(Model.)

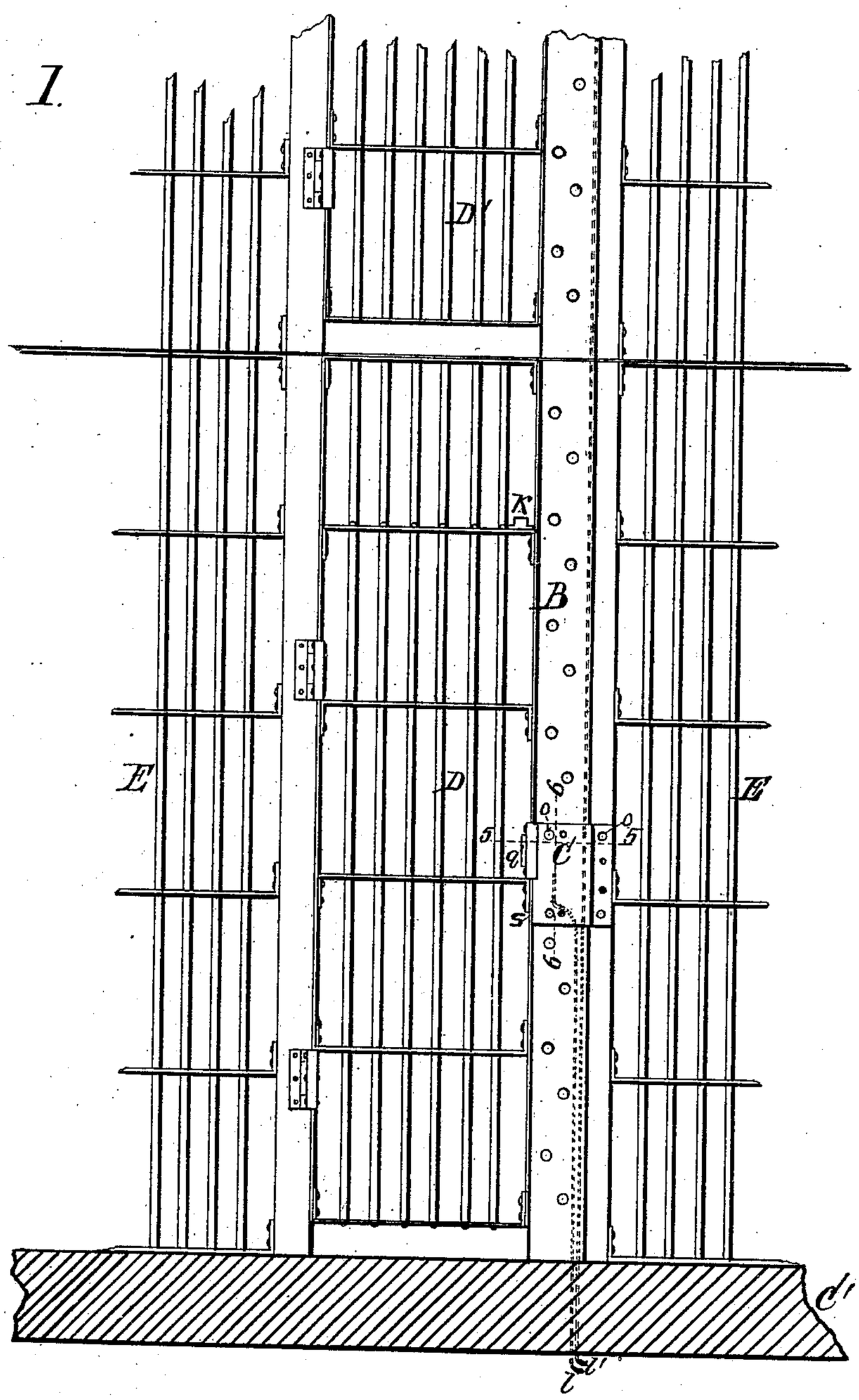
3 Sheets—Sheet 1.

I. HODGSON.

PNEUMATIC ALARM LOCK FOR JAILS.

No. 275,656. Patented Apr. 10, 1883.

Fig. 1.



Witnesses,
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E. J. Hodgson

Inventor,
Isaac Hodgson

(Model.) 3 Sheets—Sheet 2.

I. HODGSON.

PNEUMATIC ALARM LOCK FOR JAILS.

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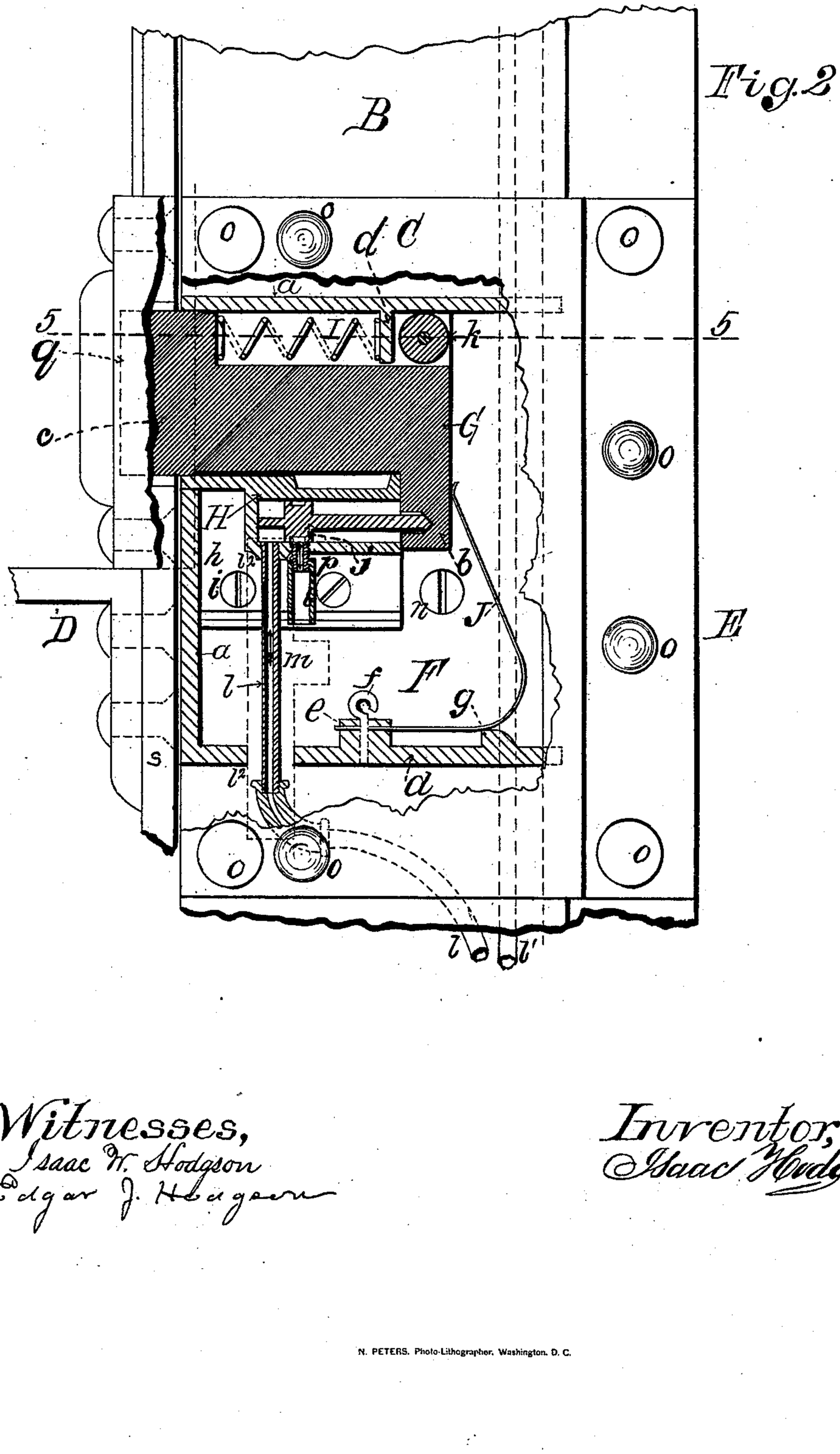
Fig. 2



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Inventor,
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(Model.)

3 Sheets—Sheet 3.

I. HODGSON.

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Fig. 4.

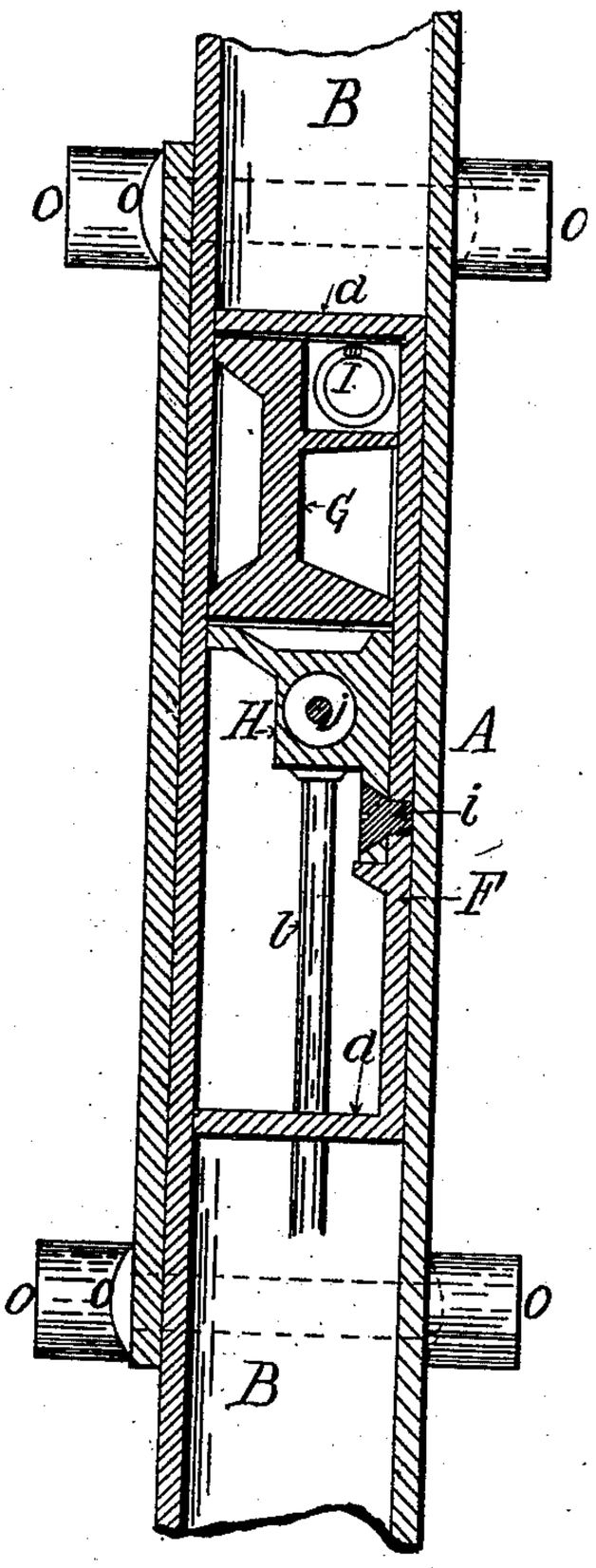
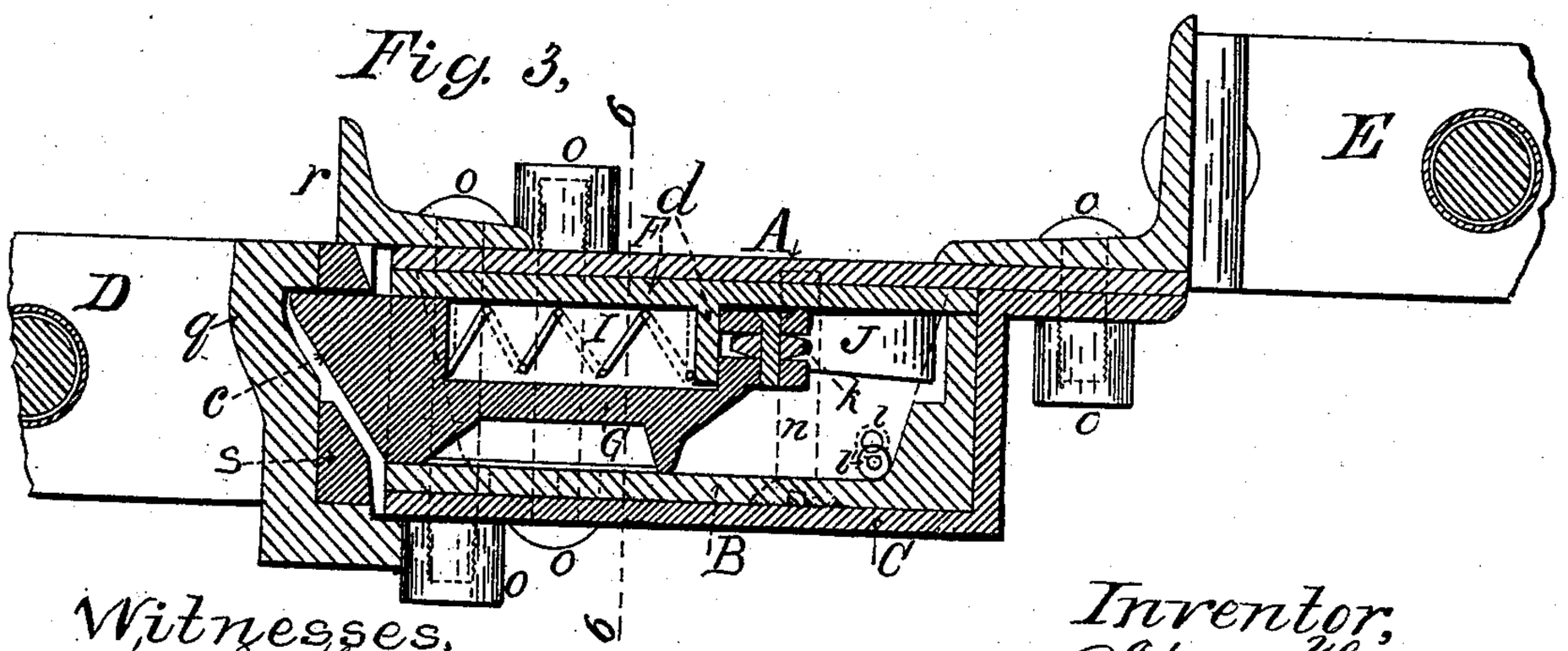


Fig. 3.



Witnesses.
Isaac W. Hodgson
Edgar J. Hodgson

Inventor,
Isaac Hodgson

UNITED STATES PATENT OFFICE.

ISAAC HODGSON, OF INDIANAPOLIS, INDIANA.

PNEUMATIC ALARM-LOCK FOR JAILS.

SPECIFICATION forming part of Letters Patent No. 275,656, dated April 10, 1883.

Application filed February 14, 1881. (Model.)

To all whom it may concern:

Be it known that I, ISAAC HODGSON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Lock for the Doors of Jails and other Prisons, of which the following is a specification.

My invention relates to improvements in locks for the doors of prisons and other similar structures; and the objects of my improvements are, first, to provide novel devices for locking such doors; second, to provide a device for giving an alarm at certain times and under circumstances that will be hereinafter described; and, third, to provide certain combination and arrangement of the parts for producing the required result. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a prison-door, showing also jambs between which it is placed, a lock in position, and a portion of a door for an upper tier of cells. Fig. 2 is an elevation partly in section, showing the lock as attached to the outer surface of the door, and showing also in section the details of construction. Fig. 3 is a horizontal section on line 5 5 of Fig. 2, and Fig. 4 is a longitudinal section on line 6 6 of Fig. 1.

Similar letters refer to similar parts throughout the several views.

In constructing locks of this character there is provided a case, F, which consists of suitable plates of metal properly secured together in such a manner as to adapt the case for the reception and retention in their proper positions of the operating parts, it being provided with suitable flange, *a*, for securing the parts in place on channel-iron or other bar, B, of the door D, the lock being by preference covered by a shield, C, as shown in Figs. 1, 2, and 3. A sliding bolt, G, is provided, one end of which passes through the side wall of the lock and enters a socket formed on jamb of the door, or in the wall of the cell to which it is applied, its outer end being beveled, as shown at *c*, for facilitating its entrance into said socket as the door is closed.

For the purpose of aiding in holding the locking-bolt G in its outward or locking position, there is provided a spiral spring, I, which is placed by the side of said bolt, one of its ends resting against a projection, *d*, formed upon the plate of the lock, as shown in Fig. 2, its opposite end being in contact with a projecting portion of the bolt, the arrangement of these parts being substantially as shown, whereby the action of the spring tends to hold the bolt in its outward or locking position and to resist its movement in the opposite direction. As an additional means of holding the locking-bolt in its outward position, there is provided a spring, J, one end of which is secured to the casing of the lock, as shown at *f* in Fig. 2, or in any other suitable manner, its opposite end resting upon the inner end of the locking-bolt or on a lug of metal projecting therefrom, which is extended sufficiently far to allow the rod of a piston placed in an air-cylinder to press against it.

For the purpose of providing means by which this lock can be manipulated at a distance from it, there is provided a cylinder, H, which is placed in line with the bolt G, it being firmly secured to one of the plates of the lock. Within the cylinder there is placed a piston, *j*, one end of the rod of which is pointed and enters a cavity formed in the lug of the locking-bolt, or into a plate attached thereto, said piston and its rod traveling with the bolt. The arrangement of the cylinder, its piston and rod, and the locking-bolt is such that when the door is suddenly closed the beveled end of the locking-bolt will come in contact with the socket into which it enters, by which means the springs I and J will be compressed to such an extent as to allow said bolt to recede far enough to allow the door to be closed, when the reaction of said springs will throw the bolt into its locking position.

To enable a person at any distance to unlock the door after it has been locked, there is provided a tube, *l*, one end of which is attached to and made to communicate with the cylinder H in such a manner as to conduct thereto compressed air from an air-pump, or from any suitable reservoir for such air, located in any desired position, the air entering the cylinder at the proper point to cause it to force the piston in the direction required to cause it to re-

tract the locking-bolt G. The pipe *l'* is designed to show how air may be conducted to locks placed upon the doors D' of an upper tier of cells.

For the purpose of preventing friction upon the locking-bolt when it is being thrown backward by the piston, there is placed above its inner end a friction-roller, *k*, against which the upper edge of the bolt rests, thus preventing its inner end from being raised up so as to cause friction upon it as it is moved back and forth, either by the action of the piston in unlocking the door or by the friction or resistance thereof in locking it.

In locks of this character, when used on prison-doors, it is important that some means be provided for sounding an alarm should the lock be unlocked at improper times or by a person not authorized to operate it. In making provision for giving an alarm there is provided a whistle, *p*, of the proper construction, which is secured upon the cylinder H at such a point that when the piston *j* is moved in the direction required to unlock the door it will pass over and open the passage to the whistle before the bolt has been moved sufficiently to fully unlock the door, under which arrangement the alarm will always be sounded before the door can be opened.

When a door is to be opened having a lock of this character upon it, the air-pump is to be operated; then a cock or valve upon a reservoir is opened so as to permit the escape of air to the tube leading to the particular lock to be operated upon; and it will be seen that there may be as many such tubes as there are doors to be unlocked.

I am aware that prior to my invention spring-locks have been made and used on doors. I do not therefore claim such locks, broadly; but

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

1. In a lock for prison and other doors, the combination of the case F, provided with flanges *a* and *d*, locking-bolt G, friction-rollers *k*, and springs I and J, cylinder H, piston *j*, whistle *p*, and air-inlet tube *l*, substantially as and for the purpose set forth.

2. In a lock for prison and other doors, the combination of a cylinder, piston, and piston-rod, for retracting the locking-bolt, and an alarm-whistle, the arrangement of parts being substantially as hereinbefore described, whereby the alarm is sounded before the locking-bolt has been entirely withdrawn from the socket into which it enters, as set forth.

ISAAC HODGSON.

Witnesses:
ISAAC W. HODGSON,
EDGAR J. HODGSON.