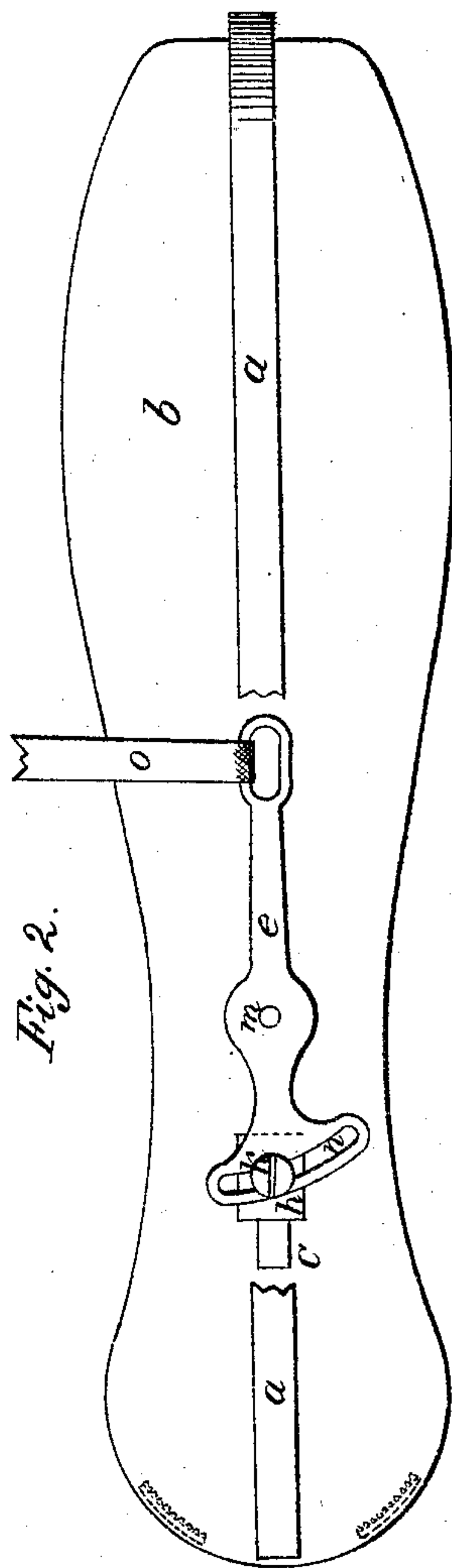
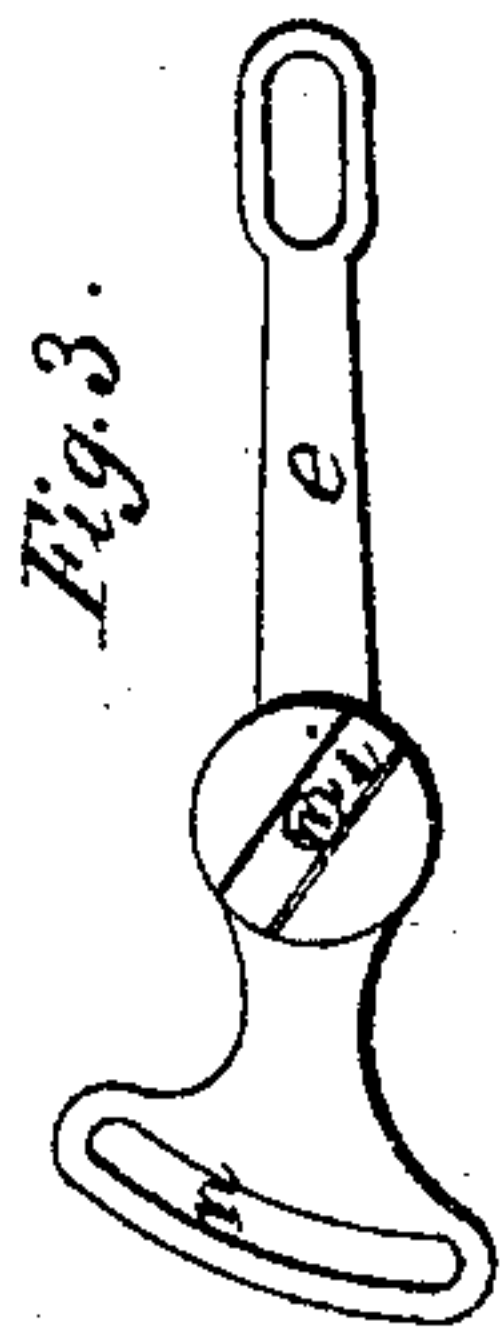
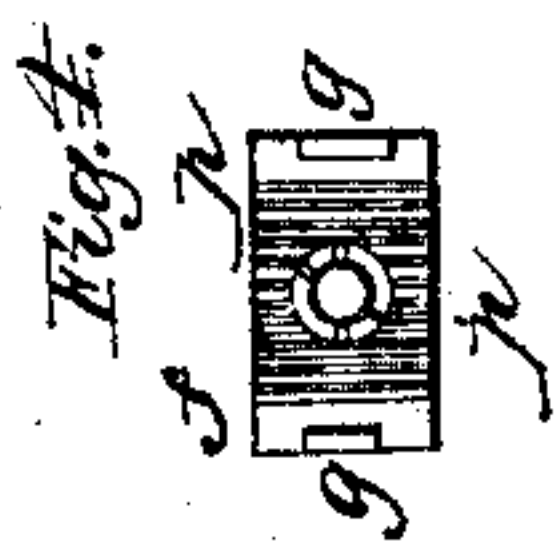
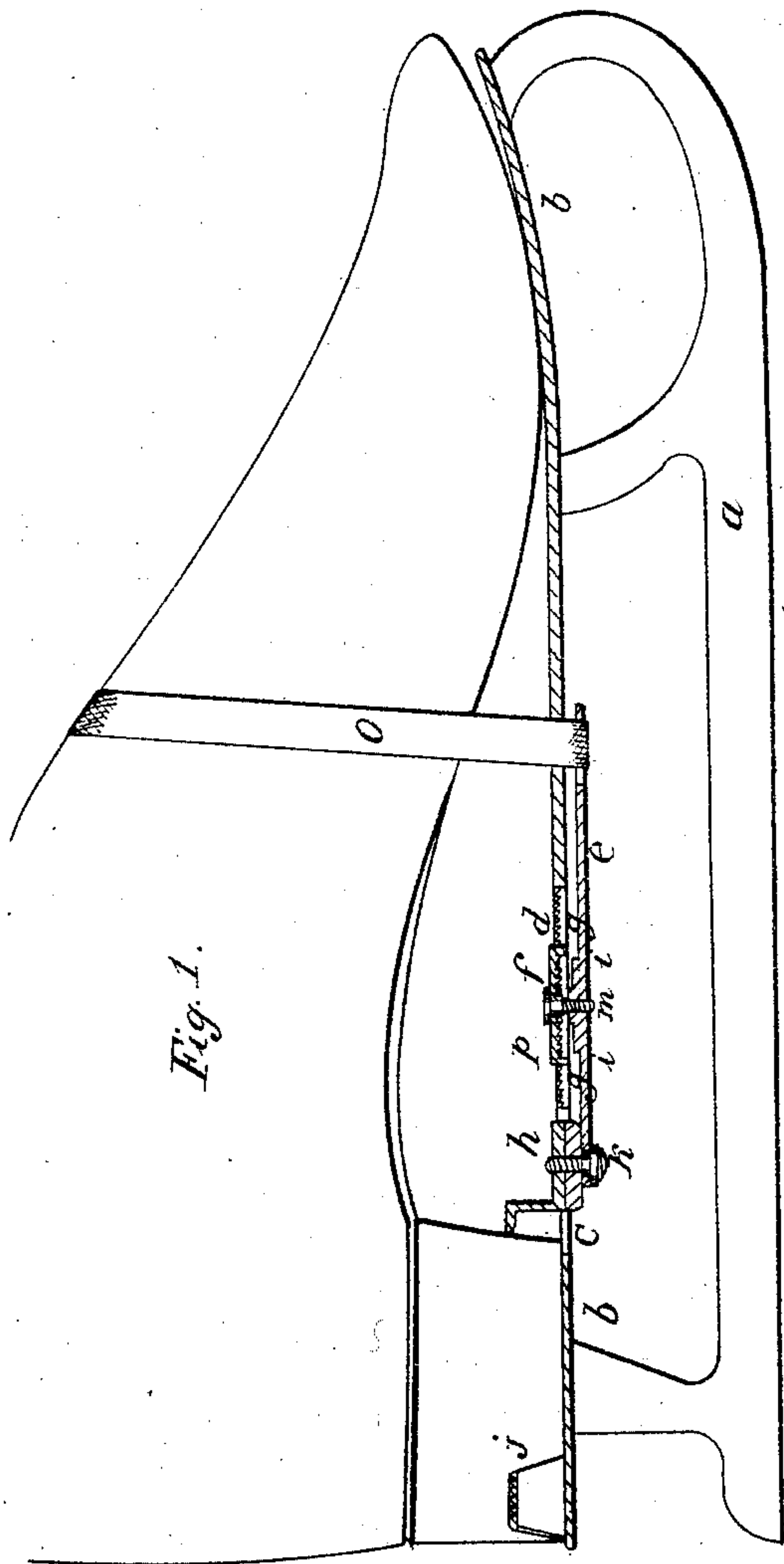


J. Holland,

Skate.

N^o 76,453.

Patented Apr. 7 1868.



Witnesses
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United States Patent Office.

JAMES HOLLAND, OF BROOKLYN, NEW YORK.

Letters Patent No. 76,453, dated April 7, 1868.

IMPROVEMENT IN SKATES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES HOLLAND, of Brooklyn, No. 65 Fulton street, in the county of Kings, and in the State of New York, have invented a new and useful Improvement in Skates; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 is a longitudinal section of a skate containing my improvement.

Figure 2 is an under side view.

Figure 3 is a top view of lever *e* detached.

Figure 4 is an under side view of plate *f*, showing the pins or arms *p*, which raise said plate.

Similar letters indicate corresponding parts.

This invention relates to fastening or securing the skate to the foot of the skater, and consists, among other things, in a sliding dog or clamp, which is moved lengthwise of the skate by means of a lever.

The letter *a* designates the runner, and the letter *b* designates the foot-plate. The foot-plate has a longitudinal slot, *c*, in the shank, in which slot a sliding dog, *h*, is held in such a manner that it can be moved back and forth, as required. The heel of the foot-plate has two fixed dogs *j*, only one of which is seen in fig. 1, but the places of both are indicated by dotted outlines in fig. 2. The said fixed dogs are so arranged as to come against the outside of the heel of the boot or shoe of the skater, and they, as well as the movable dog, are provided with teeth, which hold the heel and prevent it from slipping or moving away from the dogs.

The body of the movable dog *h* has on its sides grooves, which receive the edges of the slot *c* in such a manner as to allow the dog to be moved backward and forward, when it is required to fasten or unfasten the skate. From the under side of the body of the dog *h* projects a headed pin, *k*, which, in this example, is also used to unite to each other the plates that compose the body of the dog *h*. Said pin *k* works in a curved eccentric-slot, *n*, formed in the end of a lever, *e*, which is secured to a movable fulcrum, which slides in the same slot *c* in which the dog *h* moves. The lever *e* is beneath the foot-plate, and parallel therewith, and to its forward end is attached a strap, *o*, which goes around the instep of the skater, and is secured in any convenient manner, after the dog *h* has been moved up against the inner edge of the heel.

The movable fulcrum on which the lever *e* turns, consists of a plate, *f*, arranged forward of the dog *h*; its edges, which are toothed or corrugated, as seen in fig. 1, overlapping the edges of the slot *c*, the forward portion of which has its edges also toothed or corrugated, to enable the plate *f* to become locked to the foot-plate at certain times, as hereinafter explained. The plate *f* is kept in place over the slot by means of its bent ends *g g*, which are turned downward at right angles into said slot *c*, so as to guide the plate *f* in its movements.

The lever *e* is connected to plate *f* by a pin, *m*, about which it moves in horizontal directions. That side of the lever which is toward the foot-plate *b*, has a straight ridge or cam, *l*, which extends across the hub of the lever, and which ridge is of such a width that it will fit within slot *c* when the lever is so turned as to bring the ridge in the same straight line with said slot, at which time the pin *k* will be at that part of the eccentric-slot *n* which is nearest to the centre of motion *m* of lever *e*, and the movable dog *h*, which is moved backward and forward by the vibration of said lever, will have been drawn out of engagement with the heel. The connection of lever *e* and plate *f*, by means of the pin *m*, is such that, when the ridge *l* coincides with the slot *c*, the plate *f* can be lifted high enough to disengage its teeth from the teeth on the foot-plate, and allow the lever *l* and plate *f*, with the dog *h*, to be moved along slot *c*, backward or forward.

The ridge *l* is brought into coincidence with slot *c* when the skate is about to be fastened to the foot, in order to allow the movable dog *h* to be shoved backward until its teeth come in contact with the forward part or inside of the heel, when, by turning the lever on its pin *m*, the ridge *l* is brought across the slot, and the plate *f* is thereby drawn downward, so as to cause its teeth to interlock with the teeth on the foot-plate, and hold the said plate *f* stationary. The lever *e* being turned still further around, the dog *h*, through the action of the curved slot *n* on the pin *k*, is driven with force against the heel, and its teeth made to penetrate it to a greater or less degree, so as to lock the skate firmly thereto; the lever *e* being kept in that position by means of the

strap *o*, which is taken around the foot, and fastened in any convenient manner, by a buckle or otherwise. The strap *o* serves to hold the lever *e* in the position to which it was brought in driving the dog *h* against the heel, and also to draw the front part of the skate snugly up to the bottom of the foot; the lever *e* being made of a suitable length for this purpose.

When the skate is to be taken off, the strap *o* is undone, the lever *e* is turned until its ridge *l* coincides with the slot *c*, when the lever, with the dog *h* and fulcrum-plate *f*, can be moved forward, and the heel freed from contact with the dog.

I raise the locking-plate *f* upward, so as to free its notches from the teeth *d* of the foot-plate, by means of pins or arms *p p*, with bevelled ends, which project from opposite sides of the screw *m* under plate *f*, and which arms *p* are so arranged that, when the ridge *i* coincides with slot *c*, they also coincide or are in line with it; but when lever *e* is turned, so as to bring its ridge diagonal to slot *c*, the bevelled ends of said arms mount upon the edges of slot *c*, and thereby raise plate *f* above the foot-plate, high enough to disengage their teeth or corrugations, whereby plate *f* and lever *e* are made free to be moved lengthwise in slot *c*. When they have been moved far enough to bring dog *h* against the heel, the lever *e* is turned, and the arms *p* slide off the foot-plate, the plate *f* drops, so as to bring its teeth into engagement with those of the foot-plate, when it becomes locked in position by the diagonal position taken by ridge *i*, and the continued movement of lever *e* drives the dog *h* into close contact with the heel.

Instead of the pins or arms *p p*, a spring may be applied to the locking-plate *f*, so that, by the action of said spring, the locking-plate will be thrown out of gear with the teeth on the front plate as soon as the lever is turned back.

What I claim as new, and desire to secure by Letters Patent, is—

1. The lever *e* and movable dog *h*, in combination with the movable fulcrum *f*, substantially as described.
2. The movable dog *h* and movable fulcrum-plate *f*, in combination with the slot *c*, substantially as shown.
3. The ridge *i* on the lever *e*, arranged substantially as shown, to draw the fulcrum-plate down on the foot-plate, substantially as described.
4. The combination, substantially as described, of the lever *e*, the movable dog *h*, and the strap *o*.
5. The arms *p*, arranged on screw or fulcrum-pin *m*, for the purpose of raising the plate *f* free from contact with the foot-plate, substantially as described.

JAMES HOLLAND.

Witnesses:

W. HAUFF,
WM. TREWIN.