2 Sheets--Sheet 1.

A. S. WEAVER.

Sharpening-Machine.

No. 166,830. Patented Aug. 17, 1875.

Fig. 1

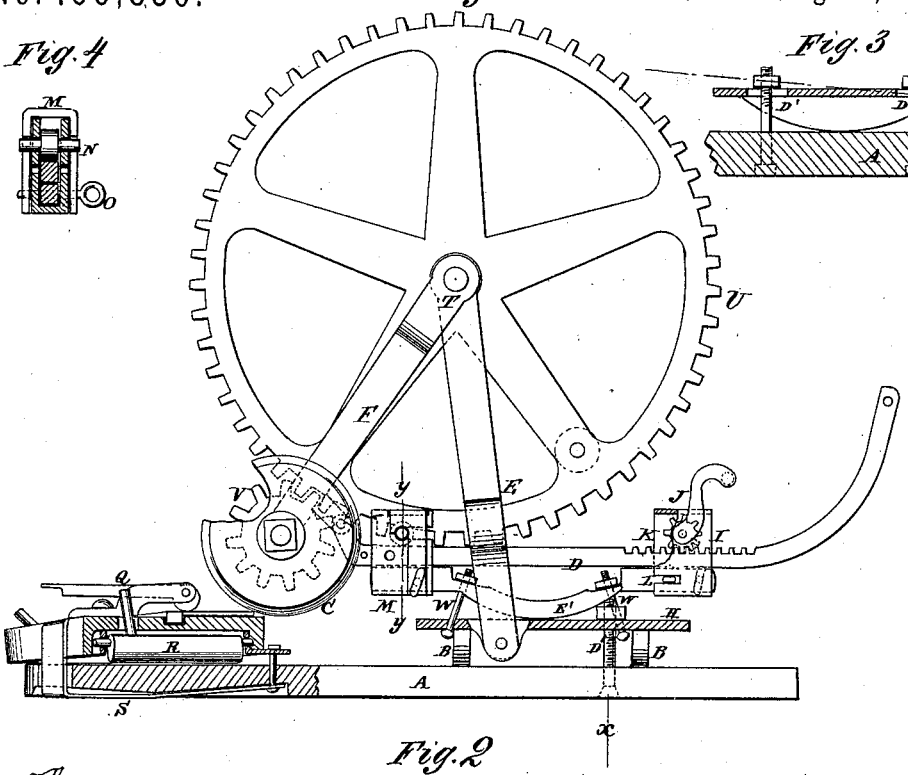


Fig. 4

Fig. 3

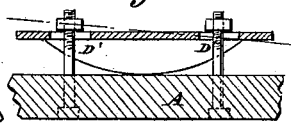


Fig. 2

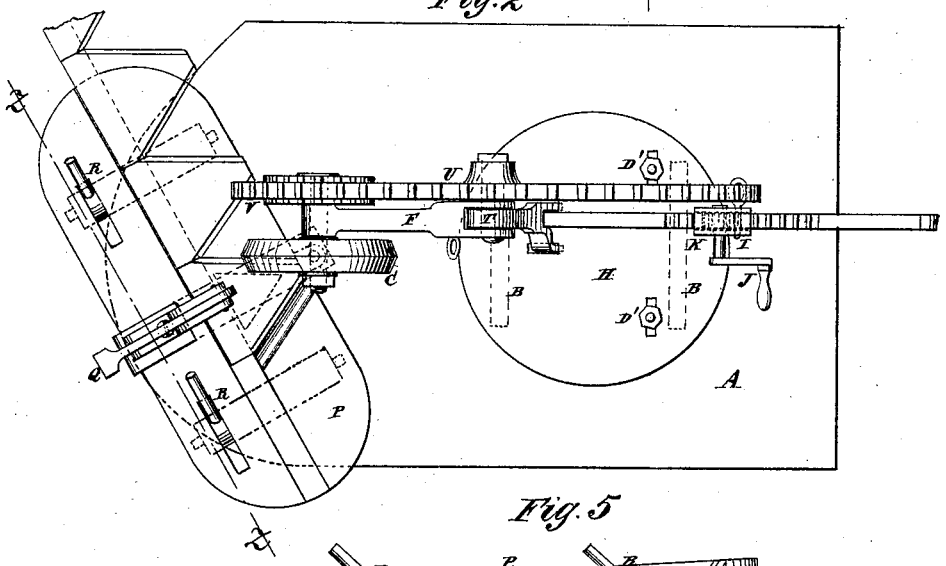
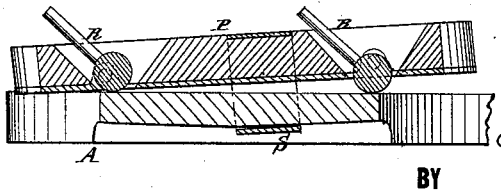


Fig. 5



WITNESSES:

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2 Sheets--Sheet 2.

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Sharpening-Machine.

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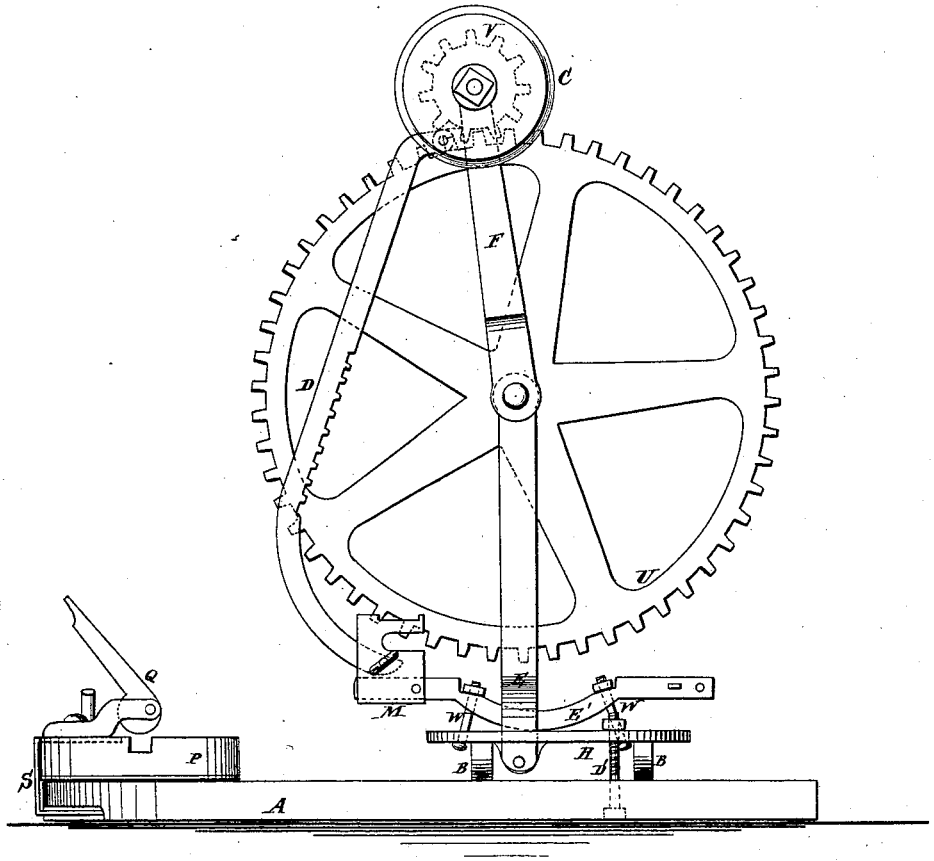
Fig. 6



WITNESSES:

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UNITED STATES PATENT OFFICE.

ANDRUS S. WEAVER, OF JOY, NEW YORK.

IMPROVEMENT IN SHARPENING-MACHINES.

Specification forming part of Letters Patent No. **166,830**, dated August 17, 1875; application filed April 17, 1875.

To all whom it may concern:

Be it known that I, ANDRUS S. WEAVER, of Joy P. O., (town of Sodus,) in the county of Wayne and State of New York, have invented a new and useful Improvement in Grinding-Machines, of which the following is a specification:

The invention will first be described in connection with drawing, and then pointed out in the claims.

In the accompanying drawing, Figure 1 represents a side elevation of the machine. Fig. 2 is a plan view. Fig. 3 is a section, taken on the line *x x* of Fig. 1. Fig. 4 is a section of Fig. 1, taken on the line *y y*. Fig. 5 is a section of Fig. 2, taken on the line *z z*. Fig. 6, Sheet 2, is a side elevation, showing the machine converted into a general grinding-machine.

Similar letters of reference indicate corresponding parts.

A is the bed-plate, upon which is supported on rockers B B the adjustable plate H, which which is made to tip longitudinally with the rockers by the slots and bolts D′ D′. E′ is a saddle or yoke, attached to plate H, on the ends of which rests the bar D. The bar D is moved longitudinally by means of the rack and pinion I and crank J. The pinion is attached to the box K, which is slipped onto the bar, and is held in position by a pin and by the lug and slot L. The forward end of the bar is hinged to the forearm F. C is the emery-wheel or grinding-stone, the arbor of which passes through the lower end of the forearm F. The bar D is confined to the saddle E′ by the box K at the rear and the box M in front. The box M contains a friction-roll, N, which bears on the bar, and is held in place by the pin O. (See Fig. 4.)

The reaper-knife (to be ground) is fastened to the adjustable table P, and is fastened thereon by the cam-lever Q. The table is adjusted by the two eccentric levers R R and by the spring S. The grinding-stone is moved back and forth on the knife by the bar D and rack and pinion before mentioned to grind the teeth to the proper level after the knife-table has been properly adjusted. E is the crane, which is hinged to the plate H, so as to readily move forward and back. The forearm F is hinged to the top of the crane, as seen at T. The grinding-stone is revolved by means of the crank gear-wheel U on the pivot of the joint T and the pinion V, into which it meshes, which pinion is on the grinding-stone arbor. The bar D is thrown from a horizontal position by means of the screws W through the saddle E′, and the crane is tipped sideways by means of rockers B B beneath it and the bolts D′.

It will be seen that the grinding-stone, as well as the reaper-knife, may be adjusted to almost any position.

To throw the machine into the position seen in Fig. 6 the box K is removed, which allows the bar D and forearm F to be turned up so as to bring the grinding-stone nearly over the driving-gear U, as represented. In this position the joint T becomes a knee-joint, being nearly parallel with the crane, and the forearm is supported by the nearly-upright bar D. In this position the emery or grinding wheel is revolved the same as before stated, and other articles may be ground.

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

1. The cam-levers R and spring S, combined with table P, as and for the purpose set forth.

2. The rack-bar D, crane E, and arm F, jointed together and combined with yoke having pinion, to give a horizontal movement to the grinding-wheel.

ANDRUS S. WEAVER.

Witnesses:

T. B. MOSHER,

ALEX. F. ROBERTS.