

CHARLES T. SHOEMAKER.
Saw Grinding Machine.

No. 123,945.

Patented Feb. 20, 1872.

FIG. 1.

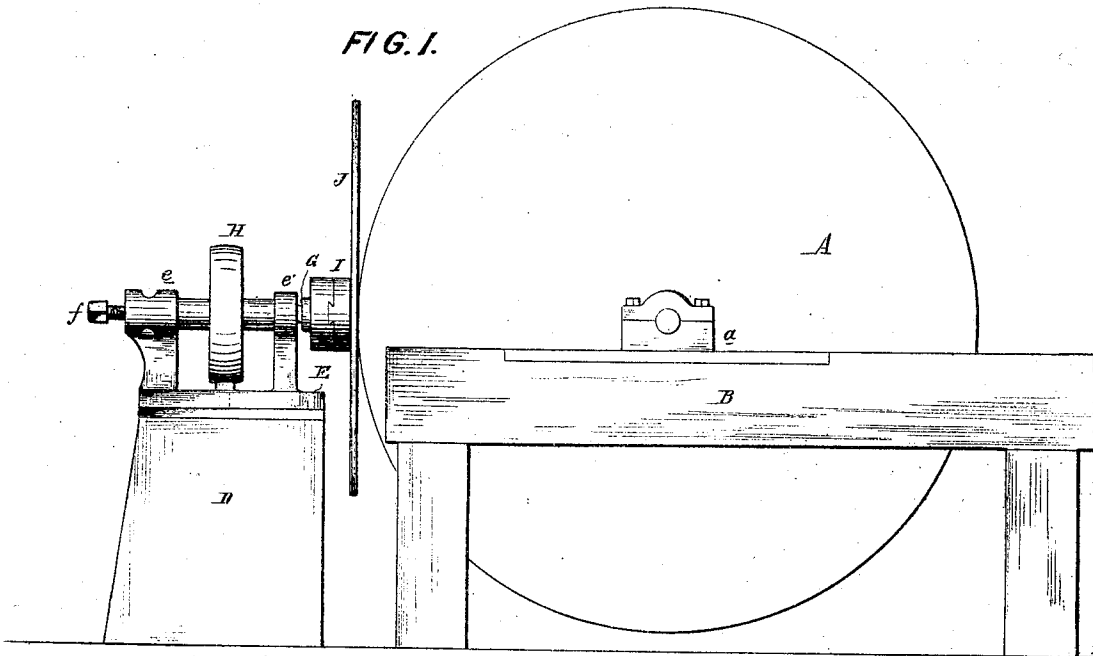


FIG. 2.

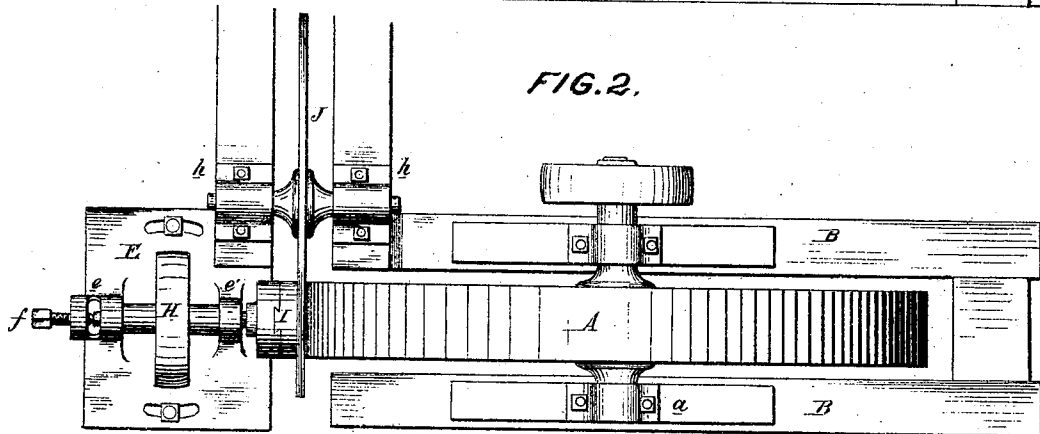
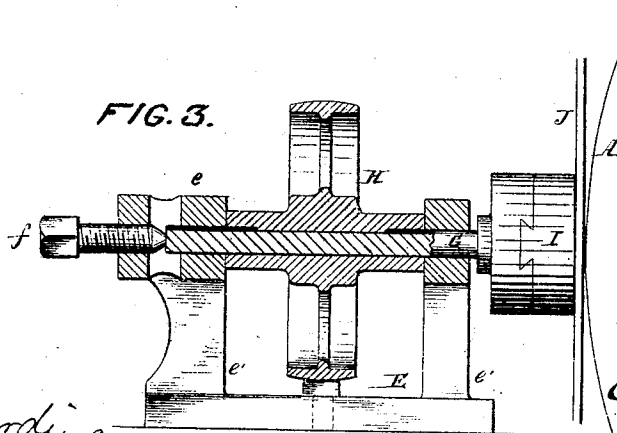


FIG. 3.



WITNESSES,

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UNITED STATES PATENT OFFICE.

CHARLES T. SHOEMAKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO HENRY DISSTON & SONS, OF SAME PLACE.

IMPROVEMENT IN SAW-GRINDING MACHINES.

Specification forming part of Letters Patent No. 123,945, dated February 20, 1872.

Specification describing an Improvement in Saw-Grinding Machines, invented by CHARLES T. SHOEMAKER, of Philadelphia, county of Philadelphia and State of Pennsylvania.

Improvements in Saw-Grinding Machines.

My invention relates to an improvement in saw-grinding machines in which a single grindstone is used; and my invention consists of the combination, with the stone, of a pressure-disk, or its equivalent, caused to revolve in a plane at right angles, or nearly so, to the plane in which the stone (and with the device for holding the saw) revolves, so that the disk may always present an even surface for pressure against the blade of the saw to be ground, the result being the more uniform grinding of the blade than when it is forced against the stone by a roller revolving in a plane parallel with the stone, or by an ordinary block or brake.

In the accompanying drawing, Figure 1 is a side view of a saw-grinding machine with my improvement; Fig. 2, a plan view of Fig. 1; and Fig. 3, a vertical section of part of Fig. 1.

A is a grindstone, the mandrel of which is arranged to turn in suitable bearings *a a* on the frame or stand B. Immediately in front of the grindstone is a stand, D, to which is secured a plate, E, projections *e* and *e'* on the latter serving as bearings for a spindle, G, which admits of being moved forward in its bearings by a set-screw, *f*, adapted to the projection *e* of the plate E, as best observed in Fig. 3. The spindle G passes through and is arranged to slide in the hub of a pulley, H, but cannot turn independently of the same, and is furnished at its outer end with a disk, I, which revolves continuously in a plane at right angles, or nearly so, to the plane in which the grindstone revolves. In the present instance the grindstone is acting on the blade J of a circular saw, the spindle of which is adapted to bearings *h h* on a frame arranged to be moved to and fro at right angles to the plane in which the grindstone revolves, and the blade is maintained in contact with the periphery of the stone by the revolving disk I. It has been the practice to use in saw-grinding machines having a single stone either a roller revolving in a plane parallel with that in which the stone turns, in order to keep the blade of

the saw up against the periphery of the stone, or to use a block or brake, which admits of being forced against the blade, but cannot be turned. In the former case the roller is apt to become worn uneven on its surface, the consequence of which is the uneven grinding of the blade and its waved appearance. The block or brake heretofore used is necessarily worn to the shape of the stone, and its concavity interferes with the proper performance of its intended functions. My invention obviates these evils, for the pressure-disk, owing to its constant revolution, can have no part of its surface worn away faster than another, but will always present an uniformly plain surface in contact with the saw-blade, and will be free from that jarring effect which an uneven surface produces, and which is the cause of the waves in the ground surface.

It will be evident that the blades of cross-cut and other saws can be operated on by my improved machine with quite as good results as those attending the operation of the machine on circular saw-blades. If desired, the disk I may be composed of two parts, one being permanently attached to the spindle G, and the outer part being dovetailed or otherwise secured to the permanent portion, so that it can be readily detached therefrom when, being worn, it becomes advisable to replace it with a new portion. In carrying out my invention, the several parts of the machine are to be made adjustable, the saw toward and from the stone, the latter toward the disk I as it becomes worn away, and the plate E upon its support D, so as to present the pressure-disk at any angle to the stone, according as the saw is to be reduced in thickness toward or from its cutting-edge.

I claim as my invention—

The combination, with the grindstone and with the device for retaining a saw, of a pressure-disk, I, or its equivalent, caused to revolve in a plane at right angles, or thereabout, to the plane in which the said stone revolves.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

C. T. SHOEMAKER.

Witnesses:

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