J. W. Hyatt, Jr. & I. S. Hyatt.

Edge-Tool Grinder.

No. 31,461. Patented Feb. 19, 1861.

Fig. 1.

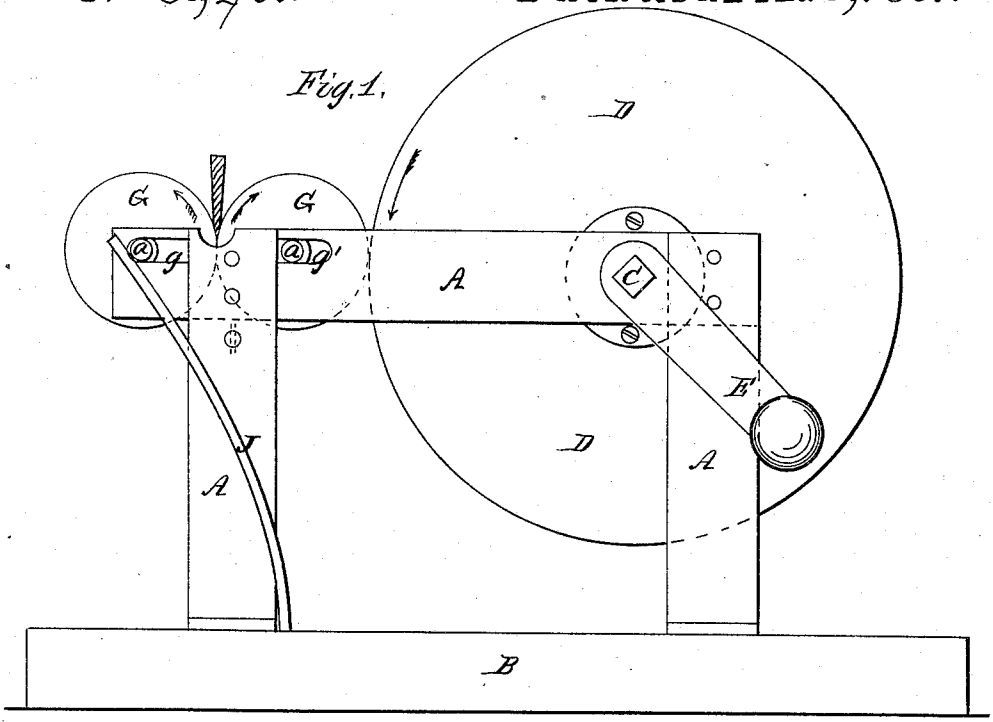
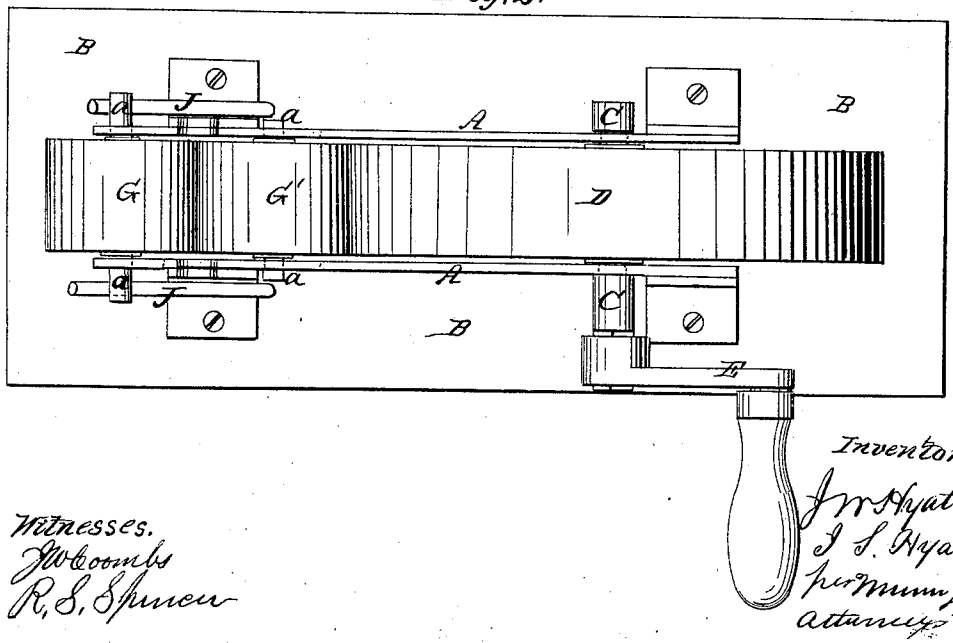


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN W. HYATT, JR., AND ISAIAH S. HYATT, OF CHICAGO, ILLINOIS.

IMPROVED KNIFE-SHARPENER.

Specification forming part of Letters Patent No. **31,461**, dated February 19, 1861.

To all whom it may concern:

Be it known that we, JOHN W. HYATT, Jr., and ISAIAH S. HYATT, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Knife-Sharpener; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the improved knife-sharpener. Fig. 2 is a plan view of the same.

Similar letters of reference indicate corresponding parts in both figures.

To enable those skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A A represent a frame composed of two parallel bars, mounted on uprights, which are firmly secured to a base B, near one end of the frame A, and passing transversely through the parallel bars is a shaft C, on which is keyed a large friction-wheel D, having a smooth pheriphery, which is nearly as wide as the space between the horizontal parallel bars A A. This wheel D is rotated by a hand-crank E, attached to one end of the shaft C.

G G′ are twin wheels or cylinders, both of the same diameter and width, and through the axis of each of these wheels passes a short shaft *a*. These wheels are about one-fourth the diameter of the large driving-wheel D, and they are made of stone, a composition containing emery, or of any material best suited to the purpose for which they are intended. The shafts *a a* of these twin wheels G G′ have their bearings in the two parallel bars A A, and these shafts pass transversely through the longitudinal slots *g g′* in the bars A A, as shown in Fig. 1 of the drawings. The slots *g′* allow the periphery of wheel G′ to be brought in contact with the periphery of the driving-wheel D, and the slots *g* allow the periphery of wheel G to be brought in contact with the wheel G′.

The springs J J proceed up from the base B on each side of the frame A A, and operate against the projecting ends of the shaft *a* of wheel G and force the peripheries of the wheels G G′ together and keep the periphery of wheel G′ in contact with the periphery of the driving-wheel D. The springs J J act with some force against the axle of wheel G, so as not to allow the wheel G to yield during the operation of sharpening a knife. The object of these springs J J is to compensate for the wearing away or for any irregularity of the surface of the wheels G G′ and D by keeping the peripheries of the three wheels always in close contact, so that they will all rotate by the friction of one wheel upon the other. The slots *g g′* allow the axis of the wheels G G′ to be forced by springs J J closer together as the surfaces of those wheels are worn away.

From this description it will be seen that when the wheel D is rotated in the direction indicated by the arrow in Fig. 1 it will rotate the wheel G′, and this wheel G′ will rotate wheel G in the direction indicated by the arrows on these wheels.

The knife which is to be sharpened is held between the two wheels G G′, as represented in Fig. 1, and by drawing this knife back and forth while the wheels rotate, at the same time giving the knife a slight pressure downward, the peripheries of the wheels G G′ will operate upon each side of the edge of the knife and bring it to a keen edge.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the wheel D and springs J J (or equivalent pressing device) with the wheels G G′, in the manner herein shown and described.

JOHN W. HYATT, JR.
ISAIAH S. HYATT.

Witnesses:
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