

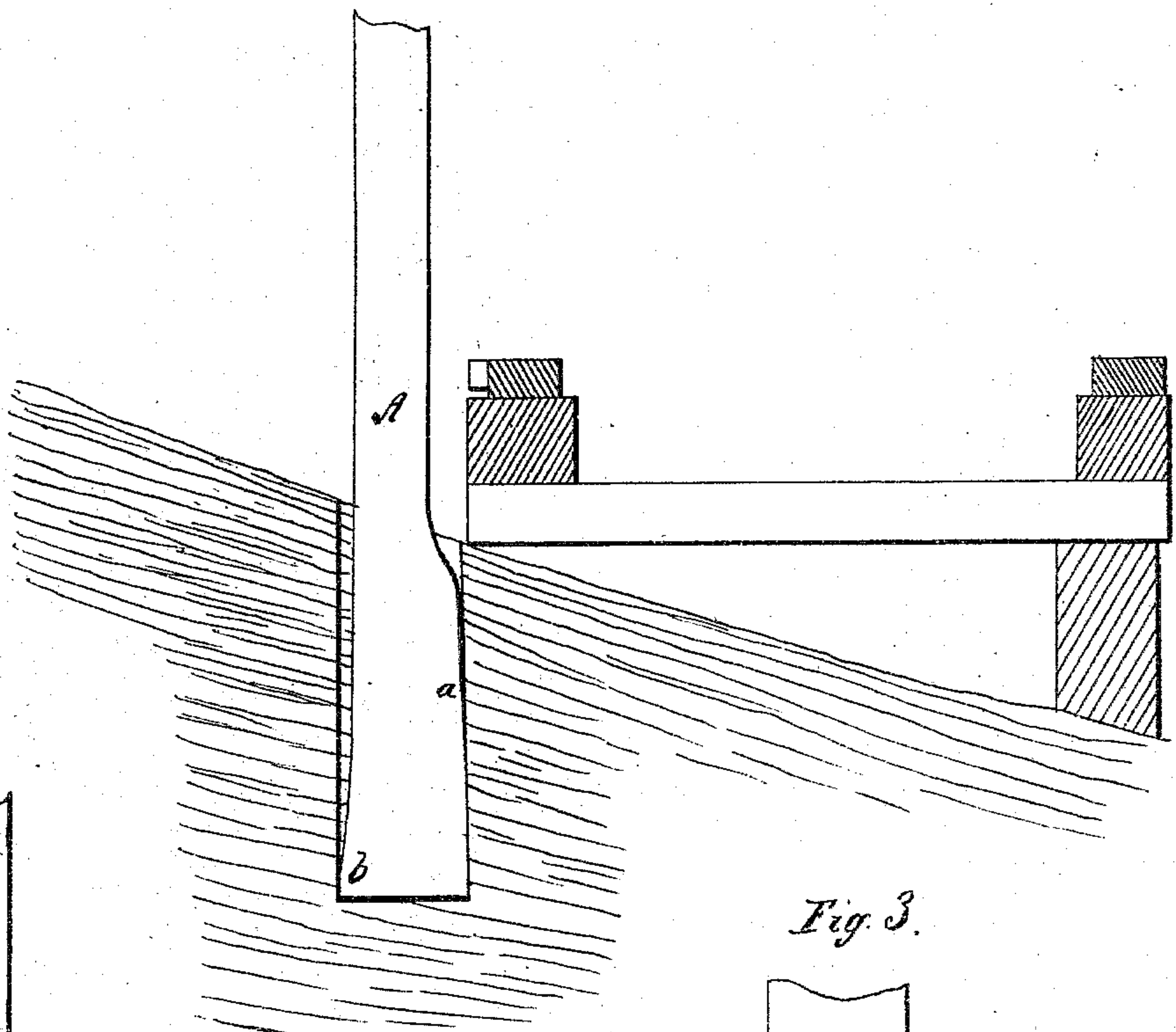
*M. C. Bullock's Imp<sup>d</sup>*

*Cutter for Rock Channelling Mach<sup>s</sup>.*

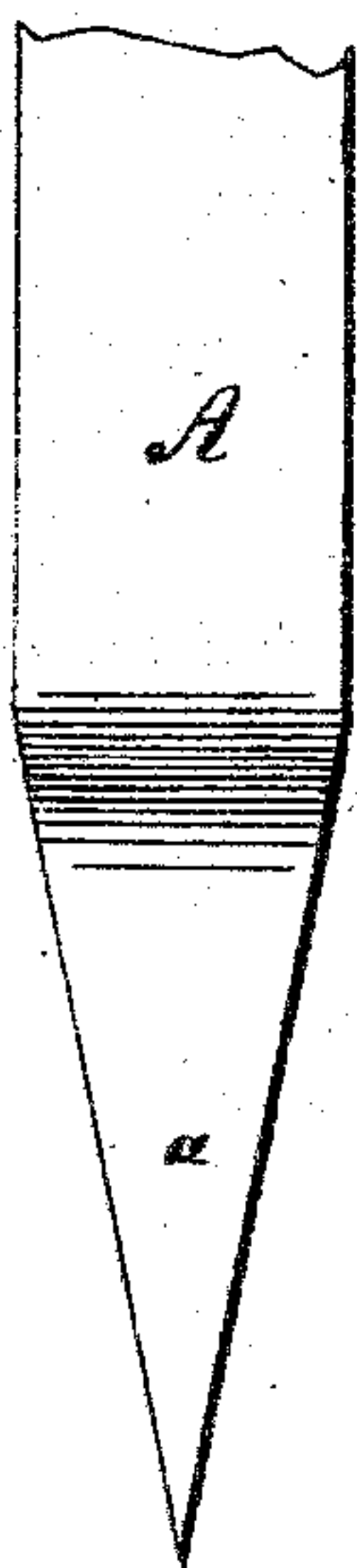
No. 120,182.

Patented Oct. 24, 1871.

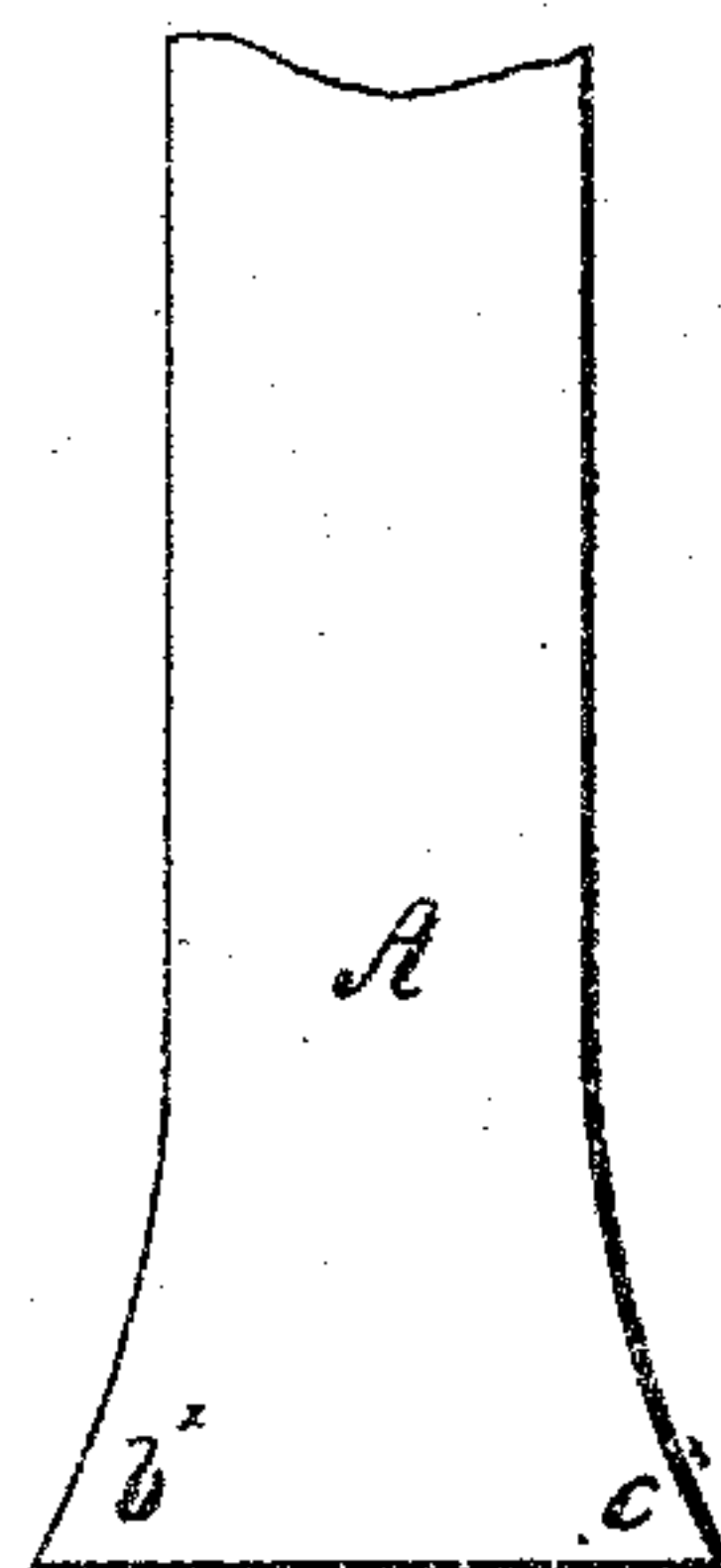
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

*John P. Fuller*  
*E. J. Kastenhuber*

*Inventor:*

*M. C. Bullock*  
*per*  
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# UNITED STATES PATENT OFFICE.

M. C. BULLOCK, OF RUTLAND, VERMONT.

## IMPROVEMENT IN CUTTERS FOR ROCK-CHANNELING MACHINES.

Specification forming part of Letters Patent No. 120,182, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, M. C. BULLOCK, of Rutland, county of Rutland, State of Vermont, have invented a new and Improved Cutter for Rock-Channeling Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a side elevation of the invention. Fig. 2 is a rear elevation thereof. Fig. 3 is a diagram showing the form of an ordinary cutter.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a guide-piece on the back or rear side of the cutter in such a manner that when a channel is to be cut in a sloping rock of slate or other similar material the guide prevents the cutter from running under, and a correct operation of the machine is insured. If a channel is to be cut in a slate rock, or in a rock of similar structure, with a rock-channeling machine; and if the rock, and particularly the successive layers of the rock, are sloping, the ordinary cutters fail to work, because said cutters, in striking the successive layers of the rock with their outer points, are gradually forced back or made to run under, so that it is impossible to carry the channel down to a greater depth than about two feet. This difficulty is successfully overcome by my cutter A, which is provided with a guide-piece, *a*, at its back. When this cutter is used on a sloping rock, the machine must necessarily be placed in

a horizontal position, as indicated in the framework and track in Fig. 1; and if the cutter comes down it strikes the rock with its outer point *b*; and as the cutting progresses the successive layers are always penetrated first by the said point *b*, and the remaining portion of the cutting-edge does not meet with sufficient resistance in the layers, which are already more or less broken or shattered, to prevent the cutter from running under, if said cutter is not provided with the guide-piece *a*. This guide-piece bears against the inner wall of the channel and prevents the cutter from running under, and I have thus succeeded with my cutter to produce a channel of ten or more feet depth in a sloping slate rock without difficulty.

The advantages of a cutter with my guide-piece will be readily understood if my cutter is compared with a cutter of the ordinary form, which I have shown in Fig. 3. If a cutter of this form strikes a sloping slate rock the rear point *c* is gradually forced back into the rock and the cutter runs under to such an extent that the channel cannot be continued to a greater depth than about two feet.

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

The combination of the cutter A with its guide-piece *a*, substantially as and for the purpose set forth.

M. C. BULLOCK.

Witnesses:

CHARLES H. JOYCE,  
CHAS. G. TOWNSEND.

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