F. E. QUINN.

DRILL-JARS.

No. 186,617. Patented Jan. 23, 1877.

Fig. 1.

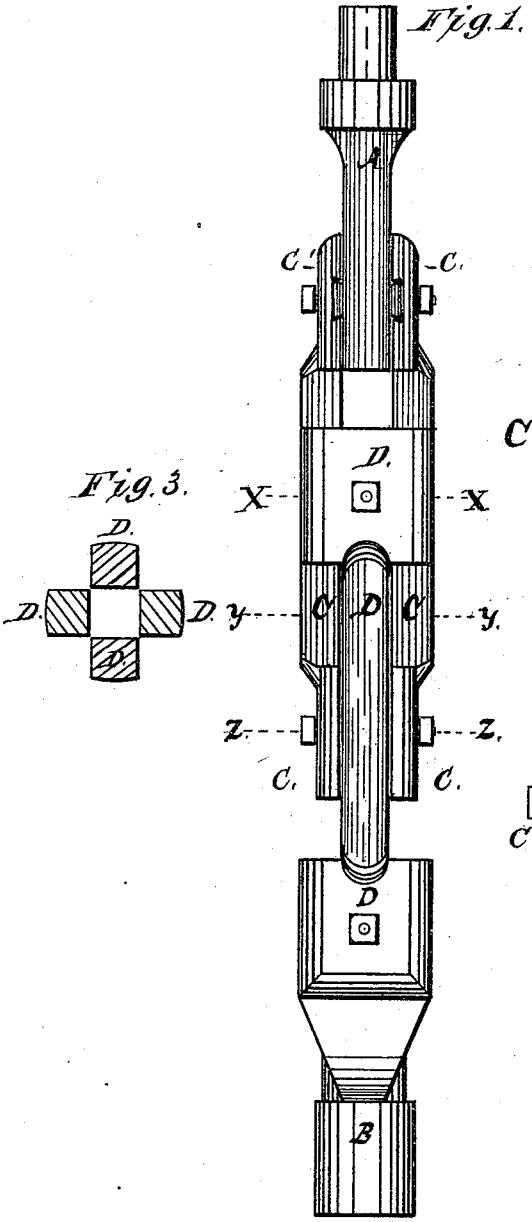


Fig. 2.

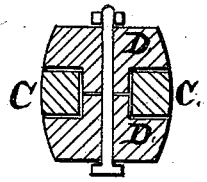
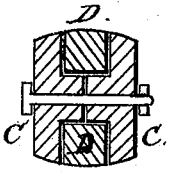


Fig. 3.

Fig. 4.



Witnesses.
Geo. A. Sturgeon
L. H. Hall

Frank E. Quinn
Inventor
By Sturgeon & Hallock

UNITED STATES PATENT OFFICE.

FRANK E. QUINN, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN DRILL-JARS.

Specification forming part of Letters Patent No. **186,617**, dated January 23, 1877; application filed September 20, 1876.

To all whom it may concern:

Be it known that I, FRANK E. QUINN, of Erie, in the county of Erie and State of Pennsylvania, have invented a new and useful Improvement in Drilling-Jars; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the construction of drill-jars for drilling oil-wells or Artesian wells; and consists in making the links of pieces of metal so formed as to be bolted or riveted together, in place of making them by welding the links; and, further, in providing the sides of the links with guides, so there will be no twisting, the only movement of the parts being that of sliding together or pulling apart—that is, so as to destroy the jar or concussion.

My device is shown in the accompanying drawing, as follows: Figure 1 is a front elevation of my device. Fig. 2 is a transverse horizontal section on the line *x x*, Fig. 1. Fig. 3 is a similar section on the line *y y*, and Fig. 4 is the same on the line *z z*.

A is that part of the jar which attaches to the parts above it, or, as it is commonly called, the "male," and B is that part which attaches to the drill shank or rod, and is commonly called the "female." To the ends or shanks of the jar are attached the parts forming the links. These parts are attached together by dovetailing and by a rivet or bolt, as seen at the upper part of Fig. 1, near the letters C C. The same form of construction is followed at the opposite end B; but the position of the device is such as to not show it. The upper link in the drawing is shown flatwise, and the lower one edgewise. The upper link is made of two parts, C C, and the lower of the two parts D D. These parts are all alike. The ends of these parts which attach to the shanks A and B are provided with a dovetail-groove, as before intimated. The form of the opposite end is shown at D D, Fig. 2, and C C, Fig. 4, and Fig. 3 shows the form given them between the ends, or in the middle, and this figure shows how the parts of the link where the openings are are related to each other.

Figs. 2 and 4 show the form of the ends of the link-pieces, and how they are united by a bolt or rivet to form the link, as in Fig. 2. D D are the upper ends of the lower link, and C C are the central portion of the upper link. The form given these ends, whereby they lap over the central parts of the other link, forms a guide to the links, and prevents a twisting movement, and allows only a sliding movement in the link.

The object in this construction is to prevent the drill from glancing when it strikes a seam or flinty vein in the rock, and thus insuring a true and evenly-drilled hole.

The object in constructing the links of pieces or parts C C and D D, and bolting or riveting them together, is that the links can then be made of cast-steel, if desired; and another reason for this construction is, that the sides of the link are sure to be of equal length; and, further, in case one of the links is broken, it can be more easily repaired, and, when repaired, the sides are sure to be of the same length.

What I claim as my invention is—

Drilling-jars the links of which are made of parts C C and D D, bolted or riveted together, and operating substantially as and for the purposes mentioned.

In testimony whereof I, the said FRANK E. QUINN, have hereunto set my hand.

FRANK E. QUINN.

Witnesses:

JNO. K. HALLOCK,

GEO. B. HECKLINGER.