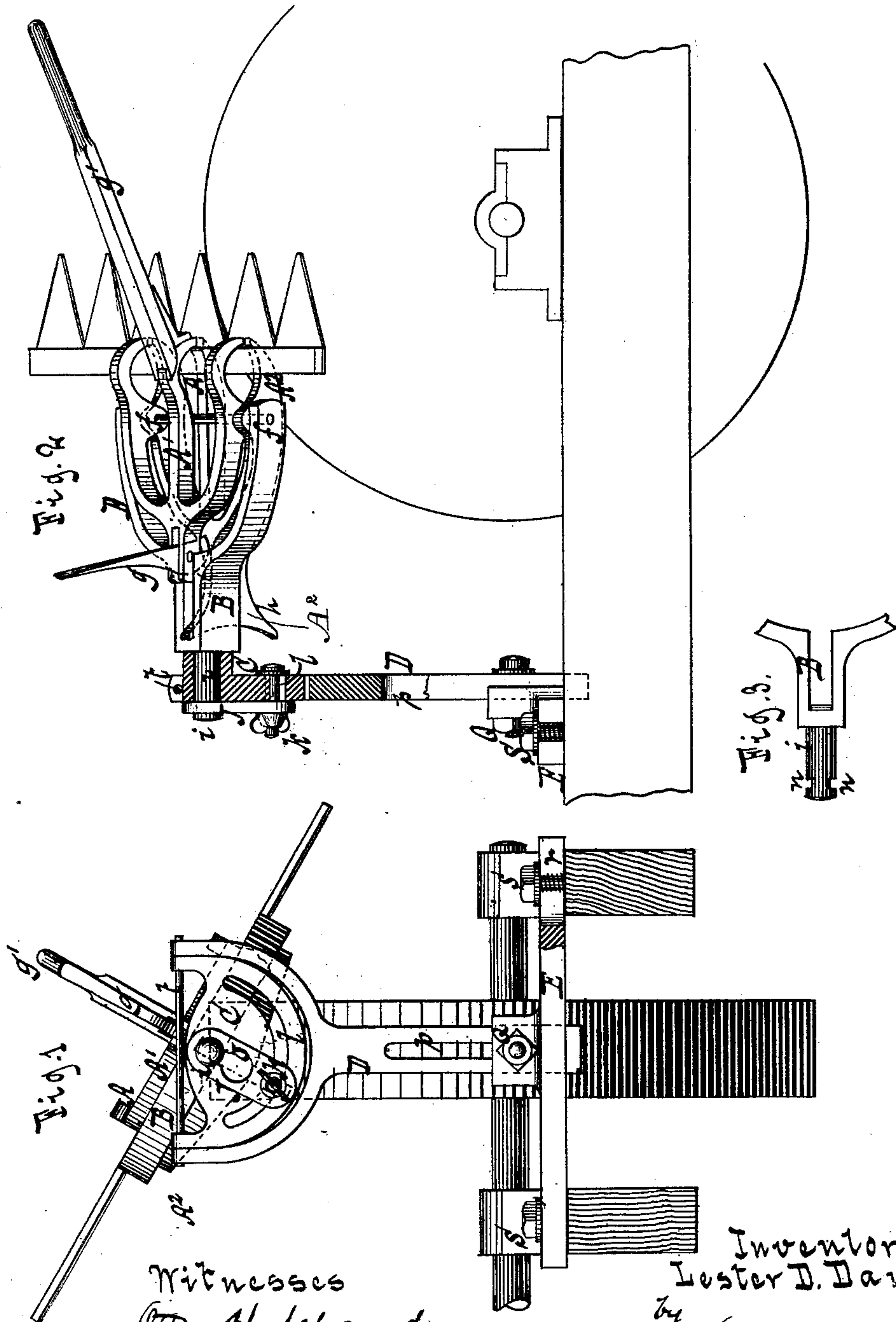


L. D. DANA.
Sickle-Holders for Grinding-Machines.

No. 222,253.

Patented Dec. 2, 1879.



Witnesses
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UNITED STATES PATENT OFFICE.

LESTER D. DANA, OF WAUPACA, WISCONSIN, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO BENJAMIN F. DORR, OF SAME PLACE.

IMPROVEMENT IN SICKLE-HOLDERS FOR GRINDING-MACHINES.

Specification forming part of Letters Patent No. 222,253, dated December 2, 1879; application filed October 17, 1879.

To all whom it may concern:

Be it known that I, LESTER D. DANA, of the city and county of Waupaca, in the State of Wisconsin, have invented a new and useful Improvement in Sickle-Holders for Grinding-Machines, which invention is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents an end view of my holder applied to a grinding-machine. Fig. 2 is a side view thereof, partly in section. Fig. 3 is a detail view of the clamp-head.

Similar letters indicate corresponding parts.

My invention relates to apparatus for holding harvester-sickles in the process of grinding; and it consists in certain novel means for sustaining the sickle and for allowing an advantageous adjustment thereof relatively to the grinding-surface, as hereinafter fully described, and pointed out in the claim.

In the drawings, the letter A designates a clamp for holding the sickle; B, the clamp head or frame; C, a carrier for the clamp-head; D, a standard forming a support for the carrier, and E a bed-piece, the whole being combined with the frame of a grindstone in such a manner that the clamp is substantially in a line with the stone.

The clamp A consists of two jaws, A' A², between which the sickle to be ground is inserted, as shown in Fig. 2, and which are respectively formed with triple arms—namely, two outer arms and a middle arm—while they are both pivoted in the clamp-head B by a rod, *f*, passing through bosses formed on the two outer arms.

To the heel part of the upper jaw, A', of the clamp is pivoted a cam-lever, *g*, for the purpose of locking the jaws upon each other when the sickle has been placed between them, while to the front part of such upper jaw is secured a handle, *g'*. This handle *g'* allows the attendant to rock the clamp on the pivot *f*, and thereby to present the teeth of the sickle to the grindstone from heel to point. The location of the respective teeth of the sickle as they are being ground is at the middle of the jaws A' A², and by constructing the jaws with triple arms the attendant is enabled to grind the end tooth of the sickle without difficulty—that

is to say, when the end tooth is reached, the sickle may be clamped between the middle arm and one of the outer arms of the jaws, leaving the other arm free.

The clamp-head B is bifurcated, and the sickle-clamp A is situated between its two branches, the pivot *f* being fixed to such branches near their outer ends. The shank of the clamp-head B is suitably shaped to act as a stop to a tail-piece, *h*, on the lower jaw, A², of the clamp, thereby regulating the motion of the clamp on its pivot. On the heel of the clamp-head B is formed a pivot or journal, *i*, which projects therefrom in a longitudinal direction. This heel-pivot *i* has its bearing in the clamp-head carrier C, and projects beyond the latter, while on the projecting portion thereof is mounted a radial arm, J, whereby the pivot may be turned, so that the clamp-head and clamp become set at an angle to the grindstone, and the desired bevel may be given to the sickle. The radial arm J hugs the face of the carrier C, and thus serves to retain the heel-pivot *i* firmly in its bearing; and it is secured in the position to which it may be adjusted in turning the pivot by a set-screw, *k*, which engages the arm and works in a slot, *l*, formed in the carrier, this slot being concentric to the axis of the pivot.

At the point where the radial arm J is mounted on the heel-pivot *i*, the latter is provided with two mortises, one opposite the other, whereby the pivot receives two flat surfaces, *n*, *n*, (see Fig. 3,) and in order to adapt the radial arm to engage that part of the pivot it is provided with a slot, *o*. This slot *o* is shaped substantially like a key-hole, as shown in Fig. 1, and its largest part is equal to or greater than the diameter of the pivot *i*, so that this part of the slot may pass over the end of the pivot, while the smaller and straight part thereof is fitted to and grasps the flat surfaces referred to. By this arrangement of the radial arm J it is rendered detachable, and allows the removal of the pivot *i* from its bearing, if for any purpose it is desired to detach the clamp-head B from the carrier.

The standard D is bifurcated at its upper end, and the clamp-head carrier C is pivoted therein by a rod, *t*, extending transversely to

the longitudinal plane of the clamp-head B, so that the carrier is adapted to swing in or upon the standard. This pivotal arrangement of the carrier C allows the clamp-head and clamp to be swung back or away from the grindstone.

In the standard D is a vertical slot, *p*, through which passes a set-screw, Q, whereby the standard is secured to the bed-piece E. In this manner the standard D is rendered adjustable in a vertical direction, and consequently the parts may readily be adjusted to the height of the grindstone.

The bed-piece E is provided with slots *r*, one at each end, and it is secured to the grindstone-frame by means of set-screws S, passing through its said slots, so that the bed-piece is adjustable transversely to said frame. This arrangement of the bed-piece E allows the lateral adjustment of the parts in accordance with the position of the grindstone upon the frame.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a pivoted sickle-

clamp, a bifurcated clamp-head having the heel-pivot *i*, a clamp-head carrier forming a bearing for such pivot and having the concentric slot *l*, a radial arm on the pivot of the clamp-head, and a set-screw working in the slot of the carrier to fasten the radial arm, all adapted for use substantially as described.

2. The combination of a pivoted sickle-clamp, a bifurcated clamp-head having a heel-pivot formed with the flat surfaces *n n*, a clamp-head carrier forming a bearing for such pivot and having the concentric slot *l*, a radial arm on the pivot having the slot *o*, and a set-screw working in the slot of the carrier to fasten the radial arm, all adapted for use substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 7th day of October, 1879.

LESTER D. DANA. [L. S.]

Witnesses:

B. F. DORR,

CHAS. CHURCHILL.