(No Model.) 2 Sheets—Sheet 1.

C. A. KELLOGG.

GRINDING ATTACHMENT FOR MOWING MACHINES.

No. 419,527. Patented Jan. 14, 1890.

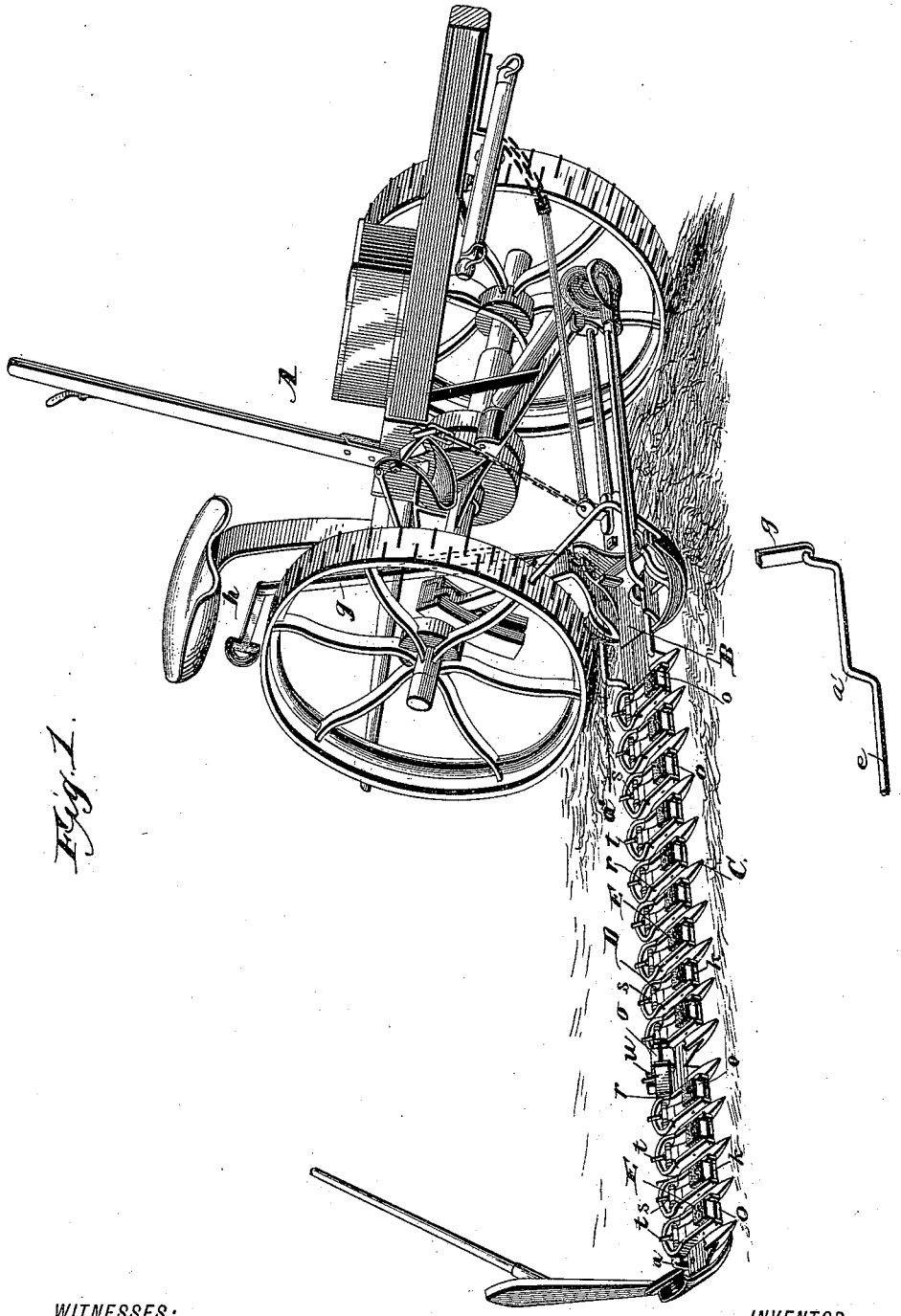

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

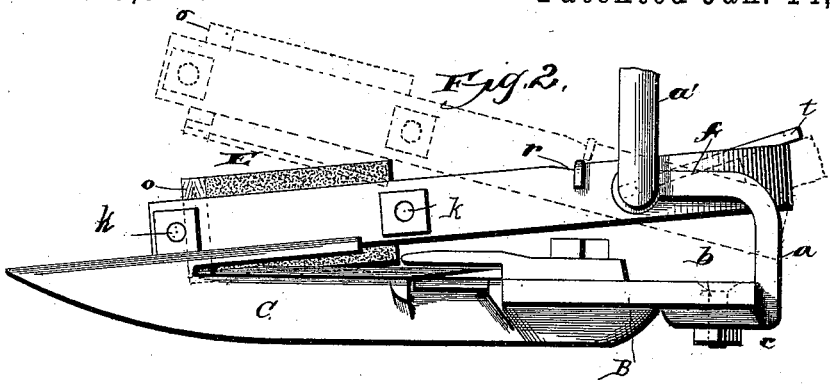


Fig. 3

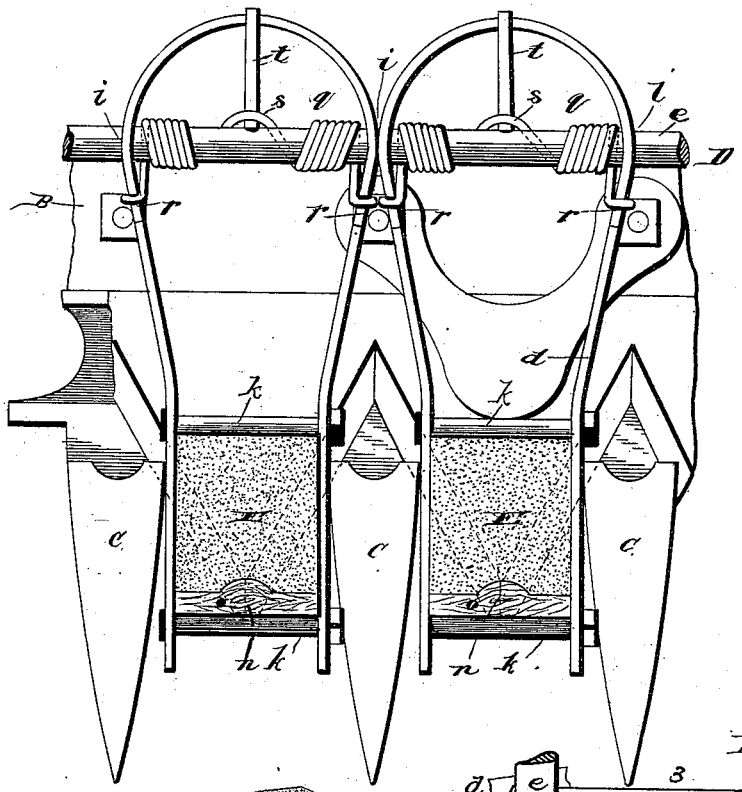
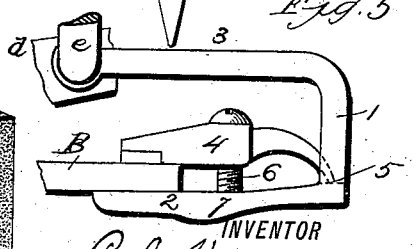


Fig. 5



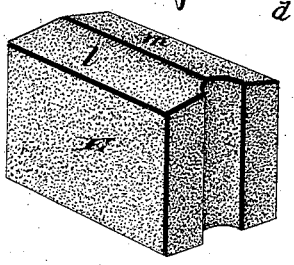


Fig. 4.

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UNITED STATES PATENT OFFICE.

CLEMENT A. KELLOGG, OF ROGERS, OHIO.

GRINDING ATTACHMENT FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 419,527, dated January 14, 1890.

Application filed October 19, 1889. Serial No. 327,506. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT A. KELLOGG, a citizen of the United States, residing at Rogers, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Grinding Attachments for Mowing-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.

My invention relates to mowing-machines, and has for its object the construction of an improved attachment for grinding the knives of a machine without removing them, and utilizing the power of the machine while in motion to reciprocate the knives under the grindstones.

The invention has especial reference to certain improvements in the device patented by me July 9, 1889, No. 406,739, which will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a perspective of a mowing-machine provided with my improved grinding attachment; Fig. 2, an end view of the cutter-bar and my attachment; Fig. 3, a plan view of a section of the cutter-bar and attachment; Fig. 4, a perspective of one of the grindstones, and Fig. 5 an end view showing a clamp for securing the attachment to the finger-bar.

Reference being had to the drawings and the letters thereon, A indicates a mowing-machine of my improved construction; B, the finger-bar, having the usual guard-finger C thereon, and D my improved grinding attachment secured to the finger-bar by any suitable means.

I have shown brackets *a* and bolts *b* passing through the finger-bar and one arm of the bracket and secured by means of nuts *c;* but it is obvious that it may be clamped to the finger-bar by means of a clamp such as shown in Fig. 5, in which a bracket 1 is provided with an arm 2, which extends under the finger-bar B; an arm 3, which extends over said bar and supports the rod *e*, and the yokes *d*. The bracket is secured to the finger-bar by means of a yoke 4, one end of which rests upon the finger-bar and the opposite end upon the bracket at 5, and a screw or bolt 6, which passes through the yoke and engages with the bracket at 7.

The grinding attachment consists of a series of clamping-yokes *d*, mounted upon a rod *e*, extending throughout the entire length of the finger-bar, supported in the arm *f* of the bracket *a*, and terminating at its inner end in a crank *a'*, to which a rod *g*, provided with a hand-lever *h* within convenient reach of the seat for the driver, is attached. The rod *e* passes through apertures *i* in the yokes, and in the front end of each yoke is secured a grindstone E, made of emery or other suitable material, by means of bolts *k*, passing transversely through yokes in front and rear of the grindstones. The working-surface of the grindstones is made angular to correspond with the angle of the cutting-edge of the knives, as shown at *l m* in Fig. 4, and to prevent the grindstone from cutting away the ridge *n* on the end of each knife, as shown in dotted lines in Fig. 3, a section *o*, of wood or other non-grinding material, is applied to the front end of the grindstones immediately over the ridge of the knife, and the lower end of said section *o* is made to conform to the angle of the lower surface of the grindstone and the angle of the cutting-edges of the knives. By making the sections *o* of the form shown and described the grindstone cuts the knife on its angular surface, but does not cut, as the ridge *n*, which separates the angles of the two cutting-edges of the knife, passes under the central portion of the section *o*, thereby preserving the ridge *n* on the knife.

The grindstones are normally held in working-contact with the knives by the tension of springs *q*, coiled around the rod *e* between the sides of each yoke *d*, and the free ends of the springs are secured to the sides of the yoke in notches *r r* and bent downward, as shown in Figs. 2 and 3. In each coiled spring *q* a loop *s* is formed, through which a spur *t*, secured to the rod *e*, passes, and which serves to wind the spring and increase the tension thereof at the will of the operator when he desires to increase the pressure of the grindstones upon the knives. This is effected by

the operator pushing the hand-lever *h* forward and causing the rod *e* to revolve in the same direction, which winds the springs *q* upon the rod.

Any one or more of the grindstones E may be thrown out of operation upon their respective knives by raising the clamping-yoke, as shown at *u* in Fig. 1 or in dotted lines in Fig. 2, and placing a block of wood between the upper rear end of the yoke and the spur *t*, which extends rearward to the end of the yoke and will hold the yoke securely in its elevated position.

The grinding attachment is readily and easily secured to the finger-bar and detached therefrom by the bolts shown and described, and affords a convenient and effective means for grinding the knives.

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

1. A grinding attachment for mowing-machines, provided with grindstones having a section of wood or analogous non-grinding material secured thereto to prevent grinding the ridge at the front end of the knives, substantially as described.

2. A grinding attachment for mowing-machines, consisting of one or more yokes carrying grindstones and secured to a rod adapted to be secured to the finger-bar and passing through the yokes, in combination with springs secured to said rod and to the yokes, substantially as described.

3. A grinding attachment for mowing-machines, consisting of one or more yokes and grindstones, a rod adapted to be attached to the finger-bar, supporting said yoke or yokes, and a tension device bearing on said yokes and operated positively by a lever, substantially as described.

4. A grinding attachment for mowing-machines, consisting of one or more yokes supporting grindstones, a rod adapted to be attached to the finger-bar, passing through said yoke or yokes, a spring coiled around said rod, secured at its ends to the yoke and provided with a loop, in combination with a spur projecting from the rod and extending through the loop, substantially as described.

5. A grinding attachment for mowing-machines, consisting of a rod adapted to be attached to a finger-bar, swinging yokes secured upon said rod and extending rearwardly beyond the rod, and grindstones supported by said yokes, in combination with a spur secured to the rod and projecting rearwardly to the end of the yokes, and springs for applying the grindstone to the knives, substantially as described.

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

CLEMENT A. KELLOGG.

Witnesses:
G. O. WEEDEN,
L. T. FARR.