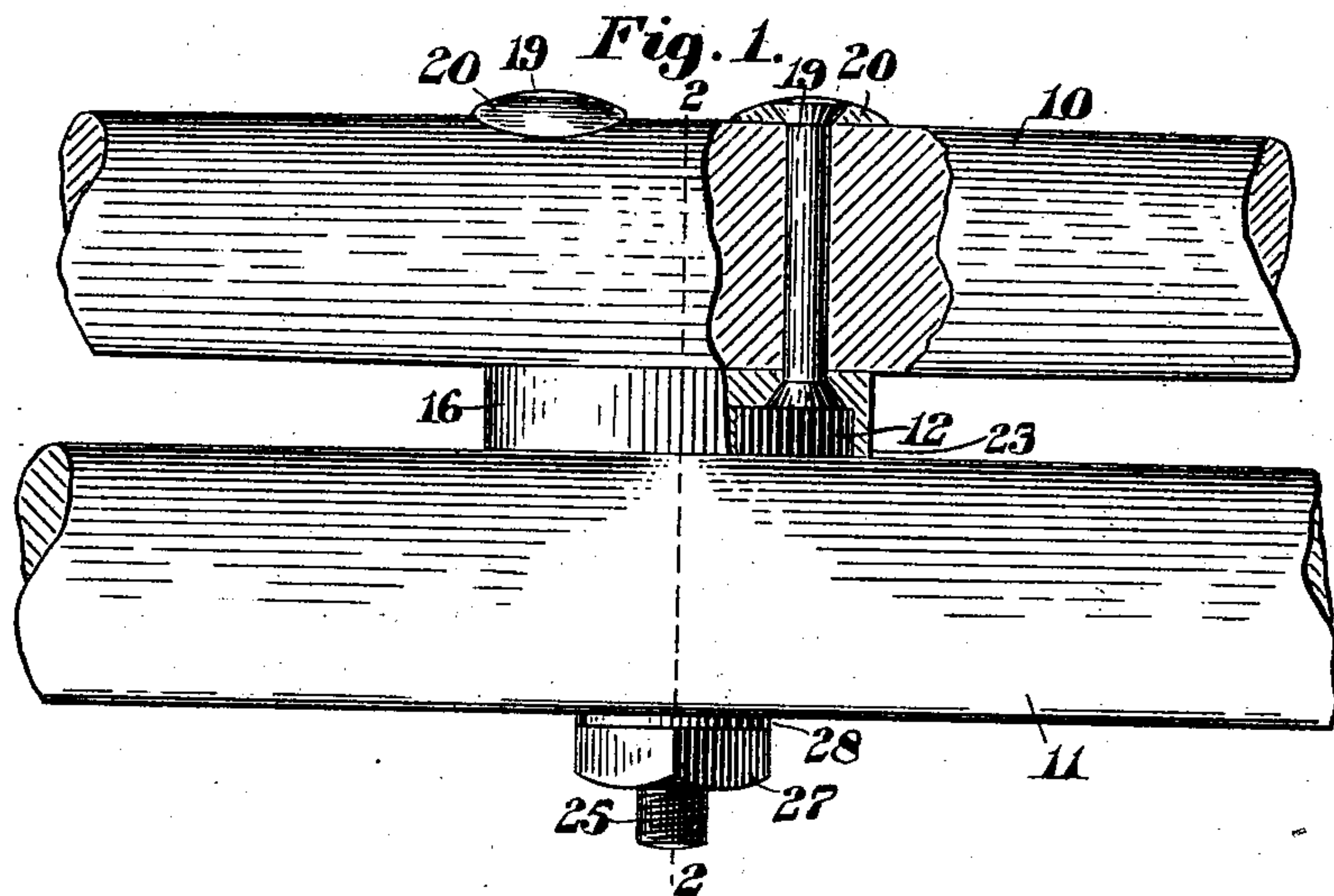
No. 708,004.

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E. W. M. BAILEY.
MOUNTING FOR WHIFFLETREES.

(Application filed Oct. 16, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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MOUNTING FOR WHIFFLETREES.

SPECIFICATION forming part of Letters Patent No. 708,004, dated September 2, 1902.

Application filed October 16, 1901. Serial No. 78,816. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. M. BAILEY, a citizen of the United States of America, and a resident of Amesbury, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Mountings for Whiffletrees, of which the following is a specification.

My invention relates to improvements in a means for mounting the whiffletree of wagons upon the cross-bar or support, and has for its object the provision of such a device which shall be strong and durable and which shall permit the free turning of the whiffletree. In the devices ordinarily employed the cross-bar and one or two intermediate plates are traversed by a bolt which is fast in the whiffletree and turns in the cross-bar, the parts being retained in place by a nut at the lower side of the latter. It is found that in use the plates wear, and the bolt in turning wears the cross-bar and it soon becomes necessary to tighten up the nut to take up the play. This throws a strain upon the bolt, which gradually weakens it and frequently causes it to break, it being further weakened by the common practice of breaking down or upsetting some bolt-threads to prevent the nut from being loosened by the jar and the consequent difficulty in turning said nut when it is necessary to tighten it. Moreover, the plates are usually elongated in one direction and are unprotected at the meeting surfaces as they turn, gathering dust and dirt and causing friction and wear. My invention effectively overcomes these difficulties.

In the accompanying drawings, Figure 1 is a side elevation of the central portion of a cross-bar and whiffletree connected by one form of my improved mounting, parts being broken away. Fig. 2 is a transverse vertical section on the line 2 2 of Fig. 1. Fig. 3 is a bottom plan view of the plate attached to the whiffletree. Fig. 4 is a central vertical section thereof. Fig. 5 is a bottom plan view of the plate attached to the cross-bar, and Fig. 6 is a central vertical section thereof.

Similar characters indicate like parts throughout the several figures of the drawings.

The numerals 10 and 11 designate, respec-

tively, the whiffletree of a wagon and its supporting cross-bar, which extends in the ordinary manner between the thills. To the cross-bar is secured a metallic plate 12, preferably circular in form and provided with a central circular opening 13. This plate may be retained in place by any desired means, in the present instance by a plurality of screws 14, extending through openings 15, which are countersunk to receive the screw-heads. To assist the screws in holding the plate against lateral displacement, an annular projection 15' is provided at the outer or lower side, conveniently at the edge of the opening 13, this projection preferably having a reduced or sharpened outer edge, which may be readily forced into the wood. The projection is easily produced in the manufacture of the device by the use of a cutting-off tool having an inclined instead of the usual square point. The opposite or upper face 15'' of the plate may be plane and substantially parallel to the cross-bar. The whiffletree carries a second metallic plate 16 for coaction with the plate 12, the plate 16 also being preferably circular and being secured to the whiffletree by a plurality of retaining elements extending through openings 17. A portion of these elements, here shown as two in number, may be screws 18, taking into the whiffletree, while two other elements may be rivets 19, extending up through the whiffletree and having their outer ends upset upon washers 20. The heads of all these securing elements are countersunk below the inner face 20' of the plate, which surface is substantially parallel to the face of the whiffletree and contacts with the face 15'' of the companion plate. Thus all the securing elements lie wholly within the circumference of the plates proper and are held by the contact of the members against displacement.

At the center of the plate 16 is a preferably circular opening 21, about which is an annular flange 22, fitting the opening 13, so that a lateral bearing is furnished, about which the whiffletree turns, the inner surfaces 15'' and 20' of the plates cooperating to take any vertical pressure or thrust. From the outer edge of this plate depends an annular flange or skirt 23, extending down over the plate 12

into close proximity to the surface of the cross-bar, effectively preventing the entrance of dust and dirt, which even if it finds its way between the cross-bar and the edge of the flange cannot rise between the plates. The space between the flanges 22 and 23 furnishes an annular recess, within which the plate 12 may be entirely received save its engaging projection 15', which causes the opposite outer faces to lie in close proximity to or in actual contact with the whiffletree and cross-bar, respectively. These two members are therefore separated only by the thickness of the plate 16. The upper surface of the plate 16 is provided with a central recess 24, which may be circular with a downwardly and inwardly inclined wall or countersunk, this recess lying partly, if necessary, within the material of the flange 22. Through the openings 13 and 21, with its head suitably formed to lie within the recess 24, extends a bolt 25, passing downward through an opening 26 in the cross-bar and retained in place by a nut 27, abutting against the lower side thereof or against an interposed washer 28. The bolt is provided with means to prevent its rotation in the cross-bar, which may consist of lateral projections, here shown in the form of a squared portion 29. As the bolt is forced into place in assembling the elements the apexes of the angles of this squared portion are adapted to be forced into and firmly engage the cross-bar for the purpose just set forth. The maximum transverse dimension or diameter of the squared portion between opposite apexes is less than the circular opening in the plate 16, which therefore leaves this portion of the bolt, which serves to prevent its rotation, free from engagement with the plates or capable of turning therein before the mounting is applied to the whiffletree and cross-bar. It is evident that in use this throws the stress which arises from its maintenance in a relatively fixed position upon a part of the wagon structure which might be termed a "primary member," and not upon a secondary member, which is secured in place by screws or the like, liable to work loose under the stress upon them. By this construction the integrity of the mounting is maintained without attention under long-continued use. It will be further seen that in operation the bolt and its nut remain stationary with relation to the wagon members and that there is therefore no tendency for the nut to loosen and no strain is brought upon the bolt save what slight amount is necessary to prevent the vertical separation of the plates. The wear is taken entirely by metal surfaces which are strongly secured in place.

The device is neat and compact, the only part appearing besides the rivet-heads and the bolt end with its nut being the edge of a single plate, while the contact of this exposed plate with the elastic wood of which the whif-

fletree and cross-bar are formed renders the device practically dust-proof.

Having thus described my invention, I claim—

1. The combination with a pair of members comprising a whiffletree and its support, of an interposed plate secured to each, and a bolt serving to prevent the separation of the members passing through the plates and support and provided with means for preventing its rotation engaging said support, which means is free from such engagement with the plates and whiffletree.

2. The combination with a whiffletree and its support, of an interposed plate secured to each and having a circular opening, and a bolt passing through the openings in the plates and being provided with a squared portion of less transverse dimension than the circular openings for engaging the support.

3. The combination with a pair of members comprising a whiffletree and its support, of an interposed plate provided with a recess and having its opposite outer faces each in close proximity to one of the members and being secured to one of them, a second plate secured to the other member and located within the recess in the first plate, and a bolt passing through the plates and the support and having means for preventing its rotation engaging said support, which means is free from such engagement with the plates and whiffletree.

4. The combination with a pair of members comprising a whiffletree and its support, of an interposed plate provided with a sharpened projection adapted to be forced into engagement with one of the members, means for securing the plate to said member, and a bolt passing through the plate and at least one of the members.

5. The combination with a pair of members comprising a whiffletree and its support, of an interposed plate provided with a central opening and a reduced or sharpened projection surrounding said opening adapted to engage one of the members, means for securing the plate to said member, and a bolt passing through the opening in the plate and at least one of the members.

6. The combination with a pair of members comprising a whiffletree and its support, of a plate secured to one of the members provided with a recess on the side toward said member and a recess on the side toward the companion member, a plate secured to the companion member and situated within the last-named recess, and a bolt extending through the plates having its head located entirely within the first-named recess and being provided with means for preventing its rotation engaging the support.

7. The combination with a pair of members comprising a whiffletree and its support, of a circular plate secured to one of the members provided with a recess on the side toward said

member and an annular recess on the side toward the companion member, an annular plate secured to the companion member and situated within the last-named recess, and a
5 bolt extending through the plates having its head located entirely within the plate-recess and being provided with means for preventing its rotation engaging the support.

8. The combination with a whiffletree and
10 its support, of a plate secured to said support, a coacting plate secured to the whiffletree provided with a skirt or flange extending downward about the first-named plate and contacting at all times with the support, and a bolt
15 passing through the plates and support.

9. The combination with a whiffletree and its support, of a plate secured to said support, a coacting plate secured to the whiffletree provided with a skirt or flange extending downward about the first-named plate and contacting with the support, and a bolt provided with a squared portion passing through the plates and engaging the support whereby the rotation of said bolt is prevented.

25 10. A mounting for whiffletrees comprising a pair of coacting plates, and a bolt carrying a nut passing through the plates and adapted to turn freely therein and provided with lateral projections extending outside the plates
30 on the side toward the nut.

11. A mounting for whiffletrees comprising a pair of coacting plates, and a bolt carrying a nut passing through the plates and adapted to turn freely therein and provided with a

squared portion extending outside the plates 35 on the side toward the nut.

12. A mounting for whiffletrees comprising a plate provided with a countersunk recess and an oppositely-placed annular recess and being substantially equal in thickness to the
40 desired distance between the whiffletree and its support, an annular plate adapted to occupy the recess in the first plate, and a bolt provided with a squared portion passing through the plates and having its head situ- 45 ated in the countersunk recess.

13. A mounting for whiffletrees comprising a pair of coacting plates one of which is provided with a projection at its outside adapted to be forced into the member to which it
50 may be secured, and a bolt passing through the plates and carrying a nut on the side at which the projection is situated.

14. A mounting for whiffletrees comprising a pair of coacting plates one of which is pro- 55 vided with an annular reduced or sharpened projection at its outer side adapted to be forced into the member to which it may be secured, and a bolt passing through the plates and carrying a nut on the side at which the 60 projection is situated.

Signed by me at Boston, Massachusetts,
United States of America, this 9th day of October, 1901.

EDWIN W. M. BAILEY.

Witnesses:

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SYLVANUS H. COBB.