

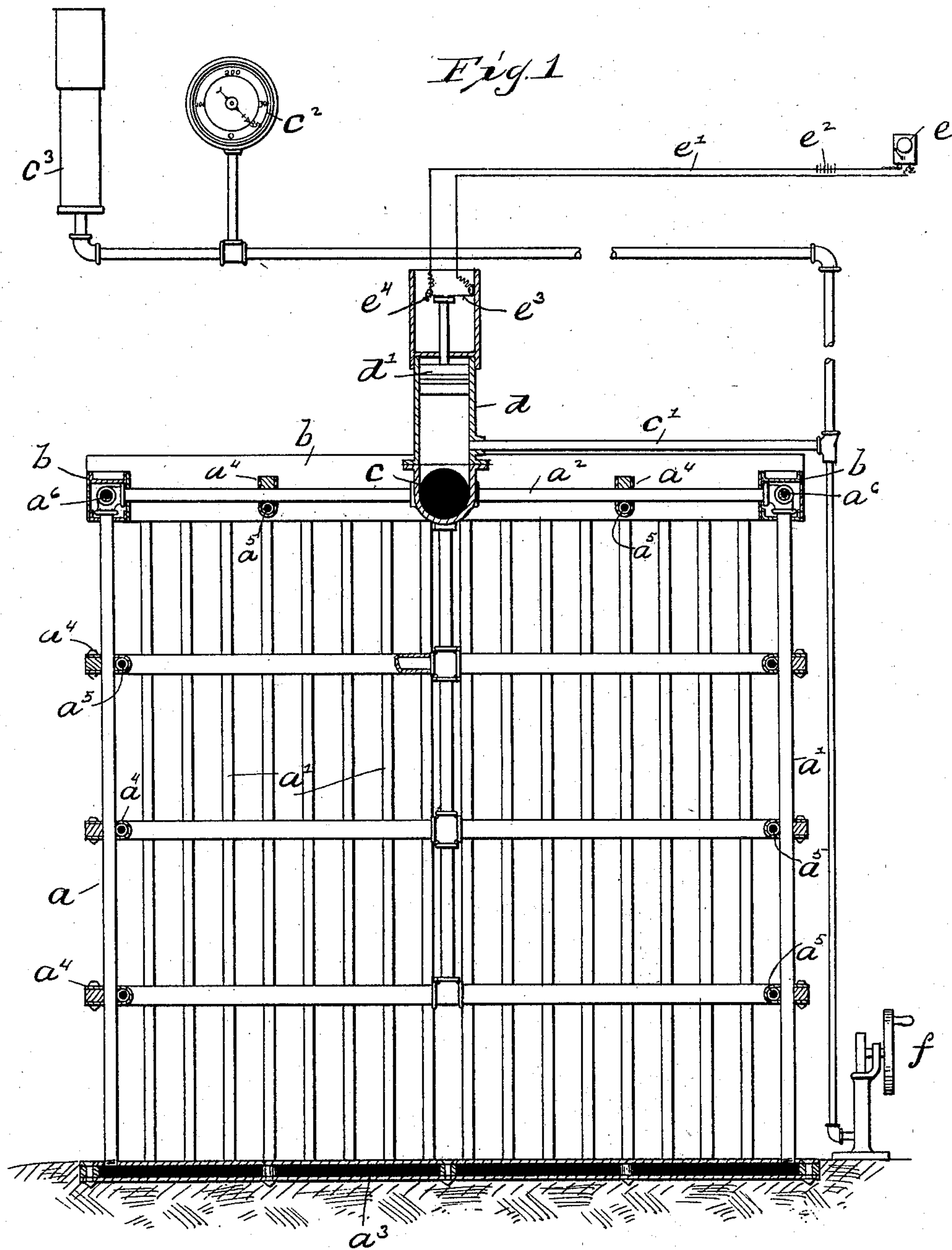
(No Model.)

2 Sheets—Sheet 1.

J. F. CASEY.
JAIL CELL, &c.

No. 591,157.

Patented Oct. 5, 1897.



Witnesses
G. M. Gridley
Chas. J. Welch

Inventor
James F. Casey
By his Attorneys
Paul M. H. H.

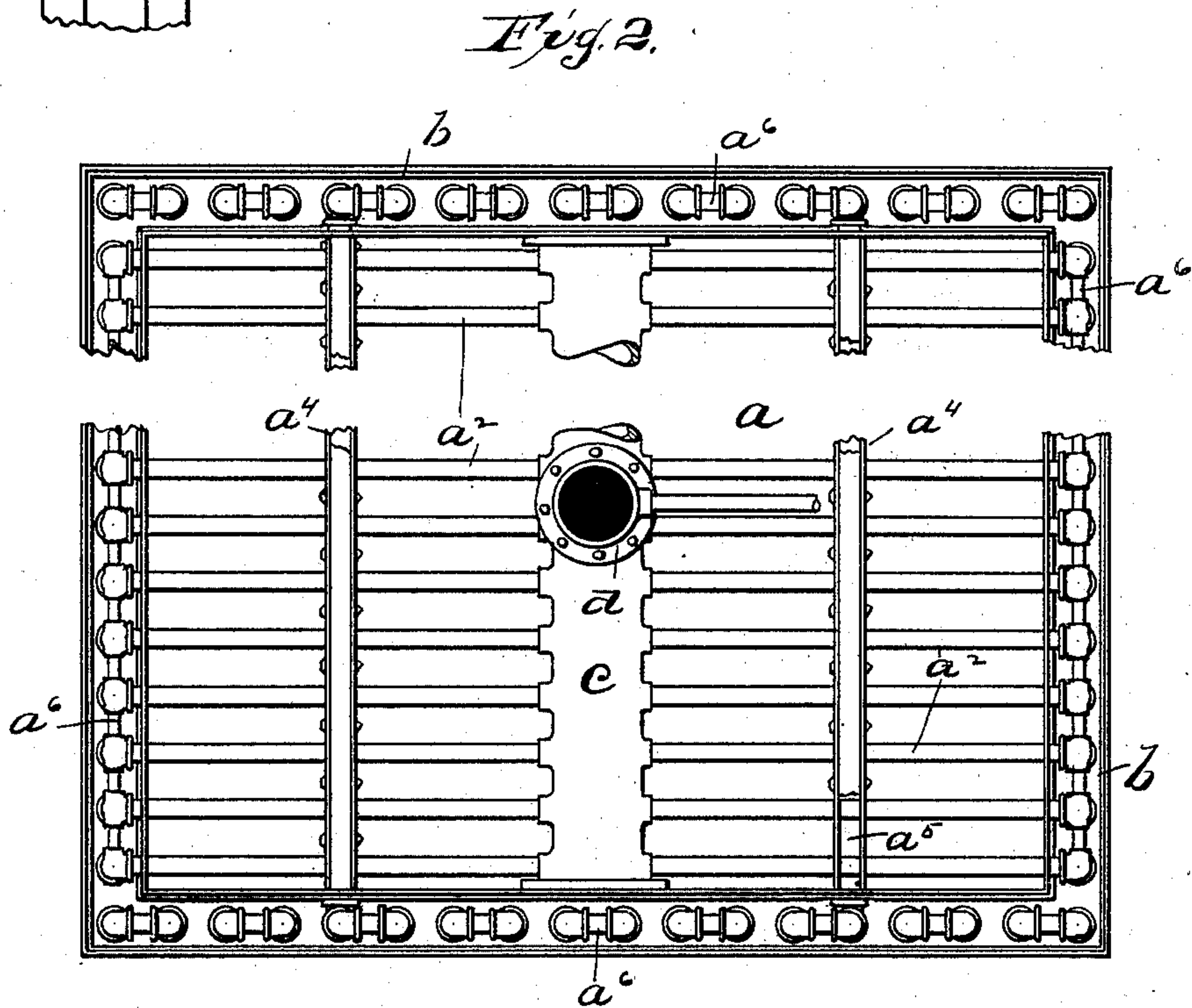
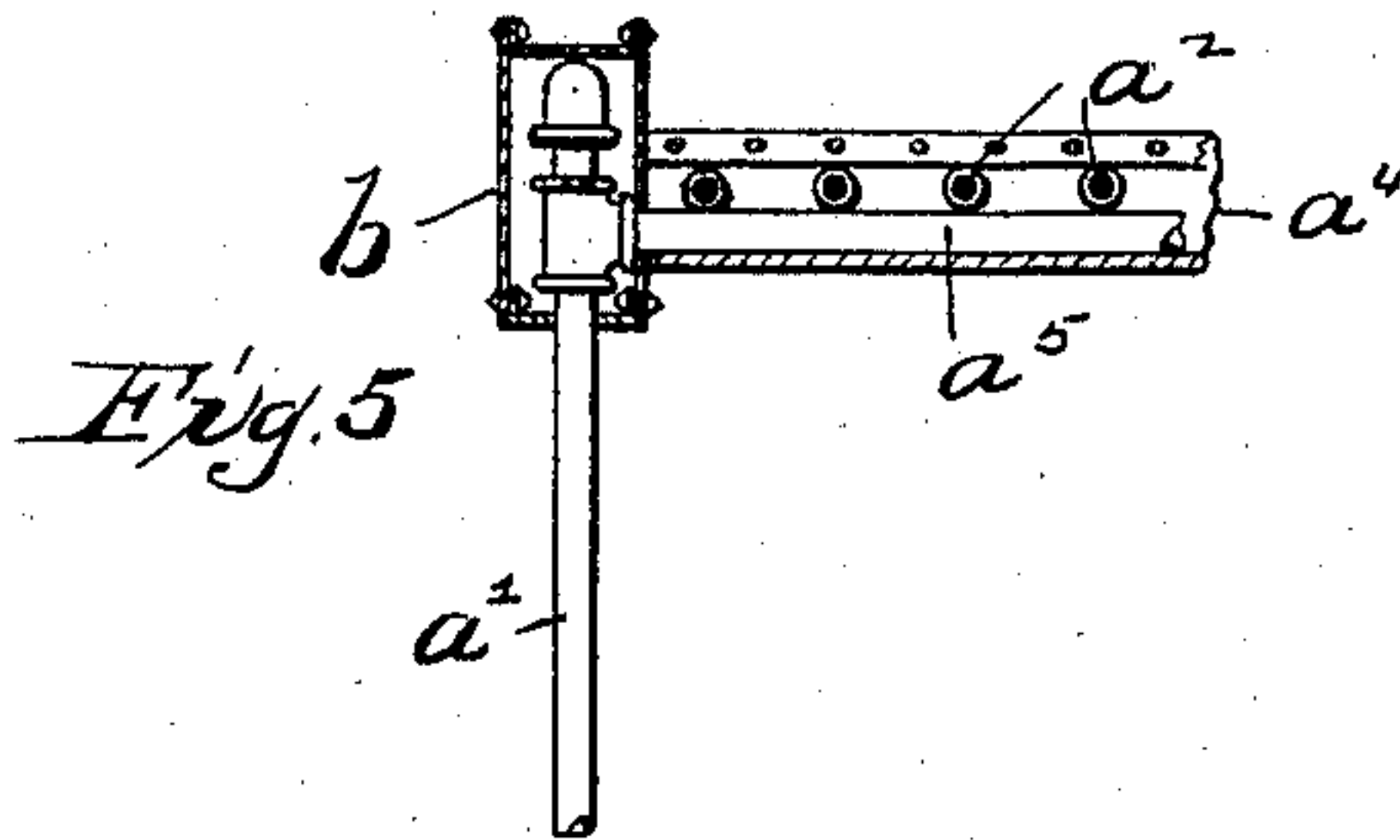
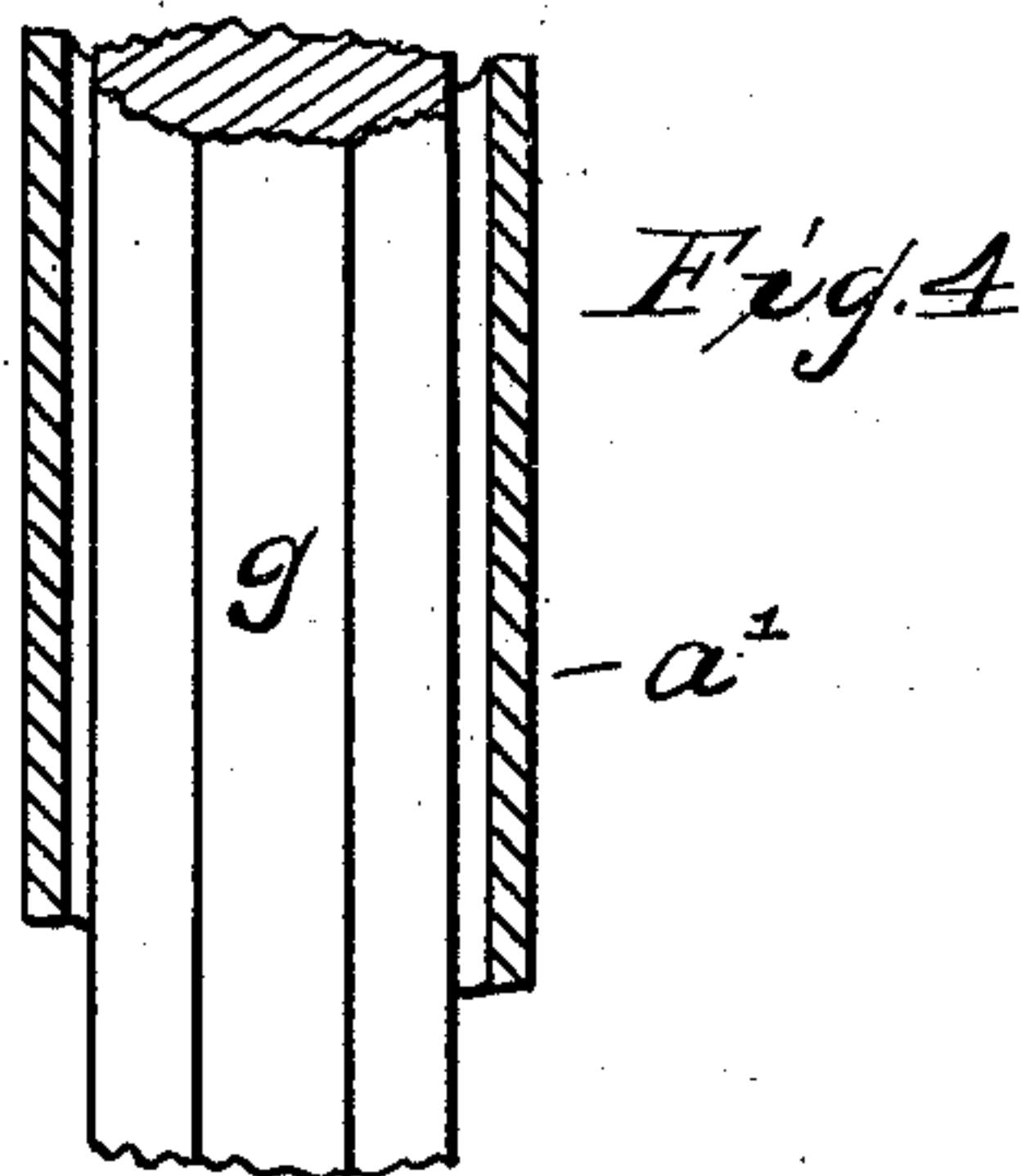
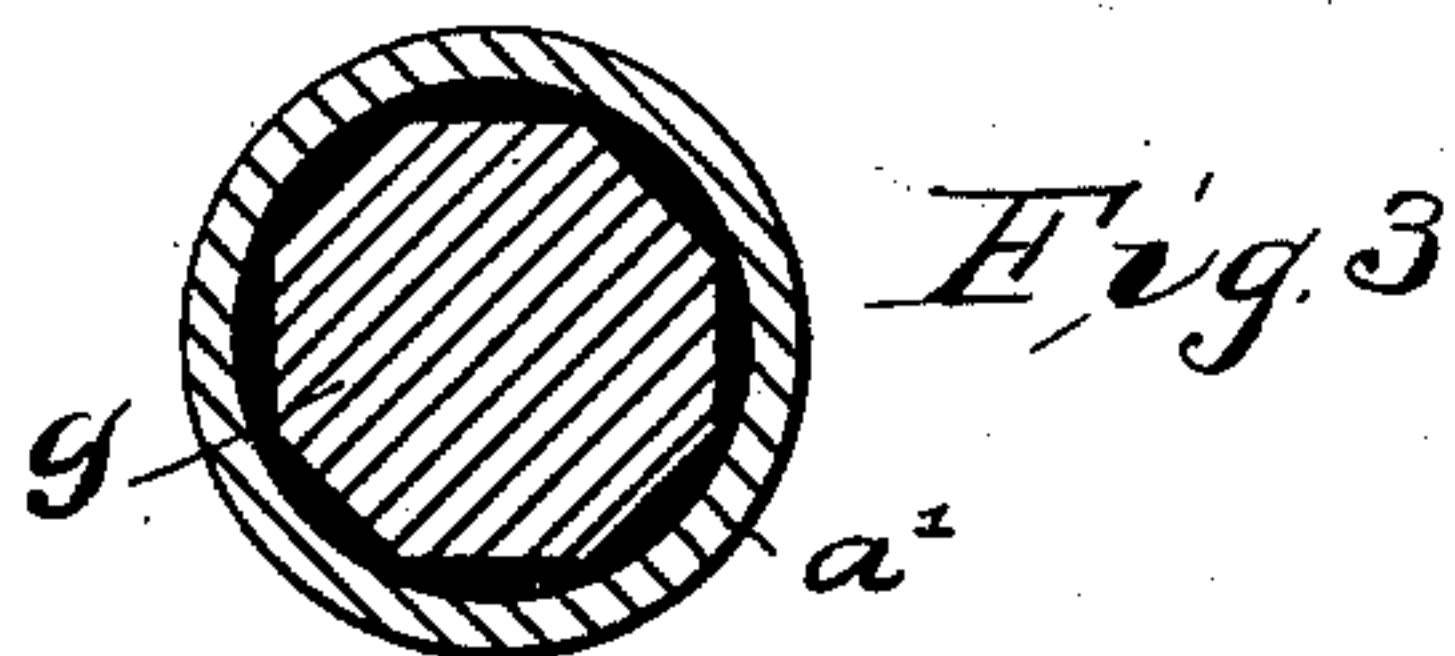
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2 Sheets—Sheet 2.

J. F. CASEY.
JAIL CELL, &c.

No. 591,157.

Patented Oct. 5, 1897.



Witnesses
G. M. Gridley
Chas. J. Mehl

Inventor
James F. Casey
By his Attorney
Paul M. [Signature]

UNITED STATES PATENT OFFICE.

JAMES F. CASEY, OF CHATTANOOGA, TENNESSEE, ASSIGNOR TO THE CASEY & HEDGES MANUFACTURING COMPANY, OF SAME PLACE.

JAIL-CELL, &c.

SPECIFICATION forming part of Letters Patent No. 591,157, dated October 5, 1897.

Application filed November 14, 1895. Serial No. 568,911. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. CASEY, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Jail-Cells and Similar Structures, of which the following is a specification.

My invention relates to improvements in jail-cells and similar structures; and the object of my invention is to provide means for automatically furnishing an alarm in the event that an escape from the cell is attempted by cutting the bars or removing any of the cell structure. I attain this object by the constructions shown in the accompanying drawings, in which—

Figure 1 is a sectional elevation of a device embodying my invention. Fig. 2 is a plan view of the same. Figs. 3 and 4 are respectively a transverse and longitudinal sectional view in detail of one of the structural pipes. Fig. 5 is a detail in the construction.

Like parts are represented by similar letters of reference in the several views.

In carrying out my invention I employ a structure which is composed wholly or in part of pipes or hollow walls, preferably of metal, joined together with the usual pipe-fittings, the whole series of structural pipes being joined together in such a manner that a communication is established with every portion of the cell structure from a common reservoir. Means are provided by which these pipes or hollow structural parts are filled with a suitable fluid, preferably air, maintained therein under pressure and connected with indicating and operating devices which are adapted by changes in the pressure to operate an alarm and indicate the locality from which the change originates.

In the said drawings I have shown my invention as embodied in an ordinary jail-cell. It is obvious, however, that this invention may be applied to the protection of openings, such as doors or windows or other parts of a jail or cell.

In the said drawings, a represents a cell which is composed, essentially, of vertical tubular bars a' and horizontal bars a'' . The vertical bars a' may be joined together at the

bottom as well as the top by a series of tubes, but are preferably secured to a hollow floor or plate a^3 , which may be formed of boiler-iron riveted up in a well-known manner, the vertical tubes or pipes being connected thereto, so as to communicate with the hollow space therein, as shown in Fig. 1. The vertical tubes a' , as well as the horizontal tubes a'' , are connected together at suitable intervals by tie-bars a^4 , each of which is constructed of a U-shaped bar, which incloses a tube a^5 , the sides of the U-shaped bar being perforated to receive the respective structural tubes with the outer extremities of the U-shaped bar united together, so that the tube a^5 will come on the inside of the vertical and longitudinal structural tubes and the united extremities of the U-shaped bar on the outside.

The vertical tubes a' are preferably connected together at the top in pairs by short pipes or nipples a^6 , and as a further precaution against the spreading of the tubes or bars without perforating the same I preferably employ at the upper corners of the cell an inclosing casing or box b , which may be riveted up, of angle or other suitable structural iron, the sides of which are pierced to receive the respective tubes a' a'' , so that the connections a^6 , as well as the fittings which form the connections between the tubes a' , a'' , and a^5 , are inclosed within said box.

All of the structural tubes communicate through suitable intermediate connections with a main trunk or reservoir c , which is preferably located at the top of the cell. Arranged above this trunk c is a cylinder d , in which is inclosed a piston d' , and there also leads from the cylinder d or from the trunk c a pipe c' , which extends to the jail-office, guard-room, or to any other suitable point. Each of the pipes c' is provided with an indicator c^2 , which may be in the nature of a pressure-gage to indicate the pressure on the particular cell with which said pipe is connected. Each of the pipes c is also connected to an alarm device c^3 , which may be common to all the cells if so desired. The piston d' in the cylinder d , above the cell, is also connected with a suitable alarm mechanism, so that when the piston descends an alarm will

be sounded. I have illustrated this as accomplished through the agency of an electrical connection, a suitable bell or other form of alarm e being connected through the medium of a closed circuit e' , including a battery e^2 , with contacting devices $e^3 e^4$, by which the circuit is maintained with a connection from the piston d' . A pressure is maintained in the cylinder equal to the pressure in the tubular structure and normally holds the piston elevated, so as to maintain the circuit. If the pressure is reduced, the piston descends and breaks the circuit and sounds the alarm. A closed circuit is preferably employed, so that the alarm will be sounded whenever the circuit is opened, and the possibility of cutting the wires to prevent an alarm is thus obviated.

The alarm shown at c^3 may be operated in a similar manner, any suitable form of mechanism being employed which will cause the same to operate whenever the pressure in the connecting-pipe c' is reduced below a certain point.

The operation of the device is evident from the above description. The pressure is maintained in the entire system through the agency of any suitable pump, a simple form of which is illustrated at f in Fig. 1. In case any part of the structure shall become broken or cut sufficient to allow the escape of the air or other fluid contained in the tubes the pressure will be reduced and the alarm operated. The indicator c^2 , which is connected to the particular cell or structure, will indicate at once which cell or structure has been

tampered with and the seat of the difficulty thus located.

As a further protection the tubes, if it is so desired, may be constructed, as shown in Figs. 3 and 4, with a hardened-steel bar g extending through the same, so that in addition to the safeguard of the arm and indicating devices operated by the fluid-pressure the steel bars may afford all the protection that would be provided in the event that the tubular structure and the fluid-pressure were not employed.

It is obvious that the above construction may be employed for vaults or similar devices where it is designed to prevent ingress as well as egress.

Having thus described my invention, I claim—

The combination with a hollow structural plate, of a series of hollow vertical bars connected to the same, and horizontal bars connected to said vertical bars, a connecting box or casing extending around and connecting said vertical and horizontal bars, a central trunk to which all the hollow or tubular portions are connected, and a connection from said trunk to an indicator, substantially as specified.

In testimony whereof I have hereunto set my hand this 8th day of November, A. D. 1895.

JAMES F. CASEY.

Witnesses:

T. H. JOHNSON,
M. M. HEDGES.