This invention relates to swivels for use in well drilling and more particularly to a device for use in rotary well drilling operations for conducting water through the drill pipe.

An important object of the invention is to provide a device of this character which may be substituted for the usual drilling swivel when pulling or inserting drill pipe.

The ordinary swivel is rather clumsy and difficult to handle and accordingly cannot be employed with facility under conditions where it must be rapidly changed from pipe to pipe, as it would be where the pipe is being inserted or withdrawn. At the same time, it is often necessary that wash-water be introduced to the drill pipe when being inserted or withdrawn, due to the fact that the movement of the pipe jars down particles, which tend to jam the pipe and prevent its movement and these particles must be removed by wash-water before the operation can be continued.

A further object of the invention is to provide a device of this character which may be readily and cheaply produced, which may be readily adjusted to insure a tight joint between the coupling and the wash pipe proper and which, if desired, may be employed as a means for suspending the pipe during an operation of this character.

These and other objects I attain by the construction shown in the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein:

Figure 1 is a side elevation of a swivel constructed in accordance with my invention;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a fragmentary section on the line 3—3 of Figure 2.

Referring now more particularly to the drawings, the numeral 10 generally designates a member externally threaded for engagement in a drill pipe coupling, this member having a bore 11 for the passage of a wash pipe 12 and having the upper end of the bore recessed at 13 to provide a packing chamber within which packing 14 may be positioned about the wash pipe. A gland 15 of any usual construction is provided upon the upper end of this member for tightening the packing about the wash pipe. Arising from the member 10, at diametrically opposed points, are columns 16 which are of greater width than the diameter of the wash pipe and which accordingly provide a shield against accidental engagement of tools or materials with the wash pipe. These columns further provide flats 17 which may be engaged by the usual bit wrench to screw or unscrew the member 10 from the drill pipe coupling. The upper ends of these columns support a cup 17, the lower wall of which has an opening 18 for the passage of the wash pipe 12. An adjusting nut 19 has threaded engagement with the interior of the side wall of the cup and is provided with a bore 20 for passage of the wash pipe. Between adjacent faces of the bottom wall of the cup and of the nut 19, the wash pipe 12 is provided with a flange 21 and between this flange and the bottom wall of the cup and the flange and the bottom face of the nut are arranged the fast bearings 22.

The adjusting nut 19 has upon its upper surface a series of upstanding lugs 23 for engagement with a wrench employed for adjusting the nut and the side wall of the cup has an opening 24 formed therethrough through which a lock pin 25 may be inserted to extend into the path of the lugs 23 and prevent rotation of the nut. The upper end of the wash pipe is provided with an angular extension, preferably by attaching an L 26 thereto, which L has its free end 27 adapted for connection with the pressure holes. The L in axial alignment with the wash pipe is formed with an eye 28 in which is engaged a ring 29 to which the hoisting apparatus may be connected.

It will be obvious that by employing a construction of this character, a relatively light and readily manipulated swivel coupling is provided, which is adapted for engagement with the usual wrenches employed in the operations of inserting or withdrawing a drill pipe. It will furthermore be obvious that such a structure may be relatively cheaply produced and will be durable and efficient in service.

Since the construction hereinbefore set forth is capable of a certain range of change and modification without materially departing from the spirit of the invention, I do not limit myself to such specific structure except as hereinafter claimed.

I claim:

1. In a swivel of the type described and in combination with a wash pipe, a member...
exteriorly threaded to engage in a drill pipe coupling and having a bore for the passage of the wash pipe, the bore of the member being enlarged at its upper end to produce a packing chamber, a gland for said chamber, columns arising from the member at diametrically opposed points, a cup supported by said column and having an opening in its bottom for the passage of the wash pipe, the wash pipe within the cup being provided with a flange, a nut surrounding the wash pipe and having threaded engagement with the interior of the wall of the cup, thrust bearings between the nut and said flange and between the flange and the bottom of the cup and means at the upper end of the wash pipe for attaching the wash pipe to hoisting apparatus and to a source of fluid under pressure.

2. In a swivel of the type described and in combination with a wash pipe, a member exteriorly threaded to engage in a drill pipe coupling and having a bore for the passage of the wash pipe, the bore of the member being enlarged at its upper end to

produce a packing chamber, a gland for said chamber, columns arising from the member at diametrically opposed points, a cup supported by said column and having an opening in its bottom for the passage of the wash pipe, the wash pipe within the cup being provided with a flange, a nut surrounding the wash pipe and having threaded engagement with the interior of the wall of the cup, thrust bearings between the cup and said flange and between the flange and the bottom of the cup and means at the upper end of the washer pipe for attaching the wash pipe to hoisting apparatus and to a source of fluid under pressure.

In testimony whereof I hereunto affix my signature.

WALTER BRAUER.