

No. 778,119.

PATENTED DEC. 20, 1904.

J. DEMAREST.

GRATE.

APPLICATION FILED MAR. 31, 1904.

NO MODEL.

Fig. 1

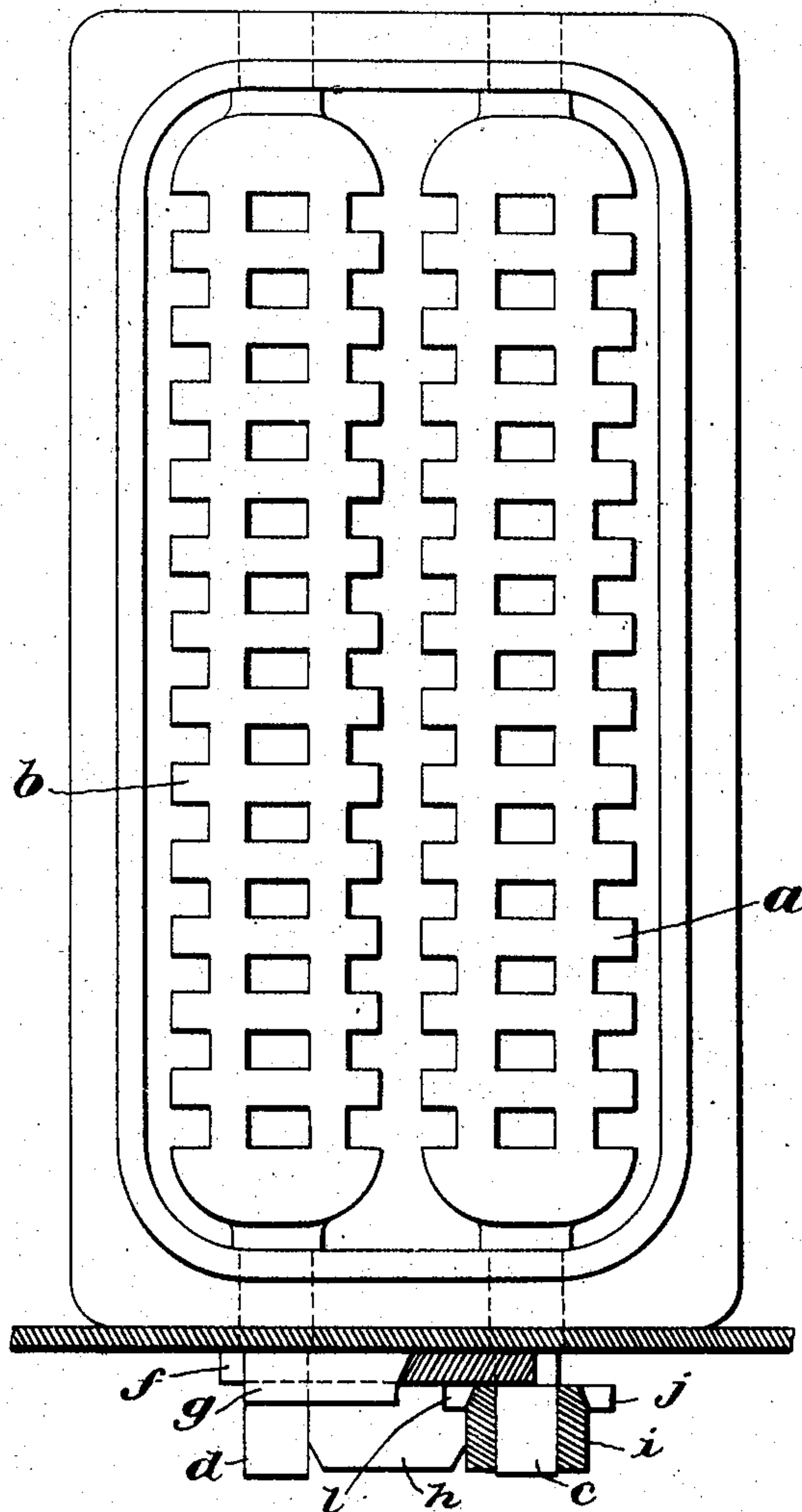


Fig. 2

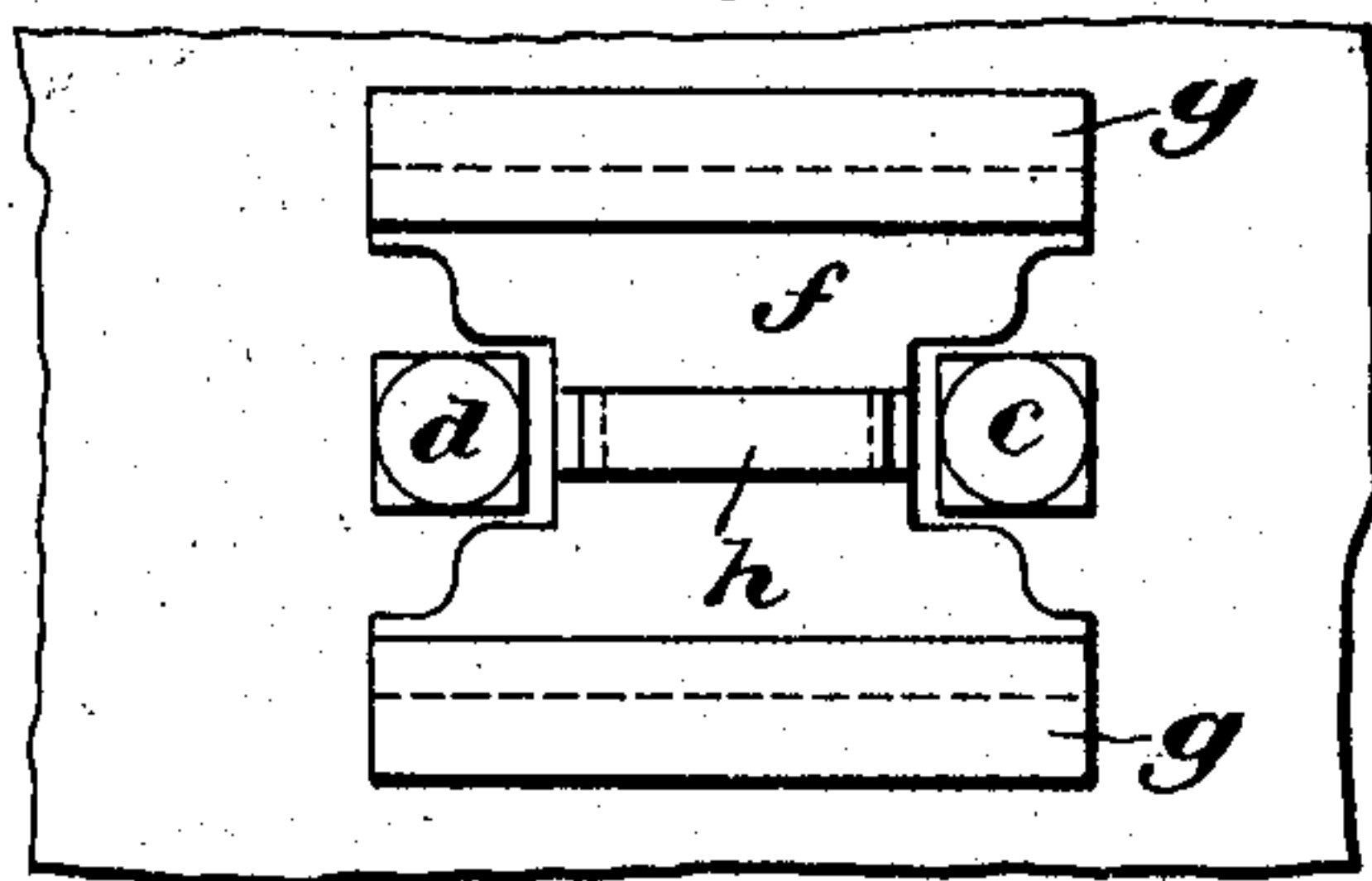


Fig. 4

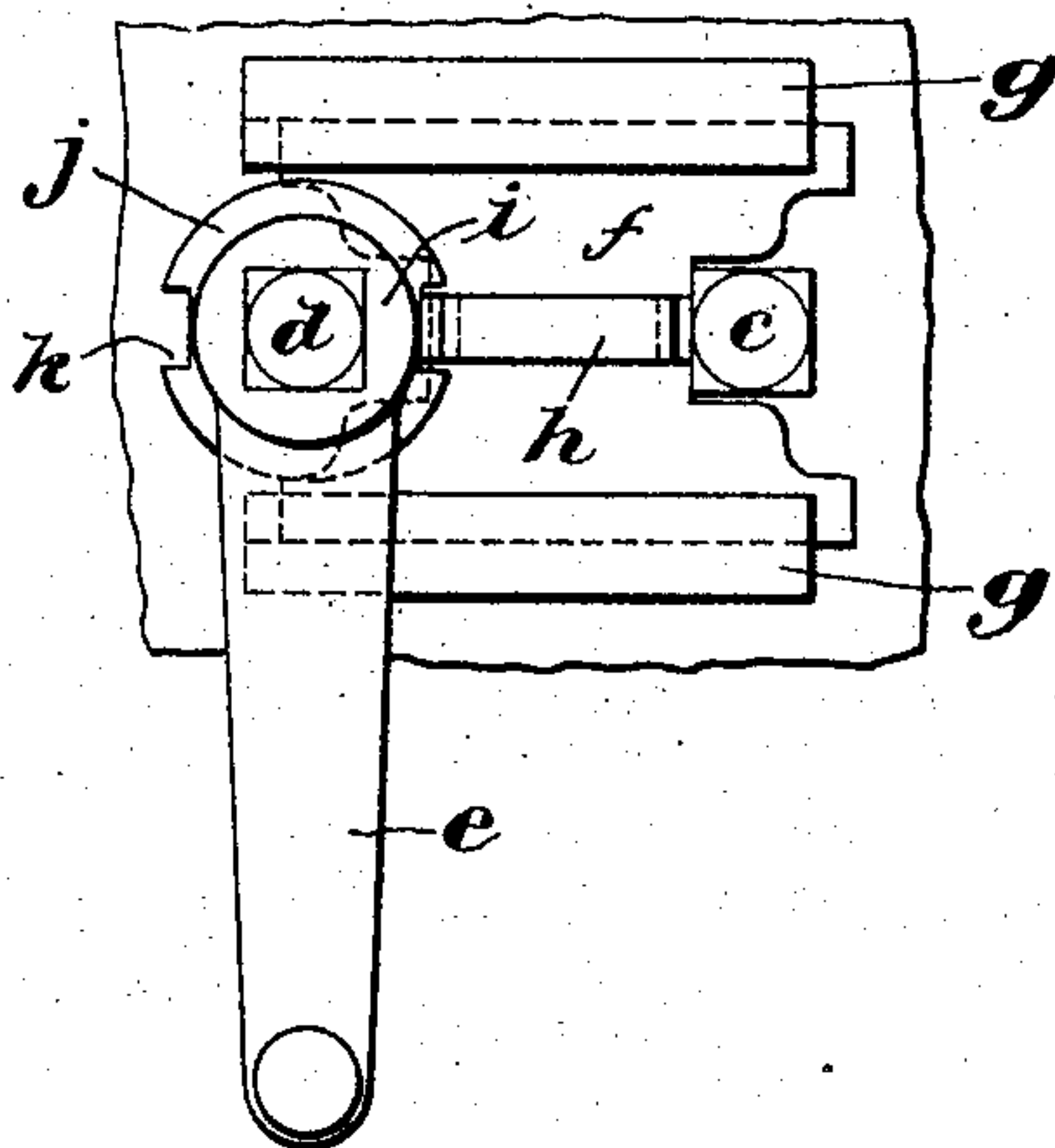


Fig. 5

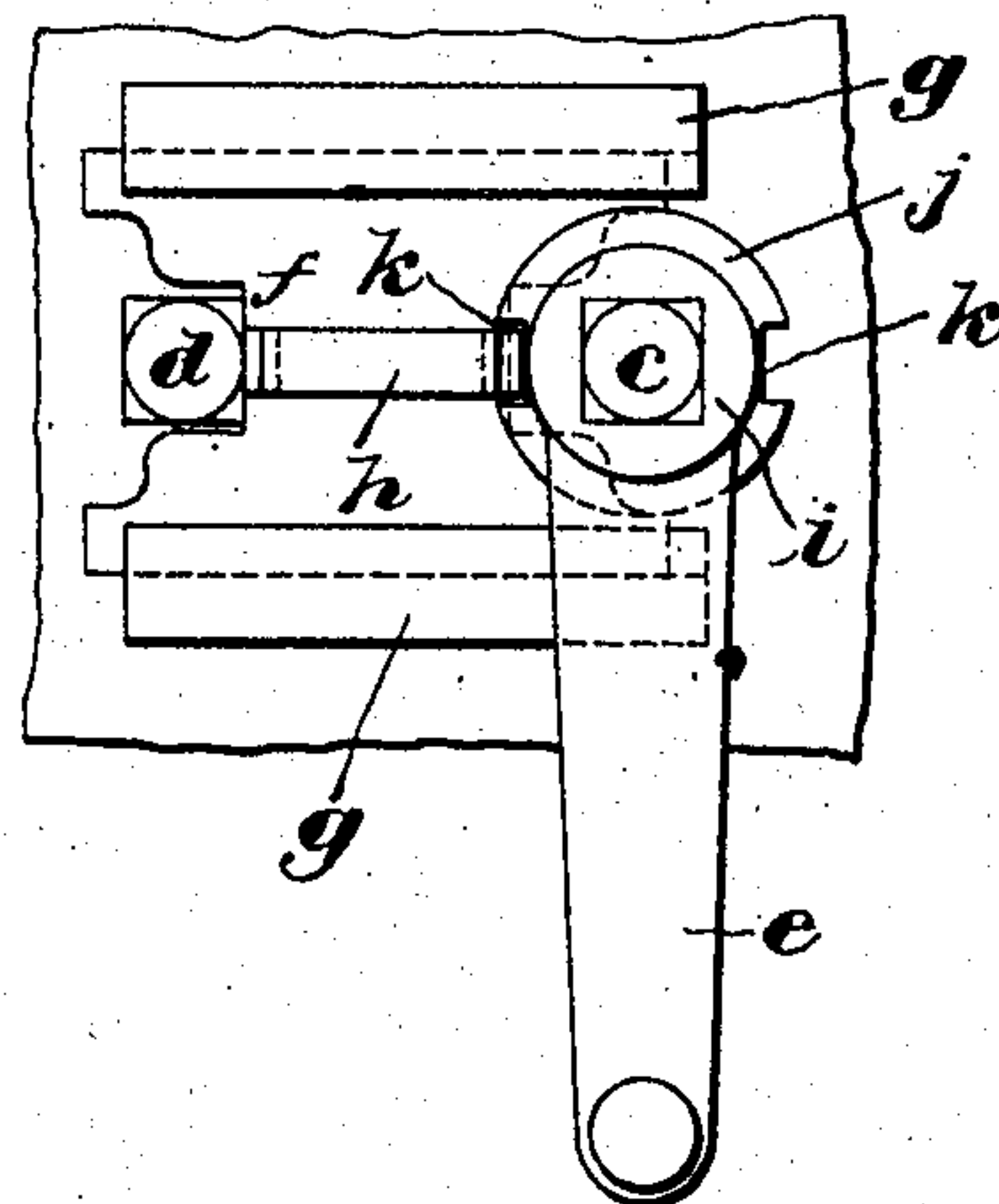
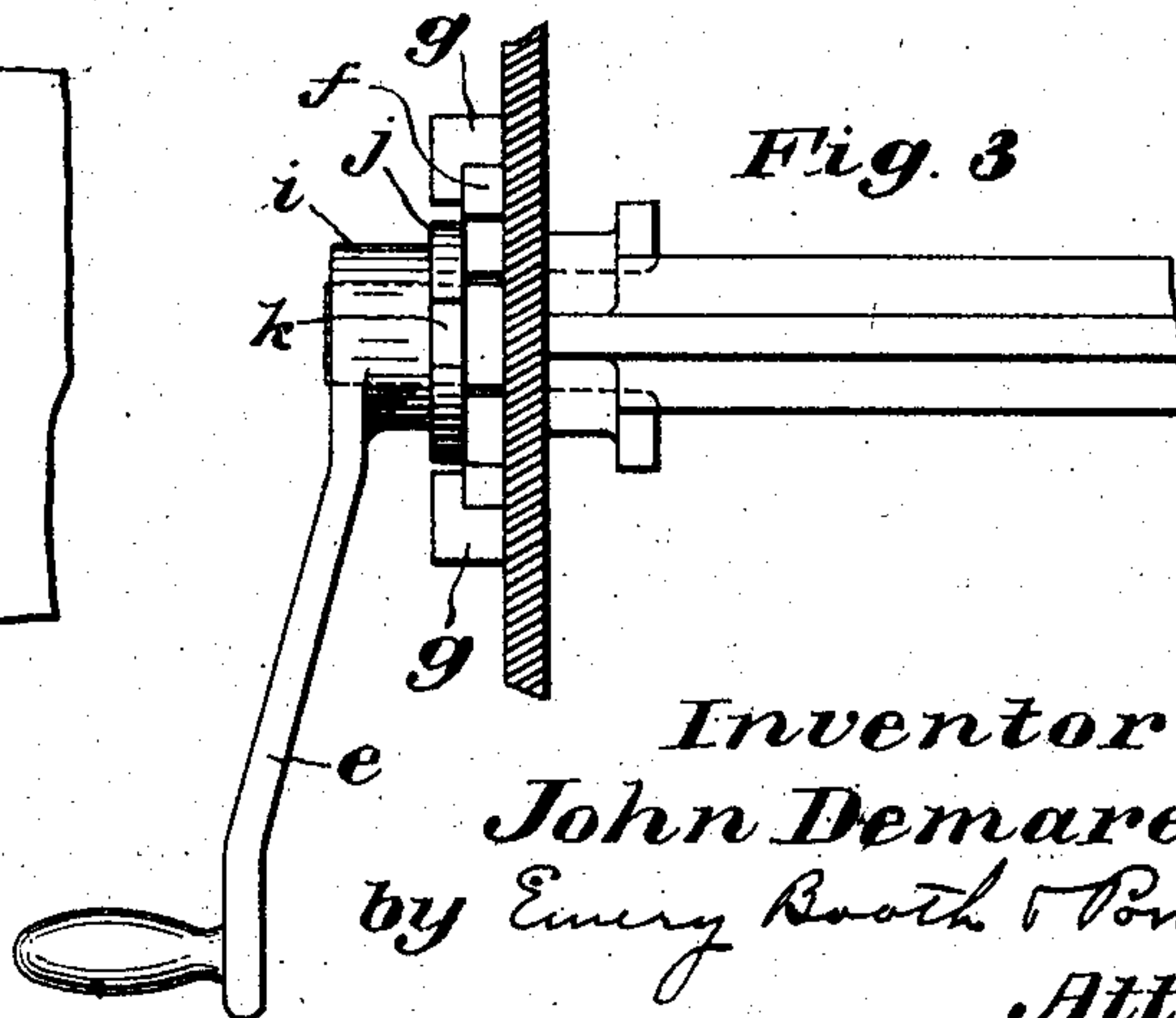


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF BINGHAMTON, NEW YORK.

GRATE.

SPECIFICATION forming part of Letters Patent No. 778,119, dated December 20, 1904.

Application filed March 31, 1904. Serial No. 200,909.

To all whom it may concern:

Be it known that I, JOHN DEMAREST, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented an Improvement in Grates, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention consists in improvements in grates intended particularly, though not exclusively, for cooking stoves or ranges provided with one or more agitable grate areas, which through the use of my invention after the cessation of agitation may be given a definite position or one restricted within defined limits.

My invention will be best understood by a reference to the following description, taken in connection with the accompanying illustration of one specific embodiment thereof submitted wholly for illustrative purposes, while its scope will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view, partially in section, of the grate of an ordinary cooking-stove embodying one form of my invention. Fig. 2 is an end elevation of the same, showing the locking device in an intermediate position. Fig. 3 is a side elevation of the same, partly in section, looking from the right, Fig. 2. Figs. 4 and 5 are views similar to Fig. 2, showing the shaker applied to the respective grate members.

In the specific application of my invention as illustrated in the drawings the grate area is composed of a plurality of grate units *a* and *b*, the same being mounted in the fire-pot of the stove to provide the necessary agitation of the grate area by separate rocking movement of the individual units. The grate members are provided, respectively, with squared shanks *c* and *d* to provide exteriorly-arranged engaging portions, whereby through engagement with a suitable agitating device *e* either member may be agitated independently of the other and with reference particularly to the character of the fire immediately above it.

It is desirable to provide for agitating one of the grate members and holding the other

stationary; and for this purpose there is employed a locking member *f*, slidable within suitable guideways *g g*, the said locking member being recessed at each side to provide locking-walls adapted to engage the squared end of either one or both of the two engaging portions *c* and *d*. The locking member *f* when in the intermediate position (shown in Fig. 2) effectually prevents the movement of either of the shanks *c* or *d*. When moved to the right into the position shown in Fig. 4, the locking member *f* still more completely embraces the squared end of shank *c*, but is wholly withdrawn from engagement with the shank *d*, permitting the agitation of the latter by the shaker or agitator *e*. When moved to the left into the position shown in Fig. 5, the conditions are reversed, the shank *c* and its grate member being ready for agitation and the shank *d* being fixedly secured in position.

In order to facilitate and insure the release of one grate member and the locking of the remaining one, the locking member *f* is provided with a projecting portion *h*, so occupying the space intermediate the two shanks *c* and *d* that the shaker cannot be applied to either one excepting that the portion *h*, with the locking member *f*, be moved to release that shank and lock the other. Thus in Figs. 4 and 5 it will be observed that space enough only has been provided between the engaged shank and the adjacent wall of the projecting portion *h* to receive the hub *i* of the shaker or agitating member *e*.

In the specific form of grate shown it will be seen that agitation of that portion of the grate area having the greatest need of it may be effected and that while movement of the entire grate area may be prevented, if desired, the operation of agitation is preceded by the release of the area to be agitated and the sure prevention of movement of the unagitated portion of the grate area herein by positively locking the same. A grate having the independently-operable grate-bars thus specifically described forms the subject of my application, filed February 6, 1904, Serial No. 192,261. My present invention is shown as applied to a grate of this character, and it

contemplates the employment of means whereby when agitation of one portion of the grate area has been completed the position of that portion of the grate area will be definitely restricted within certain predetermined limits, so that, for example in the grate shown in Fig. 1, after the agitation of the grate member *a* has been effected and before the agitation of grate member *b* there is assured the certain assumption of a substantially horizontal position by grate member *a*, thus precluding all danger of dumping that portion of the fire above grate member *a* through an improper position thereof during the agitation of grate member *b*. This object is specifically accomplished herein by the provision upon the inner face of the shaker-hub *i* of a flanged portion *j*, provided with one or more notches *k*, which flange when the shaker-hub is firmly seated upon either shank may be freely oscillated to any desired extent for purposes of grate agitation within the undercut portion *l*, Fig. 1, at the base of the projecting portion *h*, but which effectually prevents the withdrawal of the shaker from the shank after the completion of agitation, on account of the inadequate space between the shanks and the portion *h*, until one of the notches *k* is brought into alinement with the projecting portion *h*. These notches are so located as to require a substantially horizontal position on the part of the grate member on the withdrawal of the shaker, in which position it may immediately thereafter be locked by movement of the locking member *f* to embrace the walls of its shank, but away from the shank of the remaining grate member, which movement must be effected before agitation of the remaining grate member can be commenced. Thus in the particular form of grate herein shown not only is one grate member locked before agitation of the remaining one, but before being locked it must necessarily assume a predetermined and herein a horizontal position to preclude any possibility of dumping the fire. In order that the movement of the shaker toward its position of engagement with either shank may effect or facilitate the necessary locking movement, I have shown the edges of the projecting portion *h* and the bottoms of the notches *k* in the shaker hub-flange slightly beveled to produce a wedging action as the shaker is forced upon the shank, tending to effect the desired movement of the locking member *f* away from the shank of the unit to be shaken and into engagement with the shank of the other unit.

For the purposes of illustrating my invention in one concrete embodiment, I have shown the same as applied to the grate herein illustrated and have briefly suggested certain of the advantages arising from its use in that connection. It is to be understood, however, that my invention is not limited to its application herein or the illustrated details thereof, but that it may undergo extensive modification in construction, details, and form and arrangement of parts, as well as in the particular use to which it may be applied, without departing from the spirit thereof.

I claim—

1. A rocking grate provided with a number of rocking grate units, a shaker applicable severally to said units for the independent agitation thereof, means by which a unit is located within defined limits prior to disengagement of the shaker, and means to restrict that unit to such location upon engagement of the shaker with another unit for agitating the latter.

2. A grate having a plurality of rocking grate units, an agitating device applicable severally to said units, locking means operated by the application of the agitating device to one of said members to lock a remaining member in position and means for preventing the withdrawal of the agitating device from said first member except said first member be in a predetermined position.

3. A grate provided with an area having separately-agitable units, an agitating device severally applicable to said units, means operable as a condition to the removal of said agitating device to define the position of an agitated unit, and means operable as a condition to the agitation of another unit, to confine the first unit to the defined position.

4. A rocking grate having a number of individual rocking grate units, an agitating device applicable severally to said units, means to lock one of said units actuated by and as a condition to the application of the agitating device to another of said units, and means controlled by the agitating device and acting as a condition to the removal thereof to insure the assumption by an agitated unit of a particular position after the agitation thereof.

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

JOHN DEMAREST.

Witnesses:

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