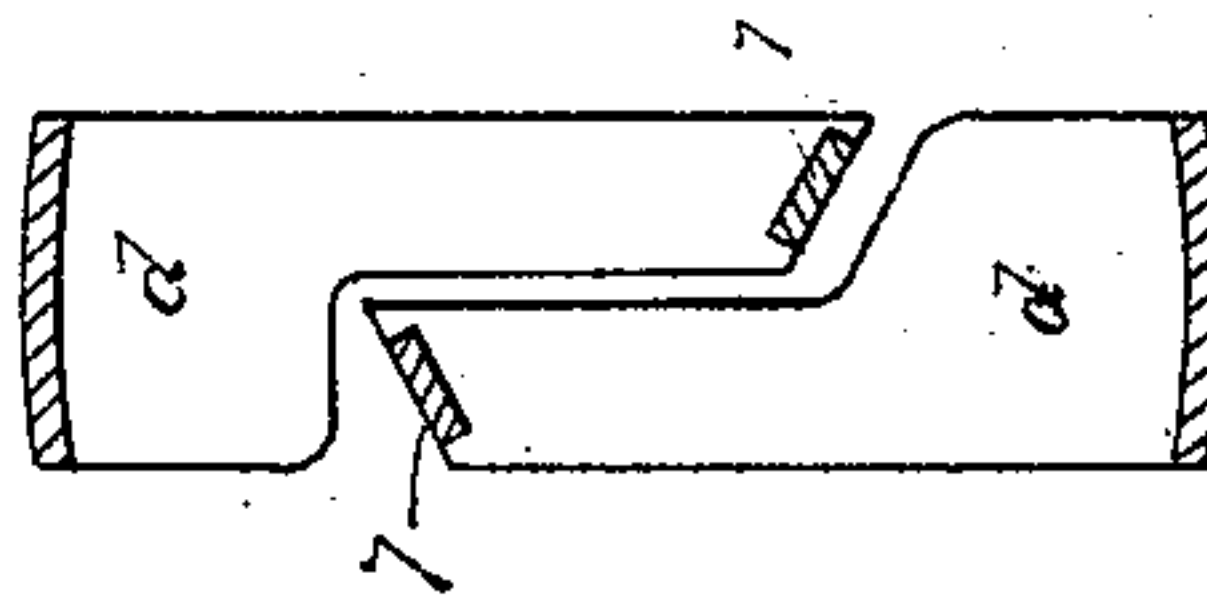
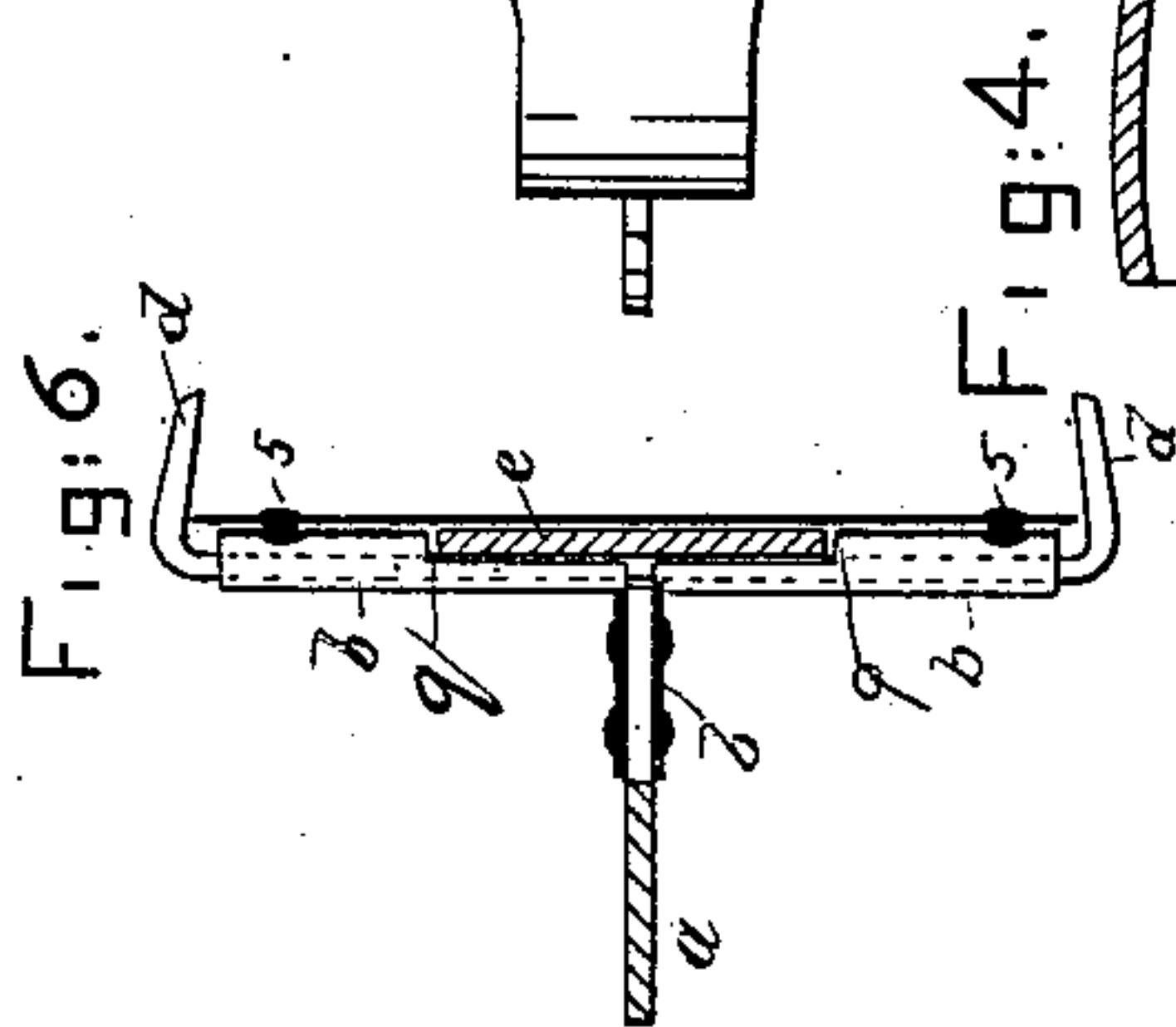
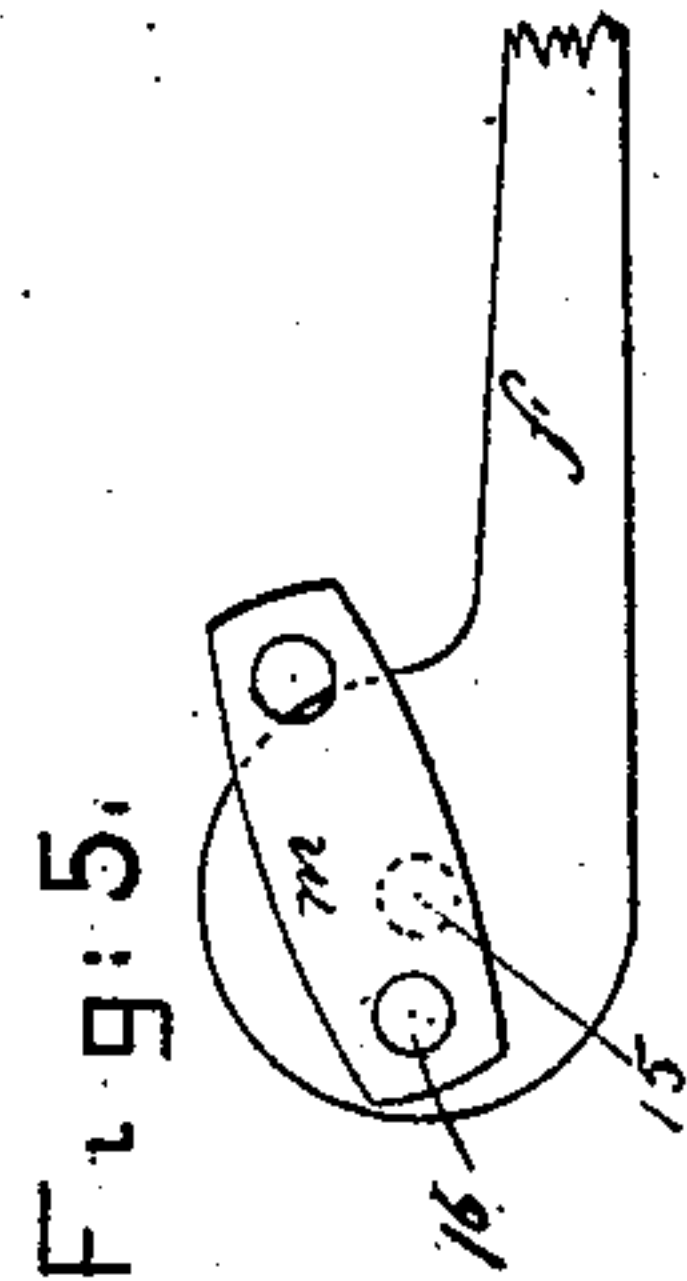
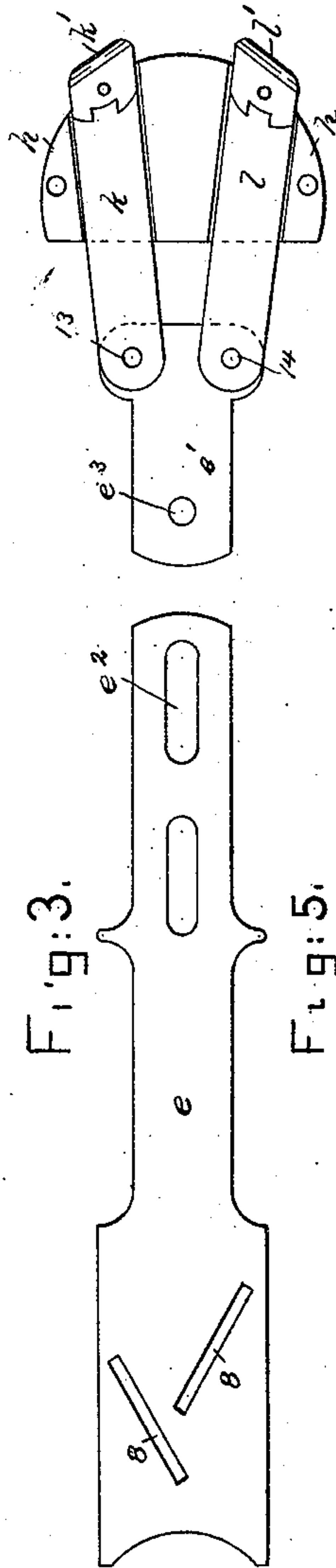
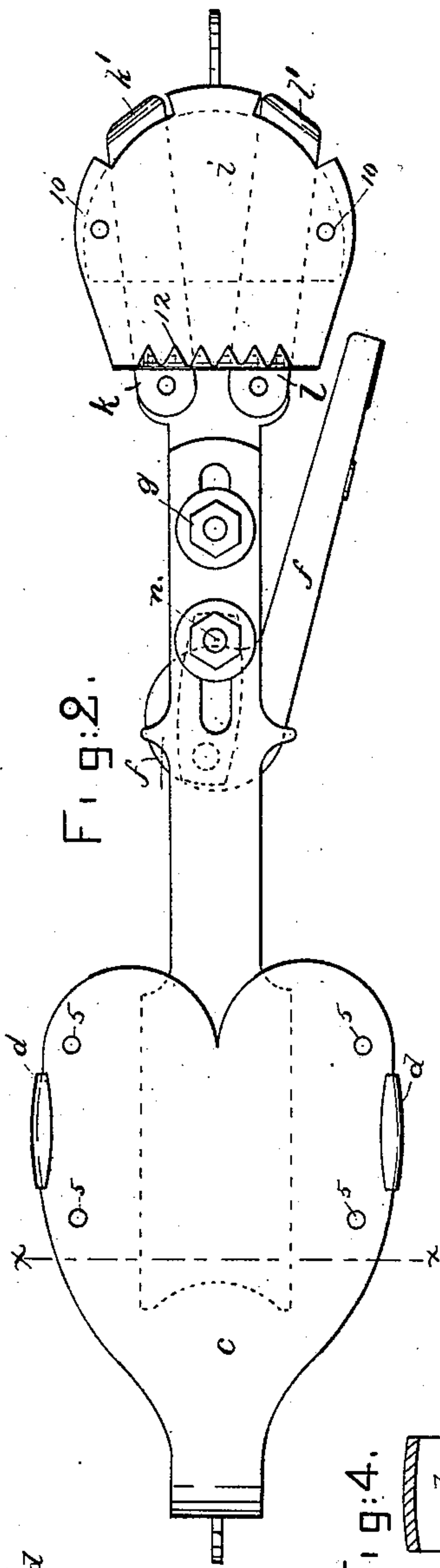
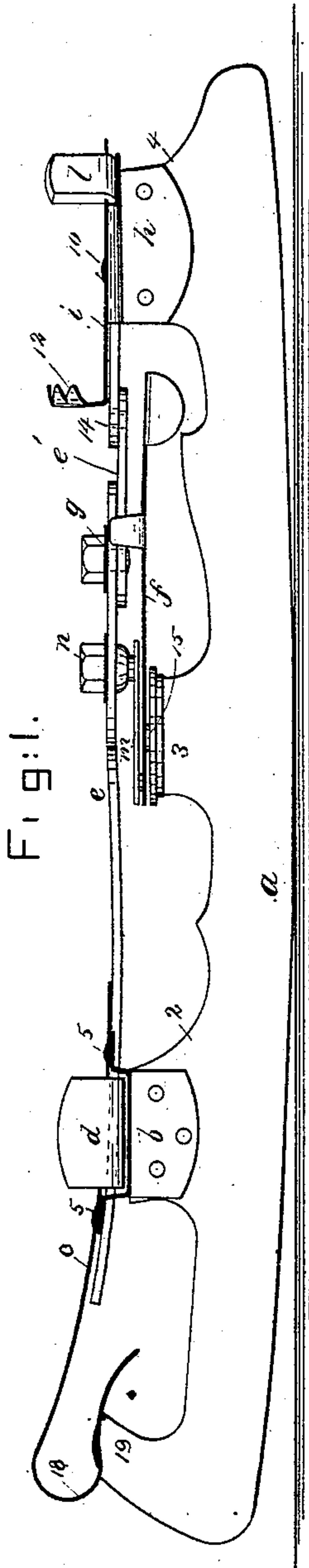


(No Model.)

W. E. FARNHAM.
Skate.

No. 234,862.

Patented Nov. 30, 1880.



WITNESSES.
A. Hummel
L. F. Connor.

INVENTOR-
William E. Farnham,
by Crosby & Gregory Attys

UNITED STATES PATENT OFFICE.

WILLIAM E. FARNHAM, OF PITTSFIELD, MASSACHUSETTS.

SKATE.

SPECIFICATION forming part of Letters Patent No. 234,862, dated November 30, 1880.

Application filed April 29, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. FARNHAM, of Pittsfield, county of Berkshire, State of Massachusetts, have invented an Improvement in Skates, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to skates, and has for its object the production of a skate which may be readily attached to a boot or shoe heel and sole without the employment of straps.

In this my invention the heel and sole clamps are connected by an adjustable slide or link made horizontally movable by means of an actuating-lever and locking device, which enables the clamps to be instantly engaged with or released from the sole and heel, thus obviating the use of screws or wrenches, heretofore common in other classes of skates, which require considerable time to turn them.

The heel-clamps, guided in ways in the heel plate or support, are pivoted to the slide, and are moved by it radially with relation to the center of the breast of the heel to which the skate is to be attached, thus enabling the heel-clamps to be properly conformed to and bear upon the curved or convexed surface of the heel, whatever may be its size.

The front end of the slide has slots to receive lugs of the side clamps. The sole plate or support is made of spring metal, such as sheet-steel, to yield at the front end near the toe.

Figure 1 represents, in side elevation, a skate containing my improvements; Fig. 2, a top view thereof, the actuating-lever being partially turned outward; Fig. 3, a detail of the slide-bar detached and the connected heel-clamps; Fig. 4, a detail horizontal section of the sole-clamps; Fig. 5, a detached view of part of the actuating-lever and link by which it is connected with the slide-bar; and Fig. 6, a section on the dotted line *x x*, Fig. 2, looking toward the right, to show the front end of *e* and the shoulders of *b*, that guide its side edges.

The runner *a*, preferably of steel, has three posts, 2 3 4. The post 2 has riveted or secured to it the sheet-metal guides *b*, the ears of which (see Fig. 1) are secured to the sole-plate *c* by rivets 5, thus forming a way or space between

the guides *b* and sole-plate to receive the shanks of the sole-clamps *d*, the inner ends of which sole-clamps are bent over to form lugs or projections 7, to enter slots 8 at the front end of the slide-bar *e*, which slide-bar *e*, as it is reciprocated or moved horizontally by the combined actuating-lever and locking device *f*, is guided to travel in a straight line by means of shoulders 9 of the metal guides *b*, (see Fig. 6,) against which the outer side edges of slide-bar bear. The slide-bar is made in two pieces, the rear part, *e'*, being connected with the front part, *e*, by means of a screw or bolt, *g*, extended through the slot *e''* and hole *e'''*, to thus enable the slide-bar to be lengthened or extended for nice adjustment to the length or width of the shoe or boot to which the skate is to be attached. The post 4 has attached to it the guide-plates *h*, upon which is riveted at 10 the heel-plate *i*, provided with the heel-breast-engaging prongs 12, the guide-plates *h* being so bent as to leave between them and the heel-plate spaces to form radial guideways (see Fig. 3) for the reception of the heel-clamps *k l*, pivoted to the slide-bar at 13 14, so that as they are moved by the slide-bar they close toward the axis of the heel of the shoe or boot, to thus adapt the holding-surfaces of the clamps to heels of different shape and size.

The lever *f* has its fulcrum in the stud 15 of the post 3, and is by a short link, *m*, connected with the adjustable stud or screw *n*, attached to the slide *e*, to thus give to the said slide the proper extent of movement. When the said lever is turned under the bar *e* far enough to bring the pivot-connection 16 of the lever and link to a position a little beyond the center line of the slide-bar *e* and stud *n*, the slide-bar will be locked.

The front end, 18, of the sole-plate is curled to form a spring-support between the sole-plate at the toe, upon which the toe of the boot or shoe rests, and the upper front part, 19, of the runner.

It will be noticed (see Fig. 3) that the upright parts *k' l'* of the heel-clamps *k l* are pivoted upon the main sliding arms of the said clamps, which enables the said upright parts to readily adapt themselves to the contour of the heel.

I claim—

1. In a skate, the post 2, the shouldered toe-clamp guides attached thereto, the toe-clamps fitted to move in said guides between them and the sole-plate, the bar *e*, movable in said
5 shouldered guides and having diagonal slots 8, and lugs on the toe or sole clamps to enter said slots, and means to move said bar, all combined to operate substantially as described.
2. In a skate, the heel and toe plates and
10 their guides, the toe-clamps, the pivoted radially-movable heel-clamps, and the adjustable

slotted slide-bar, combined with the lever, to move and to actuate the clamps, substantially as described.

In testimony whereof I have signed my name 15 to this specification in the presence of two subscribing witnesses.

W. E. FARNHAM.

Witnesses:

WM. GOSMAN TROTTER,
WILLIAM T. FILLEY.