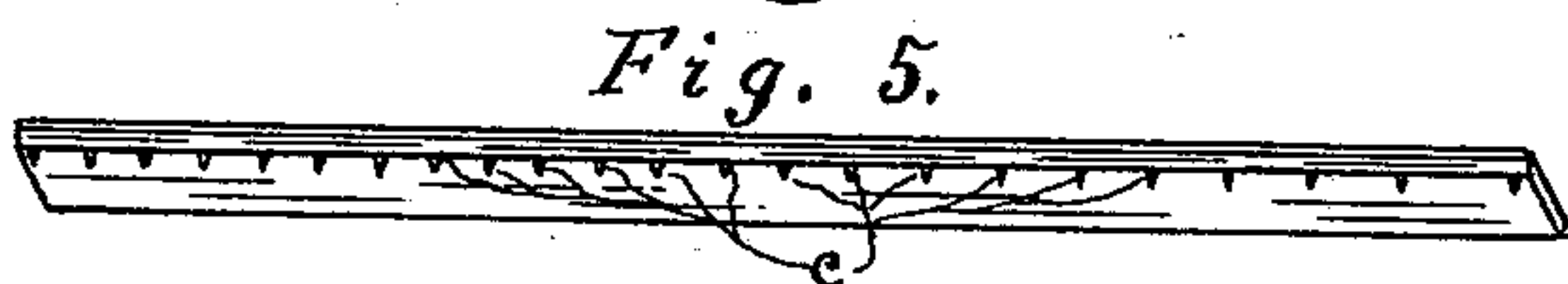
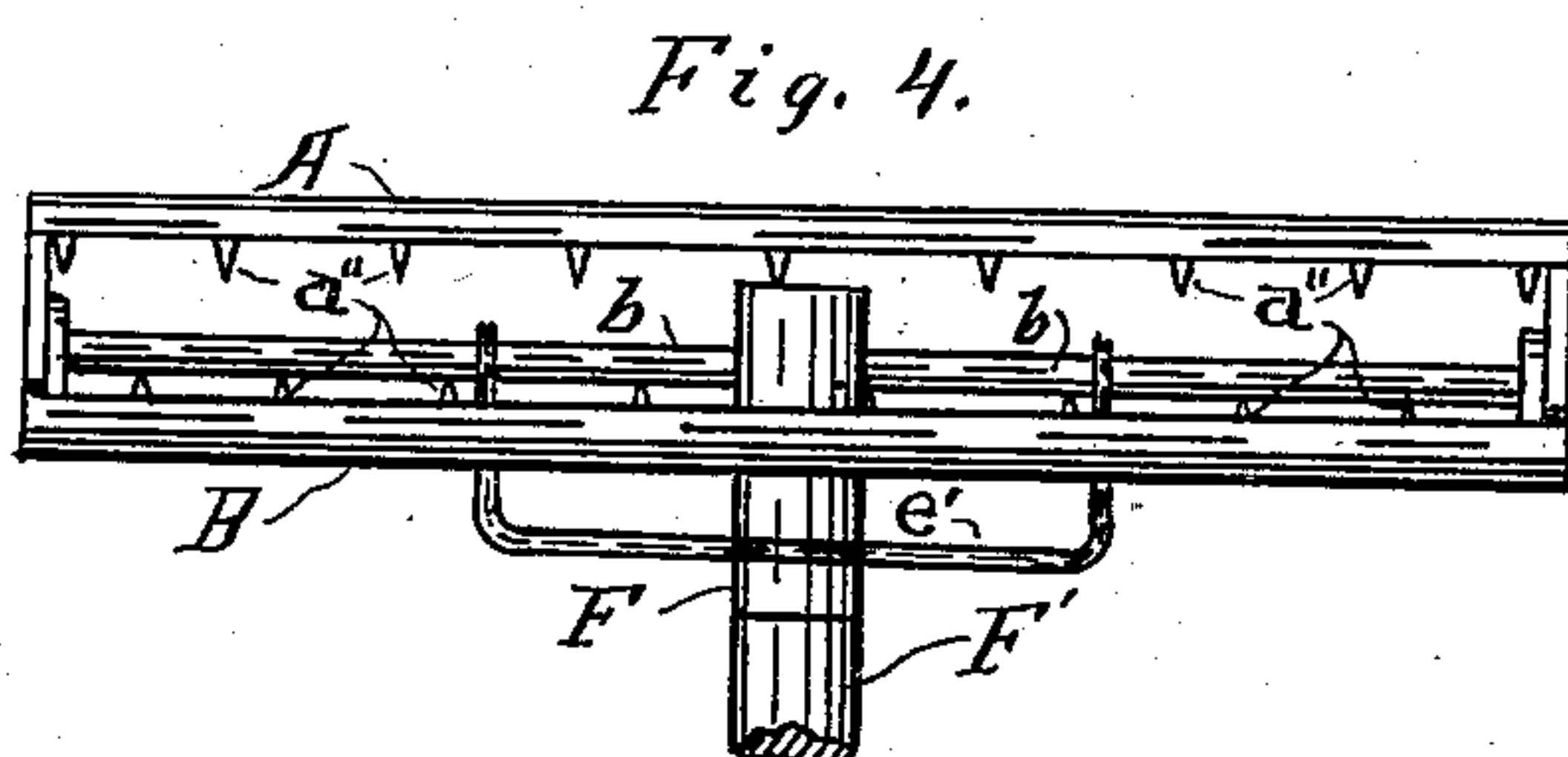
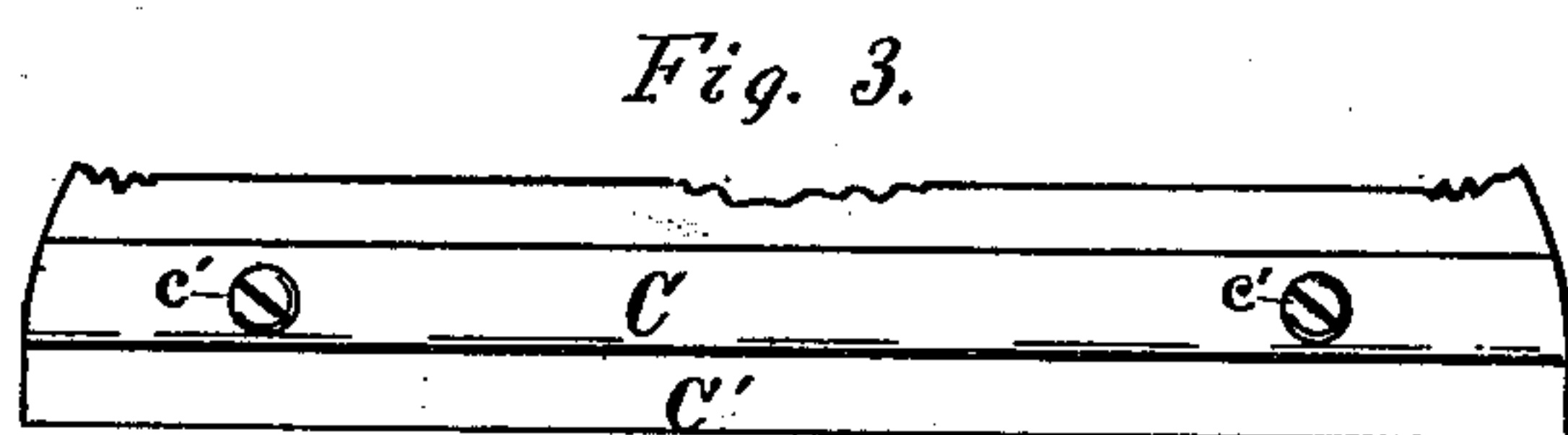
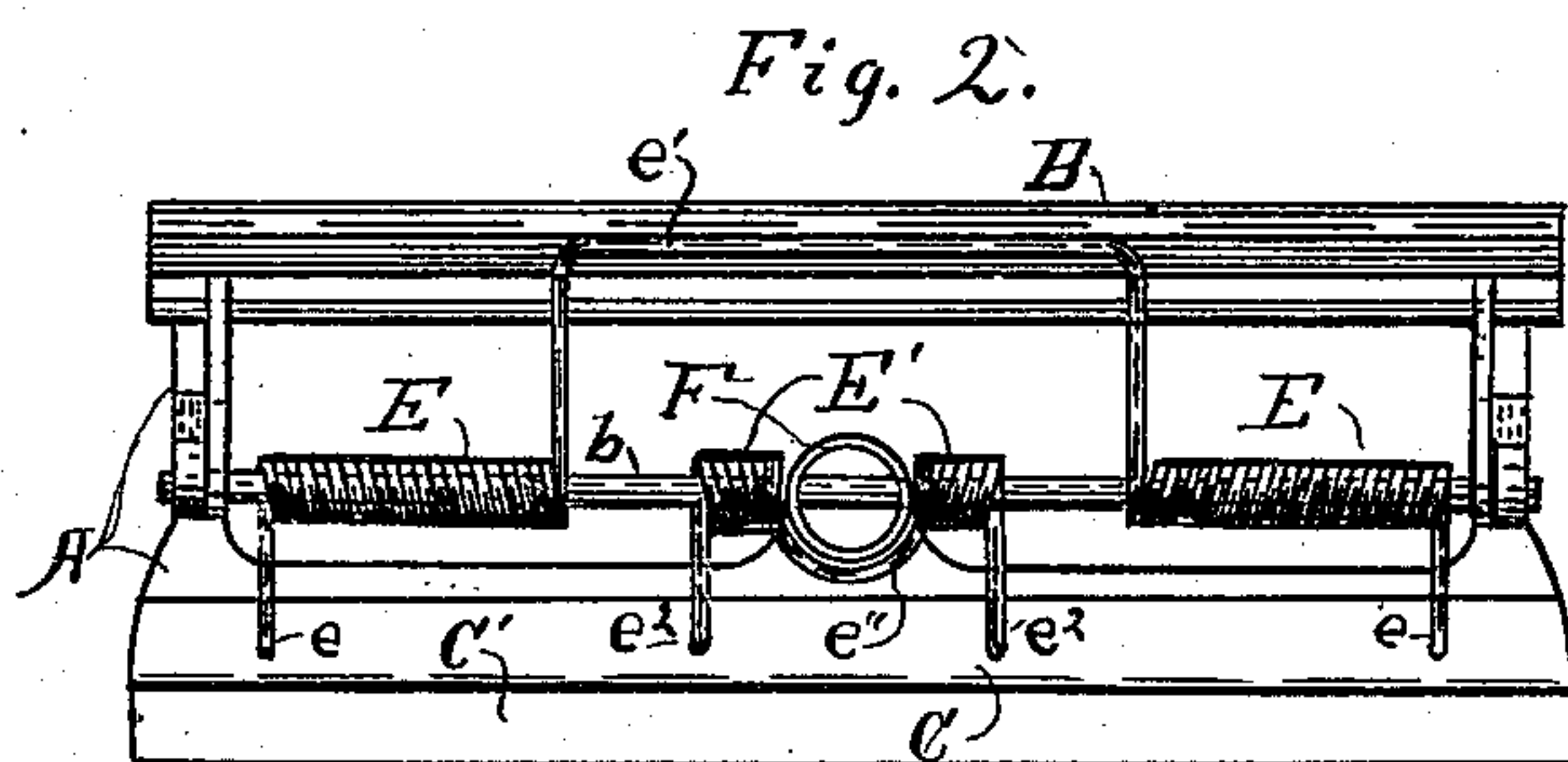
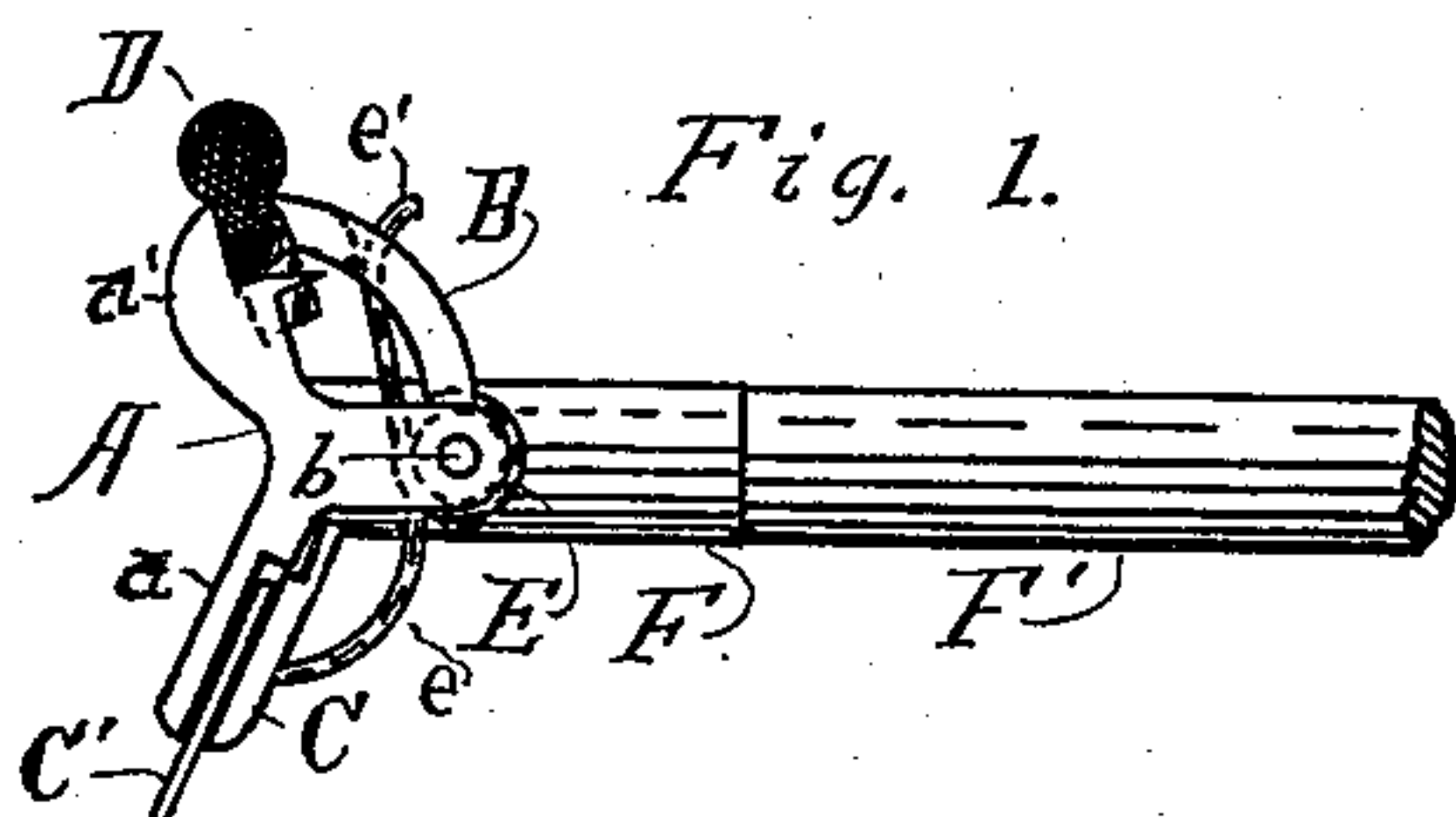


(No Model.)

E. SKINNER.
WINDOW WASHER.

No. 548,892.

Patented Oct. 29, 1895.



Witnesses.

P. L. Stewart

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UNITED STATES PATENT OFFICE.

ELIAS SKINNER, OF GRAND RAPIDS, MICHIGAN.

WINDOW-WASHER.

SPECIFICATION forming part of Letters Patent No. 548,892, dated October 29, 1895.

Application filed July 22, 1895. Serial No. 556,783. (No model.)

To all whom it may concern:

Be it known that I, ELIAS SKINNER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Window-Washers, of which the following is a specification.

My invention relates to improvements in appliances for holding a sponge or cloth for washing and a rubber for wiping a window; and its objects are, first, to combine the two heads in one, and, second, to provide a head with which the cloth or rubber may be readily and easily removed and replaced. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my device. Fig. 2 is a back elevation of the same. Fig. 3 shows the rubber-clamp secured with screws. Fig. 4 is a plan of the cloth-clamp, open to show the serrations or teeth that hold the cloth in place; and Fig. 5 is a perspective of the rubber-clamp, showing serrations or teeth for use when the rubber is held in by a spring. Similar letters refer to similar parts throughout the several views.

In constructing my window-washer I provide a head A, which has an arm α projecting in one direction to form one of the supporting jaw of the rubber-clamp, and another arm α' , that stands at an obtuse angle with the first and forms the supporting-jaw of the sponge-supporting clamp, and to this head is cast or otherwise attached a socket F for the support or reception of the handle F'.

For securely holding the sponge D in my washer I pivot a jaw B to the head A, as at b , and to secure the rubber commonly used for drying a window after it has been washed I provide a detachable jaw C. The sponge-supporting clamp is provided with teeth α'' , so located that they will pierce the sponge alternately, as indicated in Fig. 4, to prevent the possibility of the sponge becoming disengaged, and a similar series of teeth, as c in Fig. 5, though much smaller than those shown at α'' , may be with advantage placed on the inner surface of the jaw C that holds the rubber.

To force the jaws B and C solidly toward the arms α' and α , I provide a coiled spiral spring E, having a bow e' at the center that

extends upward against the back surface of the jaw B, and the opposite ends e extend down in the opposite direction and rest on the detachable jaw C, so that the entire concentrated tensile force of the spring is utilized, the one portion to force the jaw B in place and the other portion to force the jaw C solidly against the arm α , so that both clamps are forced to securely clamp and hold the object that is inserted. The pivot-rod b , by which the jaw B is pivoted to the head, is made to extend the entire length of the head and through the socket and the end of the handle, as indicated in Figs. 2 and 4, and, passing through the coil of the spring E, acts as a support therefor.

I sometimes find it necessary to provide an auxiliary spring E' to insure a perfect bearing of the jaw C on the rubber, and for this purpose I find the most satisfactory spring to be formed, as in Fig. 2, with a loop, as e'' , passing around one side of the socket F, the body of the spring coiled around the pivot-rod b and the ends e^2 brought to bear upon the jaw a little to each side of its longitudinal center.

I sometimes dispense with the springs for supporting the jaw C and secure it with screws, as c' .

If it is desired to convert this head into a sweeping device for tile floors, it is simply necessary to distend the jaw B, as indicated in Fig. 4, when a brush may be clamped between it and the arm α' in the usual way in lieu of the sponge, and the object is accomplished.

In Fig. 4 I have cut the spring e' off before the coiled portion E is reached, and Fig. 3 shows the arm α disconnected from the head and the socket F, and is given simply to show how the jaw C may be secured by the screws c' instead of the spring, as more fully described in the preceding portion of this specification.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a window washer, a head having arms extending at obtuse angles therefrom and a socket to support the handle, a jaw pivoted to the head to connect with one of the arms to secure a sponge, a detachable jaw to com-

bine with the other arm to secure the rubber, a pivot rod passing the entire length of the head and through the ends thereof, the pivot arms of the jaw B, and the socket, a
5 spring coiled around said rod, its center bowed to press against the jaw B and its ends bearing against the detachable jaw C and an auxiliary spring coiled around said rod in position to assist in securing the jaw C, substantially as and for the purpose set forth.
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2. In a window washer, a head having a socket for the handle, arms extending in opposite directions from said head, jaws fitted

to combine with said arms to support, the one a sponge and the other a drying rubber, teeth 15 projecting inward from said arms and jaws, and a spiral coiled spring and pivot rod to support said jaws, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, July 17, 20 1895.

ELIAS SKINNER.

In presence of—

ITHIEL J. CILLEY,
W. H. SKINNER.