

T. LORING.
Harvester-Knife Grinder.

No. 103,633.

Patented May 31, 1870.

Fig. 1.

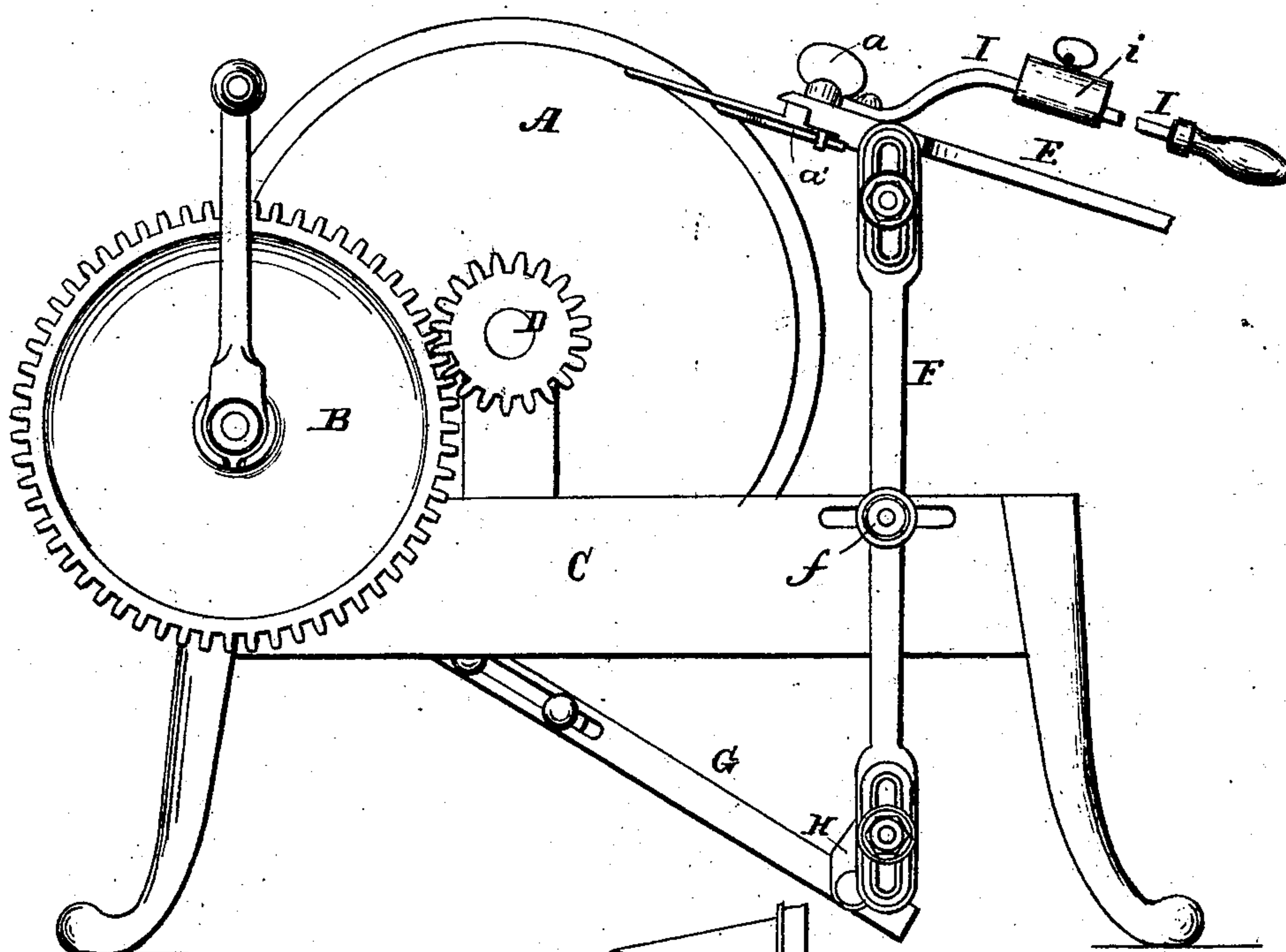
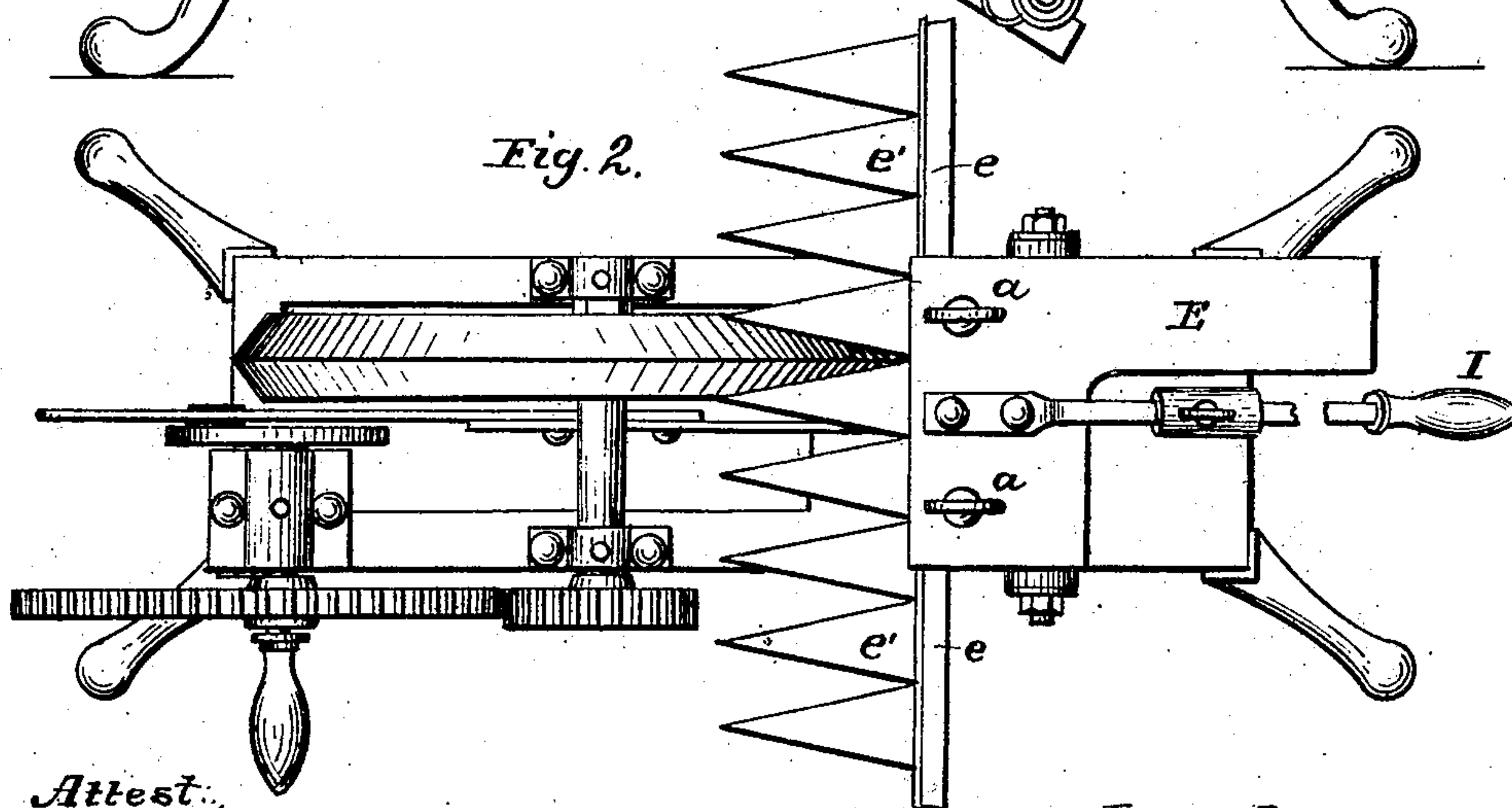


Fig. 2.



Attest.

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UNITED STATES PATENT OFFICE.

THOMAS LORING, OF BLACKWOODTOWN, NEW JERSEY.

IMPROVEMENT IN HARVESTER-KNIFE GRINDER.

Specification forming part of Letters Patent No. **103,633**, dated May 31, 1870.

I, THOMAS LORING, of Blackwoodtown, county of Camden, State of New Jersey, have invented certain Improvements in Harvester-Knife Grinders, of which the following is a specification:

The nature of this invention consists in the construction and arrangement of devices for holding and adjusting the knife-bar upon the stone, and whereby a reciprocating motion is given to the knives parallel to and upon the abrading or grinding surface of said stone.

Like letters refer to like parts in the drawing.

Figure 1 is a side view; Fig. 2, a top view. Fig. 3 is a vertical sectional view on line W W of Fig. 2. Fig. 4 is a transverse vertical section on line X X in Fig. 3.

A represents the stone; B, the driving-wheel; D, the pinion upon the mandrel of the stone; and C, the frame upon and to which all the necessary mechanism is attached, as clearly shown in the drawing.

E is the holder, with the cutter-bar and knives *e* and *e*, Figs. 2 and 4, held in position by the clamp and screws *a a*. This holder receives a reciprocating movement through means of the mechanism shown in Fig. 3, consisting of an adjustable crank-pin, K, in a disk on the inner end of the shaft of the driving-wheel, and a connecting-rod, G, the length of which can be adjusted, as shown in Figs. 1 and 3, and which is connected by the cross-head H to the vertical levers F, on the top of which the cutter-bar holder is pivoted, as clearly shown in all the figures. These levers can be moved to or from the stone by means of the adjustable fulcrums *f*, Figs. 1, 3, and 4, while the holder at top and the cross-head at bottom are adjustable vertically by similar means.

The varying size of the stone, or the length or angle of the edges of the knives, renders these means of adjustment necessary, as by them the same angle of face of the stone can be made to fit different-sized angles and bev-els of edges of the knives.

The holder E is provided with a hand-lever, I, with a sliding weight, *i*, which can be used as a counter-balance to the knife-bar, or, by swinging it over the stone, be made to add a greater or less pressure by adjusting the sliding weight during the process of grinding.

The face of the stone is made angular, to fit between and suit the beveled edges of the triangular-shaped knives, as shown in Figs. 2 and 4.

When it is necessary to let one of the knives remain stationary for a short time upon the stone, the connecting-rod G is disconnected from the crank-pin K, and the cutter-bar is adjusted in the holder so as to present to the grinding-surface the part which especially needs it.

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

1. The connecting-rod G, the adjustable cross-head H, the vertical side levers F, with adjustable fulcrums *f*, and holder E, all constructed and arranged relatively to each other, as shown and described.

2. The combination of the hand-lever I and adjustable weight with the holder E, as described.

THOS. LORING.

Witnesses:

FRANK BOARDMAN,
JAMES M. CASSADAY.