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PATENTED APR. 10, 1906.

J. R. PRING.
WHIFFLETREE COUPLING.
APPLICATION FILED APR. 17, 1905.

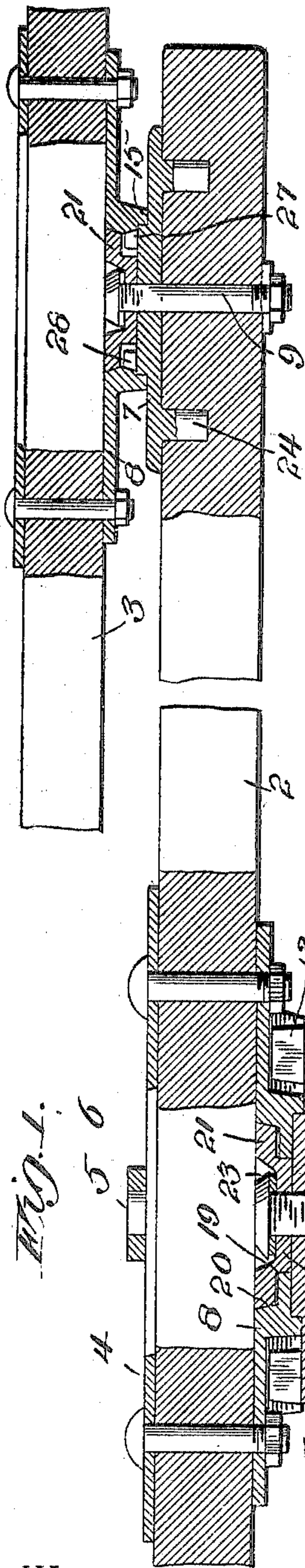


Fig. 1.

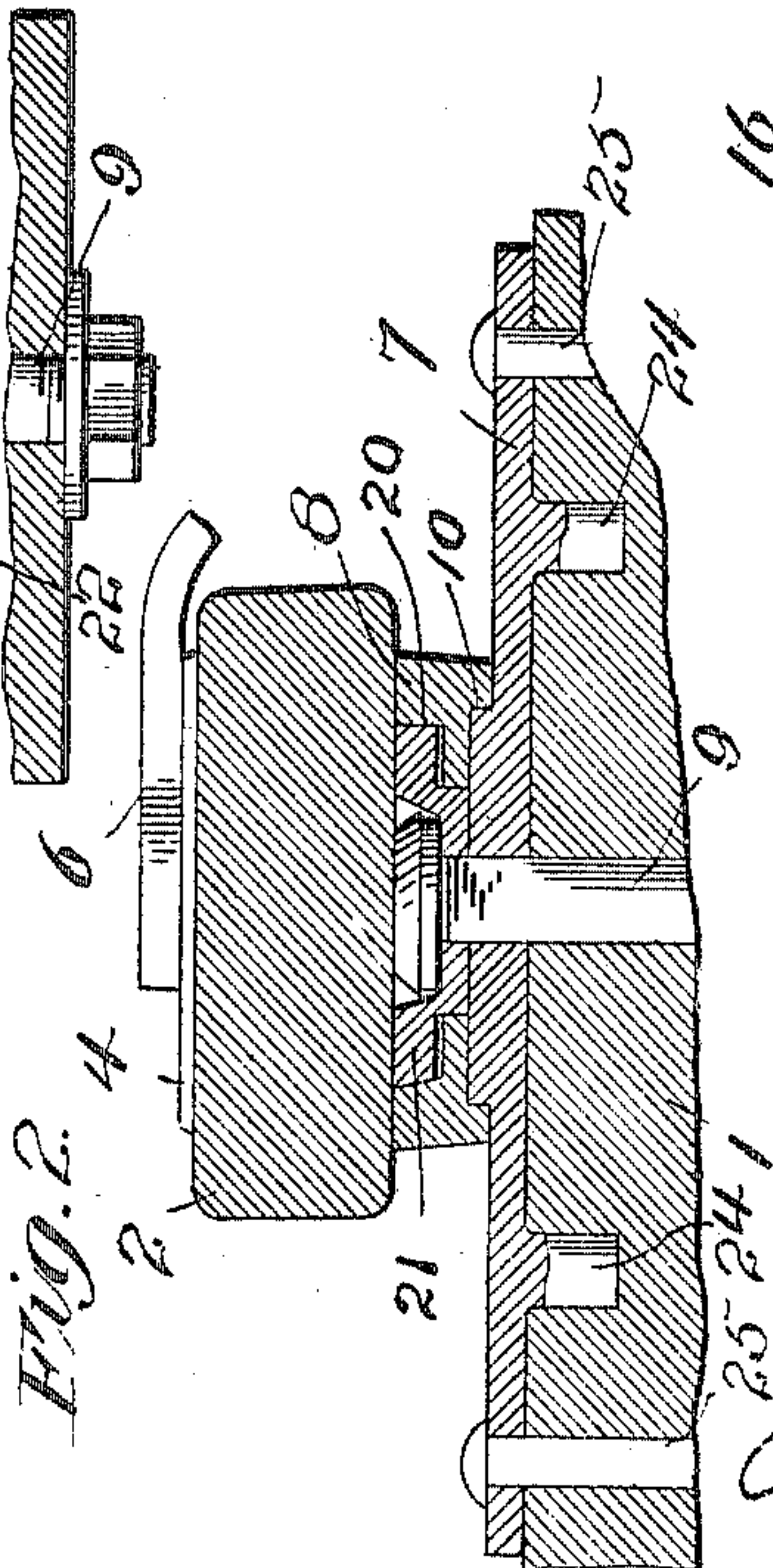


Fig. 2.

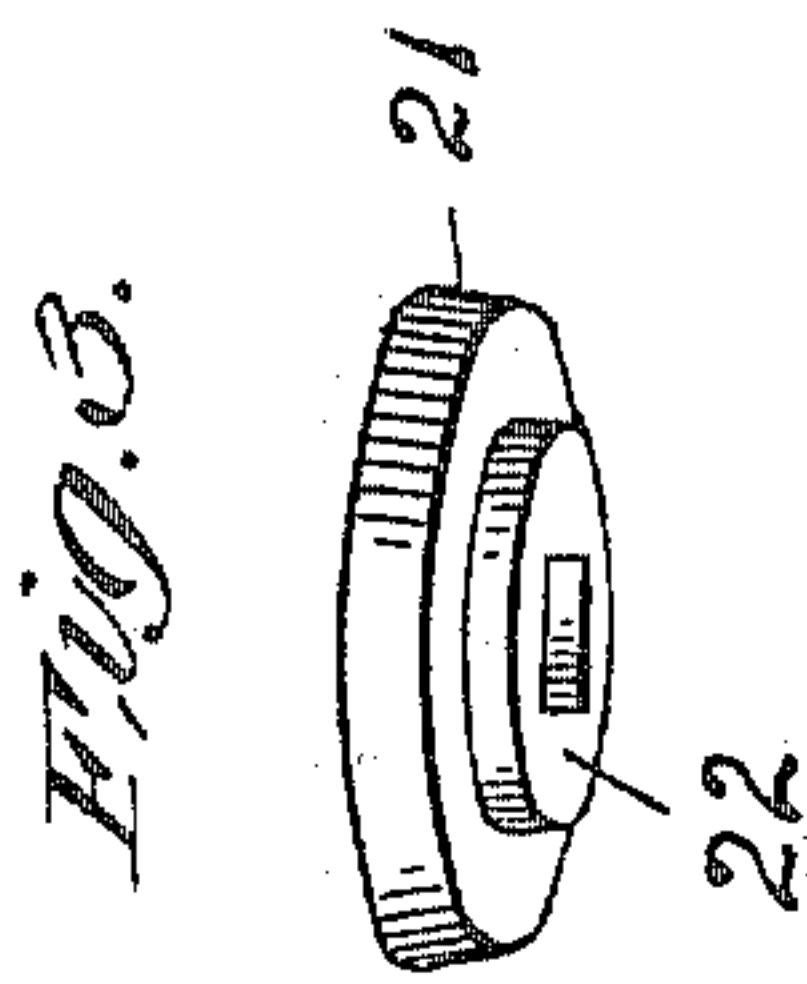


Fig. 3.

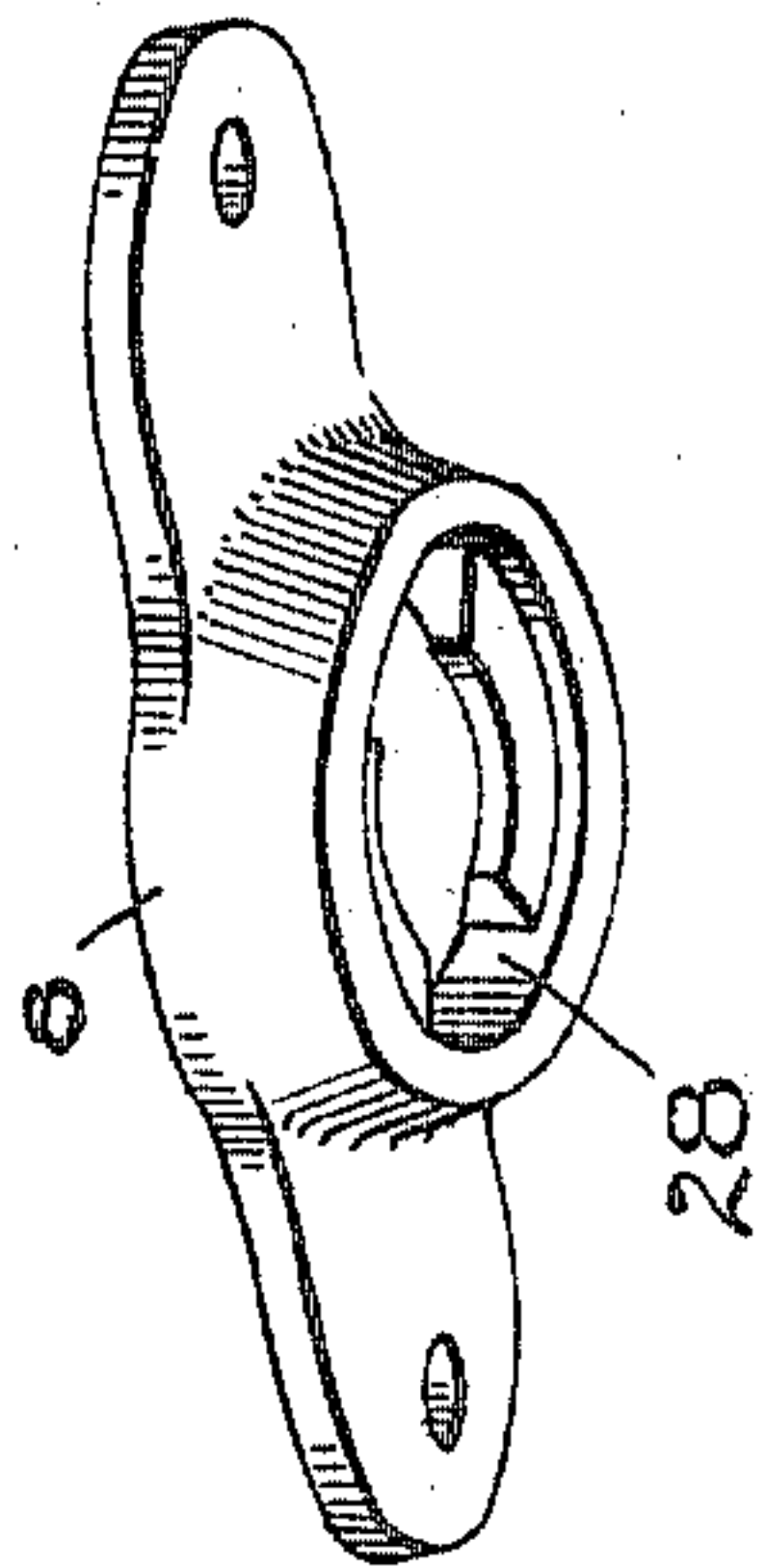


Fig. 4.

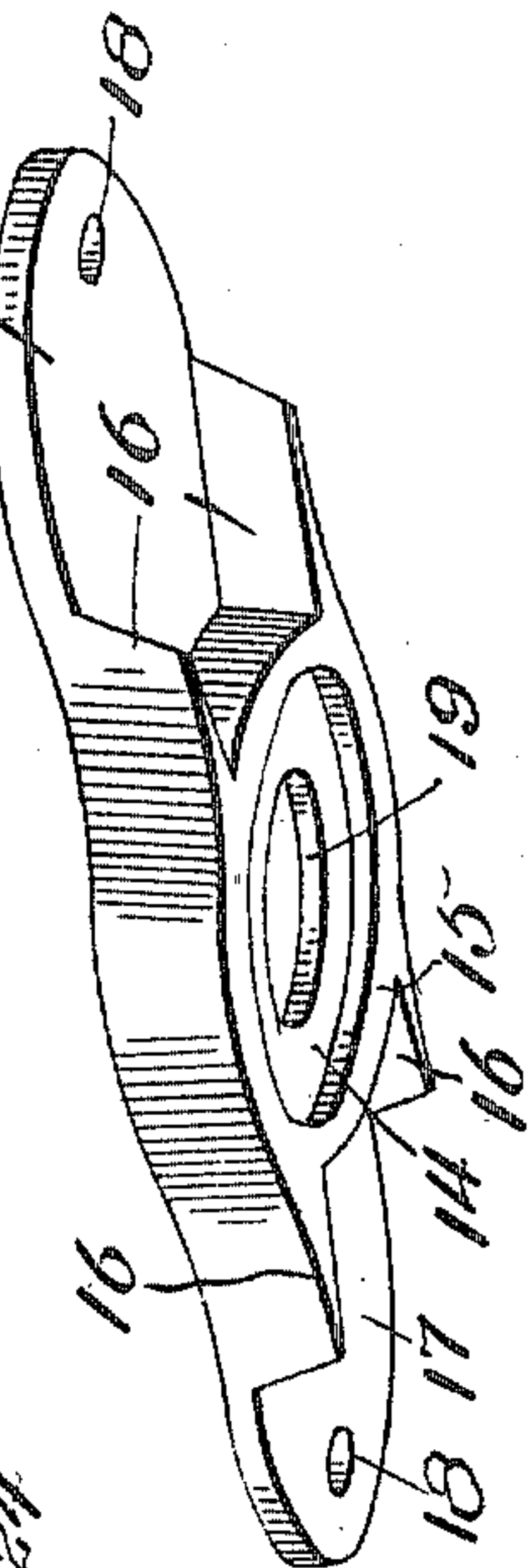


Fig. 5.

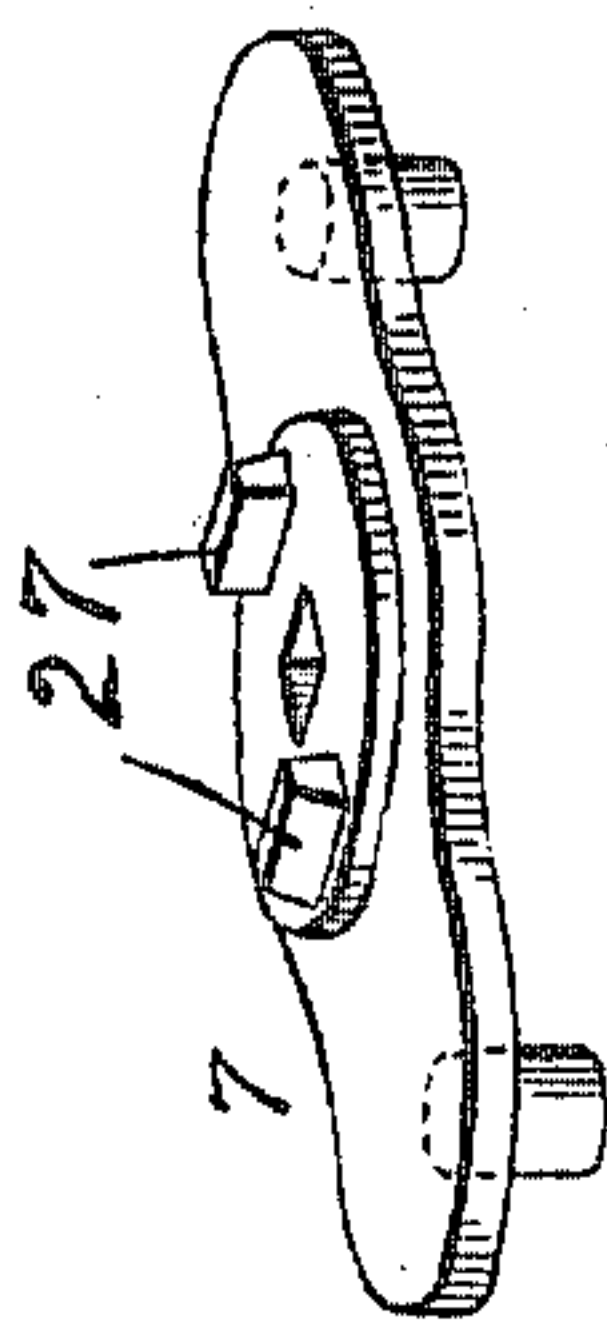


Fig. 6.

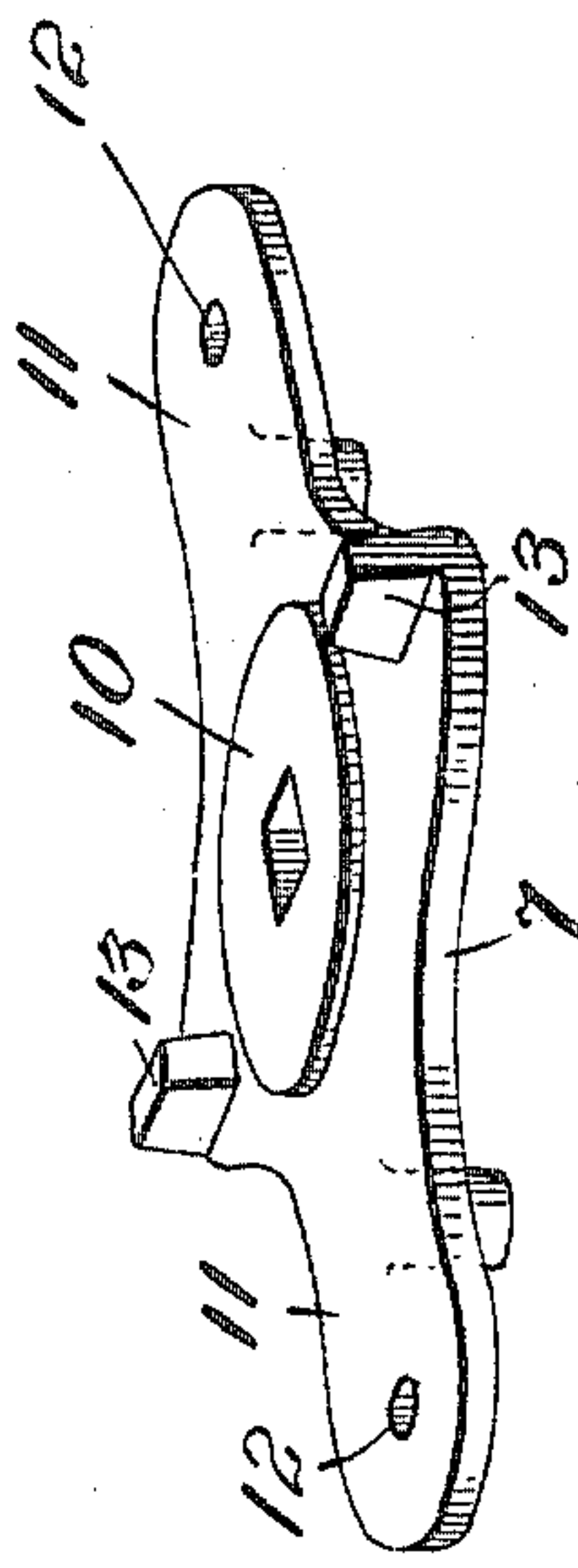


Fig. 7.

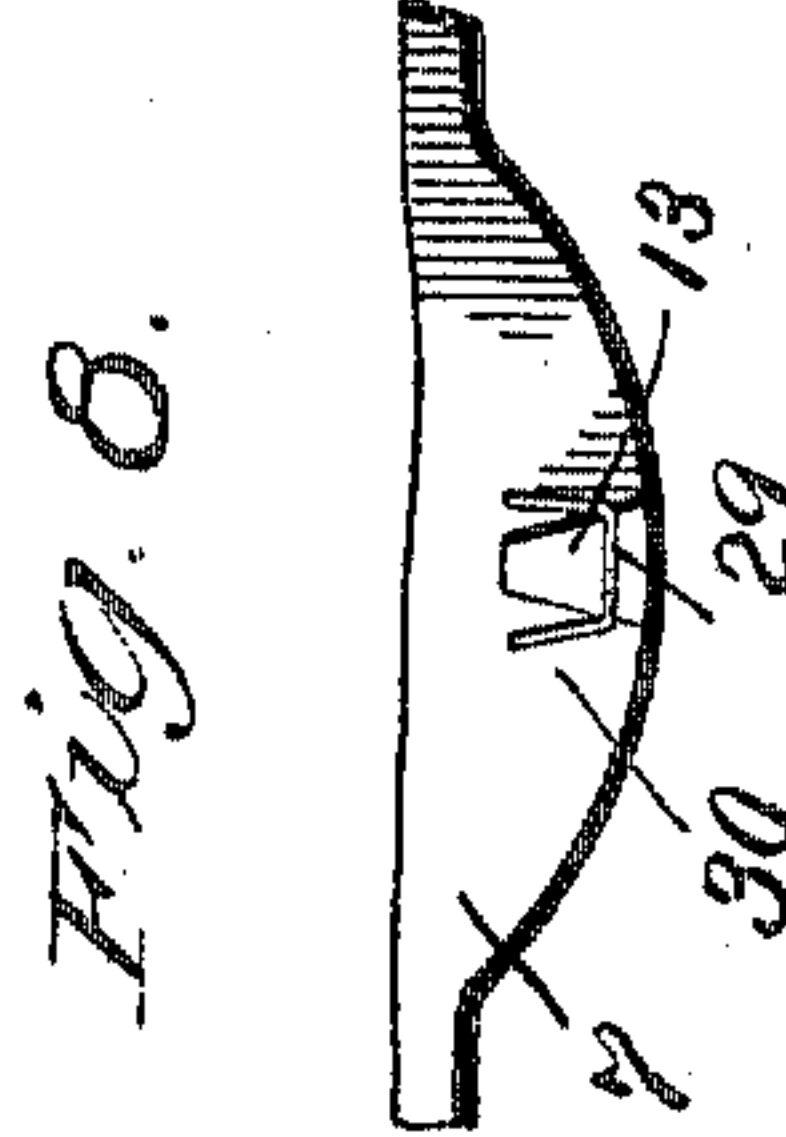


Fig. 8.

WITNESSES:

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WHIFFLETREE-COUPLING.

No. 817,335.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed April 17, 1905. Serial No. 255,934.

To all whom it may concern:

Be it known that I, JOHN R. PRING, a citizen of the United States, residing at Shawnee, in the county of Pottawatomie and Territory of Oklahoma, have invented a certain new and useful Whiffletree-Coupling, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to couplings for whiffletrees and the like, the object in view being to provide a coupling of the class described which may be used to connect a doubletree to the pole or tongue of a vehicle or to connect a swingletree to the doubletree or the cross-bar of thills or shafts, the construction involving novel means whereby one of the main members of the coupling is permitted to have a limited amount of pivotal movement relative to the other member to allow for the movements of the draft-animals, while at the same time dispensing with the usual stay-straps employed for that purpose.

Another object of the invention is to so construct the members of the coupling that the means for limiting their relative pivotal movement will be concealed and also protected in such manner that all wearing parts of the coupling members are kept clean and free from exposure to the weather, as well as dust, dirt, and other foreign matter, thus materially increasing the life and durability of the coupling as a whole.

Another object of the invention is to so construct the members of the coupling that the bearing-surface thereof is enlarged from that of the small bolt, as in ordinary couplings, to the extent that the width of the central portion of the doubletree or swingletree will just cover the friction-surface and enable the doubletree or swingletree to act as a shield and exclude dust and dirt from the bearing-surface, thus increasing the life and durability of the coupling members. By the construction hereinafter described one of the members may be partially turned upon the other member and the disk washer also adjusted by turning the same, so as to obtain a new bearing between the parts or bring a new bearing-surface into use, thus further adding to the life and durability of the coupling as a whole.

Another object of the invention is to so construct the coupling members as to overcome the tendency to bend the coupling-bolt and enable a larger coupling-bolt to be used

without weakening or impairing the strength of the doubletree or swingletree.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as herein fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a vertical section through a pair of couplings embodying the present invention, showing the same applied to a swingletree and doubletree, the latter being shown partly in elevation and partly in section and the vehicle pole or tongue being shown in cross-section. Fig. 2 is a vertical section taken at right angles to section 1 in line with the coupling-bolt. Fig. 3 is a perspective view of the disk washer. Fig. 4 is a reverse perspective view of the crown member of the coupling. Fig. 5 is a perspective view of the base member of the coupling for the pole or tongue. Figs. 6 and 7 are perspective views of the crown and base members, respectively, of the coupling modified with special reference to their use between a doubletree and swingletree. Fig. 8 is a detail view showing a buffer-spring used in connection with the stop-lugs of the base member.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

In the drawings, 1 designates a pole or tongue, 2 a doubletree, and 3 a swingletree, said parts being related in the usual manner.

4 represents a plate secured to the top of the doubletree and provided with a stud 5, which is received in an opening in the usual brace or strap 6, connected to the tongue.

The coupling of this invention as applied between the pole and doubletree embodies a base member 7 and a crown member 8, the said members being connected pivotally by a bolt 9 and disk washer, hereinafter described. The base member 7 is provided with a raised circular bearing-boss 10 and with extensions 11, reaching fore and aft, and formed with holes 12 to receive suitable bolts or fasteners whereby the member is secured to the upper side of the pole. The base member is also provided with upstanding stop-lugs 13, located at opposite sides of the bearing-boss 10, the purpose of which will appear.

The crown member 8 has a circular seat or bearing-surface 14, which rests and works upon the bearing-boss 10, and is surrounded

by an annular flange 15, which acts as a guard to keep out the weather and dirt and other foreign matter, thus keeping the parts of the bearing clean. Extending outward from the flange 15 are wings 16, which when the coupling members are properly associated are located on opposite sides of the lugs 13 and act as stop-shoulders in connection with said lugs to limit the turning movement of the crown member within the proper bounds, thus dispensing with the usual stay-straps used for the same purpose. The member 8 is provided with extensions 17, similar to those 11 of the base member, and provided with holes 18 to receive bolts or other fasteners for securing the member 8 to the under side of the doubletree.

The crown member 8 is provided with a central circular opening 19, and the upper side of said member is rabbeted around said opening, as shown at 20, to form a seat or recess in which is placed a disk washer 21, the upper surface of which is substantially flush with the corresponding surface of the crown member, as shown. Said washer is provided on its lower side with a circular boss 22, which extends through the central opening 19 and bears directly on the boss 10, being firmly held against the same by the bolt 9, the head of which is received flush in the recess 23 in the upper side of the washer 21. The crown member is thus left free to turn easily upon the base member and disk-washer without liability of binding. The bolt-openings in the washer 21 and the base member 7 are preferably square to receive the squared portion of the bolt-shank and prevent turning of the same while placing the usual nut on the lower end of the bolt. The base member 7 is also provided with downwardly-projecting studs 24, which fit into sockets in the pole, as shown, to relieve the strain on the securing-bolts (shown at 25) and also the bolt 9.

The coupling members used between the doubletree and swingletree are substantially the same as those hereinabove described, except that the stop-lugs (shown at 27) are curved or segmental to work in segmental notches 28 in the crown member 8 and the base member is disposed lengthwise at right angles to the crown member.

If desired, each of the stop-lugs 13 may be provided with a slot or kerf 29, in which is fitted the central or connecting portion of a two-armed or U-shaped spring 30, which cushions the impact of the stop-lugs against the shoulders 16. By bending the arms or terminal portions of the spring, more or less free play may be given to the crown member of the coupling.

Having described the invention, I claim—

1. In a coupling of the class described, a base member provided with a raised circular bearing-boss, a crown member having a bearing-face resting and working on said boss and provided with an annular flange surrounding the boss and further provided with a rabbeted circular opening, a disk washer removably fitted in said rabbeted opening and provided with a circular boss which projects through the crown member and rests on the bearing-boss of the base member, and a bolt passing through the disk washer and base member and having its head seated flush in a recess in the disk washer.

2. In a coupling of the class described, a base member provided with a raised bearing-boss and stop-lugs located at opposite sides thereof, a crown member working on said base and having an annular flange which embraces the boss, a bolt, a disk washer pivotally connecting said members and recessed to receive the head of said bolt, and wings extending outward from said flange and lying on opposite sides of the stop-lugs, said wings forming stop-shoulders which cooperate with the stop-lugs to limit the pivotal movement of the members.

3. In a coupling of the class described, base and crown members connected for relative pivotal movement, cooperating lugs and shoulders on said members for limiting such relative pivotal movement, and one or more spring-buffers associated with the limiting means, substantially as and for the purpose described.

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

JOHN R. PRING.

Witnesses:

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WILLIAM S. JOHNSTON.