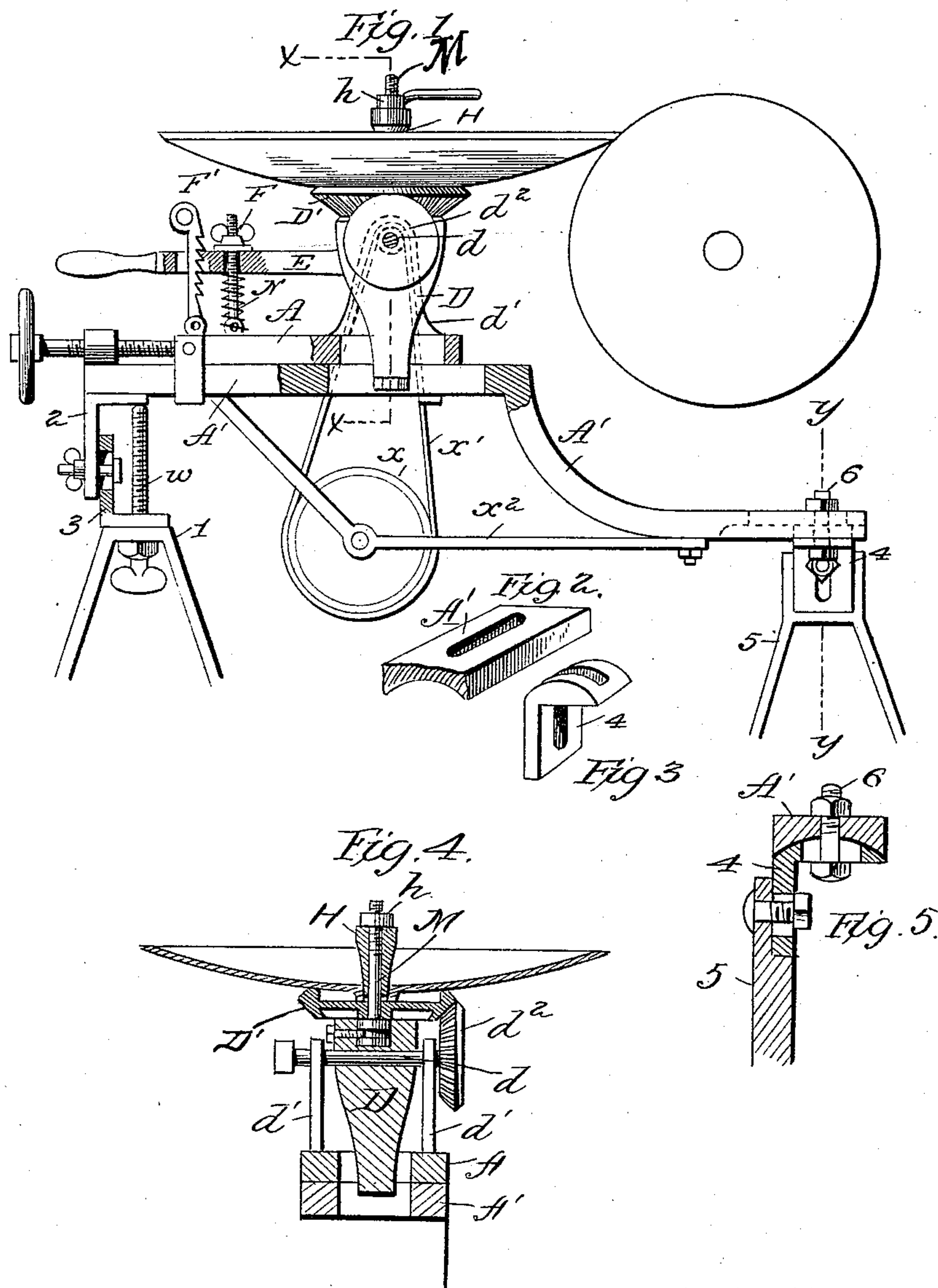


(No Model.)

W. J. McGEHE.
ROTARY GRINDING MACHINE.

No. 452,004.

Patented May 12, 1891.



Attest
Walter Middleton
J. L. Middleton

Inventor
Wm J. McGehe
by Ellis Spear
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM J. MCGEHE, OF BUSHNELL, ILLINOIS.

ROTARY GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 452,004, dated May 12, 1891.

Application filed January 23, 1890. Serial No. 337,802. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. MCGEHE, of Bushnell, in the county of McDonough and State of Illinois, have invented a new and useful Improvement in Rotary Grinding-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

The improvements hereinafter described relate to the grinding-machine shown in Letters Patent of the United States granted to me November 5, 1889, No. 414,565, the object of said improvements being to provide a wider range of adjustment, and to provide means for holding the clutch with the article to be ground away from the grinding-wheel, so that the machine may be rendered ineffective without bringing the parts to rest.

The invention is designed to grind disks used for roller-cutters of plows or the rotary disks of land-pulverizers, though it will be understood that the machine may be used to grind disks of all descriptions.

The accompanying drawings show, in Figure 1, the machine in side elevation, partly in section. Fig. 2 is a detail view of the rear end of the main supporting-base. Fig. 3 is a detail view of the slotted bracket for supporting the rear end of the main base. Fig. 4 is a section on line $x x$ of Fig. 1. Fig. 5 is a section on line $y y$ of Fig. 1.

The adjustable base A carries the bracket D, which is pivoted thereto by means of the shaft d , said shaft passing through standards d' on the base. This shaft also answers the purpose of supporting the beveled pinion d^2 , which meshes with the gear D' , through which motion is communicated to the clutch-shaft M and the clutch H thereon. The shaft is driven from a pulley x by the belt x' , said pulley being supported in a hanger x^2 , attached beneath the main supporting-base A'. This main base carries the base A with all the working parts and is itself adjustable in different ways to facilitate the work. Its forward portion is flat to afford a bearing for the base A, which is adjustable longitudinally toward and from the grinding-wheel by means of a screw-rod passing through a stud on the main base A' and operated by a hand-wheel. This front part rests upon a vertical screw-rod w ,

held in a standard 1, and it is provided with a depending bracket 2, which has a set-screw which passes through a slotted bracket 3, held by the standard 1. The rear part of the main base is in a lower plane than the front, curving downwardly beneath the grinding-wheel and being held by a slotted bracket 4, vertically adjustable by means of a set-screw passing through said slot and into a standard 5. This rear end of the main base is connected to the bracket by a set-bolt 6, passing through a slot in said plate. The rear end is concaved on its under side, as in Fig. 2, to fit the convex surface of the bracket 4. This convex surface also is slotted to receive the set-bolt 6, and by this connection it will be noticed that the whole machine may be tilted laterally and held in any desired inclined position by the set-bolts at the front and rear ends of the main frame.

The bracket D is formed with the handle-lever E, as in my former patent, and is combined with a similar arrangement of adjusting-nut F and spring N. The bracket may be swung on its pivot to vary the inclination of the disk, and in order to adapt the machine to greater variety of work the main base is supported in the manner above described—that is to say, it may be adjusted vertically at each end to vary the height of the disk in relation to the grinding-wheel, or it may be raised at its forward end, the rear end having a pivotal action, all of which adjustments give different effects in the surface operated on as to the extent of surface removed and the angle at which the surface is ground.

In order to quickly and easily remove the disk from contact with the grinding-wheel and to hold the parts with the disk in this position, I employ a catch-bar pivoted to the base A and working through an opening in the handle-lever E. This catch F' is notched, and by simply pressing down the handle-lever against the pressure of the spring N the bracket D with the disk may be held in position away from the grinding-wheel, and thus render the said wheel ineffectual without stopping its motion. The disk is held by any suitable clutch.

The clutch H is substantially the same as in my former patent referred to, consisting of

a cone-shaped piece pressed downward by a nut *h*, so that its lower end enters the opening in the disk and holds the same by its pressure.

What I claim is—

5 1. In combination, the grinding-wheel, the clutch for the disk, and a main base for carrying a support for the clutch, with means for adjusting said main base vertically at each end and also pivotally, substantially as described.

10 2. In combination, the grinding-wheel, the clutch for the disk, the main base carrying a support for the clutch, said main base having its rear end extending beneath the wheel and pivotally supported, substantially as described.

20 3. In combination, the grinding-wheel, the clutch for the disk, the main base with means for vertically and pivotally adjusting it, the base A, supported thereon, and means for adjusting the same toward and from the grinding-wheel, substantially as described.

25 4. In combination, the grinding-wheel, the clutch for the disk, the main base with means for vertically adjusting it, the bracket D, pivoted in a support carried by said vertically-adjustable main base A', and means for adjusting the inclination of said bracket, substantially as described.

30 5. In combination, the grinding-wheel, the clutch, the main base with means for adjusting the inclination thereof, and the pivoted bracket D, with means for adjusting the same on its pivot, substantially as described.

35 6. In combination, the grinding-wheel, the clutch and clutch-support, and the main base A', having a depressed rear portion extend-

ing beneath the grinding-wheel, and means for supporting said depressed end adjustably, substantially as described.

7. In combination, the grinding-wheel, the clutch, the support therefor, the adjustable main base, and means for communicating motion to the parts supported by said adjustable base A', substantially as described.

8. In combination, the grinding-wheel, the clutch, clutch-shaft, and gear, the bracket D, the pinion, and pinion-shaft, the said bracket being pivotally supported upon said shaft, substantially as described.

9. In combination, the grinding-wheel, the clutch, the pivoted bracket, and the catch-bar for holding said bracket with the disks away from the wheel, substantially as described.

10. In combination, the grinding-wheel, the main base, and the pivoted support for the disk, the said main base being laterally adjustable with respect to inclination, substantially as described.

11. In the described machine, the grinding-wheel, the main base, the disk-support, the said main base having a concave bearing-surface, the bracket 4, having its upper surface convex, and the adjusting connection between the main base and the bracket, whereby the former may be tilted laterally, substantially as described.

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

WILLIAM J. McGEHE.

Witnesses:

F. KACHLER,
J. H. JOHNSON.