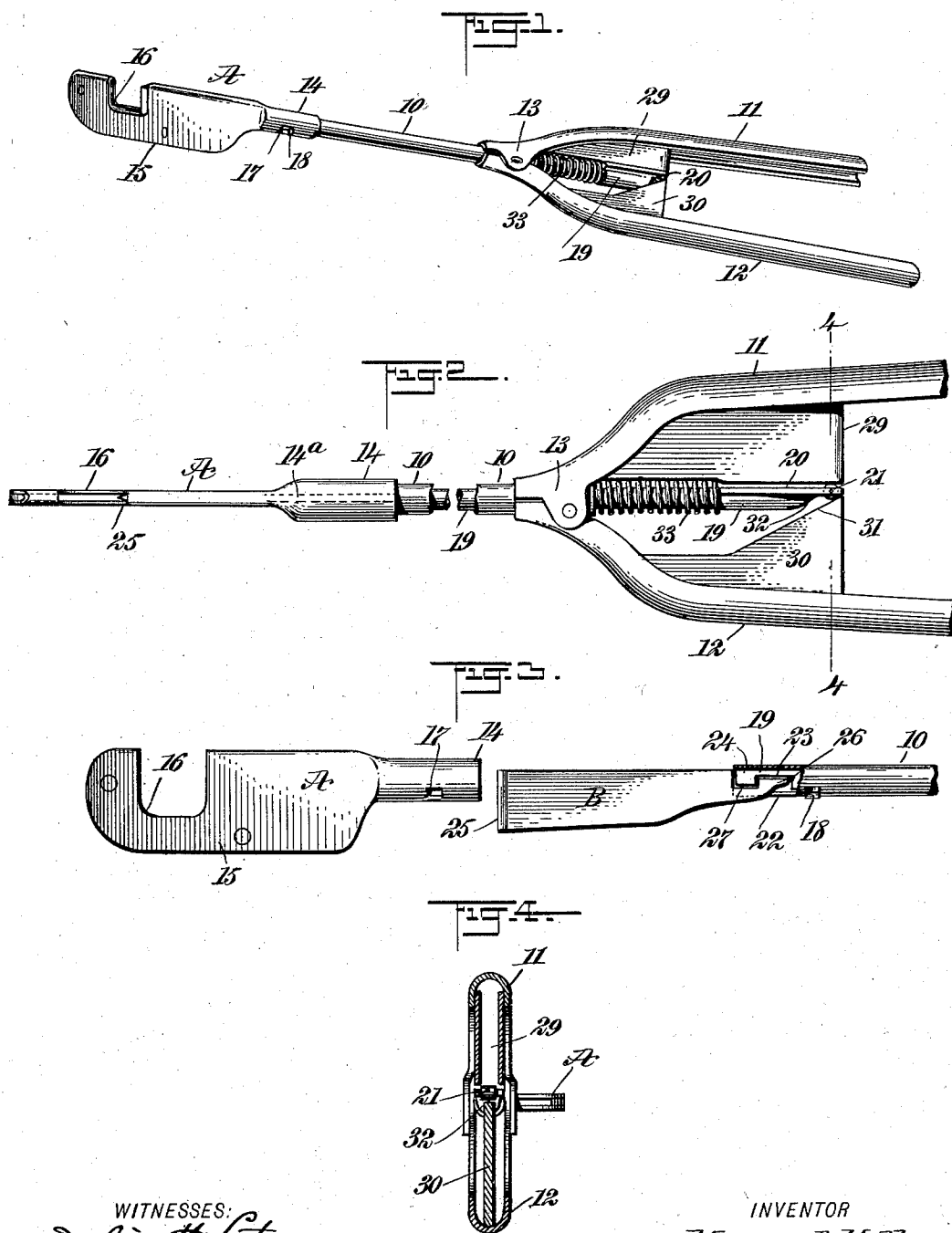


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H. A. HILL.
PRUNING IMPLEMENT.
APPLICATION FILED NOV. 25, 1902.

NO MODEL.



WITNESSES:
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HENRY AUGUSTUS HILL, OF LAWRENCE, MASSACHUSETTS.

PRUNING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 719,799, dated February 3, 1903.

Application filed November 25, 1902. Serial No. 132,790. (No model.)

To all whom it may concern:

Be it known that I, HENRY AUGUSTUS HILL, a citizen of the United States, and a resident of Lawrence, in the county of Essex and State of Massachusetts, have invented a new and Improved Pruning Implement, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a simple, effective, and conveniently-operated pruning implement, so constructed that by the manipulation of opposing hinge-connected handles a spring-controlled blade will be operated in a sheath having a recess in its side to receive the twig or branch to be cut and across which recess the blade passes through the action of the handles with a positive end thrust, insuring a clean and quick separation of the twig or branch.

A further purpose of the invention is to provide a readily-detachable sheath for the knife and a short knife practically concealed within and protected by the sheath and means for removably connecting the knife with an operating-rod controlled by the movement of the handles, whereby the knife when injured or worn can be removed and replaced upon disconnecting the sheath from the body of the implement.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved implement. Fig. 2 is a side elevation of the implement, a portion of the body being broken away. Fig. 3 is a side elevation of the sheath and the knife detached, a portion of the actuating-rod for the knife appearing in sectional side elevation, said view also illustrating the detachable connection between the knife and the rod; and Fig. 4 is a transverse section taken practically on the line 4 4 of Fig. 2.

The body 10 of the implement is in the form

of a tube, and at its inner end an offset handle 11 is firmly secured, which attached handle is provided with ears 13, and to the said ears the upper end of an opposing offset 12 is pivoted in any approved manner.

To the outer end of the tubular body 10 a sheath A is detachably connected, and the sheath consists of a tubular shank-section 14 and a flat body-section 15, closed at its marginal portion, except where it connects with the shank 14 at what may be termed its "rear" edge, at which point a longitudinal slot 14^a is made in the sheath. At the front edge of the sheath, near its outer end, a recess 16 is made, whereby the upper end of the sheath is given more or less of a hook formation. A transverse recess 17 is produced in the shank 14 of the sheath, leading from the longitudinal slot 14^a, which recess 17 when the sheath is in position on the tubular body 10 receives a lug 18, forming a portion of said body, whereby the sheath may be locked to the body; but I desire it to be understood that the locking connection between the sheath and the tubular body 10 may be changed, it being only essential that the sheath in one position can be locked to the body and in another position can be removed therefrom.

A rod 19, which may be termed an "actuating-rod," is held to slide in the body 10, and in the normal position of the said rod its outer end is at or near the outer end of the tubular body 10. The actuating-rod 19 extends inward between the handles 11 and 12, and at its inner extremity a plate 20 is preferably secured to one side. At the rear end of the plate 20 a friction-roller 21 is mounted to turn.

At the outer end of the tubular body 10 a longitudinal slot 22 is produced, and at the corresponding end of the actuating-rod 19 a longitudinal recess 23 is made in such manner as to form a head 24 at the extreme outer end of the said actuating-rod, as is shown in Fig. 3.

The knife B is quite short and is made from a strip of flat steel of sufficient size to slide freely in the body portion of the sheath A. The outer end of the knife B is provided with a chisel-point 25, the knife at such point be-

ing flat at one side and beveled at the other, so that it can be readily ground. The rear end of the knife B is lessened in width to such an extent that it can enter and have limited movement in the outer end of the body-tube 10, and at the contracted or inner end of the knife B a foot 26 is formed, adapted to neatly fit in the recess 23 of the actuating-rod 19. Adjacent to the said foot 26 a recess 27 is formed in the body of the knife B, which recess 27 receives the head 24 of the actuating-rod, as is also shown in Fig. 3. When the knife has been placed in locking engagement with the actuating-rod 19, as has been described and as is illustrated in Fig. 3, the sheath A is slipped over the knife, and the shank 14 of the sheath is then locked to the tubular body 10, at which time the chisel end 25 of the knife B will be visible at the inner or rear edge of the recess 16 in the sheath, adapted to receive the branch or twig to be cut.

A box-casing 29 is secured to the fixed handle 11, against which the friction-roller 21 travels and against which the plate 20, attached to the actuating-rod 19, would have bearing if the friction-roller 21 were omitted. A guide-plate 30 is secured to the opposing or pivoted handle 12, and the inner edge 31 of the said guide-plate adjacent to its rear end is beveled in direction of the box-casing 29, and on the inclined plane thus formed the friction-roller 21, attached to the actuating-rod 19, is adapted to travel when the two handles are brought together, at which time the rear portion of the guide-plate 30 will enter the box-casing 29, and thus force the actuating-rod outward and cause the cutting portion of the knife to travel across the recess 16 in the sheath, and thus sever any twig or branch that may be in said recess.

The friction-roller 21, while it is preferably used to enable the device to operate with the least possible amount of friction, may be dispensed with, and the inclined plane of the guide-plate 30 may be made to engage with the inclined surface 32 at the inner end of the actuating-rod 19. Under this latter construction the actuating-rod and the knife carried thereby will be operated in as positive a manner as when the said friction-roller 21 is used.

The actuating-rod 19 is returned to its normal position when pressure on the handles 11 and 12 is relieved by means of a spring 33, coiled around the rod 19, having bearing at its outer end on the handles 11 and 12 at their point of connection and at its inner end against the plate 20, as is shown in Figs. 1 and 2.

It will be observed that the pruning implement described is exceedingly simple and durable, and that after the knife has become useless from any cause it can be quickly and conveniently replaced by even an inexperienced

person, and that the knife is made so short that it is exceedingly economic, and the knife is thoroughly guided in its movement by the sheath A.

I desire it to be understood that the handle 11 may be an integral portion of the tubular body 10, if desired, instead of being attached thereto, as shown.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a pruning implement, a spring-actuated rod, pivotally-connected handles having operative connection with said rod, a knife removably attached to the said rod, and a sheath for the knife, having a recess in a side edge, across which recess the cutting-surface of the knife is arranged to travel, as specified.

2. A pruning implement, consisting of a tubular body, a handle fixed to the said body and an opposing handle attached to the fixed handle, a box-casing secured to the fixed handle, a guide-plate attached to the pivoted handle, having an inclined plane, a spring-controlled rod mounted to slide in the said body and extend between the handles to an engagement with the inclined plane of the guide-plate, which guide-plate in the action of the handles is adapted to enter the said box-casing, a knife carried by the outer end of the actuating-rod, and a sheath detachably connected to the body-section and having a recess in one side across which the cutting portion of the knife is adapted to travel, as set forth.

3. In a pruning implement, a body-section, a spring-actuated rod having sliding movement in the body-section, handles connected with the said body, having movement toward each other, devices carried by the handles for imparting end movement to the said actuating-rod, a knife detachably connected to the outer portion of the actuating-rod, and a sheath attached to the body and inclosing said knife, being provided with a recess in a side edge across which the cutting portion of the said knife is arranged to travel when the handles are pressed in direction of each other.

4. A pruning implement, consisting of a tubular body, a handle fixed to the body, and an opposing handle pivotally attached to the fixed handle, a box-casing secured to one handle, and a guide-plate having an inclined inner surface, which guide-plate when the handles are brought in direction of each other is adapted to enter the box-casing, an actuating-rod held to slide in the body, a spring normally holding the actuating-rod in normal position, the actuating-rod being provided with a section for engagement with the inclined surface of said guide-plate, the outer end of the actuating-rod having a recess made therein, a knife provided with a foot, adapted

ed to enter the said recess in the actuating-rod and a recess to receive the projection from the rod formed by the recess therein, and a sheath detachably connected to the
5. said body, inclosing the said knife and in which the said knife has sliding movement, the said sheath being provided with a recess in one side edge, across which the cutting portion of the knife is adapted to travel when

the handles are carried in direction of each to other, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY AUGUSTUS HILL.

Witnesses:

GEORGE McLANE, Jr.,
AUDUSTINE X. DOOLEY.