J. HOAK.

Pruning Implement.

No. 196,359. Patented Oct. 23, 1877.

Fig. 1.

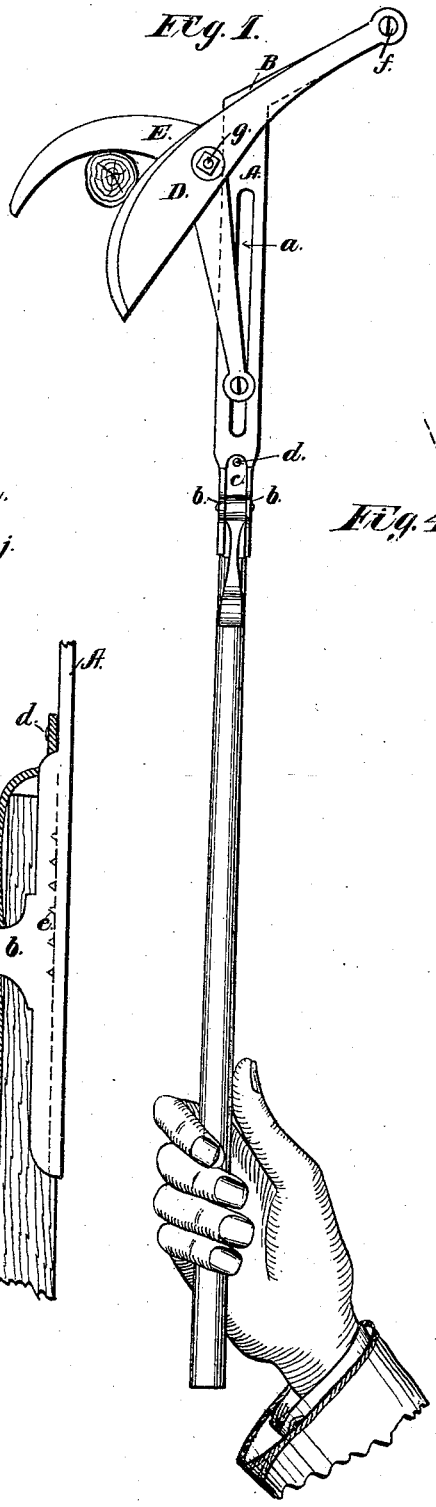


Fig. 3.

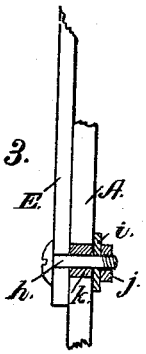


Fig. 4.

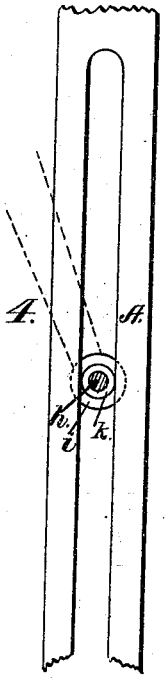
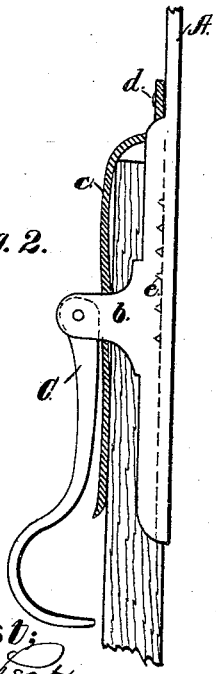


Fig. 2.



Attest:
Chas. M. Peck
Wm. Ritchie

Inventor;
James Hoak
by his Attys.
Peck & Co.

UNITED STATES PATENT OFFICE.

JAMES HOAK, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO LAFAYETTE BANCROFT, OF SAME PLACE.

IMPROVEMENT IN PRUNING IMPLEMENTS.

Specification forming part of Letters Patent No. **196,359**, dated October 23, 1877; application filed April 5, 1877.

To all whom it may concern:

Be it known that I, JAMES HOAK, of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Pruning-Hooks; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of pruning-shears for lopping the branches of trees, hedges, or vines, having shear-jaws suitably mounted and attached to a pole of the proper length.

My improvement consists in so constructing and uniting in a novel manner the cutting-jaws to the body of the tool as to diminish all friction, by means of an anti-friction roller working in an elongated slot, in their automatic action.

The novelty further consists in the novel construction and application to the tool of an adjustable clamp, by which the tool may be attached to poles of various lengths suitable for the intended work, and in other minor details, all as hereinafter more fully set forth and definitely claimed.

Figure 1 is a front elevation of my improved pruning-shear in the act of lopping off a branch. Fig. 2 is an enlarged side view of the adjustable clamp. Figs. 3 and 4 are detail views of the connecting bearings, which will be explained further on.

A represents a flat bar of metal, with its top terminating in an arm, B, bent at an angle of about forty-five degrees to the main portion A. Through the portion A is a slot, *a*, extending from near the top to a point near the bottom, as represented. The bottom edges of the tool are turned up to form bearing-ears *b*, between which is a curved metal spring-strip, *c*, Figs. 1 and 2, pivoted to A at *d*.

C is a curved lever, pivoted eccentrically between the ears *b* and over the spring *c*. The surface of the tool under the spring *c* is roughed by a punch to form retaining-barbs. (Seen by dotted lines at *e*, Fig. 2.) The end of the pole or handle, of any suitable length, is inserted between the spring *c* and the surface of the tool, and is clamped in position by the action of the handle C, which is turned down, as seen in Fig. 2.

The most essential feature of my invention is the application of a friction-roller, working in an elongated slot, to the cutting-jaws D and E.

The jaw D, of the shape shown, and provided with a cutting-edge, is pivoted to the extremity of the portion B at *f*, and the sickle-shaped jaw E, with the usual beveled edge, is pivoted to the portion A through the slot *a*, in which it has free play. Both jaws are pivoted together at *g*, to act as an ordinary pair of shears.

By reference to Figs. 3 and 4, the pivotal bearings which connect the jaws to the body of the tool, just referred to, will be clearly shown and understood.

A bolt, *h*, of any suitable construction, has for its bearing ends its head and a washer, *i*, clamped by a nut, *j*, though not tightly. On the central part of the bolt is a friction-roller, *k*, that is especially useful in the slot *a*, and serves to greatly diminish the friction. The anti-friction roller is the only essential part of the bearings, the construction and the arrangement of the bolt, washers, thimbles, or equivalent devices, being optional, and not broadly new.

To operate my improved pruning-shears, it is only necessary to catch the hook of the jaw E over the branch to be lopped, and give a quick pull, which will cause the jaws to come together with a drawing cut, and sever the branch.

By means of the frictionless pivots and the weight of the jaws D and E, the shears reset themselves for further use.

Having thus fully described my invention, what I claim as new, and desire to secure, is—

1. In a pruning-hook, the shear-jaws D and E, pivoted together, one of which is permanently pivoted to the body of the tool, and the other adjustably pivoted in the slot *a*, so as to slide upon an anti-friction roller, *k*, which forms the pivotal bearing, and causes the jaws

to come automatically together when a resisting object is caught between them, substantially as set forth.

2. In a pruning-hook, the frame of the tool, consisting of the slotted portion A, carrying the jaw E, and the angular portion B, to whose extremity is pivoted the jaw D, (the frame,) provided at its bottom with the clamping-lever C, pivoted in the ears *b* of said frame, and actuating the spring *c*, substantially as set forth.

3. The combination, with a pruning-hook and its handle, of the clamping device, consisting of the lever C, ears *b*, and spring *c*, and the barbed surface *e* of the tool, as set forth.

Witness my hand this 28th day of March, A. D. 1877.

JAMES HOAK.

Witnesses:
CHAS. M. PECK,
WM. RITCHIE.