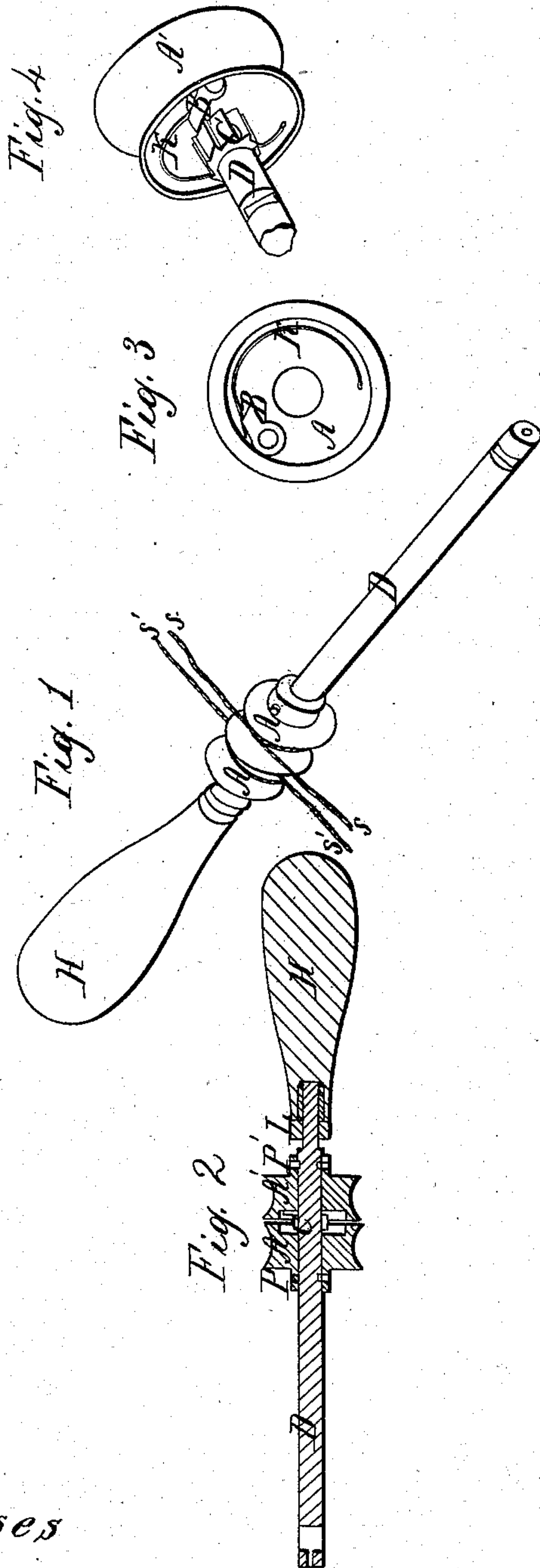


*D. F. Hartford.*

*Bow Drill Stock.*

*N<sup>o</sup> 68,071.*

*Patented Aug. 27, 1867.*



*Witnesses*

*A. Henry Perry  
Frank B. Parker.*

*Inventor*

*D. Frank Hartford.*

# United States Patent Office.

D. FRANK HARTFORD, OF BOSTON, ASSIGNOR TO HIMSELF AND EDMUND  
TARBELL, OF SOUTH BOSTON, MASSACHUSETTS.

*Letters Patent No. 68,071, dated August 27, 1867.*

## IMPROVED BOW-DRILL STOCK.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, D. FRANK HARTFORD, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain new and useful improvements in Bow-Drill Stocks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in combining with the spindle of a bow-drill stock two string-pulleys, in such a manner that the reciprocating motion of the bow will cause the drill-stock to revolve in one direction only.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and use. In the drawings—

Figure 1 is a perspective view,

Figure 2 is a longitudinal section,

Figure 3 is an elevation of one of the string-pulleys.

Figure 4 is an isometrical perspective view, showing a part of the drill-stock D and ratchet C of my improved bow-drill stock, one of the pulleys being removed so as to show the ratchet.

I construct my improved bow-drill stock as follows: A suitable handle, H, is made of any desirable material, into the end of which a socket, L, is made, as shown in the drawings, or in any suitable or convenient manner. The object of this socket L is simply to form a good journal into which the end of the drill-shank D may revolve freely. Firmly attached to the shank D is a ratchet-wheel, C, (fig. 4,) upon both sides of which the string-pulleys A A' are placed. Into the faces of the string-pulleys A A', which come together, recesses are made, as shown in figs. 2 and 4. These recesses contain the ratchet C and pawls B B, with springs K K. One of the pawls B B is attached to the pulley A, and the other to the pulley A', as shown in figs. 3 and 4. The string-pulleys A and A' are free to revolve on the spindle D in one direction only, as the pawls B B check them from revolving in one direction unless the spindle D revolves with them. The pulleys A A' are checked from any longitudinal motion on the spindle D by means of the pins P P', (fig. 2,) the ends of which follow grooves made in the spindle D.

To operate my drill-stock I require a bow having two strings. One of the strings, S S, for instance, passes around the pulley A and leaves it from the upper side, while the other string S' S' passes around the pulley A' and leaves it from the under side, so that, whichever way the bow is pushed, the pulleys A A' revolve in opposite directions, but as they are so arranged that revolving in one direction only can they operate upon the spindle D, it follows that D will always revolve in the same direction, though the bow may reciprocate.

Having thus described my invention, I will proceed to set forth my claim.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the cord-pulleys A A', pawls B B, ratchet C, with the mandrel D and handle H, when the whole is constructed as described and for the purpose set forth.

D. FRANK HARTFORD.

Witnesses:

FRANK G. PARKER

A. HUN BERRY.