E. F. CORTINAS.

RIVET CATCHER.

APPLICATION FILED FEB. 21, 1912.

1,035,161.

Patented Aug. 13, 1912.

2 SHEETS—SHEET 1.

Fig. 1

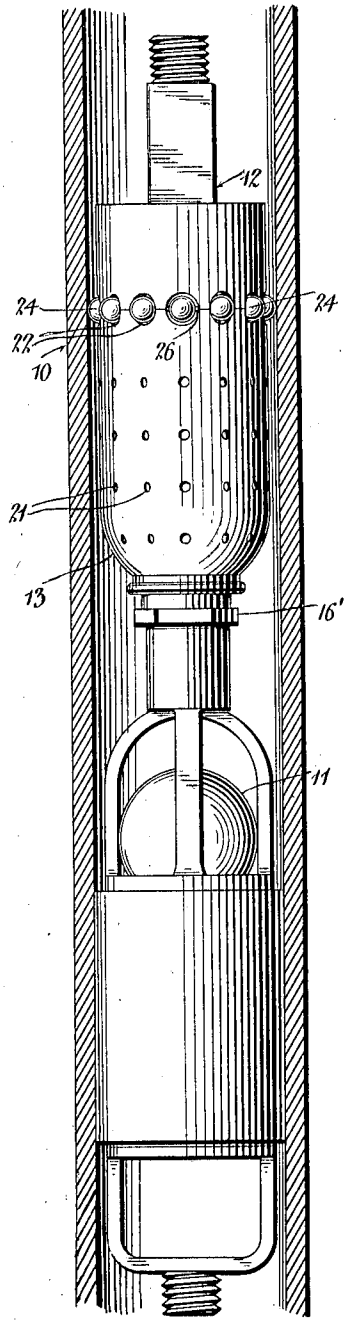
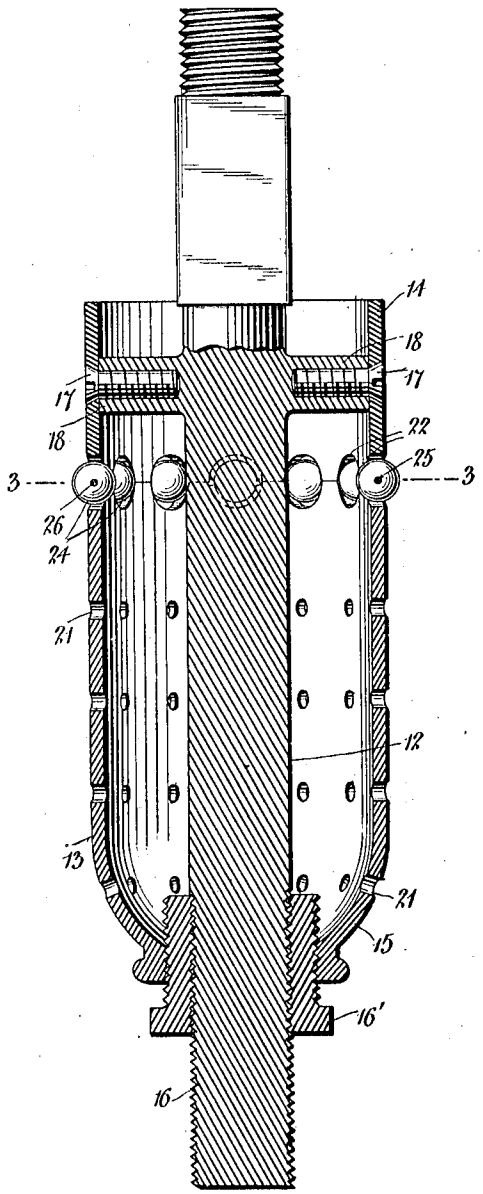


Fig. 2



Witnesses

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2 SHEETS—SHEET 2.

FIG. 4

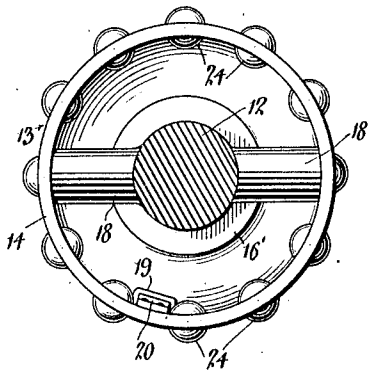


FIG. 5

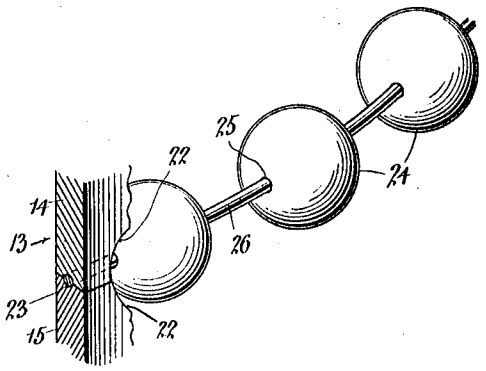


FIG. 3

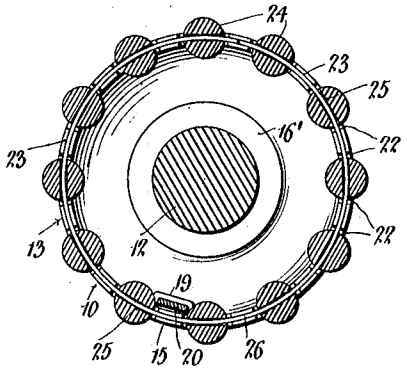
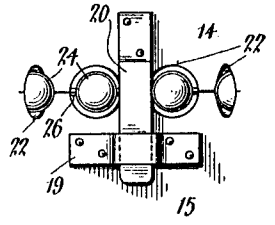


FIG. 6



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UNITED STATES PATENT OFFICE.

EUGENIO F. CORTINAS, OF BREAUX BRIDGE, LOUISIANA.

RIVET-CATCHER.

1,035,161. Specification of Letters Patent. Patented Aug. 13, 1912.

Application filed February 21, 1912. Serial No. 679,066.

To all whom it may concern:

Be it known that I, EUGENIO F. CORTINAS, a citizen of the United States, residing at Breaux Bridge, in the parish of St. Martin, State of Louisiana, have invented certain new and useful Improvements in Rivet-Catchers; and I 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.

This invention relates to rivet catchers for oil wells and has for an object to provide a novel rivet catcher which will be equipped with ball bearings which ride upon the inner wall of the working barrel without mutilating the latter as is done with most of the ordinary rivet catchers now in general use.

With the above object in view the invention consists of certain novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings forming part of this specification:—Figure 1 is a vertical sectional view through a portion of the pump or well tube showing the upper valve and a portion of its piston rod having my improved device applied thereto. Fig. 2 is an enlarged longitudinal sectional view through the rivet catcher. Fig. 3 is a cross sectional view taken on the line 3—3 Fig. 2. Fig. 4 is a plan view of the rivet catcher. Fig. 5 is a detail perspective view of the ball bearings assembled with their annular shaft. Fig. 6 is a fragmentary view in elevation showing the means for connecting together the parts of the rivet catcher.

In oil well pumps, a rivet catcher in the nature of a cup is attached to the pump piston rod above the upper valve of the pump to catch rivets falling through the pump tube because of the breakage of the rivets by which the several sections of the piston rod are held together. The rivet catcher surrounds the piston rod and closely fits within the pump or well tube whereby as is obvious both rivet catcher and pump tube become so worn as to interfere with the proper working of the parts.

To obviate this disadvantage is the object of this invention, and is satisfactorily accomplished thereby.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates the working barrel or tube of the pump, 11 the upper valve which is the same in construction as ordinary valves of oil well pumps, and 12 the piston rod of the pump.

Above the upper end of the valve 11 and on the piston rod is secured a cup shaped vessel 13 consisting of an upper half 14 and a lower half 15, both parts encircling the piston rod and being of such diameter as to loosely fit within the working barrel. The piston rod is threaded as shown at 16, the lower half of the vessel being provided in the bottom with a threaded nut 16′ to snugly receive said threaded portion. Set screws 17 are threaded through the upper half of the vessel and into interiorly threaded socket members 18 integral with the piston rod. The lower half is furthermore equipped interiorly with a strap bracket 19 into which a tongue 20 carried by the upper half is engaged to prevent relative twisting movement of the halves on the piston rod. The lower half is furthermore provided with perforations 21 to permit passage of liquid up through it from the pump valve. Formed in the meeting edges of both halves are semicircular openings which coöperate in forming circular openings 22. The meeting edges of both halves intermediate the openings are provided with semicircular grooves which coöperate in forming cylindrical passages 23 which connect the circular openings. In each circular opening 22 is loosely fitted a ball 24 having an axial smooth cylindrical opening 25 which alines with the passages 23 on both sides of said circular opening. An annular wire shaft 26 is passed through the passages 23 and through the openings 25 of the balls. The balls are of sufficient size to project beyond the outer face of the cup shaped vessel and ride upon the inner wall of the pump barrel, these balls rotating during the reciprocating movement of the vessel in the pump barrel and forming ball bearings for the former.

In assembling the parts, the balls may be passed on to the annular shaft as shown in Fig. 4, the shaft then placed in the grooves formed on the upper edge of the lower half of the rivet catcher, and finally the upper half of the rivet catcher placed upon the lower half in which position of the parts the shaft is clamped between both halves.

From the above description it will be seen that the ball bearings carried by the rivet catcher bear with minimum friction upon the inner wall of the pump barrel with resultant minimum wear upon both parts so that the annoyance usually found in ordinary rivet catchers above pointed out is entirely obviated.

What is claimed, is:—

1. The combination with a piston rod, of a rivet catcher formed in two parts, a ring clamped between said parts, and a plurality of ball bearings on said ring projecting beyond the outer face of said rivet catcher.

2. The combination with a piston rod of a rivet catcher formed in two parts and provided in their meeting edges with a continuous series of channels and openings, a ring clamped between said parts in said channels, and a plurality of ball bearings mounted to turn on said ring within said openings and extending beyond the outer face of said rivet catcher.

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

EUGENIO F. CORTINAS.

Witnesses:
ANASTA PATIN,
WESTON J. MÉLANCON.