(No Model.) 2 Sheets—Sheet 1.

C., W. & A. MIESSNER.

SICKLE GRINDING MACHINE.

No. 590,899. Patented Sept. 28, 1897.

Fig. 1.

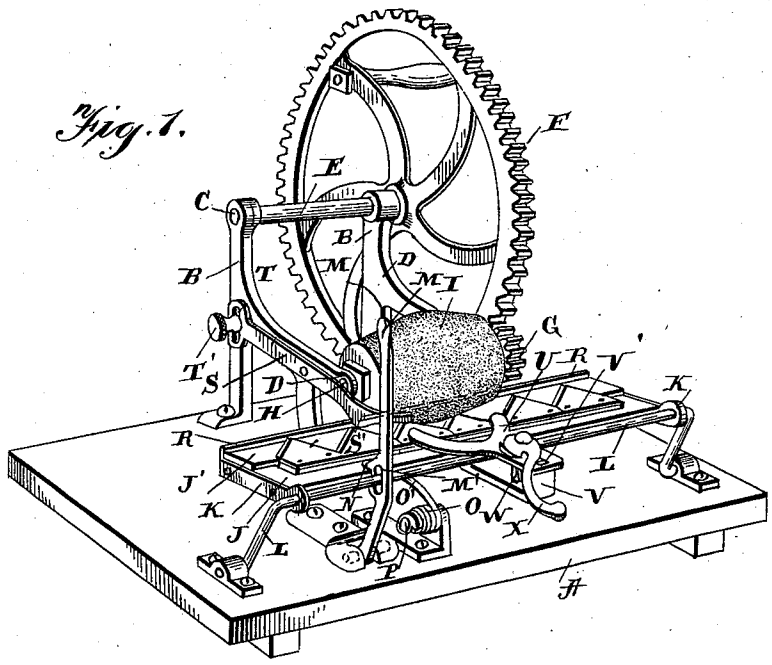
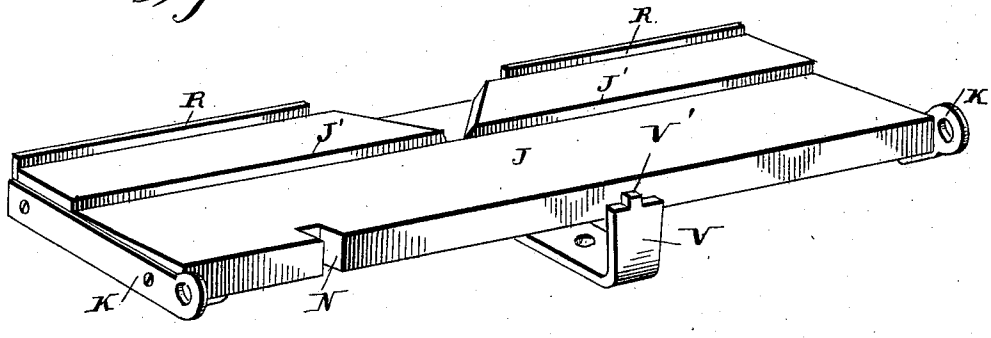


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

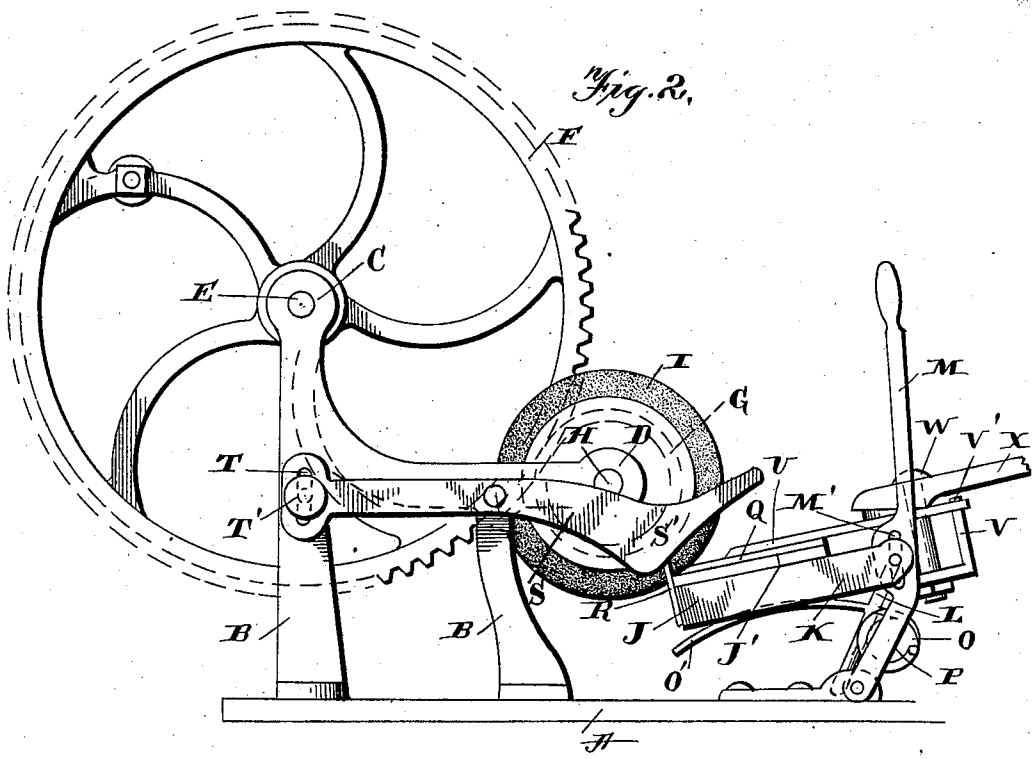
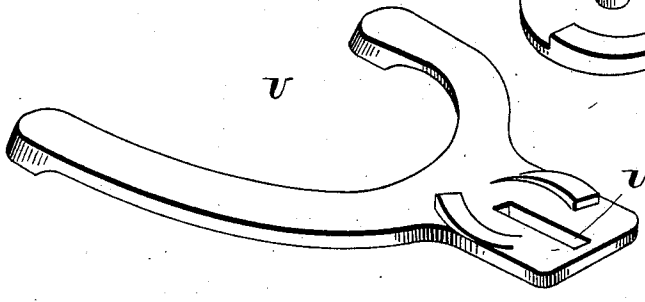


Fig. 4.



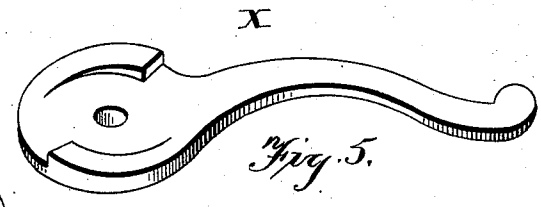


Fig. 5.

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UNITED STATES PATENT OFFICE.

CHARLES MIESSNER, WILLIAM MIESSNER, AND AUGUST MIESSNER, OF HUNTINGBURG, INDIANA, ASSIGNORS TO MIESSNER BROS. & CO.

SICKLE-GRINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 590,899, dated September 28, 1897.

Application filed May 11, 1897. Serial No. 636,066. (No model.)

To all whom it may concern:

Be it known that we, CHARLES MIESSNER, WILLIAM MIESSNER, and AUGUST MIESSNER, of Huntingburg, in the county of Dubois and State of Indiana, have invented certain new and useful Improvements in Sickle-Grinding Machines; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to machines for grinding mower and reaper sickles; and the object is to provide a simple, effective, and durable grinder adapted to sharpen two edges of the sickle-sections at one time.

The invention consists in the novel features of construction and in the combination and arrangement of parts hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of the machine. Fig. 2 is an end view. Fig. 3 is a detail view of the sickle-holder. Fig. 4 is a similar view of the clamp.

Extending vertically from base A are uprights B, formed with upright bearing-arms C and horizontal bearing-arms D. Shaft E is journaled in arms C, and carries large operating gear-wheel F, which meshes with pinion G on the end of shaft H, the latter being journaled in arms D and carrying between said arms the grinder I.

J designates an elongated table, ridged longitudinally at J′ on its top surface and provided at its ends with perforated ears K, through which extends the bail-shaped support L, which is mounted at its ends to swing transverse the base and to and from the grinder, as shown. Lever M is loosely fulcrumed at its lower end to base A, and is slotted at M′, where it embraces support L, and it is extended sufficiently above the support to form a convenient handle. Table J is formed with depression N, into which the lever partially extends, and as the table has slight longitudinal play on support L it may be so adjusted by the slotted and loosely-fulcrumed lever as may be convenient and necessary in grinding, the lever also serving to oscillate carrier L, and thus move the table laterally toward and away from the grinder.

The table, which swings freely on the support, is held normally raised by spring O, coiled about head P, secured to base A, and at its free end O′ bearing upward on the under side of the table.

The sickle-bar proper, Q, rests against ridge J′ of the table, with the sickle sections extended forward to strip R on the free edge of the table. Guard S is pivoted between its ends to the frame, and at its forward end overhangs the table, where it is formed with dependence S′, and when the table is moved to position beneath the grinder strip R engages this depending portion and the table is thus depressed and the grinder prevented from coming in contact with the sickle-points. Strip R, after passing said depending part of the guard, rises with the table, and the sickle-sections are then in position for grinding. The guard is slotted at its rear end, as shown at T, and held in proper adjustment by set-screw T′.

For holding the bar in proper position on the table we provide the forked clamping-plate U, which extends over the ends of the table, and is slotted at U′ to engage nib V′ on the upper end of angular bracket V, extending from the under side of the table. Bolt W extends upward through the bracket and slot U′ of the clamping-plate, and arranged thereon over the plate is cam-lever X, having its under surface inclined and adapted to turn on the correspondingly-formed top surface of plate U, whereby when the sickle-bar is in proper position with the clamping-plate extending thereover the latter may be locked by the cam-lever.

The arrangement here shown and described affords the sickle-carrying table a free vertically-swinging movement, a horizontal oscillating movement, and a longitudinal movement, the last two movements being directly controlled by the hand-lever, so that every possible adjustment is provided for properly positioning the sickle beneath the grinder and for accomplishing its grinding in a most thor-

ough and effectual manner. Provision is also made, as fully described, for protecting the sickle-points from contact with the grinder.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sickle-grinding machine, the combination with the sickle-supporting table, of a clamping-plate having cam-surfaces on its upper side, a bolt extended through the plate, a lever mounted to turn on the bolt and formed with cam-surfaces on its under side to engage the corresponding surfaces of the plate when securing the sickle-bar to the table, substantially as shown and described.

2. In a sickle-grinding machine, the combination of a grinder, a horizontally-swinging support, a sickle-supporting table mounted to swing vertically and also to move longitudinally on the support, the table being formed with a notch, and a loosely-fulcrumed lever operatively connected to the support for swinging the same, the lever extending into the notch of the table for adjusting the same longitudinally, substantially as shown and described.

3. In a sickle-grinding machine, the combination of a grinder, a vertically-swinging sickle-supporting table movable toward and away from the grinder, and a depending guard in line with the grinder and adapted to depress the advance edge of the table in moving to position beneath the grinder, substantially as shown and described.

4. A sickle-grinding machine, comprising the grinder, an oscillating support, an operating-lever adapted to embrace the support, and a sickle-supporting table mounted to swing vertically on the support, substantially as shown and described.

5. A sickle-grinding machine, comprising a grinder, an oscillating table adapted to move longitudinally, and a loosely-fulcrumed lever adapted to oscillate the table toward and away from the grinder and also adjust it longitudinally, substantially as shown and described.

6. The combination, with the sickle-supporting table, of the angular bracket secured thereto and extended therefrom and provided on its upper end with a nib, the clamping-plate adapted to overhang the table and formed with a slot where it embraces the nib of the bracket, the bolt extended through the bracket and the slot of the plate, and the cam-lever on the bolt above the plate and adapted to clamp the plate to the table and bracket, substantially as shown and described.

7. A sickle-grinding machine, comprising a grinder, a vertically and horizontally swinging sickle-table, and a guard arranged in the plane of the grinder and overhanging the table and adapted to depress the same in passing to grinding position beneath the grinder, thus preventing the sickle-points from coming in contact with the grinder, substantially as shown and described.

8. A sickle-grinding machine, comprising a grinder, a vertically and horizontally swinging sickle-table, a strip projecting from the top surface thereof, and an overhanging guard adapted to engage the strip and depress the table when moving to operative position, for the purpose substantially as herein shown and described.

9. A sickle-grinding machine, comprising a grinder, a grinder-support, a vertically and horizontally swinging sickle-table, a strip projecting above the top edge of the table, a guard pivoted between its ends to the grinder-support and at one end overhanging the table and adapted to depress the same by engagement with the strip as the table is moved to operative position for the purpose, described, the opposite end of the guard being slotted, and a set-screw extended through the slotted end and into the grinder-support for holding the guard in proper adjustment, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES MIESSNER.
WILLIAM MIESSNER.
AUGUST MIESSNER.

Witnesses:
LOUIS KATTERJOHN,
LOUIS F. KOERNER.