J. W. ELLIOT.

Machine for Grinding Mower and Reaper Knives.

No. 233,082. Patented Oct. 12, 1880.

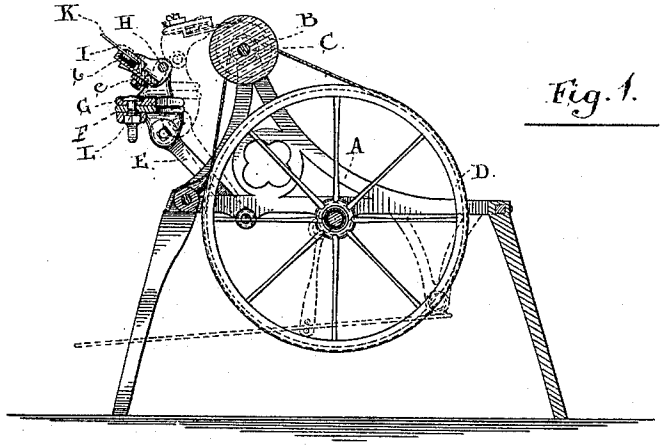


Fig. 1.

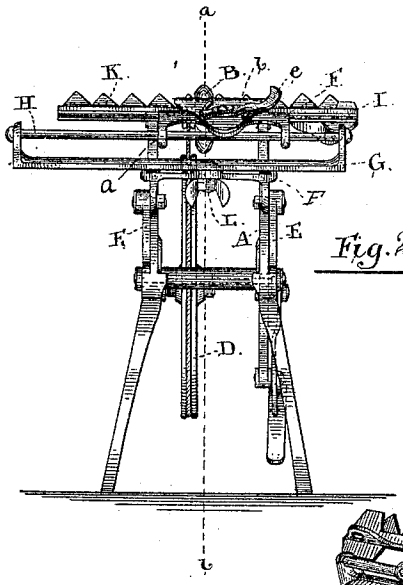


Fig. 2.

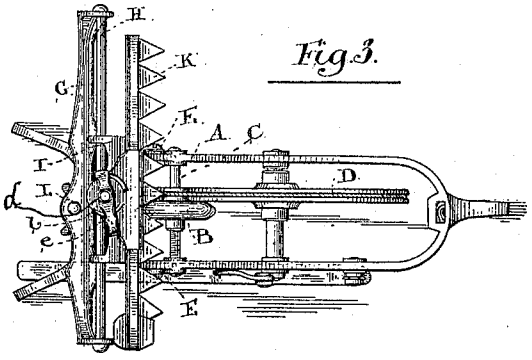


Fig. 3.

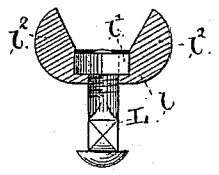


Fig. 5.

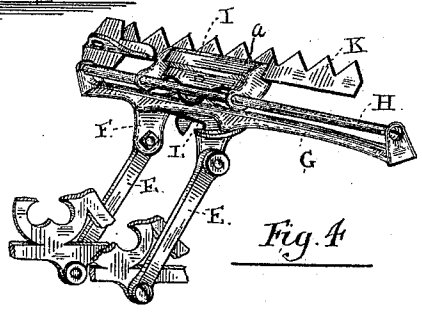


Fig. 4.

Witnesses

Louis McL. Whitehead

John H. Elliot

Inventor:

J. W. Elliot

by Ridout & Maybee

Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN W. ELLIOT, OF TORONTO, ONTARIO, CANADA.

MACHINE FOR GRINDING MOWER AND REAPER KNIVES.

SPECIFICATION forming part of Letters Patent No. 233,082, dated October 12, 1880.

Application filed February 2, 1880.

To all whom it may concern:

Be it known that I, JOHN WHEELER ELLIOT, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Machines for Grinding Reaper and Mower Knives, of which the following is a specification.

The object of the invention is to produce a strong and cheaply-constructed grinder provided with attachments so arranged that the knife can be readily griped and adjusted, so that the teeth may be ground at any uniform bevel desired; and it consists of a lightly-constructed but strong iron frame supporting the grinding-spindle and gearing for driving the same.

The attachments for griping the knife are hinged to the main frame, and are arranged to be easily adjusted, as hereinafter explained.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved "farmer's assistant" grinder through the line *a b*, Fig. 2. Fig. 2 is an end view of the same. Fig. 3 is a plan. Fig. 4 is a detail; and Fig. 5 is a detail of the bolt and washer.

In the drawings, A is a metal frame, designed, substantially as shown, to carry the treadle-gear and grinding-spindle.

B is an emery-wheel or grinding-stone, suitably fastened to the spindle C, and propelled by a belt from the treadle-wheel D.

On each side of the frame A, I pivot or hinge the arms E, connected together by the head-plate F. I pivot to the plate F the swivel-frame G, which is designed, with a horizontal bar, H, to carry the knife-clamp I. This clamp is composed of a plate, *a*, provided with arms, through which the bar H passes, as shown, and shaped to support the knife K. A clamp-plate, *b*, fits over the knife K, and is held by the set-screw *d*, having pivoted thereon a clamping-bar, *e*, arranged, as shown, so that by turning it in one direction the plate *b* is caused to gripe the knife K, and by reversing it to release the said knife.

By pivoting the head-plate F on the arms E, I am enabled to adjust it to suit the size of the emery-wheel B. The bolts upon which it is pivoted, by being tightened, will hold it in any desired position.

The swivel-frame G is secured to the head-plate F by the bolt L, upon which the said frame is pivoted. By this arrangement the knife K can be set at any angle desired to the emery-wheel B, and held there while its teeth are being sharpened, the teeth being all ground at exactly the same bevel, the knife-clamp I being moved along the bar H as each tooth is finished.

When the teeth have all been ground on one side the swivel-frame G is turned on its pivot L, so as to present the other side of the teeth to the wheel B, and in this way the teeth are correspondingly ground on both sides.

From the foregoing description it will be seen that the grinding of the teeth is completely under the control of the operator, who can adjust the head-plate F and retain it in any desired position which may be necessary to suit the size and condition of the wheel B and turn and likewise hold the swivel-frame G to accommodate the condition of the knife and the bevel of the teeth.

On reference to Fig. 5, representing a detail of the bolt L and its nut, their peculiar construction will be understood.

It will be noticed that instead of using an ordinary washer I make a washer, *l*, hollowed out to fit around the nut *l'*, and provided with wings l^2. In this way the washer not only serves its usual purpose, but, when combined with the nut, constitutes a thumb-screw.

What I claim as my invention is—

1. The arms E, hinged to the frame A, and supporting the head-plate F, swivel-frame G, and knife-clamp I, operated, in connection with an emery-wheel, substantially as and for the purpose specified.

2. The plate *a*, sliding on the bar H, in combination with the clamp-plate *b*, set-screw *d*, and clamp-bar *e*, arranged substantially as shown, and for the purpose specified.

Toronto, January 27, A. D. 1880.

J. W. ELLIOT.

Witnesses:

JOHN H. ELLIOT,

GEO. A. AIRD.