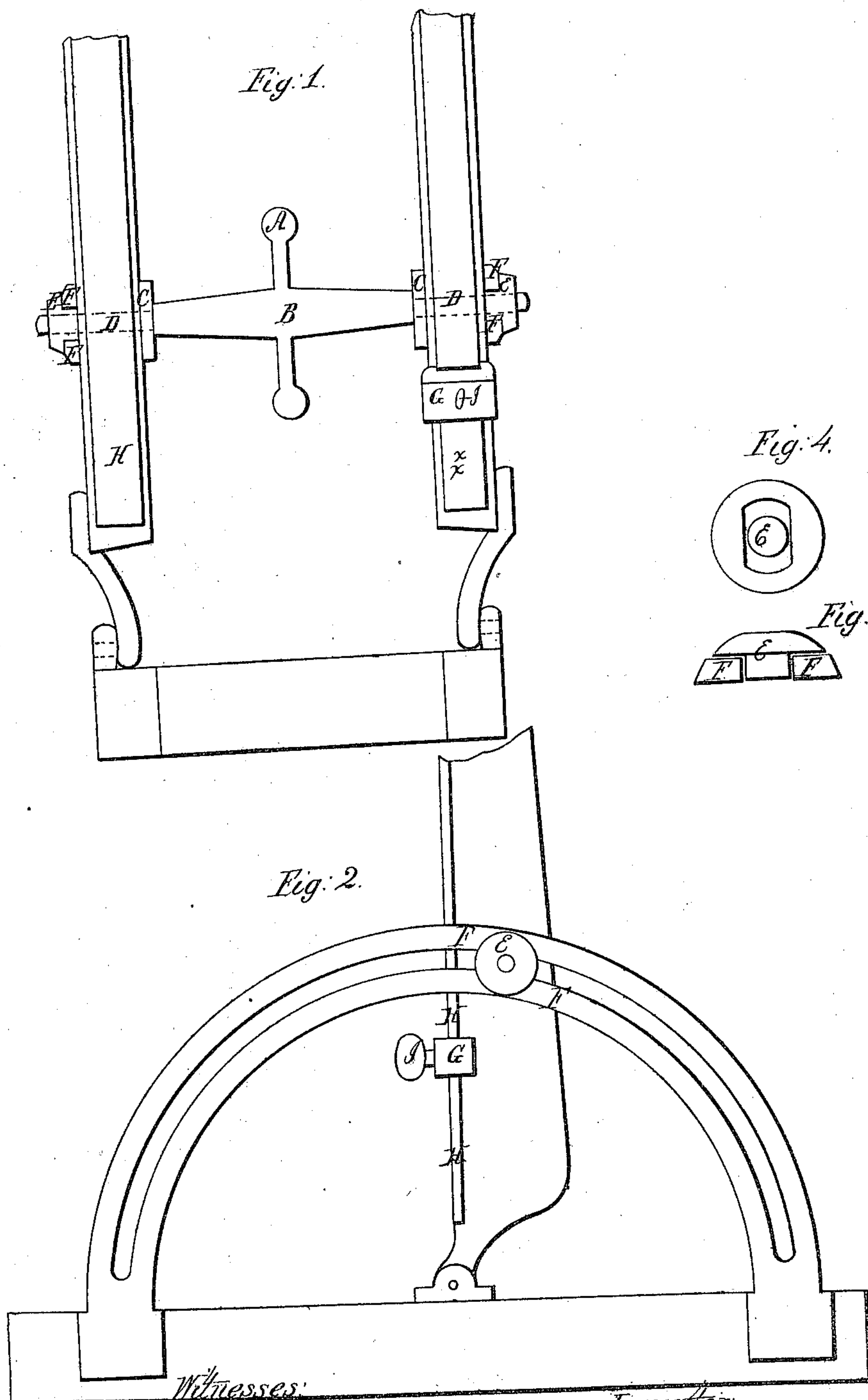


F. L. King
Boring Machine.

N^o 97,202.

Patented Nov. 23, 1869.



Witnesses:
Benjamin Lewis
S. E. Withington

Inventor:
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United States Patent Office.

FRANCIS L. KING, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 97,202, dated November 23, 1869.

IMPROVEMENT IN BORING-MACHINE.

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, FRANCIS L. KING, of the city of Boston, county of Suffolk, and State of Massachusetts, have invented a certain new and improved Device for Securing in Position, at any desired Angle, the Uprights or Carriage-Ways of the Angle-Boring Machine; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters of reference thereon, which make a part of this specification, of which—

Figure 1 is a front elevation of a section of a boring-machine, showing my improved device adjusted therein.

Figure 2 is a side elevation of the same.

Figures 4 and 5 are views of the peculiar-shaped nuts used with the tightening-bolts.

The object of my invention is to furnish a brace and tightening-bolt for the lower part of the uprights or carriage-ways, which is simple of construction, and at the same time enables the operator to adjust the same quickly and securely, without the use of a wrench, and consists of a combined movable or revolving brace, and double-spindled bolt with the peculiar-shaped nuts, and a hand-wheel or other convenient device, which enables the operator securely to grasp and turn the same with facility.

The construction, application, and operation of my improved brace and tightening-bolt are best shown in fig. 1.

It may be made of any suitable material. The wheel A, or any other suitable projection may be used to give the operator a firm grasp.

The combined brace and bolt B has a shoulder at each end, against which the washers C C are placed, which furnish a bearing against which the uprights H are drawn, by simply turning the brace or bolt B.

At each end of the brace are spindles D D, on one of which a right-hand screw-thread is cut, and on the

other a left-hand. These screws work in nuts E E, in which corresponding threads are cut.

The nuts E E, best shown in figs. 4 and 5, are constructed with an oblong projection on the inner face, which slide in the slots in the semicircles F, and are thus prevented from turning.

A lip or flange projects over, to grasp and hold the semicircles.

The construction and operation of the brace and bolt may be reversed by making nuts of each end of the brace, and attaching spindles to the inner projections of the nuts E E, on which right and left-hand screws may be cut, to work in the nuts in each end of the brace. But being thus made, it would not be as stiff, and would be much more liable to wear and get out of repair.

The operator, by simply grasping and turning the brace B with his hand, draws both the nuts E E inward, by means of which the uprights H and semicircles F are drawn with double celerity and force against the shoulders of the brace, and the uprights are thus firmly secured to the semicircles at any desired angle, and by reversing the motion of the brace, the same are as quickly loosened.

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

The revolving brace B, formed with its shoulders, and the washers C C, hand wheel A, or other similar projection, right and left-hand screws D D, and nuts E E, formed with their projections on their inner faces, in combination with the uprights H H and semicircles F F, all constructed and operating substantially as shown and described, and for the purpose specified.

FRANCIS L. KING.

Witnesses:

S. E. WITHINGTON,

THEODORE S. JOHNSON.