No. 723,782. PATENTED MAR. 24, 1903.

F. H. NORRIS.

DRILLING JAR.

APPLICATION FILED AUG. 7, 1902.

NO MODEL.

Fig 1.

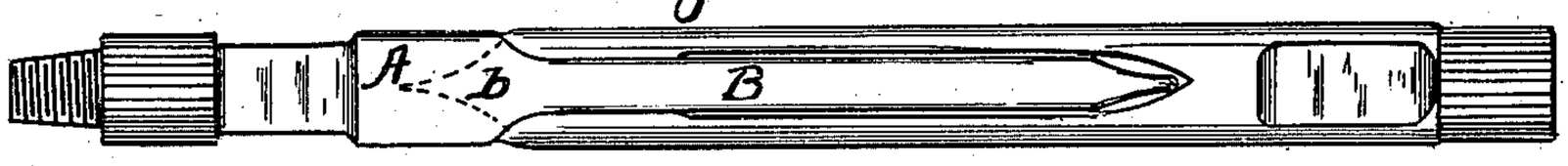
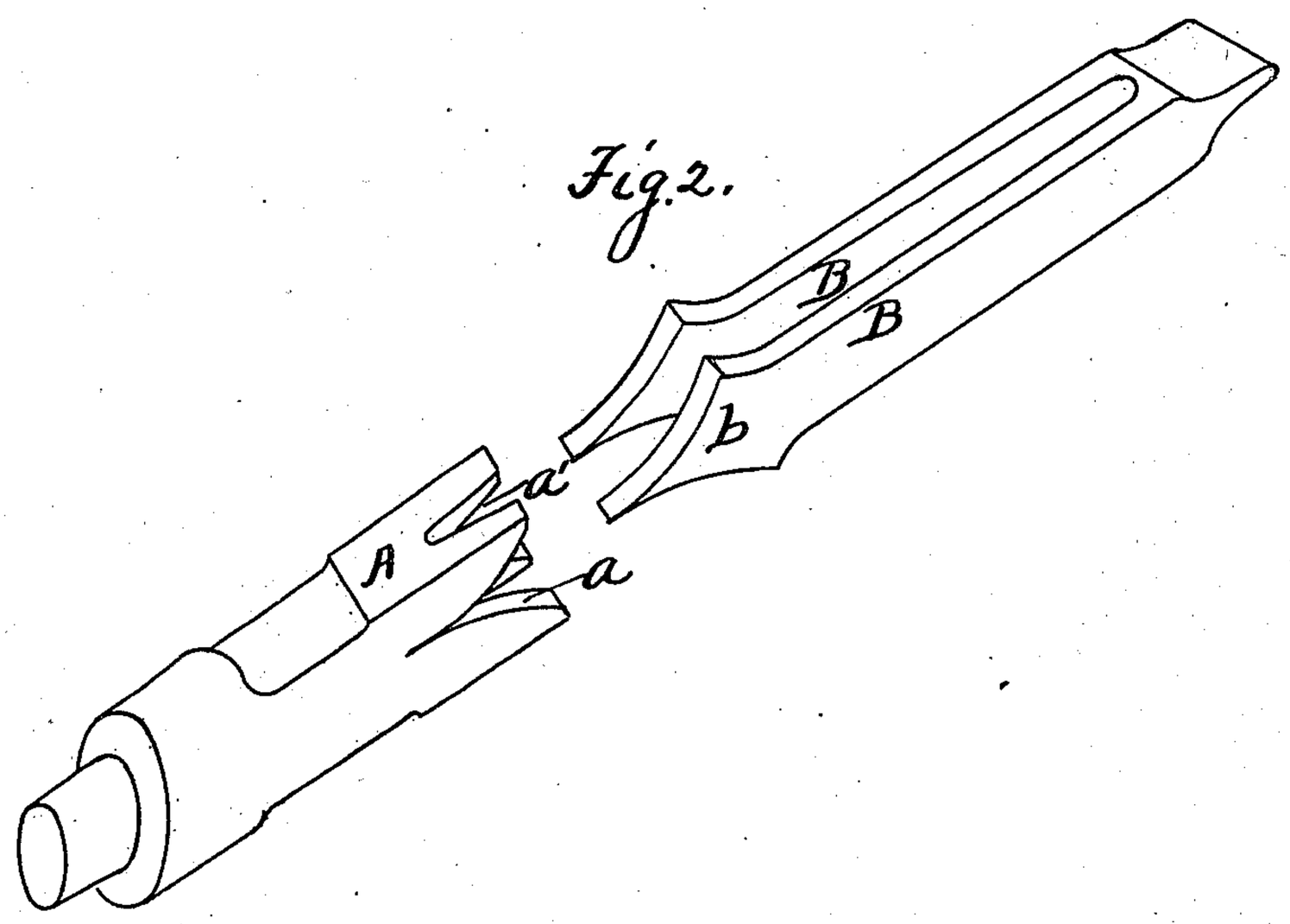


Fig 2.



Witnesses
C. G. L. McCord.
M. E. Yard

Inventor
Frank H. Norris
by W. C. Lord
his Atty.

UNITED STATES PATENT OFFICE.

FRANK H. NORRIS, OF TIONA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO W. C. NORRIS, OF TIONA, PENNSYLVANIA.

DRILLING-JAR.

SPECIFICATION forming part of Letters Patent No. 723,782, dated March 24, 1903.

Application filed August 7, 1902. Serial No. 118,753. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. NORRIS, a citizen of the United States, residing at Tiona, in the county of Warren and State of Pennsylvania, have invented new and useful Improvements in Drilling-Jars, of which the following is a specification.

This invention relates to drilling-jars; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

Figure 1 shows a side elevation of a complete jar; Fig. 2, a perspective view of the jar broken apart at the weld.

A marks the butt of the jar; B B, the reins. The butt is ordinarily formed with the fork *a*, and the reins B B have the enlarged portion *b*, adapted to enter the fork *a*. After it is put into place the weld is completed. A crotch *a'* preferably extends into the butt A.

Heretofore the butt A has been formed with the fork *a* reduced in size. As a result it has been difficult to complete the weld, for the reason that the surfaces presented were not parallel. With my construction the full size of the butt A is extended to approximately the end of the weld. It will readily be seen that as the lower surface is placed on the anvil the upper surface throughout the full length of the weld is parallel to the lower surface, so that each and every blow of the steam-hammer affects the entire weld, and thus forms a perfect weld. By carrying the full size of the butt to the end of the weld the strain on the reins incident to the jarring action takes place outside the weld, and as a result very little, if any, breakage takes place as incident to the use of these jars. With the ordinary construction, where the butt tapers appreciably before the end of the weld, the reins break with great frequency across the end of the weld or near the end. As before stated, my construction practically obviates this.

I prefer that the crotch *a'*, which is ordinarily formed after the weld is completed, extend into the butt A.

What I claim as new is—

1. In a drilling-jar, the combination with the reins of a butt welded thereto and extending with the full size of the butt to approximately the end of the weld.

2. In a drilling-jar, the combination with the reins of a butt welded thereto and extending with the full size of the butt to approximately the end of the weld, and having the crotch *a'*, extending into the body of the butt.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK H. NORRIS.

Witnesses:
FRANK J. LYONS,
THOMAS EUSTICE.