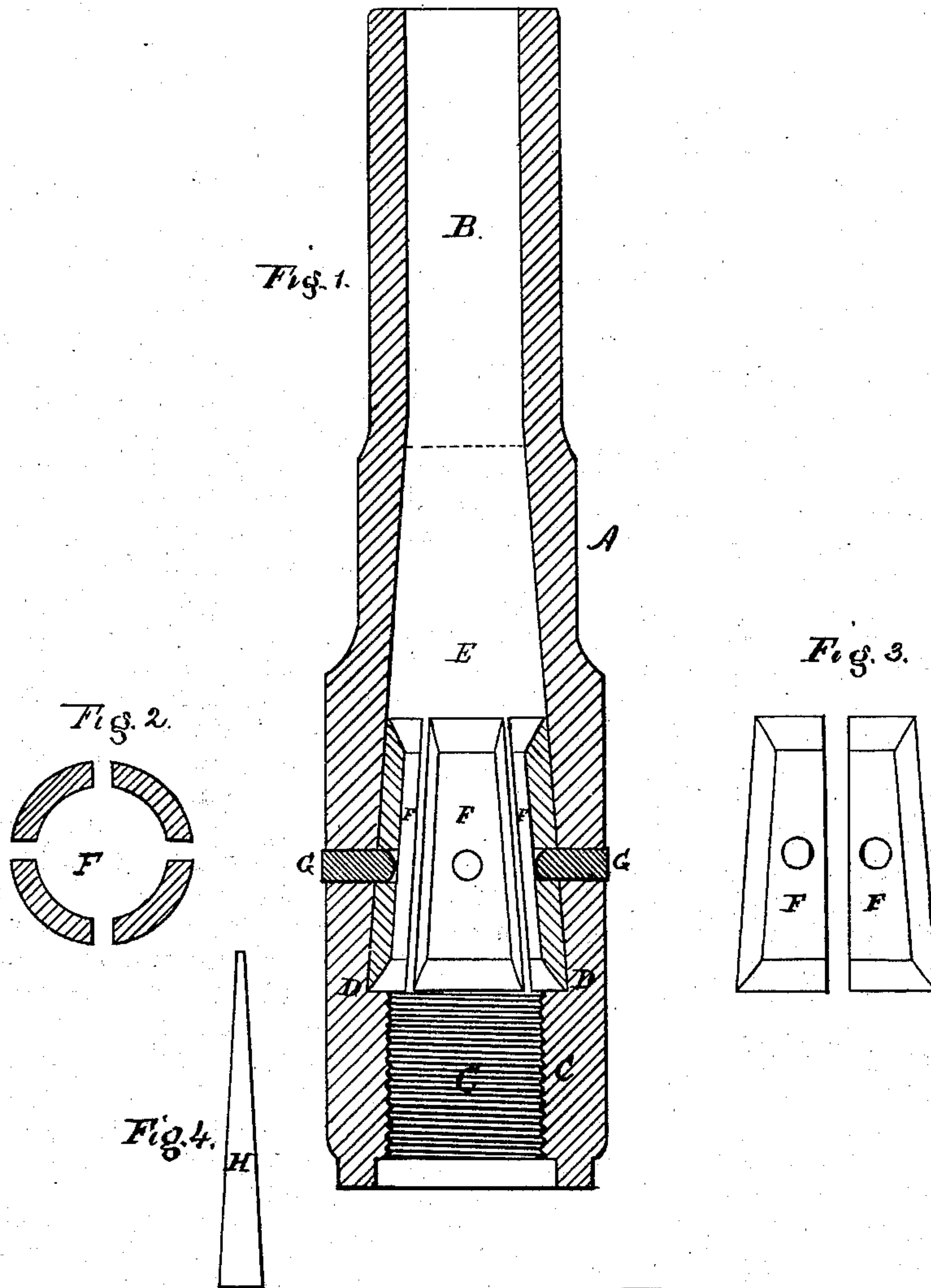


S. BUCKLEY & W. FORKER.
Rope-Sockets.

No. 157,675.

Patented Dec. 15, 1874.



WITNESSES
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UNITED STATES PATENT OFFICE

SAMUEL BUCKLEY, OF PARKER'S CITY, AND WILLIAM FORKER, OF ROCKLAND TOWNSHIP, VENANGO COUNTY, PENNSYLVANIA.

IMPROVEMENT IN ROPE-SOCKETS.

Specification forming part of Letters Patent No. **157,675**, dated December 15, 1874; application filed June 2, 1874.

To all whom it may concern:

Be it known that we, SAMUEL BUCKLEY, of Parker's City, Armstrong county, and WILLIAM FORKER, of Rockland township, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Rope-Sockets; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a vertical section of my improved rope-socket. Fig. 2 is a cross-section of the slips or wickers. Fig. 3 is a side view of two of the slips or wickers, and Fig. 4 is a view of the taper wedge.

Like letters indicate like parts in each.

Our invention relates to a socket for attaching the rope to tools used in boring oil and other artesian wells.

As the tools used in boring oil-wells are very heavy—say from fifteen hundred to twenty-five hundred pounds—the connection between the rope and the socket must be very strong to bear the strain put upon it.

By our invention we are enabled to fasten the rope so securely that it is almost impossible to break the connection.

Our invention consists in chambering or boring out the taper hole of a rope-socket to a larger diameter than that of the bore, for connecting the rope-socket to the drilling-tools, and inserting in the enlarged bore slips or wickers, made of brass or other suitable material, with pins passing through the sides of the socket to fasten the slips to the rope.

To enable others skilled in the art to make and use our invention, we will describe its construction and manner of use.

In the drawing, A represents the rope-socket, the inner diameter of the upper part B being the same as that of the thickness of the rope used, the lower part C having the screw-thread for connecting it with the tools. Just above the screw-thread C the diameter of the passage is increased, so as to form a shoulder, D, and thence tapers rapidly down to the point marked by dotted lines. Within the tapered recess are placed the slips or wickers F, which have the same taper as the hole E. The slips F are held in position by

the pins G passing through the sides of the socket.

The mode of attaching the rope is as follows: The rope is passed through the top B, and drawn through the lower end or thread-bore C. It is then unraveled for a distance of about five inches, and turned up and wrapped with twine, thus enlarging the end of the rope to the same size as the diameter of the thread-bore C. It is then drawn back until the enlarged end of the rope presses against the slips F. The pins G are driven part way into the rope, and the taper wedge H inserted through the thread-bore C into the end of the rope between the strands. The pins are then driven all the way through the box, leaving the ends of the pins sticking in the slips F, pinning the slips to the rope. The rope will draw the slips up the taper hole until they reach the dotted line shown in the drawing, where the slips close together and form a hollow cylinder, much smaller than the bore B, thus preventing them from drawing too far and cutting the rope. As the slips move up the taper hole they close in on the rope, clamping it so tight as to render it impossible for the rope to draw through.

By chambering the taper E back of the thread-bore C we are enabled to increase the pitch of the space through which the slips move or are drawn, which gives greater clamping power to the slips, and enables them to take a much stronger hold on the rope.

Having thus described our invention, what we claim is—

1. In combination with the rope-socket A, the taper slips F, adapted to be attached to the rope by means of the pins G, substantially as and for the purposes set forth.

2. In combination with the rope-socket A, having taper hole E, the slips F, and taper wedge H, substantially as and for the purposes set forth.

In testimony whereof we, the said SAMUEL BUCKLEY and WILLIAM FORKER, have hereunto set our hands.

SAMUEL BUCKLEY.
WILLIAM FORKER.

Witnesses:

W. N. PAXTON,
JAMES I. KAY.