N. F. Stone,

Edge-Tool Grinder.

No. 54,036. Patented Apl. 17, 1866.

Fig. 1.

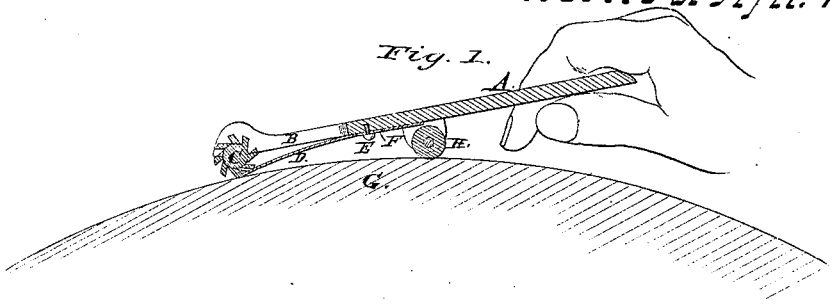
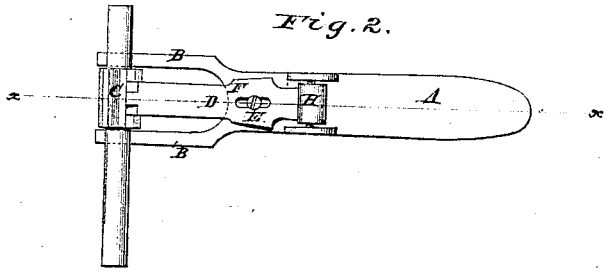


Fig. 2.



Witnesses:

Wm. Edgm.

J. W. B. Loring Jun.

Inventor:

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UNITED STATES PATENT OFFICE.

N. F. STONE, OF CHICAGO, ILLINOIS.

IMPROVED CUTTER-GRINDER.

Specification forming part of Letters Patent No. **54,036**, dated April 17, 1866.

To all whom it may concern:

Be it known that I, N. F. STONE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Adjustable Cutter-Grinders; and I do hereby declare that the following is 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 drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of the cutter-grinder through the line *x x*, Fig. 2, showing, in red lines, the position of the cutter in the grinder, and also the position of the cutter and grinder upon the grindstone. Fig. 2 is a view of the under side of the grinder, showing more clearly the form of the spring for holding the cutter in place while being ground.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish an instrument which will enable sawyers to grind their cutters so as to give to the teeth or knives a uniform bevel; and it consists of a handle or stock with recesses for holding the shaft of the cutters, a spring to hold the cutters in place and resist their tendency to revolve while being ground, and a friction-roller, which, by resting on the grindstone, makes said stone a guide and insures each tooth or knife of the cutters having the same bevel.

A is the handle of the grinder, which, near the other end of the grinder, branches into two parts or branches, B, at such a distance apart as will permit the teeth or knives of the cutter C to pass between them, the shaft of the cutter resting in recesses in the under side of the arm B, in which it is held by the action of the spring D. Said recesses are made in the form of elongated semicircles, so as to fit and hold the shafts of different-sized cutters.

The spring D is secured to the handle A by means of a screw, E, passing through a slot, F, in said spring, by means of which the bevel of the teeth can be made the same, whatever be the size of the grindstone.

The end of the spring D, which rests upon and holds the cutter C, is divided into three parts by short longitudinal slits, and the two outside parts are bent down, as represented, so as to lie along the inclined back of the knives or teeth. The central part is not bent down, and its projecting end rests against the front of the next succeeding tooth or knife. Thus the two outside parts of the end of the spring hold the cutter in place in the recesses of the arms or branches B of the grinder, while the central part resists the tendency of the cutter to revolve caused by the friction of the grindstone G. This construction I prefer, as holding the cutter more firmly in place; but it is not absolutely essential, as any other form may be given to the end of the spring D which will hold the cutter securely, or the end of said spring may be made without slits and bent into the necessary form to lie along the back of the teeth, and thus hold the cutter down by pressing upon the back of a tooth, and from revolving by pressing into the channel between the teeth.

H is a roller or friction-wheel whose axle works in projections on the under side of the handle A, as represented in the drawings. This roller H, by revolving upon the face of the grindstone G, compels the knives or teeth of the cutter C to be held upon the grindstone always in the same position, so that they will all have exactly the same bevel.

I claim as new and desire to secure by Letters Patent—

1. The employment of a spring, D, or its equivalent, arranged so as to hold the cutter-shaft and prevent its rotation except in one direction, substantially as described.

2. The combination of the handle A, guide H, and spring D, constructed and operating substantially as described.

N. F. STONE.

Witnesses:
E. STONE,
M. E. STONE.