

(No Model.)

J. MUNSON.
FURNACE REGISTER.

No. 372,271.

Patented Oct. 25, 1887.

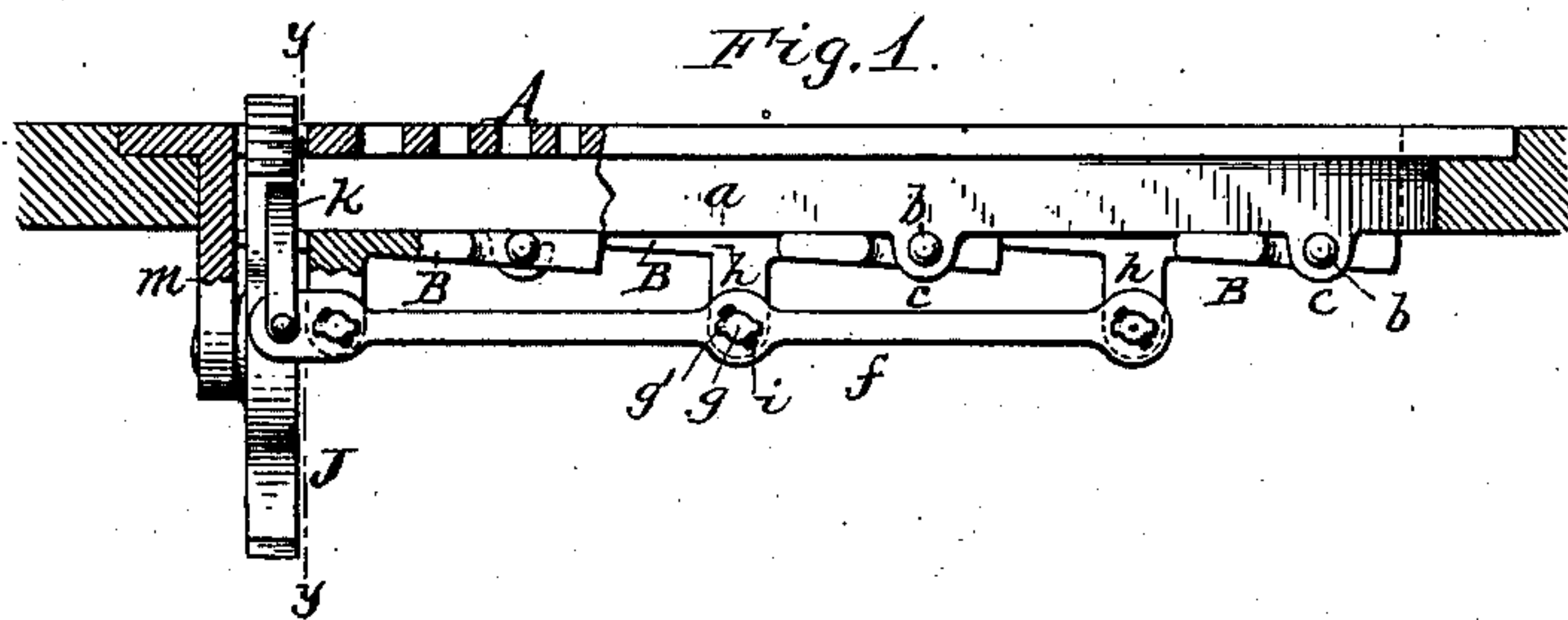


Fig. 1.

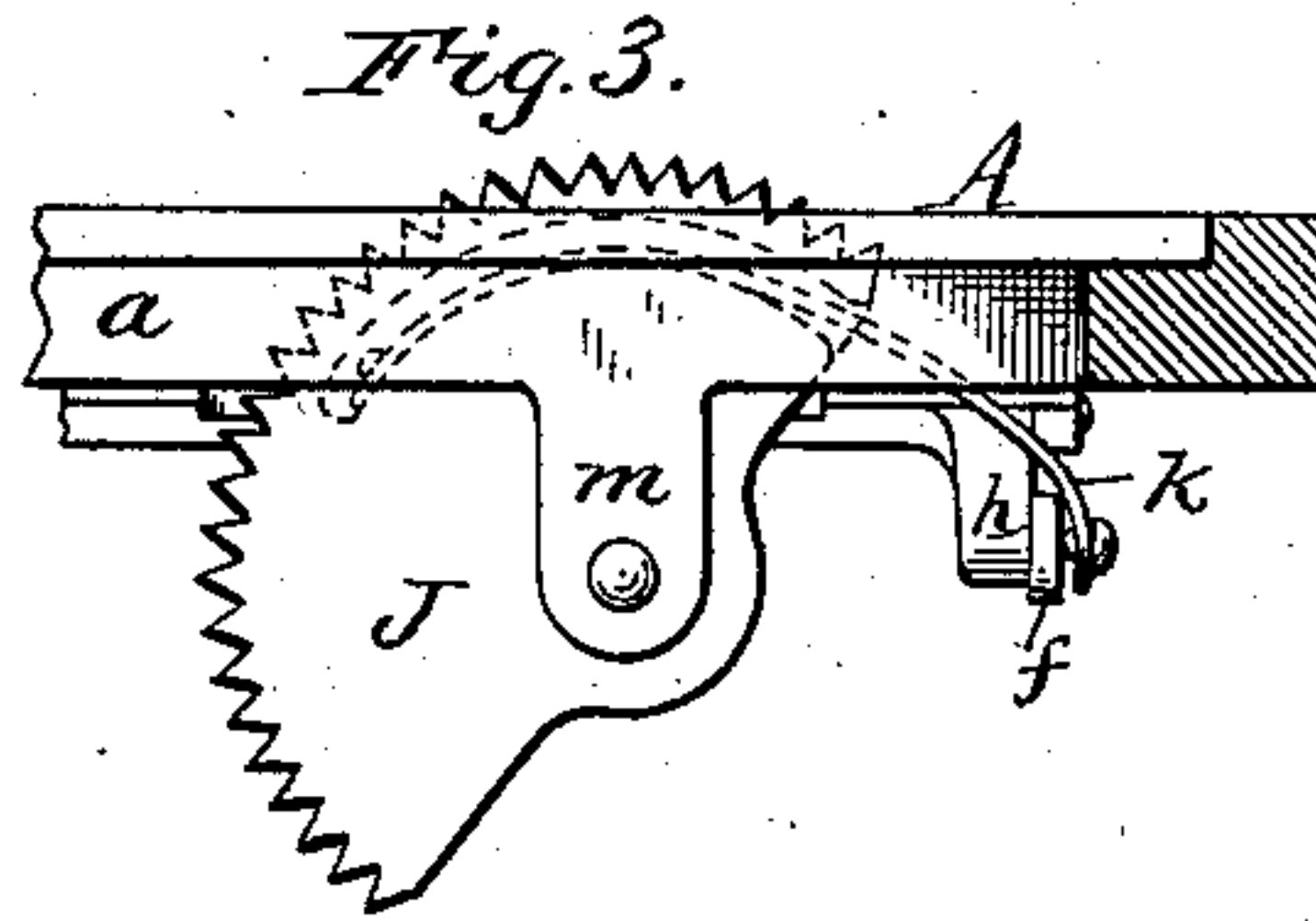


Fig. 3.

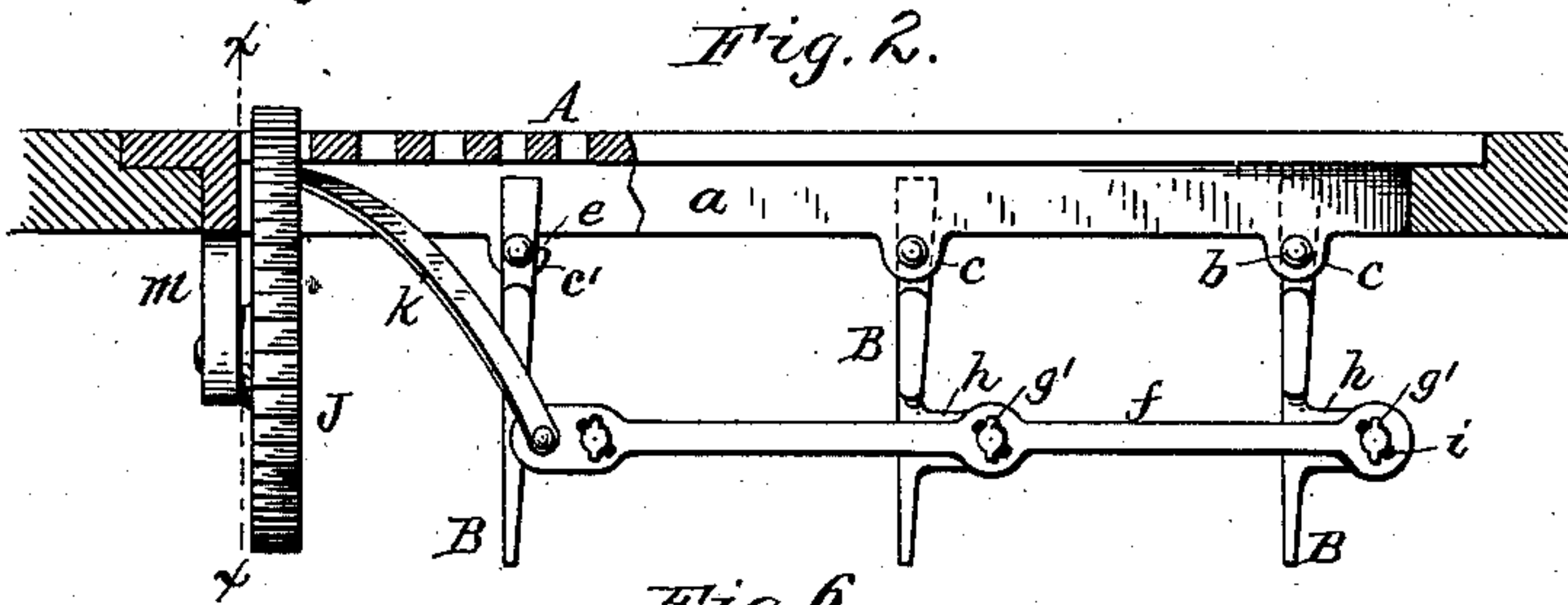


Fig. 2.

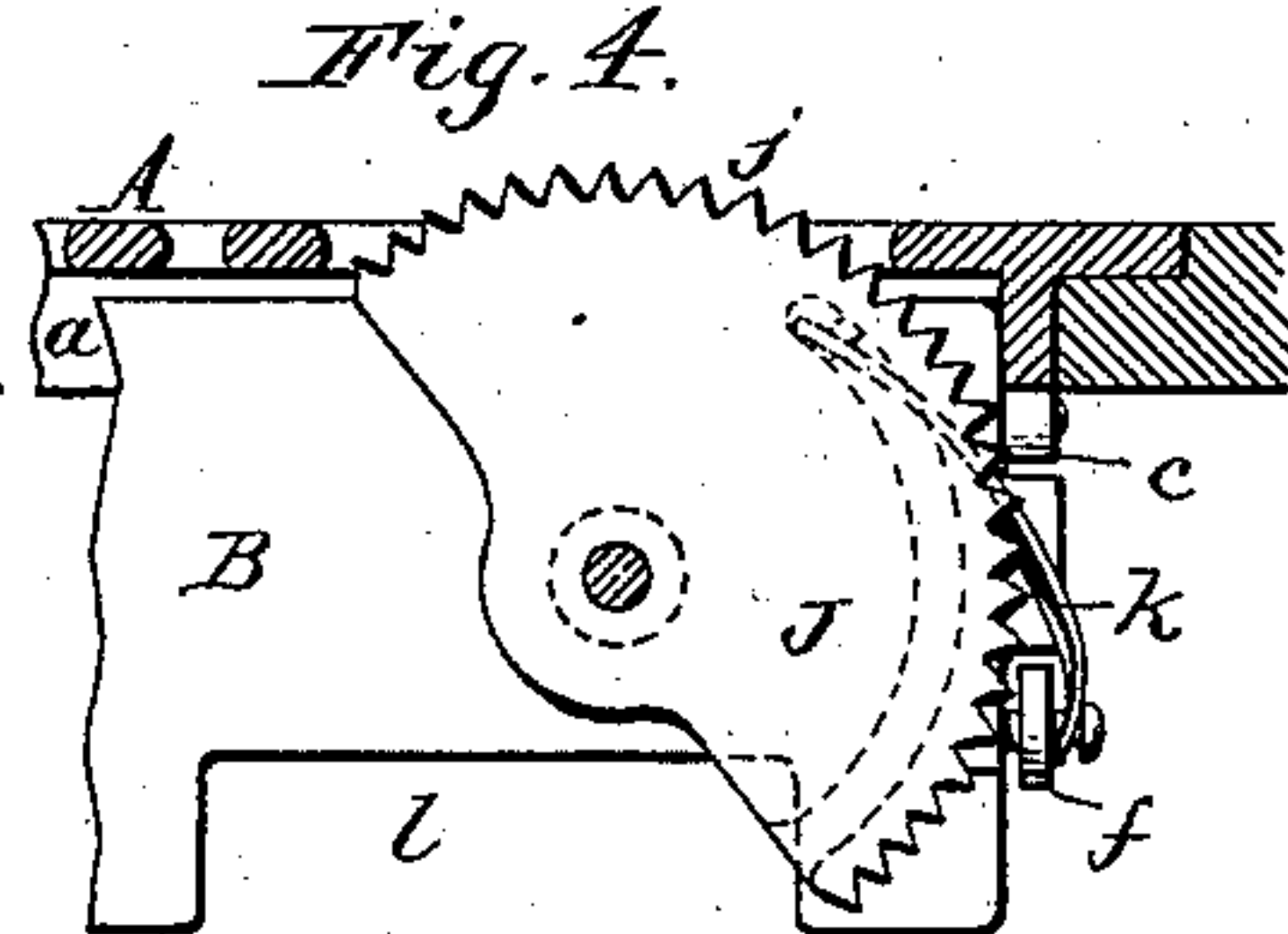


Fig. 4.

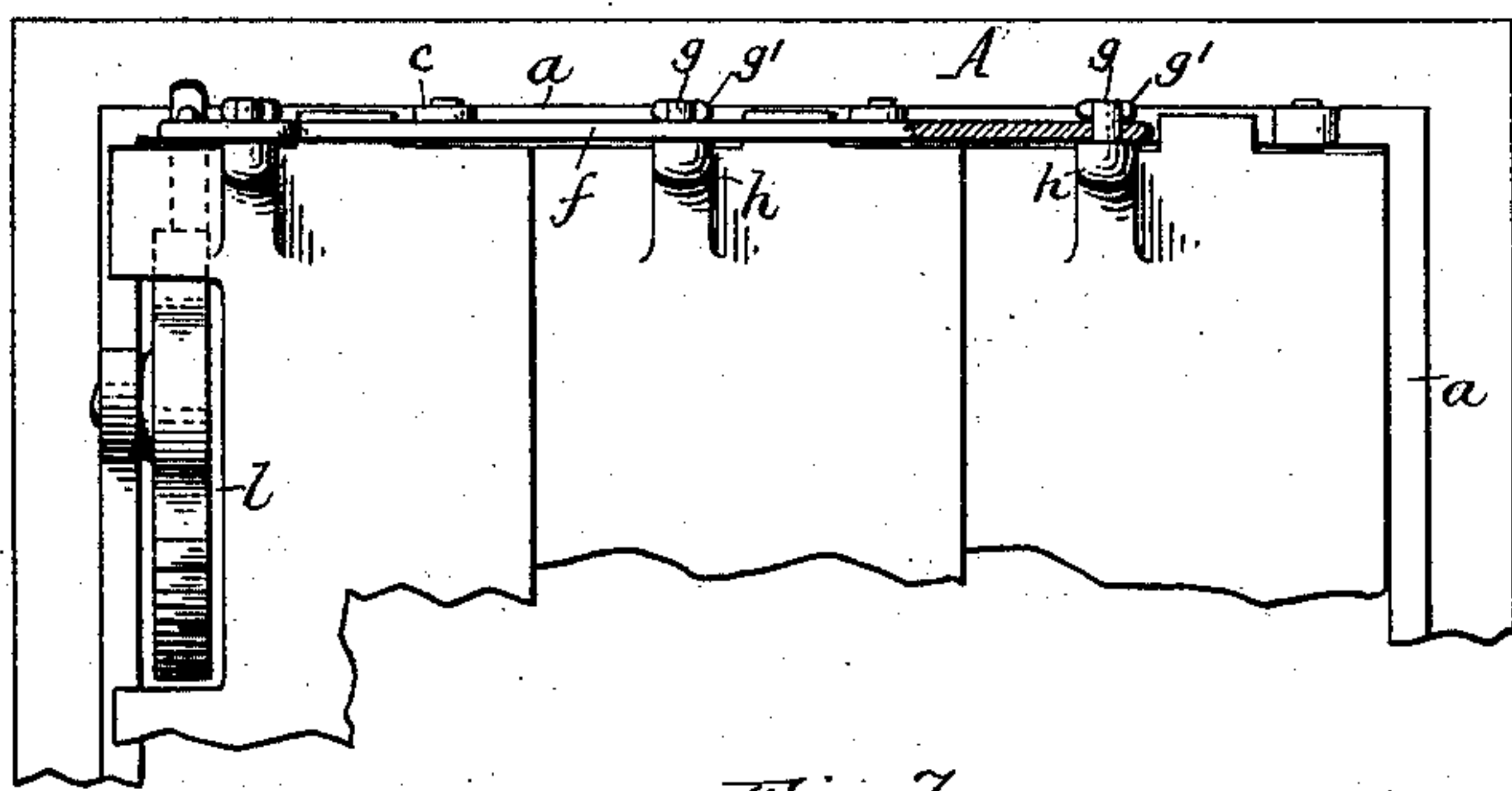


Fig. 6.

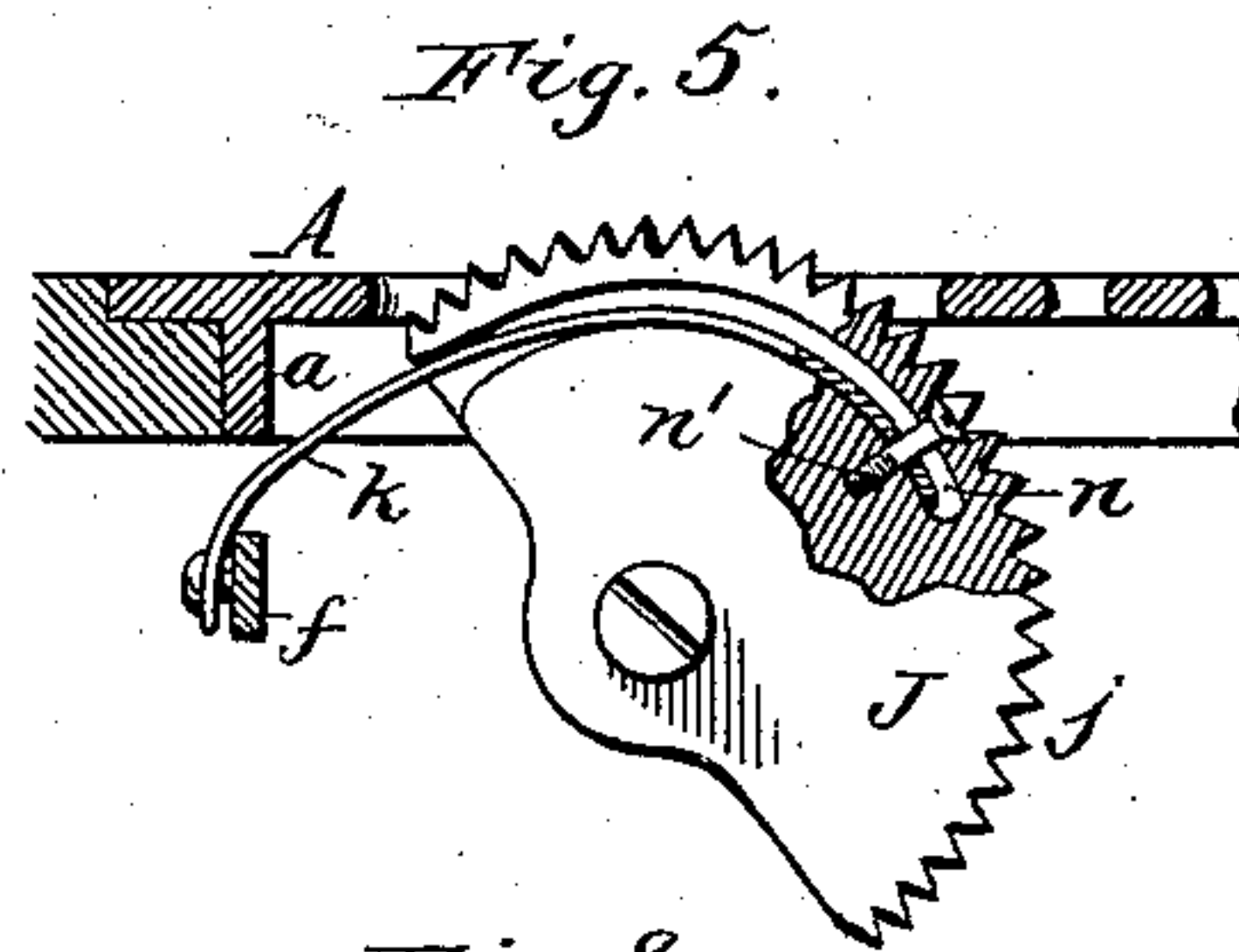


Fig. 5.

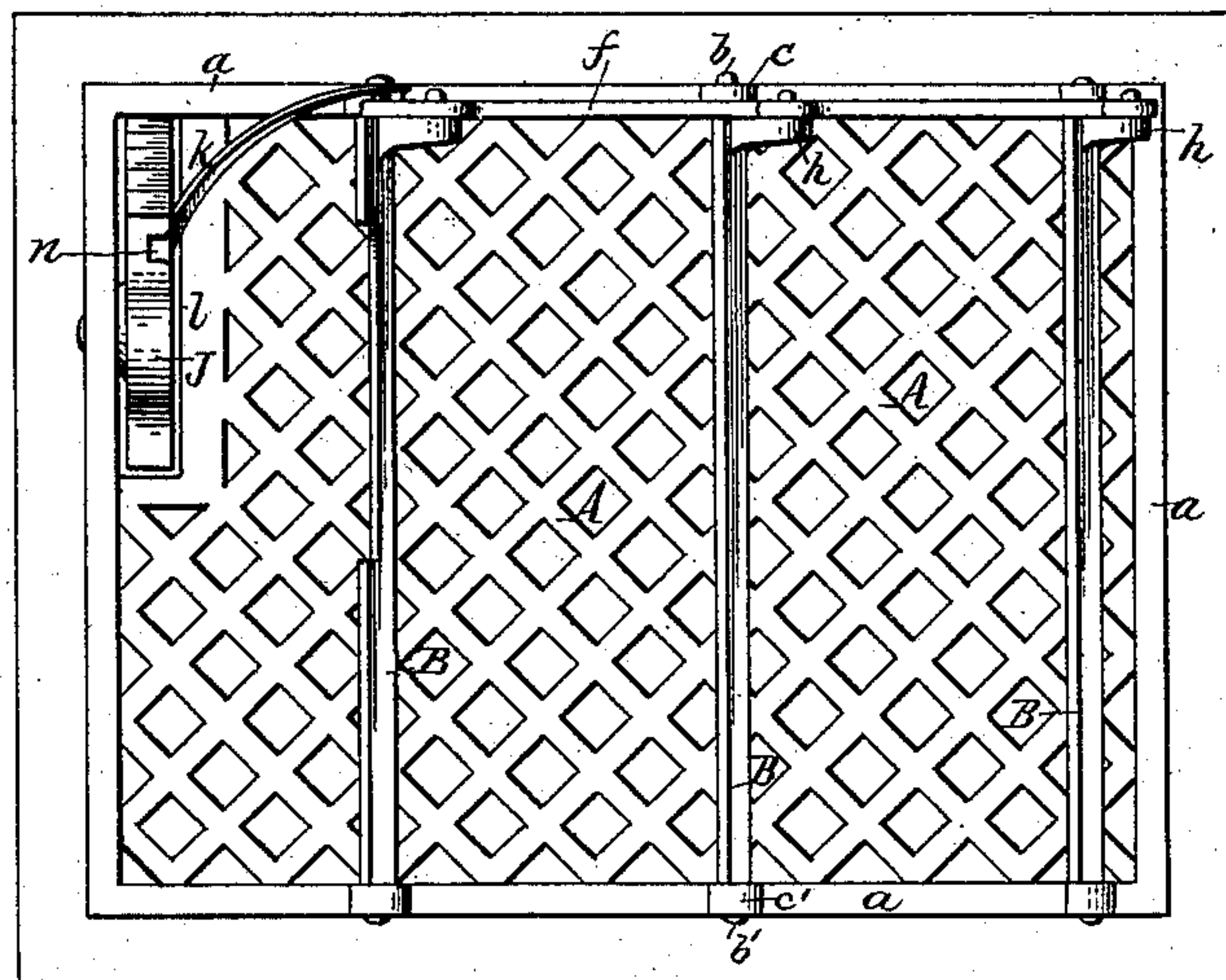


Fig. 7.

Fig. 8.

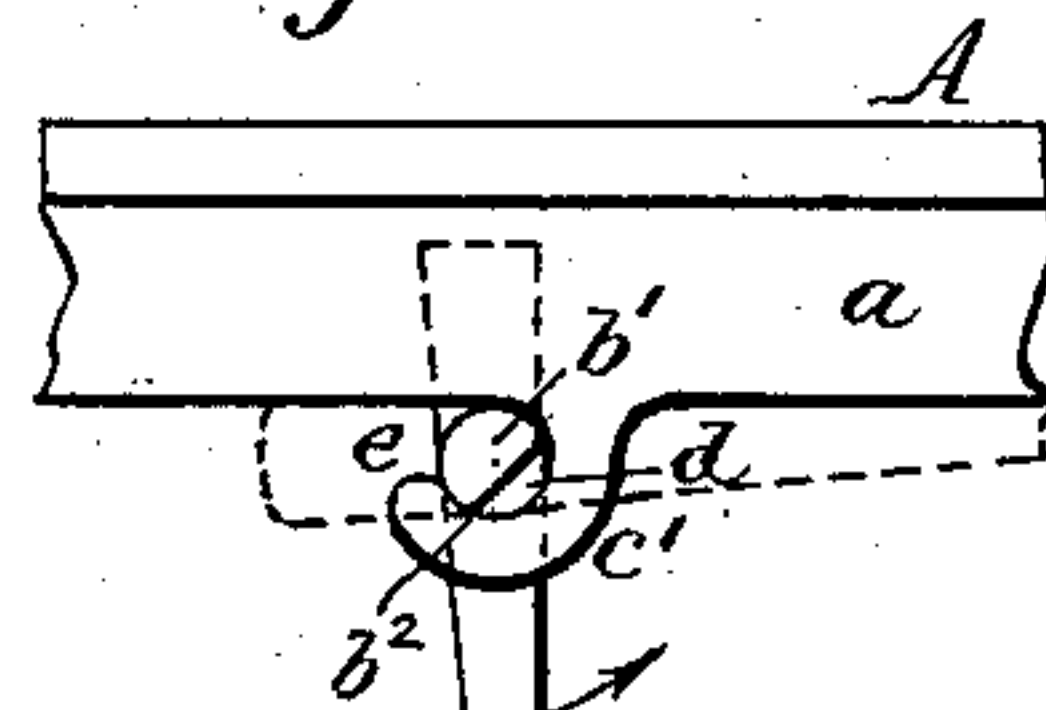
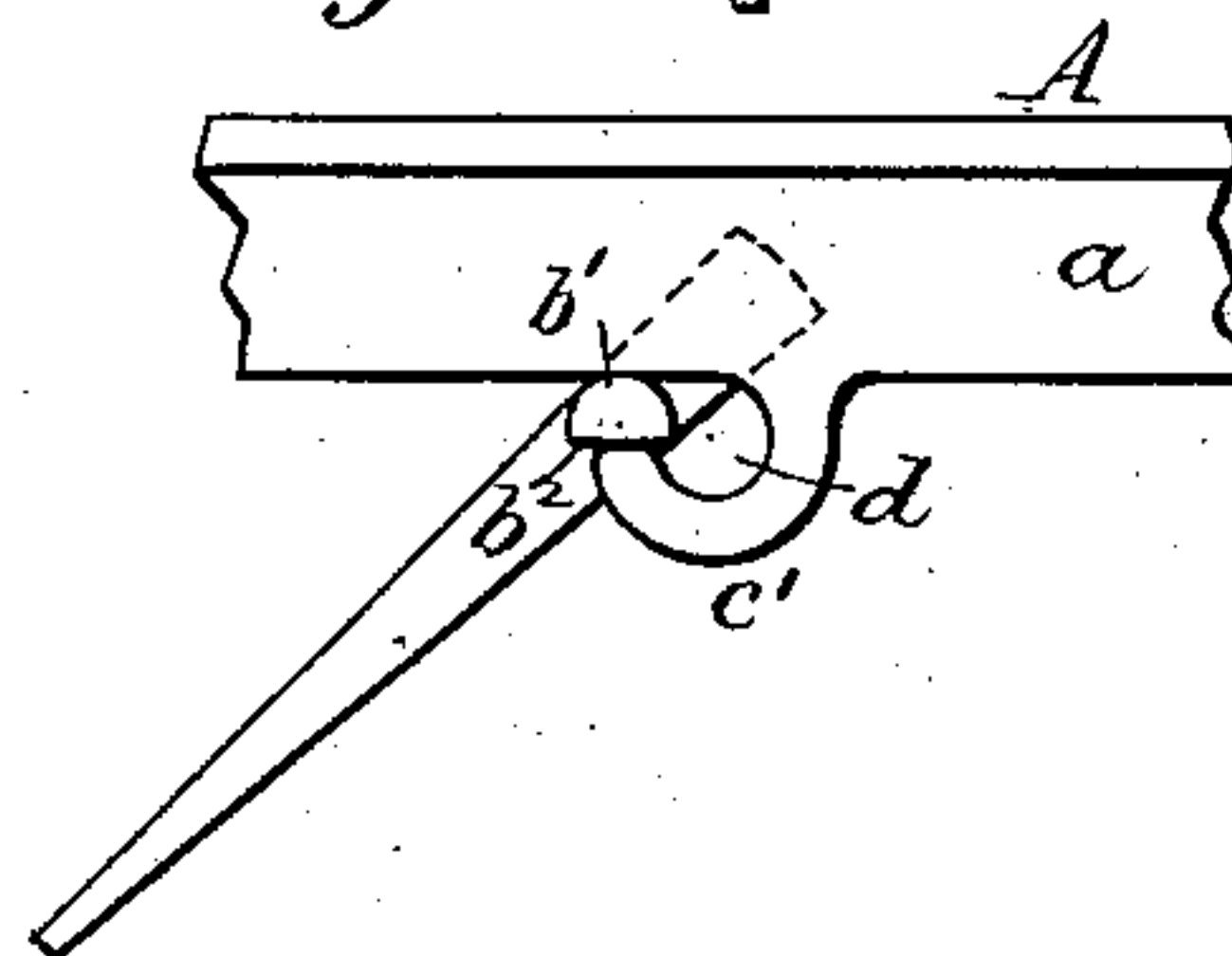


Fig. 9.



Theo. S. Popp
Geo. J. Buchheit
Witnesses

James Munson Inventor
By Wilhelm Ranner
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES MUNSON, OF BUFFALO, NEW YORK.

FURNACE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 372,271, dated October 25, 1887.

Application filed April 30, 1887. Serial No. 236,619. (No model.)

To all whom it may concern:

Be it known that I, JAMES MUNSON, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful
5 Improvements in Furnace-Registers, of which the following is a specification.

This invention relates to improvements in furnace-registers, and has for its object to render the construction of the register simple
10 and compact, to construct the blades or wings of the register in such manner that they can be readily attached to the register-frame, and also to improve the means whereby the wings are operated.

15 The invention consists of the improvements in the construction of the register, which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1
20 represents a sectional side elevation of the register, showing the wings in a closed position. Fig. 2 is a similar view showing the wings in an open position. Fig. 3 represents a fragmentary end view of the register at right
25 angles to Fig. 1. Fig. 4 represents a vertical section in line *x x*, Fig. 2. Fig. 5 represents a vertical section in line *y y*, Fig. 1, looking toward the left. Fig. 6 is a fragmentary bottom plan view of the register with the wings
30 closed. Fig. 7 is a bottom plan view thereof, showing the wings open. Fig. 8 is a fragmentary side elevation showing the manner in which the wings are journaled in the register-frame. Fig. 9 is a similar view showing the
35 wings arranged in position to be pivoted to the register-frame.

Like letters of reference refer to like parts in the several figures.

40 A represents the perforated face-plate of the register, which is arranged in an opening in the floor or wall in the ordinary manner.

The face-plate A is provided on its under side with a rectangular rib or flange, *a*, which is arranged at a short distance from the edge
45 of the face-plate and parallel with the four edges thereof.

B represents the wings or blades which close the openings of the face-plate, and which are pivoted at or near their upper ends to depend-
50 ing lugs *c c'*, formed on the angular flange *a*.

The wings B are provided at one end with round pivots or journals *b*, which are ar-

ranged in openings or bearings of correspond-
ing shape formed in the lugs *c*, and the op-
posite ends of the wings B are provided 55
with journals *b'*, which are arranged in the lugs *c'*. Each lug *c'* is provided with a circular opening or bearing, *d*, for the reception of the pivot *b'*. A portion of each pivot *b'* is flattened, as shown at *b²*, and one side of 60
the lug *c'* is provided with a recess, *e*, extending into the bearing *d*. The recess *e* is made of about the same size as the contracted portion of the pivot *b'*, so as to permit the removal of the pivot from the opening *d* when 65
the flattened portion of the pivot stands in line with the recess and to retain the pivot in the opening when its flattened portion lies in a different plane. The flattened portion *b²* is so arranged with reference to the recess *e* that 70
the pivot *b'* will be held in its seat under the ordinary movements of the wings, and can only be removed therefrom by moving the wings out of their normal position, as shown in Fig. 9.

In attaching the wings B to the face-plate 75
the pivot *b* is introduced into the lug *c*, and the opposite pivot, *b'*, is then passed through the recess *e* into the opening *d* of the lug *c'*, the wing being held at the proper angle to allow the pivot to enter the recess. By con- 80
structing the wings in this manner they can be readily attached to the flange *a*, and by pivoting the same at or near their upper ends the usual extra frame for carrying the wings is dispensed with, thus simplifying the con- 85
struction of the register and rendering the same more compact.

f represents the rod which connects the sev-
eral wings B, and whereby they are operated
simultaneously. The wings B are provided 90
near their lower ends with a horizontal pin or stud, *g*, which is formed on a laterally-projecting lug, *h*, formed on the wing B. Each pin *g* is provided at its outer end with lateral projections or teats *g'*, and the connecting-rod 95
f is provided with openings *i*, corresponding in form to the end of the pins and adapted to engage over said pins. The relative arrange-
ment of the lateral projections *g'* and the open-
ings *i* is such that they will coincide when 100
the wings are moved beyond their normal position, and so that their coincidence will be broken in the operative range of movement of the wings.

J represents the segment whereby the wings B are operated, and which is connected with the rod *f* by an arm, *k*. The actuating-segment J projects with its upper end through
 5 a recess, *l*, formed in the adjacent wing B, and is pivoted to a depending lug or ear, *m*, formed on the under side of the flange *a*. The segment J moves in a plane at right angles to the wings B, and the connecting-arm *k* is made of
 10 spring metal or other flexible material, so as to transmit the movements of the segment J to the rod *f*. Serrations or corrugations *j* are formed on the segment J in the usual manner. The upper end of the flexible arm *k* is ar-
 15 ranged in a groove or depression, *n*, formed in the inner side of the segment J, and is fastened therein by a screw, *n'*. The sides of the groove *n* afford a bearing-surface for the arm *k*, and the groove is made of the proper width
 20 to give the arm the necessary freedom of movement.

Upon moving the segment J in the proper direction the wings B are closed against the under side of the face plate A, as shown in
 25 Fig. 1, and by moving the segment in the opposite direction the wings are opened, as shown in Fig. 2.

I claim as my invention—

1. In a hot-air register, the combination, with the perforated face-plate A, having a rib or
 30 flange, *a*, formed on its under side, of a perforated lug, *c*, arranged on one side of said flange, a perforated lug, *c'*, arranged on the opposite side of said flange and provided with
 35 a recess, *e*, and a wing, B, provided at one end with a round pivot and at its opposite end with a similar pivot having one of its sides flattened, substantially as set forth.

2. The combination, with the face-plate A, having an angular flange, *a*, of wings B, piv-
 40 oted at their upper ends to said flange, a rod, *f*, connecting the wings B, a segment, J, having its pivot arranged at right angles to the pivots of the wings B, and a flexible arm, *k*, whereby the segment J is connected with the
 45 rod *f*, substantially as set forth.

Witness my hand this 23d day of April, 1887.

JAMES MUNSON.

Witnesses:

JNO. J. BONNER,
 CARL F. GEYER.