

(No Model.)

C. F. RIGBY.
DRILL JAR.

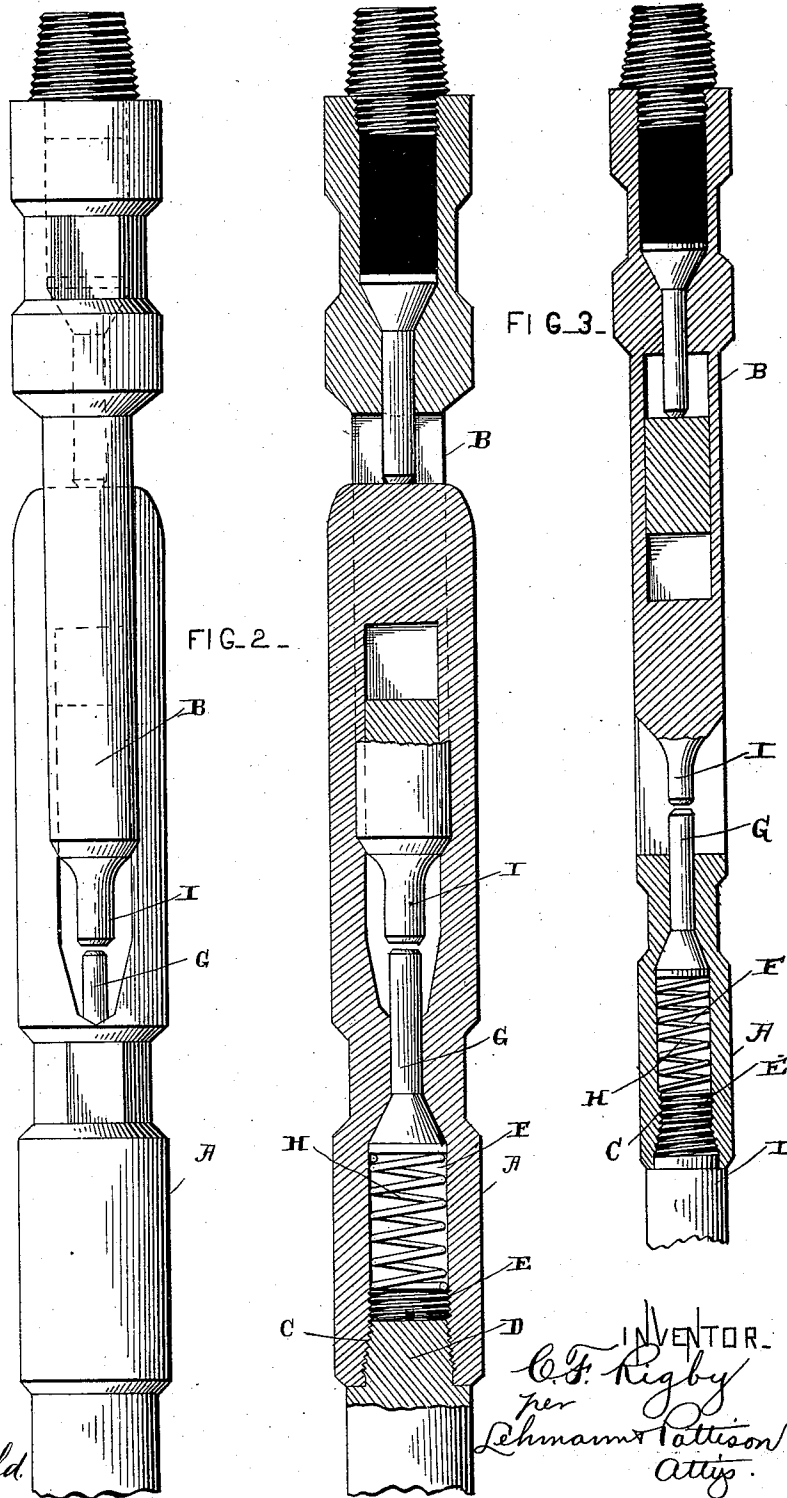
No. 466,259.

Patented Dec. 29, 1891.

FIG. 1-

FIG. 2-

FIG. 3-



WITNESSES.

Sw. & Truch.
R. Fitzgerald

INVENTOR.

C. F. Rigby
per
Lehmann & Patterson
Attys.

UNITED STATES PATENT OFFICE.

CLARK F. RIGBY, OF CORAOPOLIS, PENNSYLVANIA.

DRILL-JAR.

SPECIFICATION forming part of Letters Patent No. 466,259, dated December 29, 1891.

Application filed August 31, 1891. Serial No. 404,335. (No model.)

To all whom it may concern:

Be it known that I, CLARK F. RIGBY, of Coraopolis, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Drill-Jars; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in drill-jars; and it consists in certain novel features of construction and in the combination and arrangement of parts, which will be fully described hereinafter, and more particularly referred to in the claims hereto annexed.

The object of my invention is to interpose compensators or cushions of improved construction at the meeting points of the drill-jar members.

In the accompanying drawings, Figure 1 is a side elevation of my improved jar, and Figs. 2 and 3 are vertical sectional views of the same.

A represents the lower member of the jar, to which the drill is secured and which is provided with a slotted upper end, in which moves the upper member B, to which the lifting rope or cable is secured. The lower end of the portion A is provided with the tapering screw-threaded socket C, in which fits the tapering shank D, on the upper end of the drill-holder. The socket C is extended inward with parallel sides, as shown, the outer end of the straight portion of the socket being screw-threaded, as shown, for the reception of the screw-plug E. The upper end of the socket is connected by the contracted opening F with the slotted portion of the member A, and through the opening F extends the contracted end of the follower G, which is held in an extended position by the coiled spring H, interposed between it and the plug E. Rubber or other elastic material may be substituted for this spring, if preferred. The lower end of the portion B is reduced, as shown at I, and these meeting points of the follower and the said end are constructed of hardened steel or other hard metal, so as to bear the heavy shock when the drill strikes the ground or rock. The portion B is provided with a

screw-threaded socket for the reception of the clamp to which the cable is secured, and also with a cushioned follower of the same construction as that above described.

It is obvious that when the slotted ends of the members of the jar move upon each other when the rock or other matter is struck their respective ends will come in contact with the followers and the force in this manner greatly reduced before the said members come solidly together.

When the upper member B is not weighted, one spring-follower will be sufficient to arrest the shock; but when the said portion is made very heavy, which is frequently done to keep the rope or cable stretched in the downward stroke, both followers are required to reduce the force of the blow.

Having thus described my invention, I claim—

1. In a drill-jar, the members provided with slotted meeting ends and recessed outer ends, the said slots and recesses being connected, followers moving in the said recesses and projecting into the slots, and springs confined behind the followers within the said recesses, the parts being combined to operate substantially as shown and described.

2. In a drill-jar, the members provided with slotted meeting ends and recessed outer ends, the said slots and recesses being connected, followers moving in the said recesses and projecting into the slots, springs arranged behind the followers within the recesses, and plugs which confine the said springs in position, the parts being combined to operate substantially as shown and described.

3. In a drill-jar, the members constructed with slotted inner ends and recesses in their outer ends which extend inward to the said slots, the inner ends of the recesses being contracted, followers in the recesses which extend into the slots, heads formed on the followers, whereby they are confined in the recesses, and springs for holding the followers normally extended, the parts being combined to operate substantially as shown and described.

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

C. F. RIGBY.

Witnesses:

HADDON ERNEST TAX,
ALBERT L. CARROLL.