(No Model.) 2 Sheets—Sheet 1.

D. C. CLAPP.

DEVICE FOR HOLDING SICKLES TO BE GROUND.

No. 456,938. Patented Aug. 4, 1891.

FIG. 1.

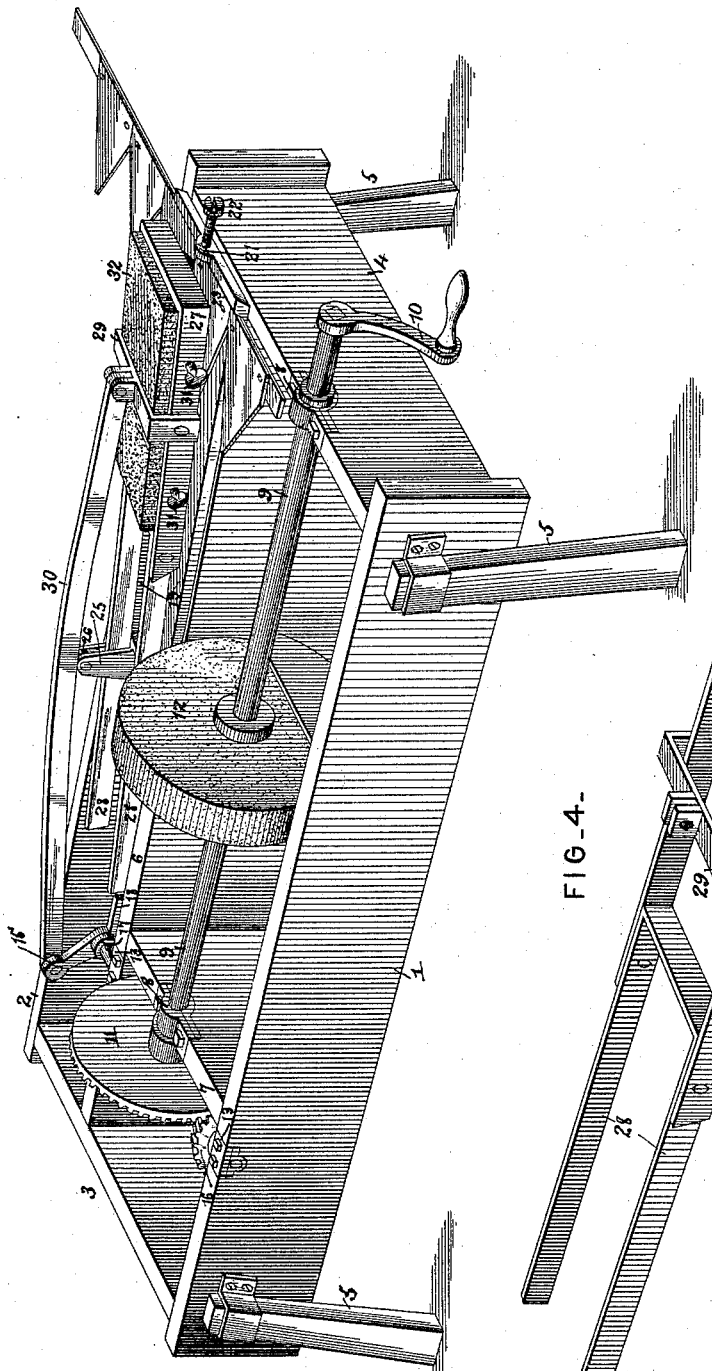

FIG. 4.

Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

D. C. CLAPP.

DEVICE FOR HOLDING SICKLES TO BE GROUND.

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FIG. 5.

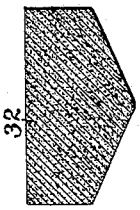


FIG. 2.

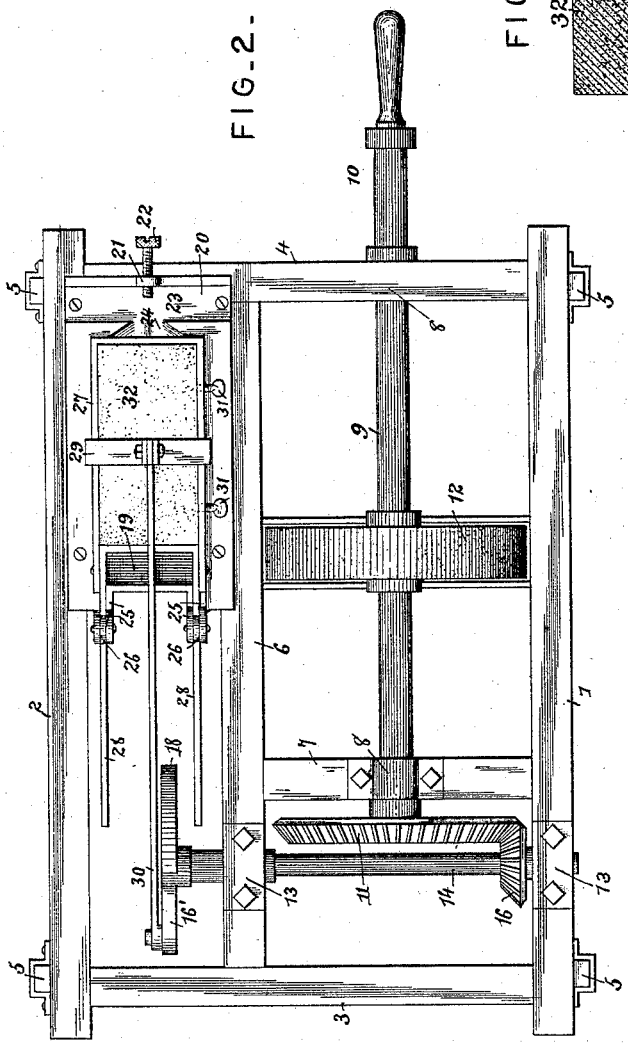
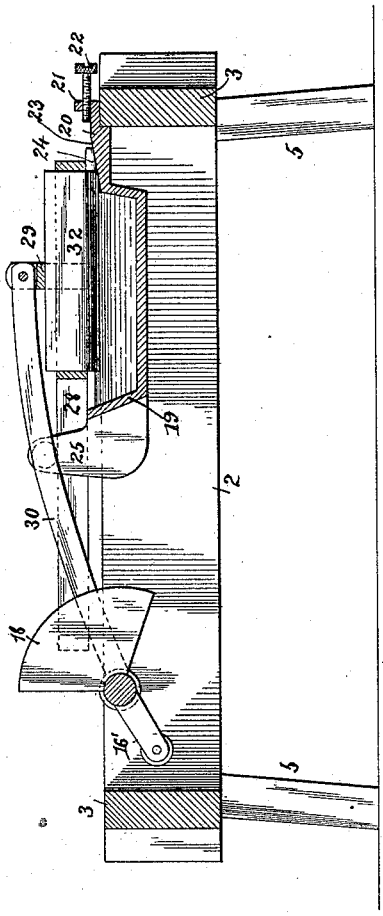


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

DWELLA C. CLAPP, OF BLUE SPRINGS, NEBRASKA.

DEVICE FOR HOLDING SICKLES TO BE GROUND.

SPECIFICATION forming part of Letters Patent No. 456,938, dated August 4, 1891.

Application filed December 13, 1890. Serial No. 374,598. (No model.)

To all whom it may concern:

Be it known that I, DWELLA C. CLAPP, a citizen of the United States, residing at Blue Springs, in the county of Gage and State of Nebraska, have invented a new and useful Device for Holding Sickles to be Ground, of which the following is a specification.

This invention has relation to a machine for automatically grinding edge-tools, such as sickle-bars, mowers, and reapers, &c., and adapted to support the same in proper position with relation to the grinding agent during such operation.

The objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a machine constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same, taken through the reciprocating grindstone. Fig. 3 is a plan. Fig. 4 is a detail in perspective of the reciprocating grindstone-carrying frame. Fig. 5 is a transverse section of the emery-stone.

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

In practicing my invention I employ a rectangular frame, which comprises opposite longitudinal side bars 1 and 2, connected by end bars 3 and 4, the whole being supported upon suitable legs 5. Between the longitudinal bars 1 and 2 the end bars are connected by an intermediate bar 6, which latter, near one end, is connected to the bar 1 by means of a short transverse-bar 7.

In journal-boxes 8, located upon the upper side of the bars 4 and 7, between the bars 6 and 1, there is mounted for rotation a main shaft 9, which extends beyond its bearings a slight distance, and at its outer end carries an operating-crank 10, or may carry a pulley and be belted to any suitable motor. At its opposite end the shaft 9 is provided with a large beveled master-gear 11, and between its bearings the shaft may carry, if desired, a grindstone 12 of ordinary formation.

Between the bars 3 and 7 there is located in the upper sides of the bars 1 and 6 journal-boxes 13, in which is mounted for rotation a transverse shaft 14, the inner end of which extends beyond the inner box 13 and terminates between the bars 6 and 2. Near the outer box 13 the shaft carries a small beveled pinion 16, which is engaged and driven by the master-gear 11. At the inner extended end of the shaft 14 there is located a crank 16′, which terminates at its outer end in a bearing-opening 17 and is extended at its diametrically-opposite side in the form of a weight 18.

Supported at the front end of the framework between the bars 6 and 2 is a metal tank 19, provided at its front end with an extension or shelf 20, which terminates at its outer edge in a transverse vertical flange 21, having a central perforation through which is passed an inwardly-disposed clamping-screw 22, designed to clamp a sickle-bar against the adjacent edge of the tank, it being slightly raised above the bottom of the recess, as shown at 23. The edge, just mentioned, of the tank opposite the screw is provided with a V-shaped gutter 24, for a purpose hereinafter apparent, and the opposite or rear end of the tank is provided with an opposite pair of short vertical standards 25, between each pair of which is journaled a loose roller 26.

27 designates a U-shaped frame, to the terminals of which is secured a pair of parallel bars 28, each of which passes between a pair of the standards 25 and under one of the rollers 26. The opposite sides of the U-shaped frame are connected by a yoke 29, to the center of which there is pivoted a connecting-bar 30, the rear end of which is loosely connected with the crank-pin of the crank 16′. The frame 27 is also provided with suitable binding-screws 31 or other securing devices, adapted to secure therein the oblong water emery-stone 32, the under side of which is beveled in opposite directions at each side of its longitudinal center. (See Fig. 5.)

In practice a cutter-bar is mounted in position in the extended shelf 20 of the tank 17, and is clamped in such position by means of the set-bolt 22. The machine is now started, and it will be observed that motion is imparted from the main shaft to the transverse shaft through the medium of the two gears 11 and 15, and from the transverse shaft to the weighted crank of said shaft, which reciprocates the connecting-rod 30 and

the frame 27 with its stone 32. The stone, being provided with opposite beveled sides or faces upon its under side, is designed to be reciprocated between the teeth of the cutter-bar, and being inclined at the same degree imparts to each tooth a proper bevel. The tank, of course, it will be understood, will be filled with water, and the same is taken up at each rearward reciprocation of the stone and its frame.

It will be observed that the ordinary grindstone 12 may be used for grinding scythes and other straight-edged tools, in which case it is preferable to disconnect the connecting-bars 30 with the crank-arm of the shaft 14.

Having described my invention, what I claim is—

1. In a machine of the class described, the combination, with the frame-work, a tank mounted therein and provided at one end thereof with a shelf and at opposite edges thereof with flanges, through one of which is passed a binding-screw, said tank being also provided at its rear end with pairs of vertical standards, of a stone-carrying frame mounted above the tank and provided with the guide-bars, extending rearwardly between the standards, a crank-shaft, means for operating the same, and a rod connecting the crank of the shaft with the stone-carrying frame, substantially as specified.

2. In a machine of the class described, the combination, with the rectangular frame-work, the longitudinal main shaft journaled therein and provided with a master-gear, the transverse shaft arranged at a right angle to the main shaft and provided at one end with a pinion, engaged and operated by the master-gear, and at its opposite end with a weighted crank-arm, a tank located in one corner of the frame, terminating at its rear end in opposite pairs of standards, between the upper ends of which are mounted rollers, a shelf extending from the front end of the shank and slightly below the upper surface of the same, thereby forming a shoulder of the end of the tank and provided at its end with a flange having a perforation, said tank being provided with a V-shaped gutter communicating with the shelf, and a set-screw mounted in the perforation of the shelf, of a rectangular or U-shaped frame mounted above the tank and provided with set-screws, guide-bars extending rearwardly from the frame under the rollers and between the pairs of standards, a yoke connecting the opposite sides of the frame, a pivoted connecting-bar connecting the yoke with the crank of the transverse shaft, and a grindstone the under side of which is provided with opposite beveled faces, substantially as specified.

3. The frame-work provided with a metal water-tank 19, having extension or shelf 20 terminating in a clamping device for the article to be ground, the gutter 24 in the shelf, the standards 25, having roller 26, the frame 27, having binding-screws, the water emery-stone secured in the frame by the screws, the bars 28 on the frame passing under the roller, and means for reciprocating the frame 27, with its stone, over the water-tank and upon the shelf, as set forth.

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

DWELLA C. CLAPP.

Witnesses:
A. W. WILSON,
JAMES SULLIVAN.