

No. 61,806.

PATENTED FEB. 5, 1867.

G. H. CLINTON & D. H. HARRIS.
PRUNING SHEARS.

Fig. 1.

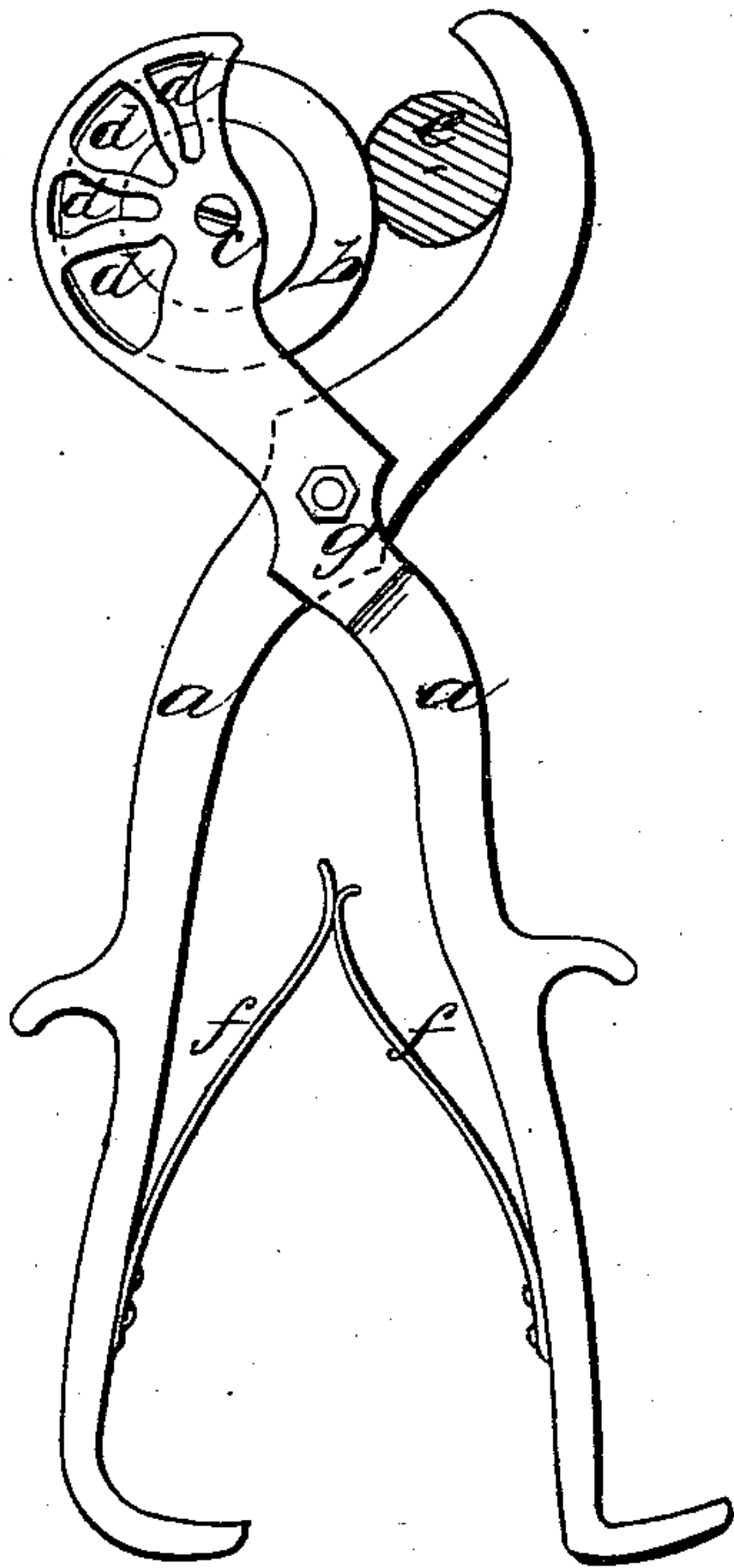
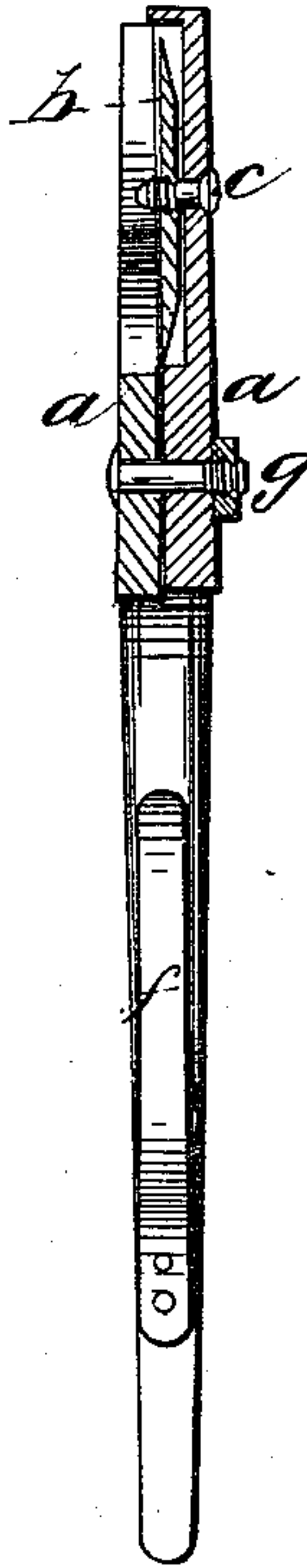


Fig. 2.



Witnesses:

N. C. Clayton
George Ellis.

Inventors:

Geo. H. Clinton
D. H. Harris,
by Atty.

United States Patent Office.

GEORGE H. CLINTON AND D. H. HARRIS, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 61,806, dated February 5, 1867.

IMPROVEMENT IN PRUNING-SHEARS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, GEORGE H. CLINTON and D. H. HARRIS, of New Haven, in the county of New Haven, and in the State of Connecticut, have invented certain new and useful Improvements in Pruning and other Shears; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a side view of the shears.

Figure 2 is a section of the same passing through the centre of the shears.

The nature of our invention consists in using a circular knife for one of the cutting edges of the shears, instead of two shear blades, as is usual in pruning-shears.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the construction of our invention, *a a* are the handles, attached at and united by means of screw *c*. One of the jaws is made larger than the other, and is made with open spaces in it so that, if any part of the material cut shall fall between it and the knife, it may readily discharge and leave the knife free to revolve. *b*, the revolving knife, bevelled on its outer side; *c* the screw for fastening the circular knife to the jaw of the one side of the shear or handle. The other jaw has a smooth face on the inner side, while on the edge it is somewhat bevelled, so as to leave a cutting edge where it comes in contact with the circular knife. *e* represents a twig in position to be severed by the shears; *f*, the springs. In fig. 2 the like parts are designated by the same letters as in fig. 1. The blades or handles may be made of any known material, such as wrought iron, cast iron, or malleable iron. The circular knife is made of steel, about one-eighth of an inch thick at its centre, and bevelled to a sharp-cutting edge on the side next to the jaw to which it is fastened, while, on the face or cutting side, it is smooth, or an even surface.

In the operation of our invention it will be seen that we do not use two straight levers, which require a much greater power than the form of shears we use. It will be seen that, as the circular knife is free to revolve on the screw *c*, it has a continuous cutting edge through the entire circle. The opposite jaw is made to conform in shape with the knife, so that when we wish to cut a twig it will be grasped between the knife and jaw, as seen in fig. 1, letter *e*, thus bringing the pressure nearly in a straight line with the fulcrum of the knife *b*, thus preventing an increase of resistance by forcing the thing cut further from the fulcrum of the cutting point, as is the case in using shears with straight-cutting edges. When the twig is grasped between the knife edge and the jaw, it will be seen that the pressure is always in a straight line with the bite of jaw and fulcrum or screw *c*; for if the thing to be cut is a little before or in the rear of said line, as soon as the pressure by the hands of the operator is put heavily on the handles *a a*, the knife will revolve until it is brought in a line, as described, at which point it will be severed by means of the openings *d d d d*. If any particles of wood fall in between the knife *b* and the jaw to which it is attached, they will pass out of said openings and allow the knife to clear itself and revolve freely. As a pruning-knife, we consider the form of shears as above described having great advantages over the shears now in use, as we avoid twisting of the shears in the act of cutting, and by having the power applied in the manner most available. The springs *f f* are for opening the shears.

Having thus described the nature and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

The construction of pruning-shears with a circular revolving knife *b* attached to the jaw or handle, as described, as the cutting edge of said shears, and the curved grasping jaw or handle, operating as described, and for the purposes specified.

In testimony that we claim the above-described invention, we have herunto signed our names this 19th day of September, 1866.

GEORGE H. CLINTON,
D. H. HARRIS.

Witnesses:

E. J. SANFORD,
LEWIS MIX.