(No Model.)

P. H. CAZIER.

GRINDING MACHINE.

No. 569,782. Patented Oct. 20, 1896.

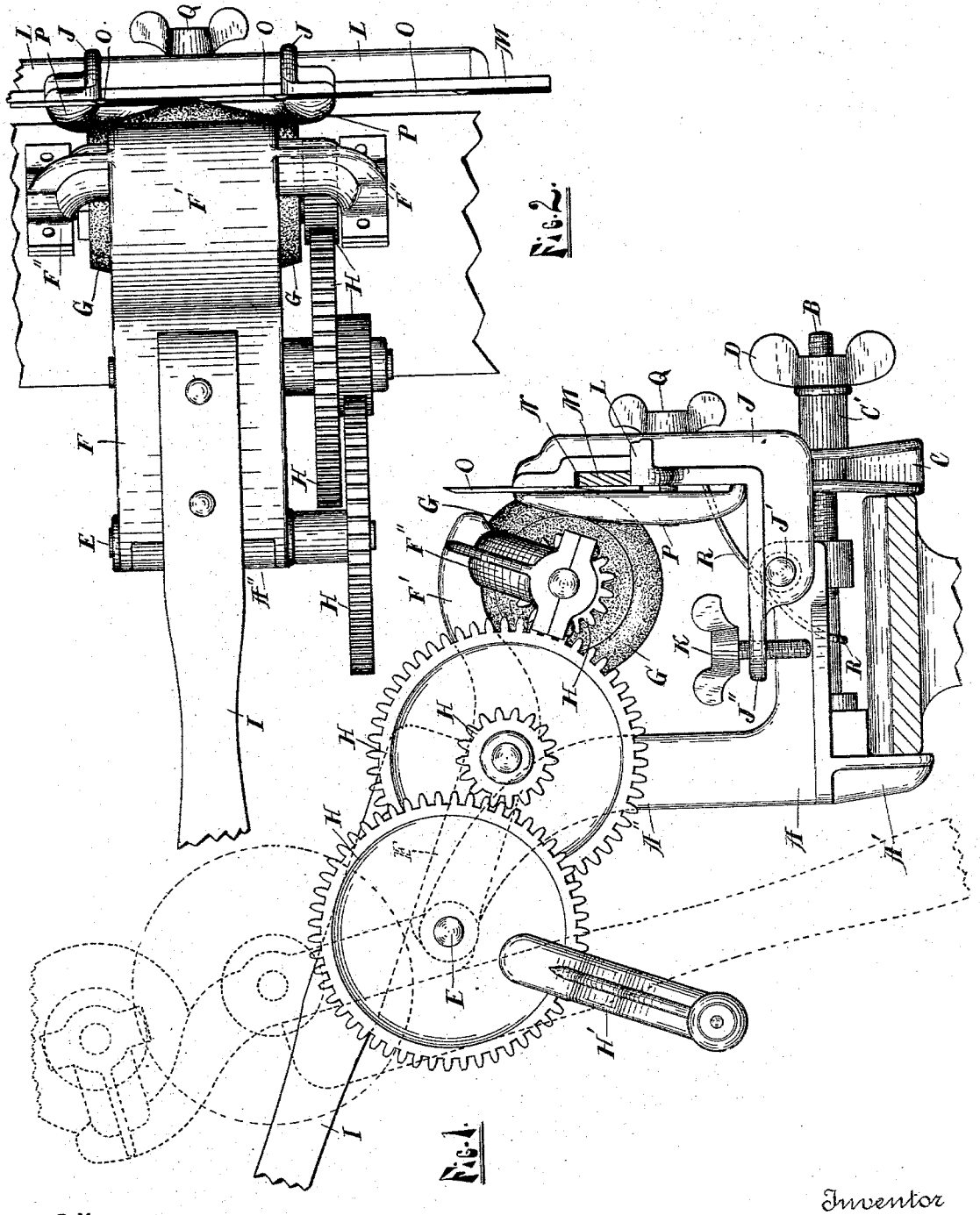

Fig. 2.

Fig. 1.

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UNITED STATES PATENT OFFICE.

PERRY H. CAZIER, OF NASHVILLE, MICHIGAN, ASSIGNOR TO SCOTT McINTOSH, HORACE PARMER, AND ISAAC SPONABLE, OF HASTINGS, MICHIGAN.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 569,782, dated October 20, 1896.

Application filed July 13, 1895. Serial No. 555,938. (No model.)

To all whom it may concern:

Be it known that I, PERRY H. CAZIER, a citizen of the United States, residing at Nashville, in the county of Barry and State of Michigan, have invented certain new and useful Improvements in Grinding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to that type of machines for grinding mowing-machine knives wherein the grinder-wheel is carried by a pivoted arm and the knife is carried by a frame capable of movement toward and from the grinder; and the principal object of my invention is to simplify and cheapen the construction of the knife-clamp of such machines.

A further object of the invention is to provide the clamp with a spring which will be capable of pressing said clamp into an inclined position toward the grinder when the latter is elevated, and with a stop which acts to limit the degree of inclination which the clamp may assume, so as to keep the ends of the knife-teeth from contact with the grinder when the latter is raised, said stop being adjustable for accuracy.

These objects are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention, and Fig. 2 a plan view of the same.

Like letters refer to like parts in both of the figures.

A is a frame adapted to be secured to the driving-wheel of a mower or other desirable support by means of the downwardly-extending lug A′ engaging one edge of the wheel, and the arm C on the sleeve C′ engaging the other side, said sleeve being longitudinally movable on the screw B and held by the thumb-nut D. The arm C being secured to one end of the sleeve C′ said sleeve may be reversed, so that it extends inward from said arm, and a greater distance thus secured between the lug A′ and said arm. The frame A has an upwardly-extending curved arm A″, to which is pivoted at E the arm F having the concave hood F′, to which is secured the hangers F″, and on said hangers is journaled the emery-wheel G, covered by said hood and driven by the crank-handle H′ through the train of gearing H, journaled on said arm F. By means of the handle I said arm is turned on its pivot to the position shown in dotted lines in Fig. 1, and having passed the center said handle will strike the frame A and support the emery-wheel in position to be used in grinding any article desired.

A bell-crank clamp J is pivoted to the frame A by the rod J′, said clamp J having an extension J″, through which passes the thumb-screw K, adapted to engage at its lower end a ledge on the frame A. On the upwardly-extending arm of the clamp J is the laterally-projecting guide-arm L, adapted to support the sickle-bar M, said bar being longitudinally movable on said arm in a way N in said clamp. The knives O extend upward from said bar between said clamp J, which forms one jaw to hold said knives in position and the other jaw, P, which is V-shaped, said jaw P being secured to said clamp by the thumb-screw Q. A spring R coiled around the rod J′ engages the upwardly-extending portion of the bell-crank clamp and serves as a spring-support for the same, which will operate to press the upright member of the clamp into inclined position toward the grinder when the latter is elevated, and will yield to the grinder while the same is being lowered, and thereby hold the knife more tightly against the grinder. The emery-wheel being up the sickle-bar is placed in the clamp and secured therein, said clamp moving inward until the adjusting-screw K strikes the frame A. Said wheel is then revolved and at the same time lowered, and as it strikes the knives the clamp is forced outward against the action of the spring R. The screw K prevents the ends of the teeth from moving inward far enough when the wheel is up to allow said wheel to strike the ends of said teeth, and the spring R puts an equal pressure on said knives throughout the stroke. This position of the knives allows the operator to see just how the knife is being ground, and the hood F′ keeps the emery-dust from flying. I am also able to turn up the arm to the position shown in

dotted lines and grind any other thing or tool at pleasure. I also find it of advantage to run the stone from point to heel of the knives by rotating it oppositely to the usual direction, thus leaving the knives in a better condition, and I can carry the device on the machine and clamp it to the wheel when used.

Having thus fully described my invention, what I claim is—

In a grinding-machine for mowing-machine knives, the frame, the pivoted arm, and the grinder supported by said arm, in combination with the clamp for the knife, comprising a bell-crank pivoted near the free end of its horizontal member, a clamp-jaw movable relatively to the upright member of said bell-crank, a spring operating to press said clamp toward the grinder and to cause the clamp to incline inward when the grinder is elevated, and an adjustable stop at the free end of the horizontal arm of the clamp to limit the degree of inclination which the clamp may assume toward the grinder.

In testimony whereof I hereto affix my signature in presence of two witnesses.

PERRY H. CAZIER.

Witnesses:
J. J. POWERS,
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