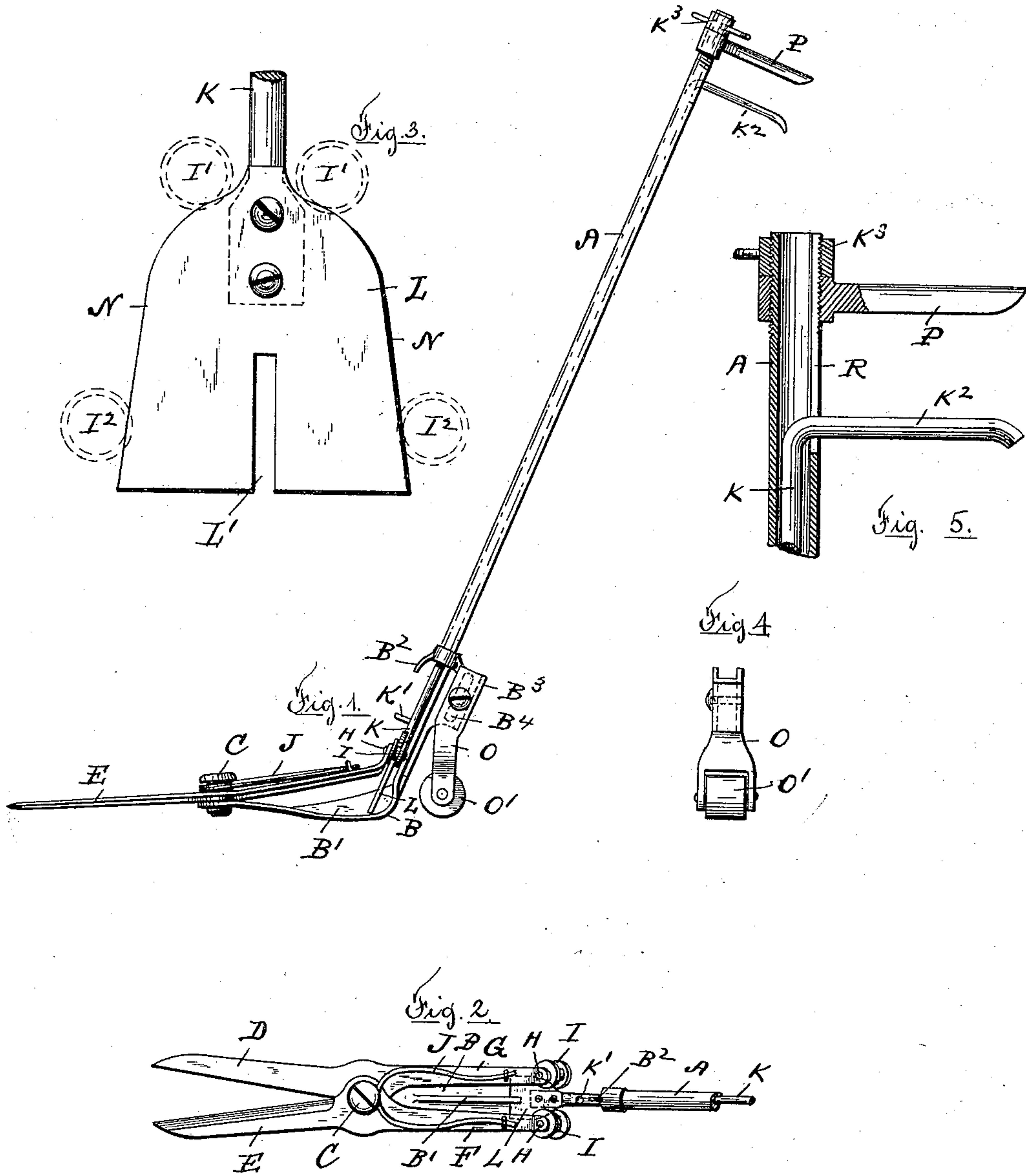


(No Model.)

L. L. BARNES.
GRASS SHEARS.

No. 488,647.

Patented Dec. 27, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

LORENZO L. BARNES, OF WORCESTER, MASSACHUSETTS.

GRASS-SHEARS.

SPECIFICATION forming part of Letters Patent No. 488,647, dated December 27, 1892.

Application filed June 5, 1890. Serial No. 354,399. (No model.)

To all whom it may concern:

Be it known that I, LORENZO L. BARNES, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Grass-Shears, of which the following is a specification, containing a full, clear, and exact description of the invention, accompanied by drawings, forming a part of the same, and in which—

Figure 1 represents a side view of one of my improved grass shears. Fig. 2 is a top view of the shear blades, Fig. 3 is an enlarged view of the actuating cam, Fig. 4 is a view of the truck roll upon which the instrument is supported when in operation, and Fig. 5 is a central sectional view of the upper end of the tubular handle.

Similar letters refer to similar parts in the different figures.

My invention relates to that class of shears for cutting grass, which are mounted upon a long handle, allowing the operator to remain in an erect posture, and it consists in the details of construction and arrangement as hereinafter described and pointed out in the subjoined claims.

Referring to the drawings A denotes the tubular handle, to the lower end of which is attached a bent plate, or shoe B, in the end of which is placed the pivotal stud C, upon which the shear blades D, E turn.

D, E denote the shear blades pivoted upon the stud C and provided with the levers F, G, integral with the blades and extending rearwardly, toward the tubular handle A. Held in the free ends of the levers F, G are studs H, upon which the friction rolls I, turn. Looped around the pivotal stud C is a spring J with its free ends connected with each of the levers F and G so that the tension of the spring will serve to bring the levers F and G toward each other and open the shear blades D, E, in the position shown in Fig. 2.

Contained within the tubular handle A is a sliding rod K, to the lower end of which is attached a cam plate L, with its opposite edges N inclined to separate the levers F and G against the tension of the spring J as the cam plate L is raised.

The position of the friction rolls I, relatively to the cam plate is shown in Fig. 3 by the broken lines I' and the position of the rolls with relation to the cam plate when the cam plate has been raised is shown at I², Fig. 3. The shoe B is provided with a rib B', which not only strengthens the shoe, but also serves to form a guide to the cam plate L, which is provided with a slot L', inclosing the rib B'. Projecting from the sliding rod K is a pin K' and projecting from the shoe B and in the path of the pin K' is a prong B², by which the upward sliding motion of the rod and attached cam plate is limited, and as the shear blades are ground away in the operation of sharpening the end of the prong B² is filed away, thereby shortening the prong and allowing the rod to move farther in order to bring the shear blades together. Extending to the rear of the shoe B is a lug B³ having a slot B⁴ and to the lug is attached a frame O, in which is journaled the truck roll O' upon which the machine is supported when in operation, the slot B⁴ allowing a vertical adjustment to the roll O', in order to vary the height of the shear blades from the ground.

The upper end of the tubular handle A is screw threaded and upon the screw threaded section is screwed the arm P extending at right angles to the tubular handle, A and which rests against the palm of the hand when the machine is in operation.

The sliding rod K is provided with a handle extending at right angles to the rod and parallel with the arm P to be clasped by the fingers, while the arm P is held against the palm of the hand, and by a rapid contraction and expansion of the fingers the handle K² is drawn toward the arm P and then released to allow the spring J to open the blades as the cam plate L and rod K fall by their own gravity.

In order to allow the space between the arm P and the handle K² to be varied, the arm P is raised or lowered upon the tubular handle A and held in place by the check nut K³.

The handle A is conveniently made of a piece of gas, or steam piping, and provided with a slot R to allow the handle K² to move up and down, but instead of the tubular han-

dle a solid rod can be employed and the rod K carried up from the cam plate L parallel with the handle A.

What I claim as my invention and desire to secure by Letters Patent is:—

1. The combination of a handle, a bent plate attached to said handle, a pair of shear blades pivoted on said plate and lying in a plane at an angle with said handle, levers extending from said shear blades and a cam plate sliding between the ends of said levers by which the shear blades are closed, substantially as described.

2. The combination of a handle, a bent plate attached to said handle, a pair of shear blades pivoted on said plate and lying in a plane at an angle with said handle, levers extending from said shear blades and a cam plate sliding between the ends of said levers by which the shear blades are closed and a spring applied to said levers to reverse their motion and open the shear blades, substantially as described.

3. The combination of a tubular handle A, provided with a slot R, an arm P attached to said tubular handle and at right angles thereto, a rod K sliding in said tubular handle, a handle K² on said rod extending through said slot and parallel with said arm P, a cam plate attached to said sliding rod, a pair of pivoted shear blades actuated by said cam plate, substantially as described.

4. The combination of the tubular handle A, shoe B, stud C, shear blades pivoted on said stud and provided with levers F, G, rib B, actuating cam plate provided with a slot inclosing said rib, and a spring acting against said cam plate, all arranged substantially as described.

5. The combination with a handle and a pair of shear blades carried by said handle, of a sliding actuating rod parallel with said handle and provided with an arm at right angles thereto, and an arm adjustably attached to said handle, whereby the distance between said arm and the handle of said rod is varied, substantially as described.

6. The combination of the handle A, shear blades carried by said handle, actuating cam plate L, projecting pin K' and fixed prong B² placed in the path of said pin, substantially as described.

7. The combination of a handle A, shear blades carried by said handle, actuating cam plate L and a fixed stop by which the sliding motion of the cam plate is limited, substantially as described.

Dated at Worcester, in the county of Worcester and State of Massachusetts, this 29th day of May, 1890.

LORENZO L. BARNES.

Witnesses:

RUFUS B. FOWLER,
H. M. CARROLL.