

(No Model.)

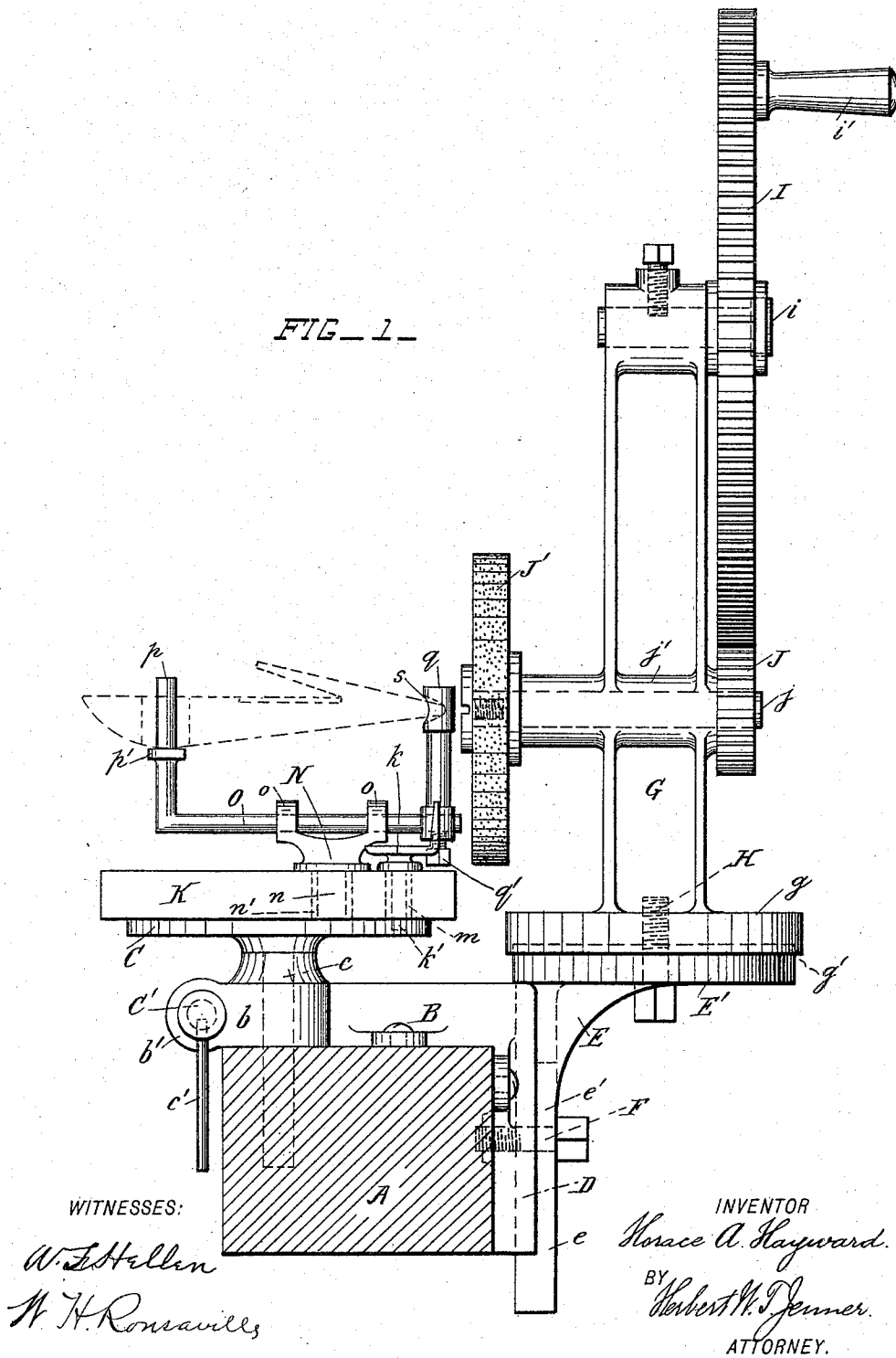
2 Sheets—Sheet 1.

H. A. HAYWARD.
GRINDING MACHINE.

No. 535,949.

Patented Mar. 19, 1895.

FIG. 1.



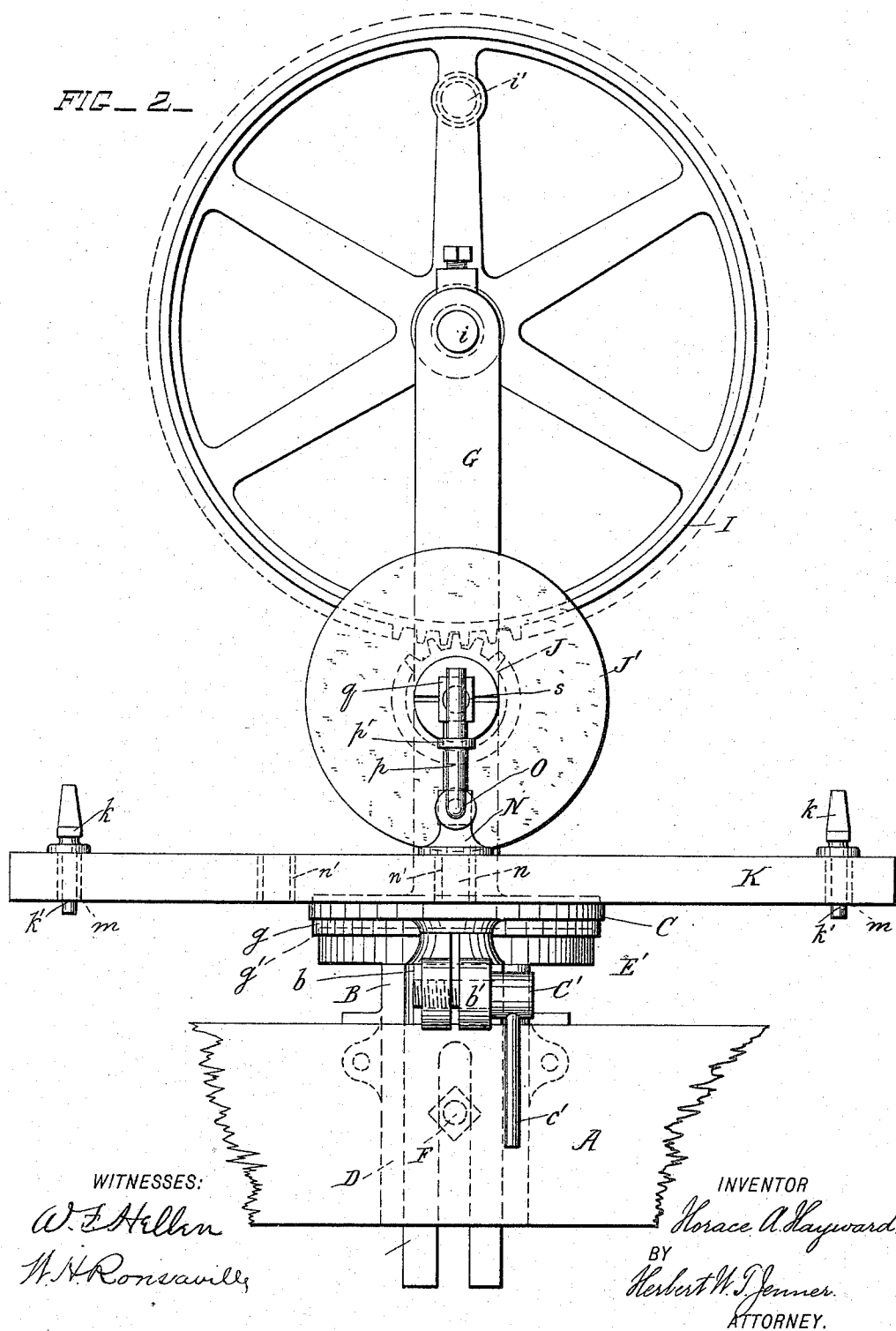
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UNITED STATES PATENT OFFICE.

HORACE A. HAYWARD, OF LONDONDERRY, VERMONT.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 535,949, dated March 19, 1895.

Application filed October 22, 1894. Serial No. 526,587. (No model.)

To all whom it may concern:

Be it known that I, HORACE A. HAYWARD, a citizen of the United States, residing at Londonderry, in the county of Windham and State of Vermont, 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 relates to grinding machines for use in connection with mowing machine sections or sickles, guards, and other similar articles; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings: Figure 1 is a side view of the grinding machine. Fig. 2 is a front view of the grinding machine.

A is a stationary support which may conveniently be formed of wood.

B is a bracket secured to the support A. The top portion of the bracket B rests on the support A and is provided with a split boss *b* having lugs *b'*, one on each side of its split or groove.

C is a vertically-adjustable and revoluble disk provided with a stem *c* passing through the said boss *b*; and *C'* is a clamping screw, engaging with the lugs *b'* and provided with an operating handle or lever *c'*, for securing the said disk in any desired position.

The rear portion of the bracket B is provided with a vertical guide D.

E is a bracket provided with a vertical slide *e* which is adjustable in the guide D and is provided with a vertical slot *e'*.

F is a screw which passes through the slot *e'* and screws into the bracket B, so that the bracket E may be clamped to it after its vertical position has been adjusted. A horizontal circular disk *E'* is provided at the top of the bracket E.

G is a standard having a base *g*. This base has a circular recess *g'* on its underside and is journaled upon the disk *E'*. A screw H passes through a hole in the disk *E'* and screws into the base *g* so that the standard is clamped to the bracket B when the said screw is tightened. A toothed wheel I is journaled on a

pin *i* projecting from the top of the standard G, and is provided with a handle *i'* for revolving it by hand.

J is a toothed pinion which is secured upon one end of a shaft *j* and gears into the wheel I. The shaft *j* is journaled in the bearing *j'* of the standard, and *J'* is the grinding wheel secured on the other end of the shaft *j*.

The grinding wheel is revolved by means of the toothed wheel and pinion; its vertical position is adjusted by raising or lowering the bracket E; and it is set to various angles by turning the standard upon the disk *E'*.

K is a table which is secured to the disk C hereinbefore described, and *k* are removable rests for the cutter bar. These rests have stems *k'* which are dropped into sockets *m* let into the table.

A support N is provided for grinding guards, as shown in the drawings. The support N is removable and is provided with a stem *n* which is journaled in the socket *n'* which is let into the table.

O is a revoluble bar which is free to slide horizontally in the lugs *o* of the support N. The bar O has a stationary vertical arm *p* at one end which is provided with a collar *p'*. A slidable arm *q* is clamped on the other end of the bar O by a screw *q'*, and the upper end of the arm *q* is provided with a conical recess *s*. The guard is slipped over the end of the arm *p* and rests on the collar *p'*, and the arm *q* is moved so as to cause the recess *s* to engage the point of the guard. The arm *q* is then secured to the bar O. The guard is grasped by the hand and is slid back and forth and is pressed against the grinding wheel.

The pivotal and vertical adjustability of the standard and table permits the grinding wheel and the articles to be ground to be moved about into a great many positions with respect to each other, and permits the machine to be used for grinding a large variety of articles.

What I claim is—

1. In a grinding machine, the combination, with the grinding wheel, and means for supporting and revolving it; of the vertically-adjustable disk C and the table secured to it; and a support for a guard provided with lugs and with a stem journaled in the table, and a

horizontally-slidable bar journaled in the said lugs and having a stationary arm at one end provided with a collar, and a slidable arm at the other end provided with a recess, substantially as set forth.

2. In a grinding machine, the combination, with the bracket B provided with a vertical guide at its rear; of the vertically-adjustable disk provided with a stem journaled in a boss at the front of the said bracket; a vertically-adjustable bracket provided with a slide engaging with the said guide, and a horizontal

disk at its top; the standard for supporting the grinding wheel and its driving mechanism, provided with a recessed base revoluble upon the last said disk; and clamping devices for securing all the said adjustable parts, substantially as set forth.

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

HORACE A. HAYWARD.

Witnesses:

F. N. WESTCOTT,
B. SPARROW.