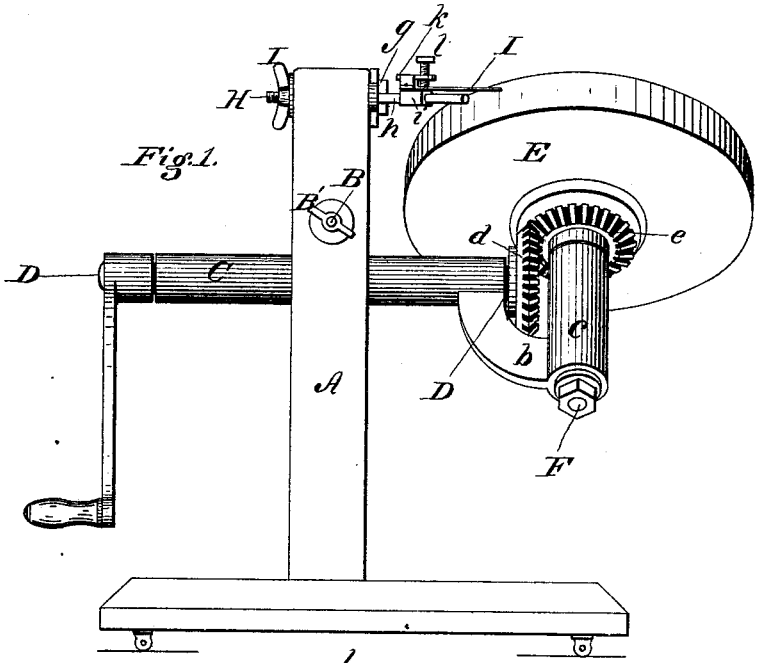
C. HEFFT.

GRINDSTONE HANGING.

No. 181,000. Patented Aug. 15, 1876.

Fig. 1.



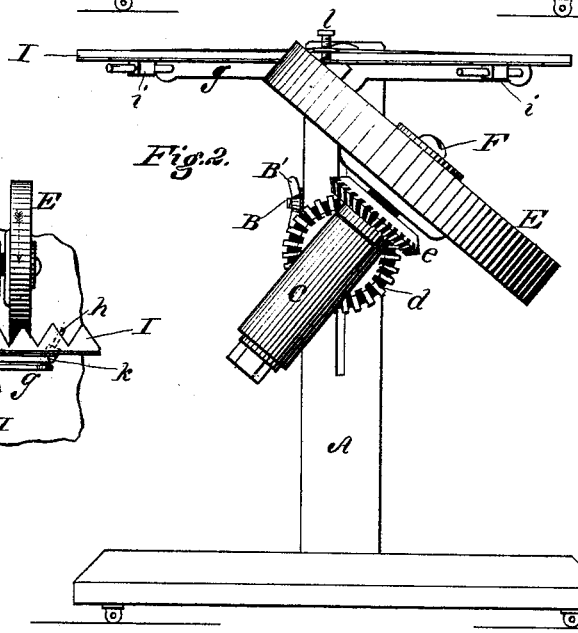


Fig. 3.

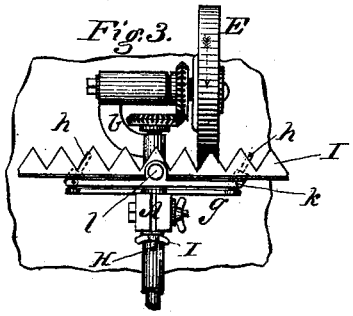
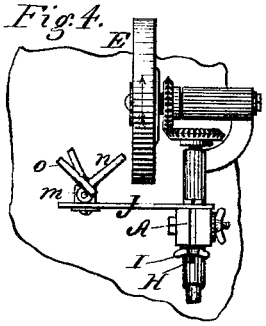


Fig. 4.



Witnesses:
Donn F. Twitchell.
Will H. Dodge.

Inventor:
Christ Hefft
By his attys
Dodger & Son

UNITED STATES PATENT OFFICE.

CHRIST. HEFFT, OF PEKIN, ILLINOIS.

IMPROVEMENT IN GRINDSTONE-HANGINGS.

Specification forming part of Letters Patent No. **181,000**, dated August 15, 1876; application filed June 20, 1876.

To all whom it may concern:

Be it known that I, C. HEFFT, of Pekin, in the county of Tazewell and State of Illinois, have invented certain Improvements in Universal Grindstone-Hanging, of which the following is a specification:

My invention consists in a novel and simplified manner of mounting a grindstone so that it may be readily set at any angle or inclination desired, and in clamps or guides for holding the objects to be ground and presenting them to the stone.

Figure 1 represents a side elevation of my improved devices; Fig. 2, a front elevation of the same; Figs. 3 and 4, top-plan views of the clamps or guides in position for use.

A represents a rigid post or standard, having its upper end divided by a central vertical slit, *a*, into two arms, and provided with a transverse bolt, B, having on one end a thumb-screw, by turning which the arms may be drawn together. C represents a horizontal tubular shaft-bearing, passing through the standard between the arms, which clamp it firmly in position, but admit when they are loosened of its being rotated and moved endwise. The tubular bearing C is provided at one end with a rigid curved arm, *b*, having at its end a tubular shaft-bearing, *c*, the axis of which is at right angles to that of tube C, as shown. D represents the main driving-shaft, mounted in the tube C, and provided on one end with a bevel-pinion, *d*. E represents the grindstone secured on the end of a shaft, F, which latter is mounted in the bearing *c*, and provided with a pinion, *e*, gearing into the pinion of the driving-shaft, as shown, so that upon turning the driving-shaft it communicates a rotary motion to the stone. It will be observed that the stone and the driving-pinions are sustained wholly by the tube C, and that, owing to the manner in which the parts are arranged, the simple loosening of the nut B′, so as to release the tube, will admit of the stone being set at any angle or inclination desired, and of its being moved forward and backward. The driving-shaft may be provided with a crank, and operated by hand, or provided with a pulley and driven by any convenient motive power.

In order to reverse the motion of the upper side of the stone without reversing the direction in which the driving-shaft is turned, it is only necessary to rotate the tube C in such manner as to throw the stone to its right or left, as required. This manner of reversing the motion of the stone will be readily understood by referring to Figs. 3 and 4, which show the stone running in opposite directions while the driving-shaft in both cases turns in the same direction.

In the drawings, the tube C is represented as seated in bearings or recesses in the standard, and in such manner that it cannot be adjusted vertically; but if the vertical adjustment is desired, the tube will be mounted between two bearing-plates, and the slot in the standard made of the proper width to receive the plates and admit of their sliding vertically therein when the bolt B is loosened.

For the purpose of holding the articles to be ground, and presenting them in the proper positions to the stone, I employ clamps of suitable construction secured to the standard A by a bolt, H, passing through the slot therein, and provided with a thumb-nut, I, on the rear end, as shown, so that by loosening the bolt the clamp may be raised, lowered, or inclined, as required.

Figs. 1, 2, and 3, represent a clamp and guide adapted for holding harvester-knives, consisting of a rigid bar, *g*, provided at its ends with inclined arms *h*, on which are mounted sliding blocks *i* carrying the ends of a bar, *k*, which is provided at its middle with a thumb-screw, *l*. The knife or cutter-bar I is rested at its ends on the blocks *i*, and clamped in place by turning the thumb-screw *l* down upon it. When the guide and the stone are adjusted in the proper relative positions, the sliding of the blocks *i* on the inclined arms admits of the cutter-bar being moved forward in such manner as to carry the edges of the knives properly across the stone, the successive knives being brought opposite the stone by moving the cutter-bar endwise on the clamp. The clamp, shown in Fig. 4, is intended for grinding smaller articles, and consists of a horizontal plate, J, secured to the standard and provided in its outer end with a slot containing a sliding block, *m*, to which there is pivoted a forked support, *n*, provided

with a clamping-plate, *o*, held by a screw, *p*, for the purpose of holding the article to be operated upon.

It will be observed that the two clamps are held to the standard in the same manner and by the same bolt, and that they are both susceptible of the same adjustments on the standard.

By hanging the stone in the manner above described, so that it can be readily turned and set at any angle, from a horizontal to a vertical position, and combining therewith the adjustable clamps or guides, it is adapted for all classes of grinding, and rendered far superior in its action to those hung in the usual manner.

Instead of using the bevel-pinions, any other devices may be employed for transmitting motion from the driving-shaft to the shaft carrying the stone—such, for example, as the three-part universal-joint coupling.

Having thus described my invention, what I claim is—

1. The grindstone-hanging, consisting of the split standard A, provided with the bolt B, the tube C, provided with the arm *b*, and bearing *c*, and the shafts D and F, provided with the bevel-pinions *d* and *e*, or their equivalents, combined and arranged to operate substantially as shown and described.

2. In combination with the split standard A, having the grindstone mounted thereon, substantially as shown, a movable clamp for holding and presenting the articles to the stone, secured to the standard by a bolt, H, passing through the slot therein, substantially as shown and described.

3. In combination with the grindstone E, the clamp and guide, consisting of the bar *g*, provided with the inclined arms *h*, sliding blocks *i*, bar *k*, and thumb-screw *l*, as shown.

CHRIST. HEFFT.

Witnesses:
B. S. HYERS,
NIK. WEBER.