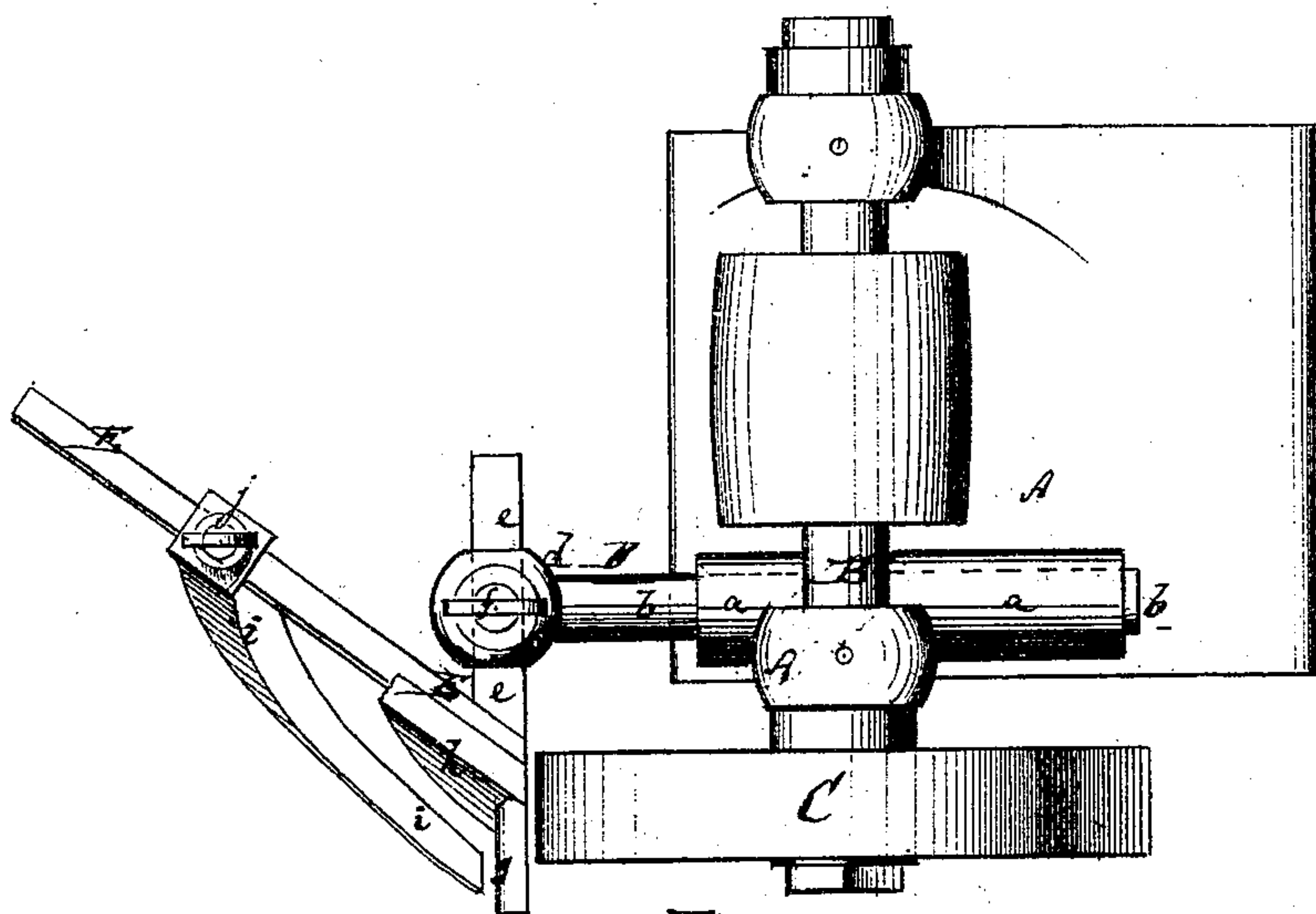


*S. A. Morse,*  
*Grindstone Rest.*

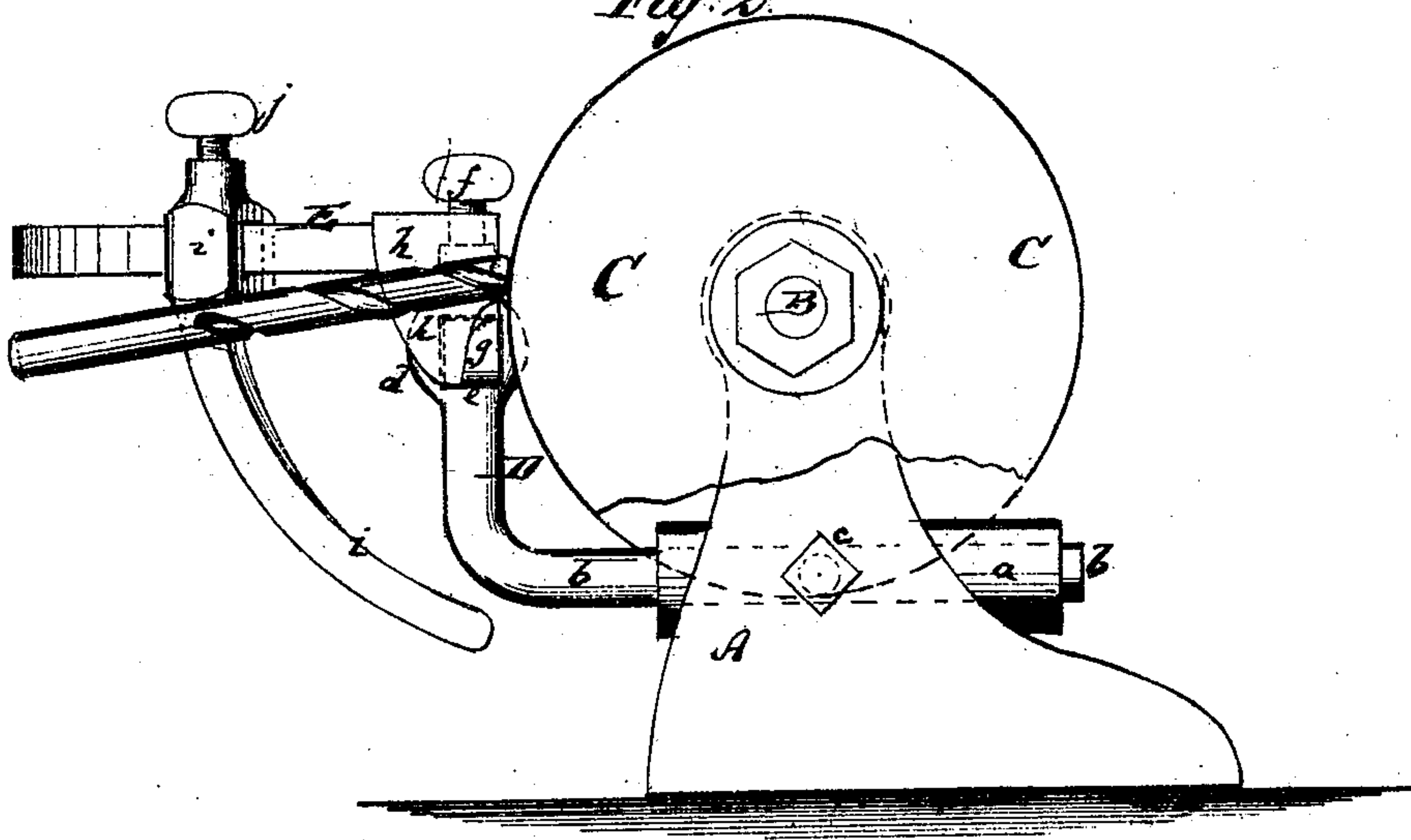
*No. 104,982.*

*Patented July 5, 1870.*

*Fig: 1*



*Fig: 2*



**Witnesses:**

*S. S. Mabee*  
*Geo. W. Mabee*

**Inventor:**

*S. A. Morse*

**PER**

*Munn & Co*  
**Attorneys.**

# UNITED STATES PATENT OFFICE.

STEPHEN A. MORSE, OF NEWARK, NEW JERSEY, ASSIGNOR TO AMERICAN STANDARD TOOL COMPANY, OF SAME PLACE.

## IMPROVEMENT IN GRINDING-REST FOR TWIST-DRILLS.

Specification forming part of Letters Patent No. **104,982**, dated July 5, 1870.

*To all whom it may concern:*

Be it known that I, STEPHEN A. MORSE, of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Grinding-Rest for Twist-Drills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a plan or top view of my improved grinding-rest. Fig. 2 is a front elevation of the same.

Similar letters of reference indicate corresponding parts.

This invention has for its object to provide an adjustable rest by means of which twist-drills may be properly held against grinding-stones or grinding-wheels of suitable kind.

The invention consists, chiefly, in providing an oblique guide, on which the drill can be held and rocked in the same plane, so as to have its end ground at the desired angle.

The invention consists, also, in providing said guide with an adjustable curved arm, on which the drill can be moved; and, finally, in the combination, with the same, of two adjustable holders, as hereinafter more fully described.

A in the drawing represents the frame, in which the shaft B of the grinding-stone C is hung. This grinding-stone is of suitable kind, material, and size. In the frame is formed a transverse socket, *a*, to receive the transverse lower arm, *b*, of the main holder D of the guide. A screw, *c*, clamps the arm *b* in the socket *a*. The upper end of the holder D carries another longitudinal socket, *d*, for receiving the longitudinal arm *e* of the main guide E, a screw, *f*, serving to clamp the arm *e* in *d*.

The main holder is a horizontal bar projecting at an angle of about thirty degrees backward from the face-plane of the grindstone.

A lip, *g*, projects from the guide E parallel with the edge of the stone.

The adjustment of the arm *b* in the socket *a* serves to fit the lip *g* at the requisite distance from the edge of any grinder of suitable diameter.

The drill to be ground is held against an arm, *h*, that projects downward from the guide, and against an adjustable curved bar, *i*, which is fitted upon the guide E, so as to slide on the same, a screw, *j*, serving to lock it in every desired position.

The arms *h* and *i* serve to hold the drill always in the same oblique plane in which the guide projects from the stone. The drill is placed against the guide, as aforesaid, and with the end against the stone in such manner that the cutting-edge is horizontal. It is then gradually rocked, so as to raise the cutting-edge off the stone and grind the end for forming the requisite inclined face on the same.

The lip *g* is rounded, as shown, to allow the convenient rocking of the drill.

The adjustment of the arm *e* in *d* allows the guide to be set in or out, in accordance with the wear on the edge of the stone.

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

1. The guide E, set obliquely to the face of the stone, and provided with the lip *g* and arm *h*, as set forth.
2. The adjustable arm *i*, arranged on the guide E, substantially as and for the purpose herein shown and described.
3. The combination of the oblique guide E and arm *i* with the shank *e*, holder D, and frame A, all arranged as set forth.

STEPHEN A. MORSE.

Witnesses:

WM. BRADSHAW,  
C. P. SEABURY.