(No Model.)

A. J. NEFF.

SICKLE GRINDER.

No. 485,973. Patented Nov. 8, 1892.

Fig. 1.

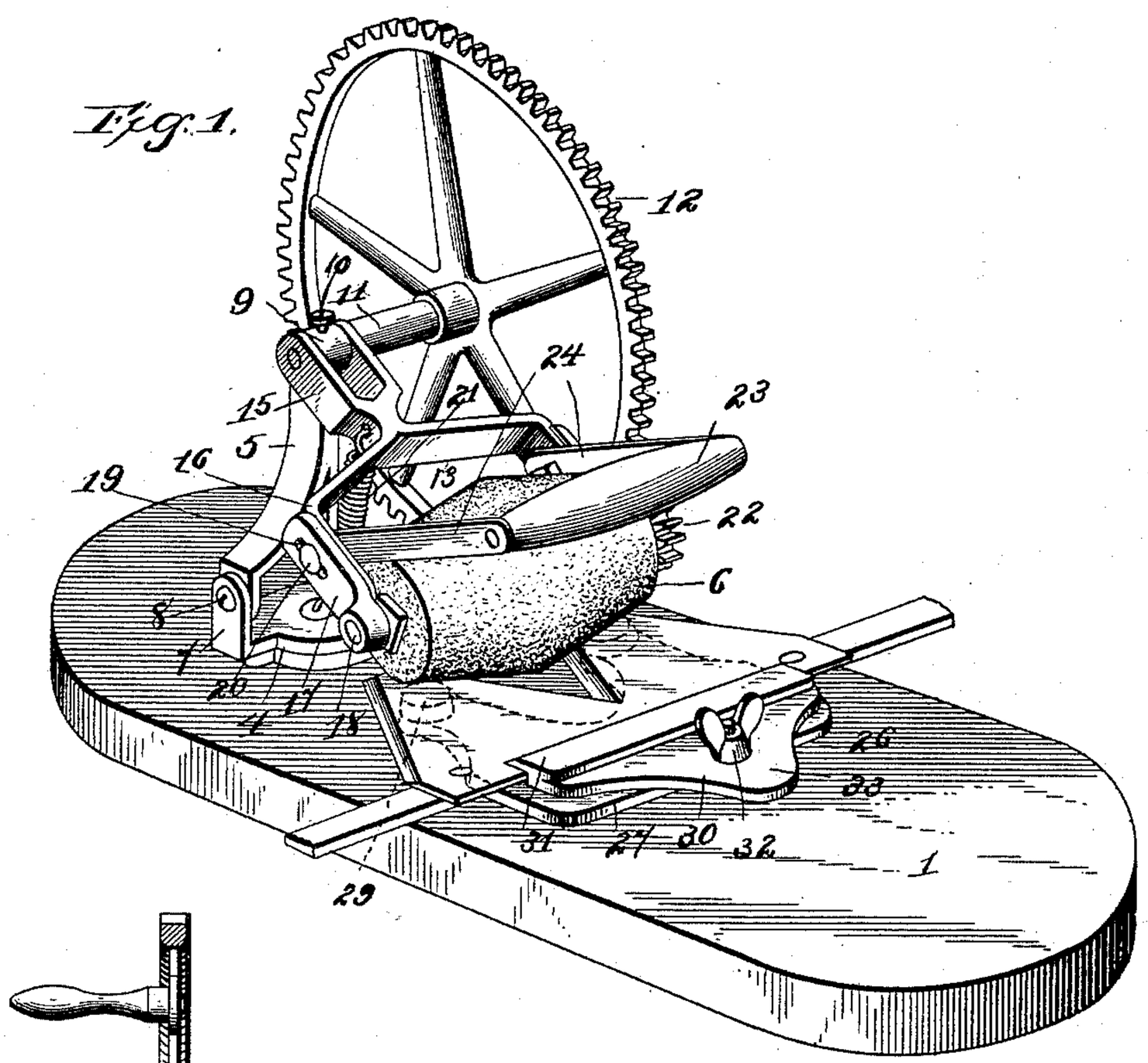


Fig. 2.

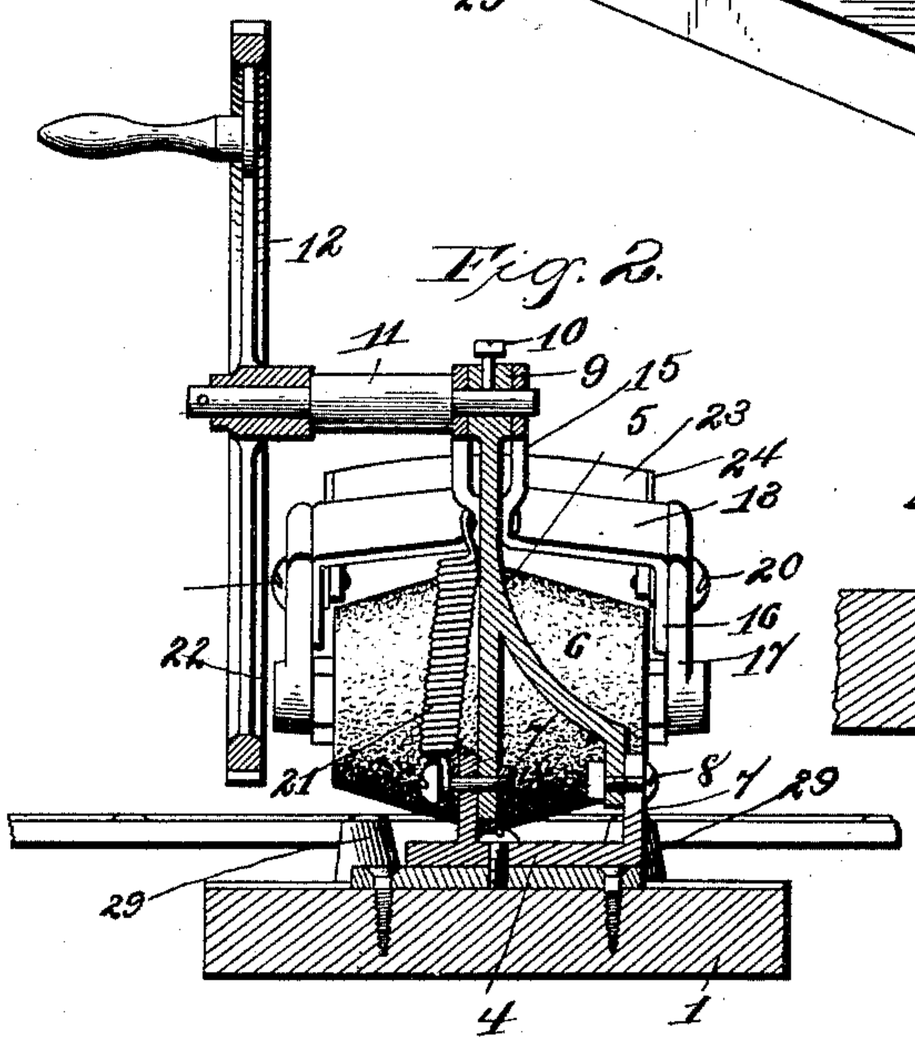
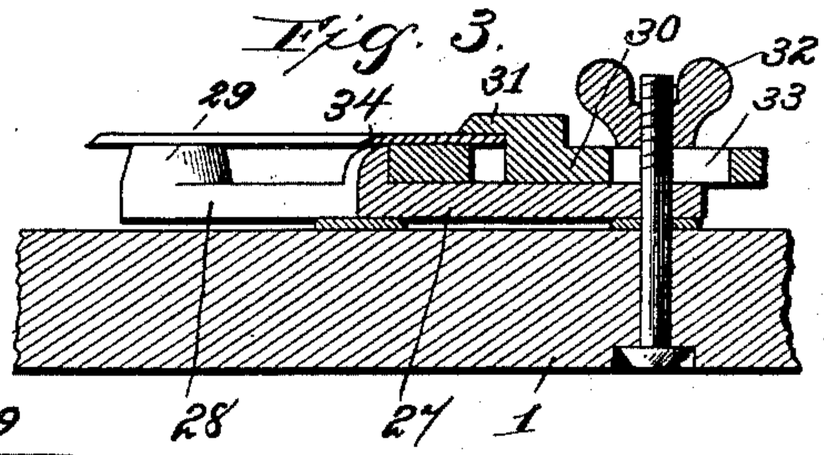


Fig. 3.



Witnesses

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By his Attorneys,

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UNITED STATES PATENT OFFICE.

ABRAHAM J. NEFF, OF GOSHEN, INDIANA, ASSIGNOR TO WILLIAM B. LEHMAN, OF SAME PLACE.

SICKLE-GRINDER.

SPECIFICATION forming part of Letters Patent No. 485,973, dated November 8, 1892.

Application filed April 29, 1892. Serial No. 431,171. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM J. NEFF, a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented a new and useful Sickle-Grinder, of which the following is a specification.

The invention relates to improvements in sickle-grinders.

The object of the present invention is to simplify and improve the construction of sickle-grinders and to enable the same to be readily controlled and manipulated to grind the teeth of a sickle as desired.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a sickle-grinder constructed in accordance with this invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a supporting-base, upon one end of which is secured a circular supporting-plate, which forms a bearing for a rotating plate 4, carrying a standard 5 and adapted to be turned to bring a grinding-roller 6 in proper position to bear against the edges of the teeth of the sickle-bar. The rotating plate 4 is provided with vertical lugs 7, to which are pivoted the sides of the diverging or forked standard 5, which is adapted to swing on the pivot-bolts 8, which secure it to the said lugs. The upper end of the standard is provided with a socket 9, and secured therein by set-screws 10 is a shaft 11, having its ends reduced and having mounted on its outer end a master or drive wheel 12 and having its inner end arranged in the said socket and forming a pintle of the grinding-frame 13, which carries the grinding-roll 6, whereby the grinding-frame is hinged to the upper end of the standard and is adapted to be swung with the shaft, acting as a pintle. The grinding-frame is approximately U-shaped, having the stem portion 15 bifurcated to receive the upper end of the standard and having its sides 16 straight near their ends and provided with adjustable bearing-plates 17. The bearing-plates 17 have journaled in their outer ends a grinding-shaft 18, which carries the grinding-roll, and are provided with slots 19, in which are arranged bolts 20, which clamp the adjustable plates to the sides of the grinding-frame. The grinding-roll has a double-conical or frusto-conical shape to fit the angles formed by the triangular piece of sickle-bars, and its tension on them is regulated by a spiral spring 21, which has its upper end attached to the grinding-frame and its lower end secured to one of the lugs of the circular plate 3. One end of the grinding-shaft carries a pinion 22, which meshes with the drive or master wheel and communicates motion therefrom to the driving-shaft. The grinding-roll is controlled by a handle 23, which is secured to the outer end of parallel bars 24, which have their inner ends fastened to the grinding-frame. By this construction the grinding-roll may be raised vertically, swung rapidly, and moved forwardly and rearwardly to accommodate itself to the sickle-bar being ground.

The sickle is held in proper position for grinding by a holder or clamp 26, consisting of a base or supporting plate 27, having forward extensions 28, provided on their upper faces with bosses 29, and an adjustable clamping-plate 30, provided at its front end with a flange 31 and secured in its adjustment by a set-screw 32, arranged in a slot 33. The rear edge of the base or supporting plate of the clamp is provided with an ear to receive the set-screw, which forms a pivot for the clamp or holder to turn on to bring the sickle in proper position for grinding. The base or supporting plate is provided at its front with a ridge or shoulder 34, extending across it and adapted to have the sickle-bar abut against it, the blades of the sickle-bar resting upon the bosses of the enlargement.

What I claim is—

1. In a sickle-grinder, the combination of a base, a standard having its lower end hingedly connected with and rotatively mounted on the base and provided at its upper end with

a socket, a spindle arranged in the socket, a master-wheel mounted on the spindle, a grinding-frame hinged to the upper end of the standard by the spindle, and a grinding-shaft journaled in the grinding-frame and carrying a grinding-roll and having a pinion meshing with the master-wheel, substantially as described.

2. In a sickle-grinder, the combination of a base, a standard having its lower end hingedly connected with and rotatively mounted on the base and provided at its upper end with a socket, a spindle arranged in the socket, a master-wheel mounted on the spindle, a grinding-frame hinged to the upper end of the standard by the spindle, and a grinding-shaft journaled in the grinding-frame and carrying a grinding-roll and having a pinion meshing with the master-wheel and having a spiral spring having one end attached at the lower end of the standard and having its other end secured to the grinding-frame, substantially as described.

3. In a sickle-grinder, the combination of a base, a circular plate rotatively mounted on the base and provided with lugs, a standard hinged to the lugs and provided at its upper end with a socket, a spindle secured in the socket, a master-wheel mounted on the spindle, a grinding-frame hinged to the standard by the spindle, a grinding-shaft journaled in the grinding-frame and carrying a grinding-roll and having a pinion meshing with the master-wheel, and a spiral spring secured to one of said lugs and connected to the grinding-frame, substantially as described.

4. In a sickle-grinder, the combination of a base, a standard having its lower end hingedly connected with and rotatively mounted on the base and provided at its upper end with a socket, a spindle arranged in the socket, a master-wheel mounted on the spindle, a U-shaped grinding-frame having its stem bifurcated and hinged to the standard by the spindle, the adjustable bearing-plate secured to the sides of the grinding-frame, and a shaft journaled in the bearing-plates and carrying a driving-roll and having a pinion meshing with the master-wheel, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ABRAHAM J. NEFF.

Witnesses:
AMOS E. SHROEK,
JOHN WINTERS.