

O. SOHNI & H. MEHL.

LOCK.

APPLICATION FILED NOV. 6, 1908.

912,910.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

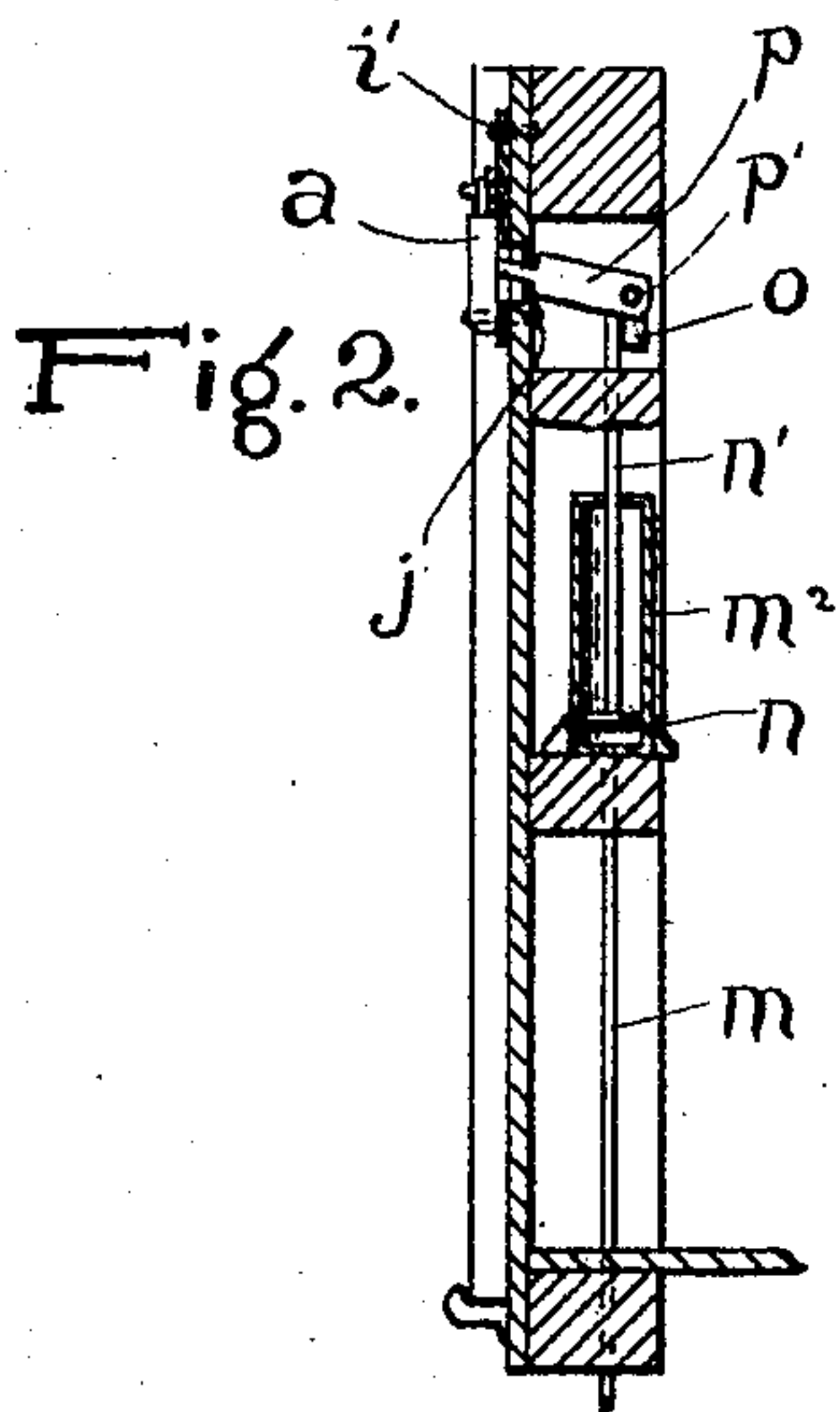
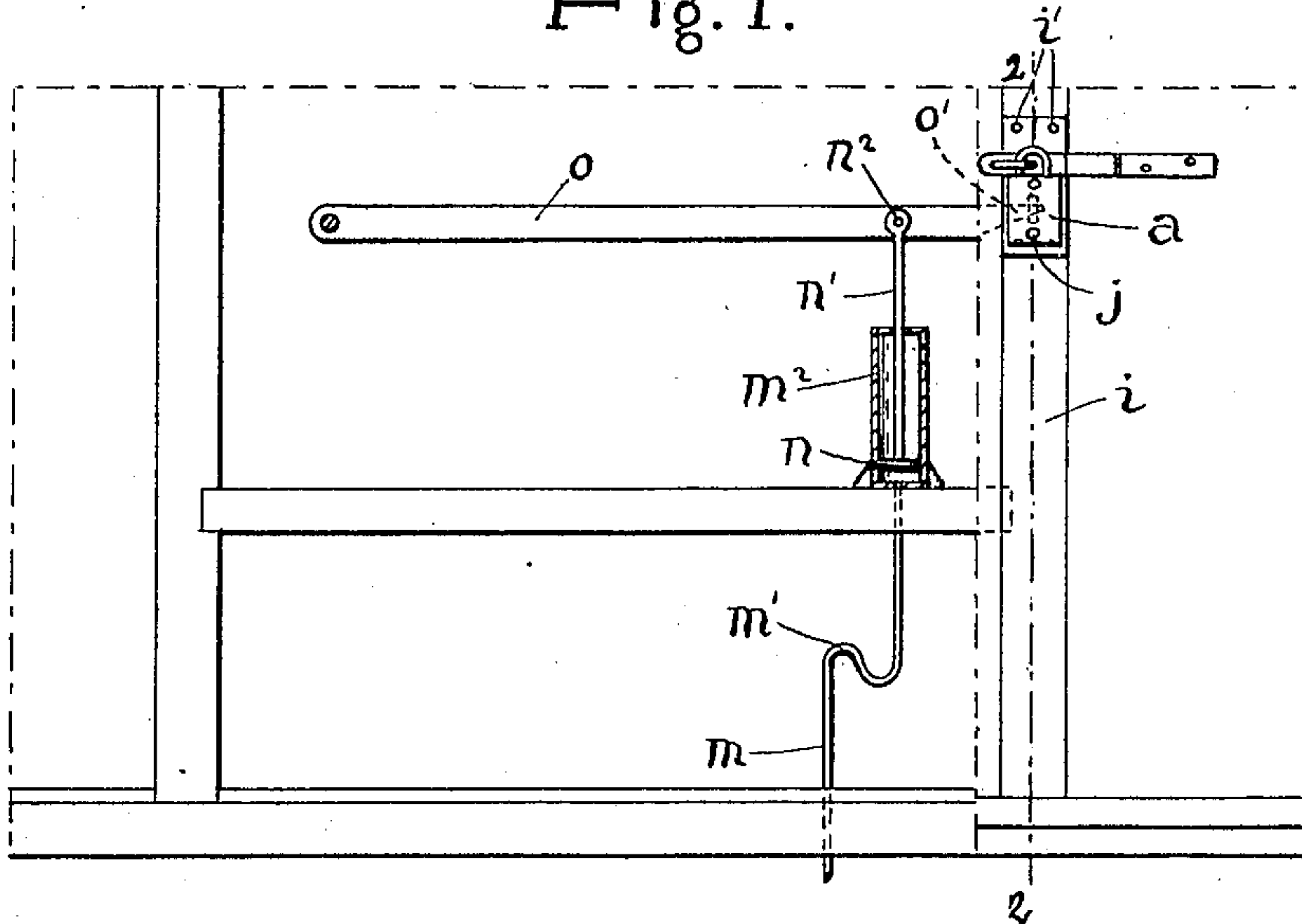


Fig. 4.

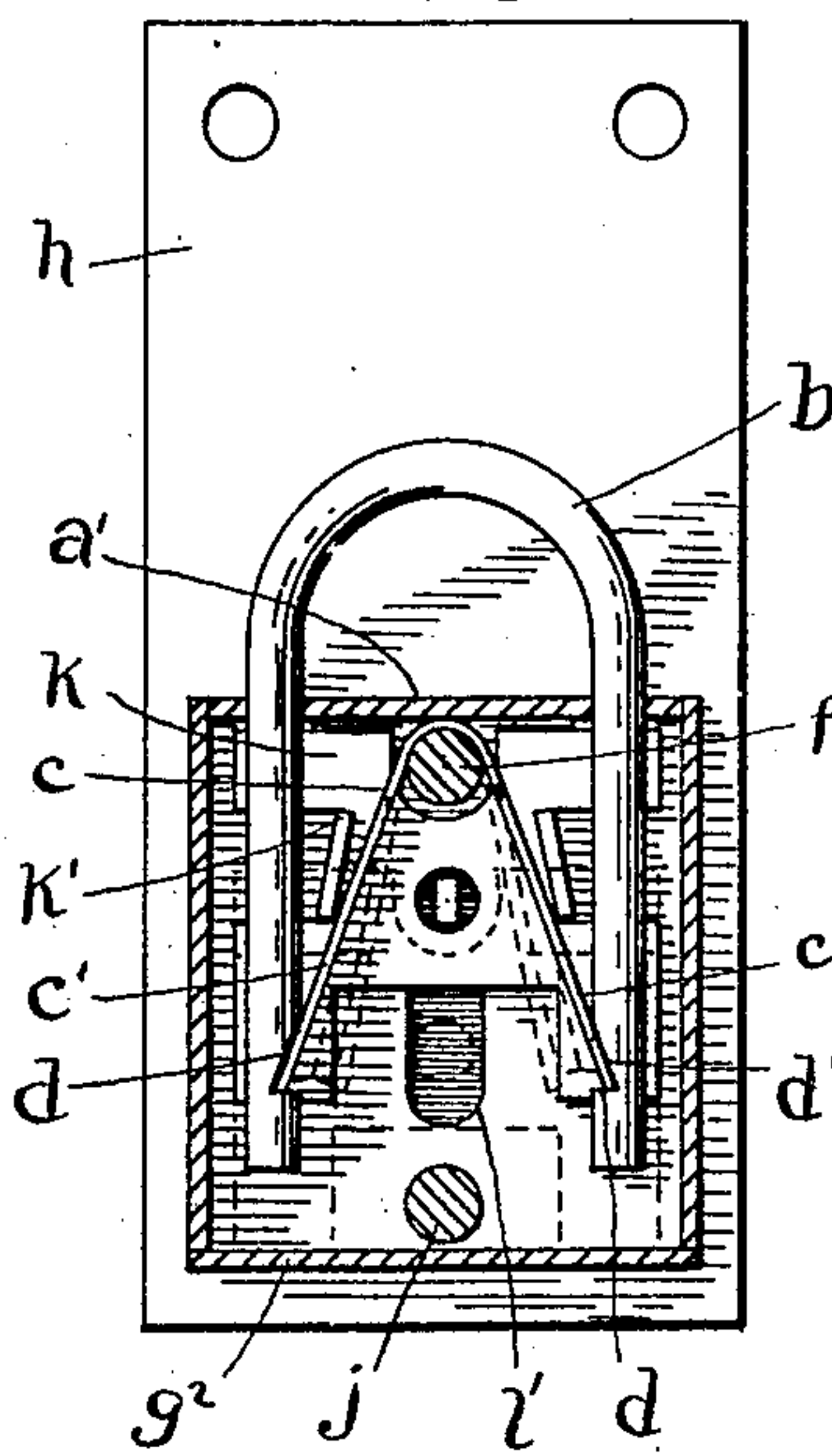
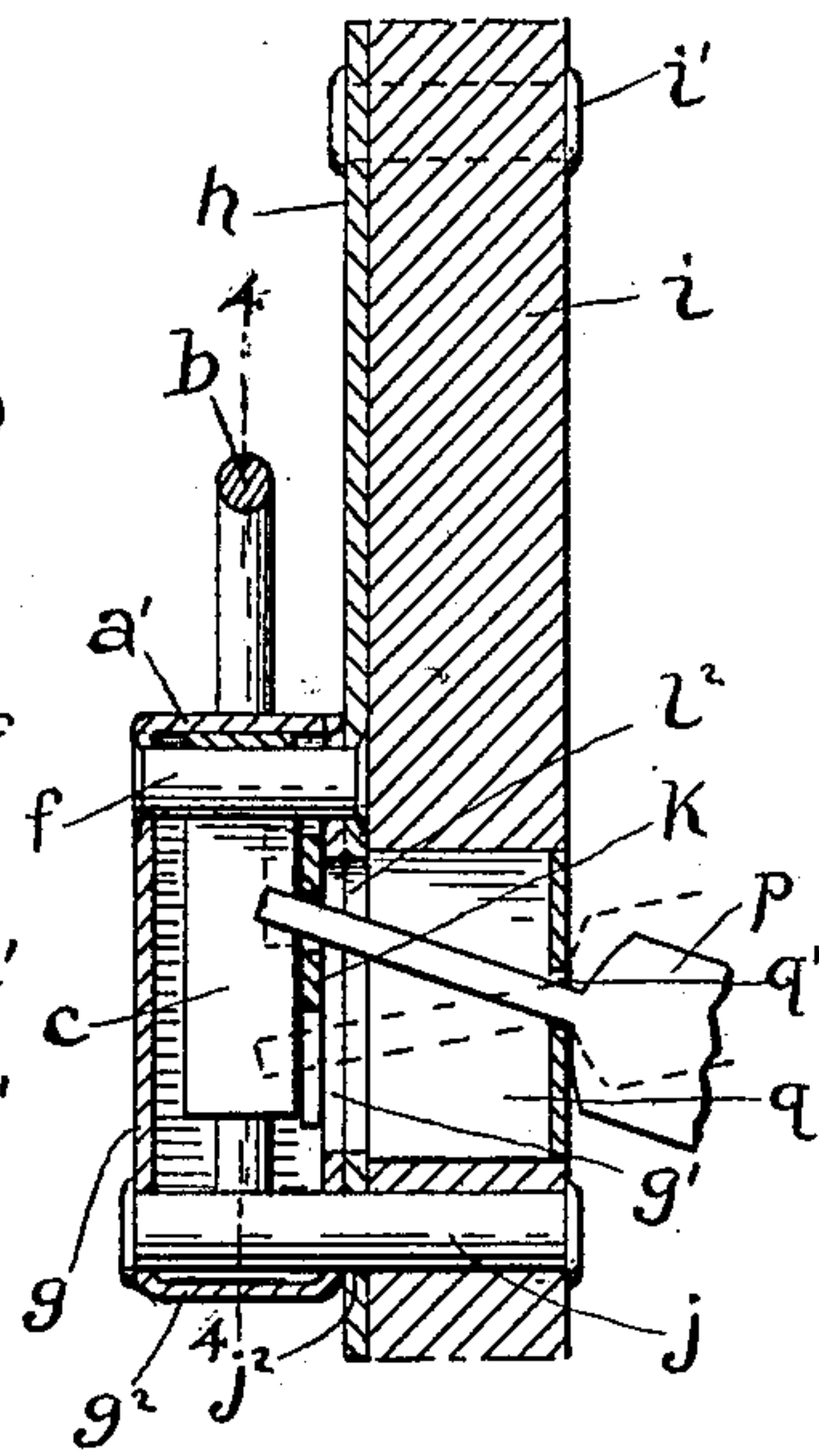


Fig. 3.



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Witnesses

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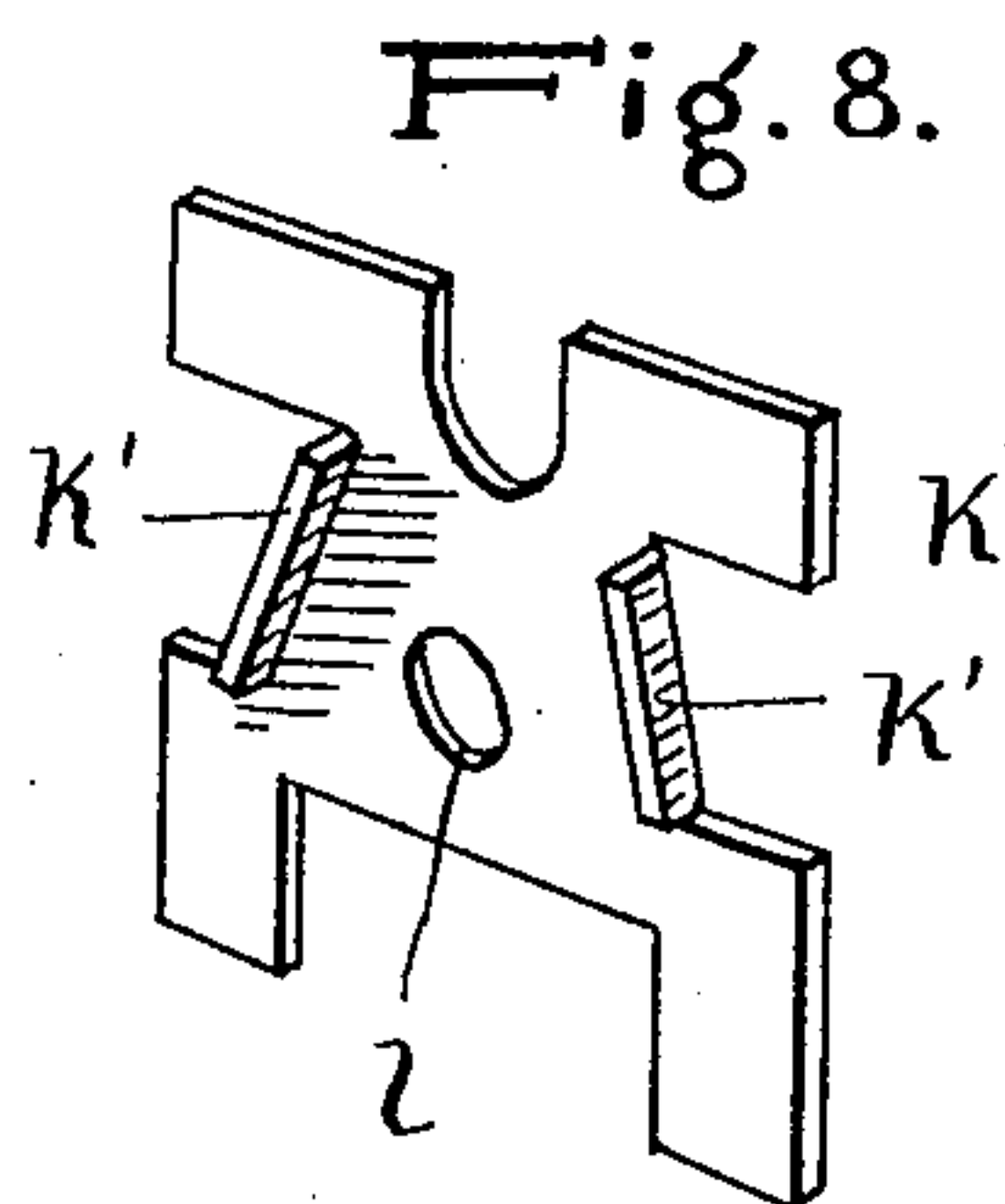
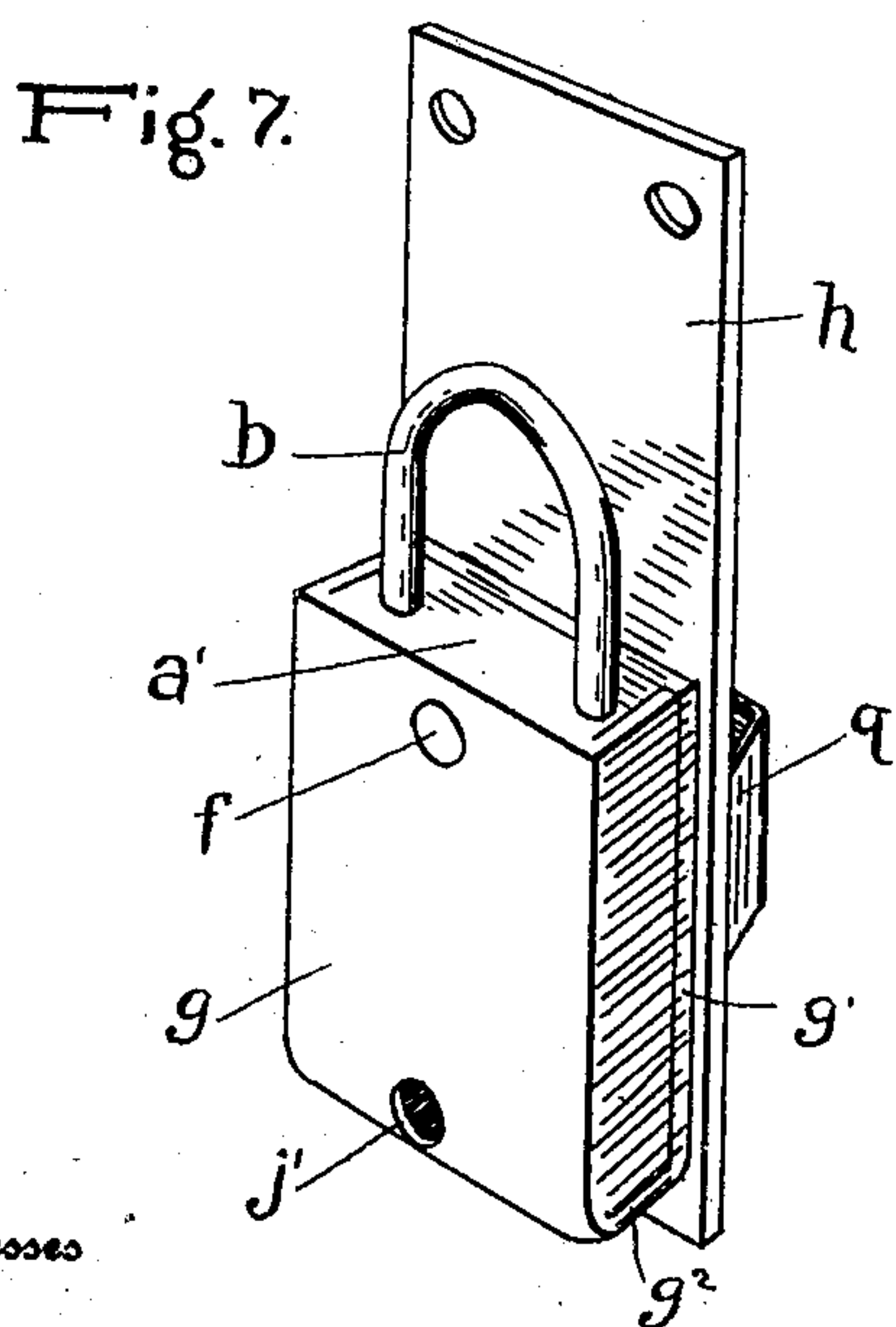
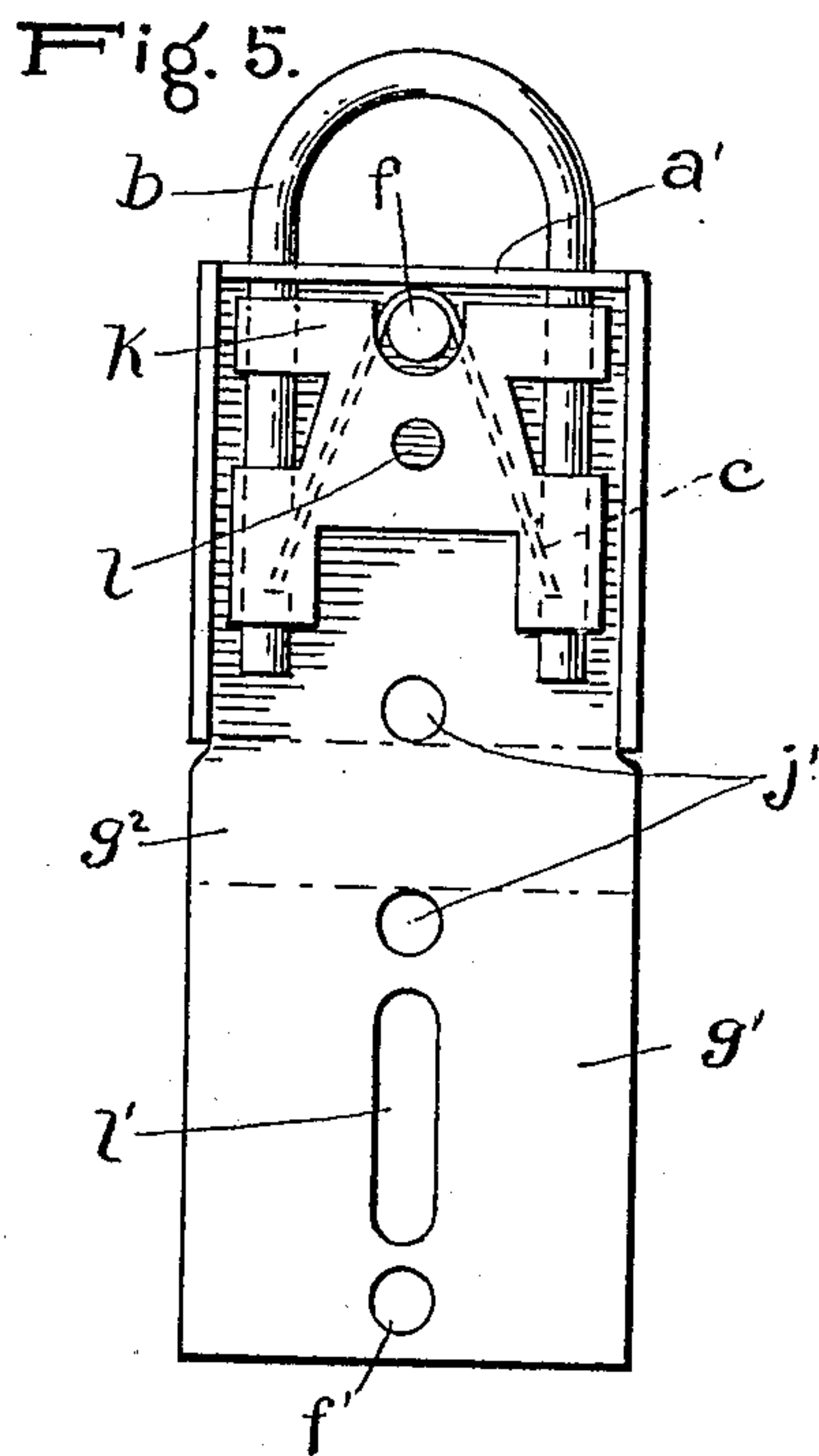
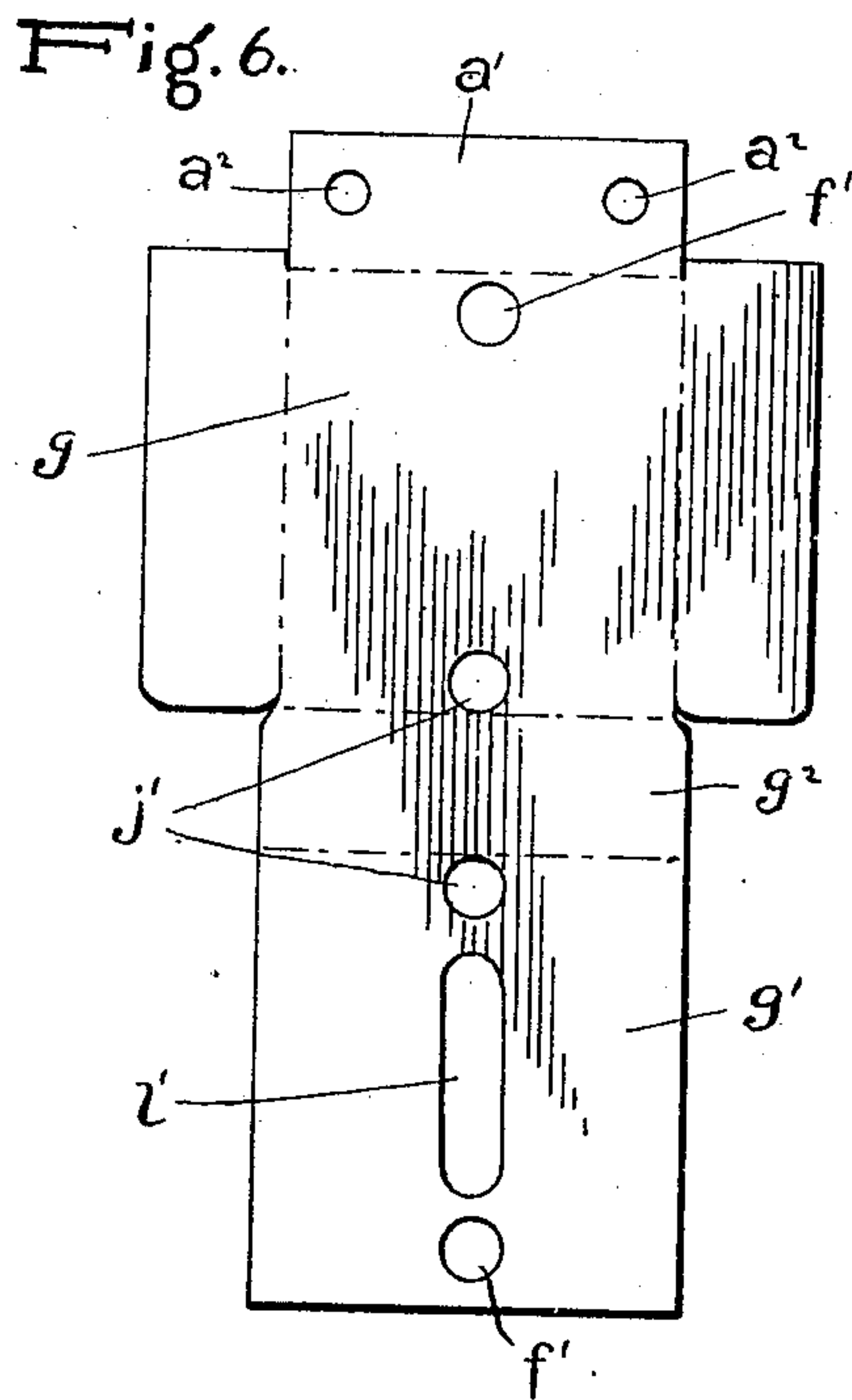
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# UNITED STATES PATENT OFFICE.

OTTO SOHNI AND HENRY MEHL, OF BUFFALO, NEW YORK.

## LOCK.

No. 912,910.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed November 6, 1908. Serial No. 461,357.

*To all whom it may concern:*

Be it known that we, OTTO SOHNI and HENRY MEHL, citizens of the United States, residents of Buffalo, in the county of Erie and State of New York, have made a certain new and useful Invention in Locks; and we declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front view of a car having the invention applied thereto and partly broken away and in section to show the releasing mechanism for the padlock. Fig. 2 is a section on the line 2—2 Fig. 1, with the padlock not in section and showing parts broken away and the air cylinder in section. Fig. 3 is a similar view of the padlock and parts adjacent on a larger scale. Fig. 4 is a section on the line 4—4, Fig. 3. Fig. 5 is a front view of the padlock with one side thereof bent downward. Fig. 6 is a plan view of the blank for the padlock body. Fig. 7 is a perspective view of the padlock. Fig. 8 is a perspective view of the releasing plate.

The invention has relation to locks particularly designed for use upon freight car doors, and to means for releasing the lock through the action of fluid pressure.

The invention consists in the novel construction and combinations of parts as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a*, designates the body of the lock, of hollow character and capable of being bent into form from a blank of sheet metal shown in Fig. 6 of the drawings. The top *a'*, of said body is formed with two perforations *a<sup>2</sup>* *a<sup>2</sup>*, for the reception of the legs of the staple-form shackle *b*. A strong V or staple-form spring *c*, is contained within such body, the diverging downward extending branches *c'*, *c'*, of said spring having engagement with notches *d*, *d*, of the shackle legs, said notches having each an inclined upper wall *d'*, and a horizontal lower wall *d<sup>2</sup>*, as shown. A bolt *f*, extends centrally through perforations *f'*, *f'*, of opposite sides *g*, *g'*, of the body *a*, at the upper portion thereof, said

bolt also extending beneath the upper portion or body of the staple-form spring and aiding in maintaining said spring in position. The lock is solidly bolted to a back plate *h*, by means of the aforesaid bolt *f*, and lock and back plate are rigidly bolted to the door post *i*, by means of bolts *i'*, *i'*, at the top of the back plate and a bolt *j*, passing through aligned perforations *j'*, *j'*, in the sides of the lock at the lower portion thereof and an aligned perforation *j<sup>2</sup>*, in the back plate.

*k*, designates a releasing plate located within the lock body at one side thereof and having inward extending lugs *k'*, *k'*, having contact with the diverging branches of the spring *c*, said plate having a central perforation *l*, between said lugs and being aligned with respect to a slot *l'*, formed in the rear side wall *g'*, of the lock body and a slot *l<sup>2</sup>*, in the back plate.

In order that the lock may be released when desired a pipe *m*, is provided, preferably located between the inner and outer walls of the car and having communication with a source of compressed air or the like, having a suitable valve (not shown), and which is located in some place not accessible to passengers or mischievous persons. This pipe, which has a double turn *m'*, therein for safety purposes, communicates with a cylinder *m<sup>2</sup>*, having a piston *n*, and a piston rod *n'*, extending upward and connected at *n<sup>2</sup>*, to a lever *o*, at one side of the lock and car door, and which is fulcrumed to the inside portion of the car or between the outer and inner car walls, with its pointed outer end *o'*, in engagement with a perforation *p'*, at one end of a short lever *p*, having an opposite reduced end passing through a perforation *q'*, of an inward extending bracket *q*, in alignment with the slots *l'*, and *l<sup>2</sup>*, and through said slots into engagement with the perforation *l*, of the releasing plate. Thus upon operation of the valve in the fluid pressure pipe to admit the compressed air into the cylinder *m'*, the piston will be thrust upward, actuating the aforesaid levers to cause the releasing plate to move downward, and through the lugs *k'*, *k'*, forcing inward the branches of the spring *c*, and releasing the staple-form shackle, which may then be moved upward to release the hasp of the lock, when the car door may be opened. The lever *o*, should be of weight sufficient to



cause the plunger or air piston to fall after release of the shackle ready for repeated action when the door is again locked.

Owing to the manner in which the body of the lock is formed, that is to say of a single piece of sheet metal having one side  $g$ , bent upward and connected with the opposite side  $g'$ , by an integral bottom  $g^2$ , the sides  $g, g'$ , being solidly connected at the top by the strong bolt or rivet  $f$ , it is practically impossible to force said body open by any ordinary means.

The lock may be made of any size desired by machinery and furnished to the trade at small cost.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A lock having a shackle, a spring device within the lock body having locking engagement with said shackle, and means for releasing said spring device from the shackle by the operation of fluid pressure.

2. A lock having a staple-form shackle, a spring having downward extending branches having locking engagement with the shackle legs, and means for releasing said spring device from the shackle by the operation of fluid pressure.

3. A lock having a shackle, a spring having a downward extending branch having locking engagement with the shackle leg, a plate within the lock body having a lug in engagement with said branch of the spring, and means for operating said plate to release the spring from the shackle by the action of fluid pressure.

4. A lock having a shackle, a spring having a downward extending branch having locking engagement with a leg of the shackle, a plate within the lock body having a lug in engagement with said branch of the spring, lever mechanism having engagement with

said plate, and means for operating said lever mechanism to release the shackle by the action of fluid pressure.

5. A lock having a hollow body formed from sheet metal in one piece, the side walls of said body having connection by an integral bottom, and the top of said body having perforations, a shackle having legs engaging said perforations, a spring having a downward extending branch having locking engagement with a shackle leg, a rivet bolt connecting opposite side walls of said body at the upper portion thereof and extending beneath the body of said spring, and means for releasing said spring from the shackle by the action of fluid pressure.

6. A lock having a hollow body formed from sheet metal in one piece, the side walls of said body having connection by an integral bottom, and the top of said body having perforations, a shackle having legs engaging said perforations, a spring having downward extending branches having locking engagement with the shackle legs, a rivet bolt connecting opposite side walls of said lock at the upper portion thereof and extending beneath the body of said spring, a releasing plate within the lock body having lugs in engagement with the spring branches, lever mechanism having engagement with said releasing plate, and means for operating said lever mechanism through the action of fluid pressure to release said shackle.

In testimony whereof we affix our signatures, in presence of two witnesses.

OTTO SOHNI.  
HENRY MEHL.

Witnesses for Otto Sohni:

S. H. MILLENER,  
S. A. LUNGHIND.

Witnesses for Henry Mehl:

CLYDE HUNTER,  
JOHN J. MESCAL.