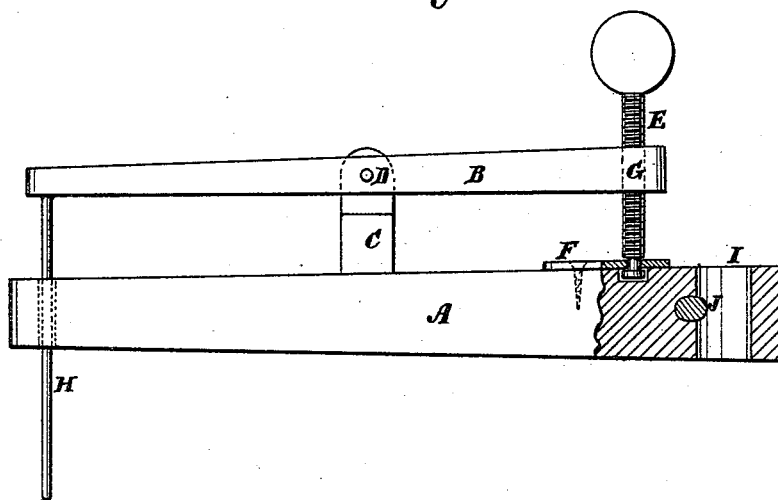


J. R. BYER.  
Tram-Sticks.

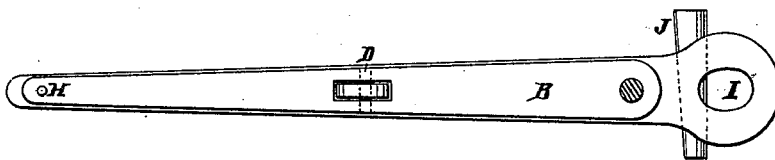
No. 166,746.

Patented Aug. 17, 1875.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*A. Bennett*  
*A. J. Terry*

INVENTOR:

*J. R. Byer*  
BY *[Signature]*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN R. BYER, OF ATTICA, MICHIGAN, ASSIGNOR TO HIMSELF AND  
ARTHUR H. FISH, OF SAME PLACE.

## IMPROVEMENT IN TRAM-STICKS.

Specification forming part of Letters Patent No. **166,746**, dated August 17, 1875; application filed  
May 8, 1875.

*To all whom it may concern:*

Be it known that I, JOHN R. BYER, of Attica, Lapeer county, Michigan, have invented a new and useful Improvement in Tram-Sticks, of which the following is a specification:

The object of this invention is to improve the means for "tramming" the spindles and stones of grinding-mills; and it consists in a tram-stick having an adjustable lever, to the end of which lever the "quill" is attached, and to the other end of which lever is an adjusting-screw.

Figure 1 is a side view, with a part broken away to show the foot of the screw; and Fig. 2 is a top view of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a tram, which is fastened to the spindle. B is the lever, which is attached to the stand C and fulcrum-pin D. E is the adjusting-screw, which is fixed by plate F to the tram A, so that it revolves freely without having longitudinal motion. This screw works through the end of the lever as through a nut, as seen at G, so that when it is revolved

the lever is raised or lowered. H is the quill, which passes through the tram A. The tram A is fastened to the spindle by means of the aperture I and a key, J, so that it revolves with the spindle.

The quill, as it revolves over the face of the stone, will indicate the direction in which it is necessary to move the step of the spindle.

When the end of the quill is in close contact with the stone during an entire revolution, the spindle is properly trammed and the work completed.

This device may be attached to the ordinary trams in use, if desired, and much time and trouble will be saved thereby.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the tram A, adjustable lever B, adjusting-screw E, and quill H, substantially as and for the purpose set forth.

JOHN R. BYER.

Witnesses:

GEORGE B. PEETS,  
JOHN JENNESS.