

No. 654,849.

Patented July 31, 1900.

M. V. SCULLY.

GRATE.

(Application filed Apr. 19, 1900.)

(No Model.)

Fig. 1.

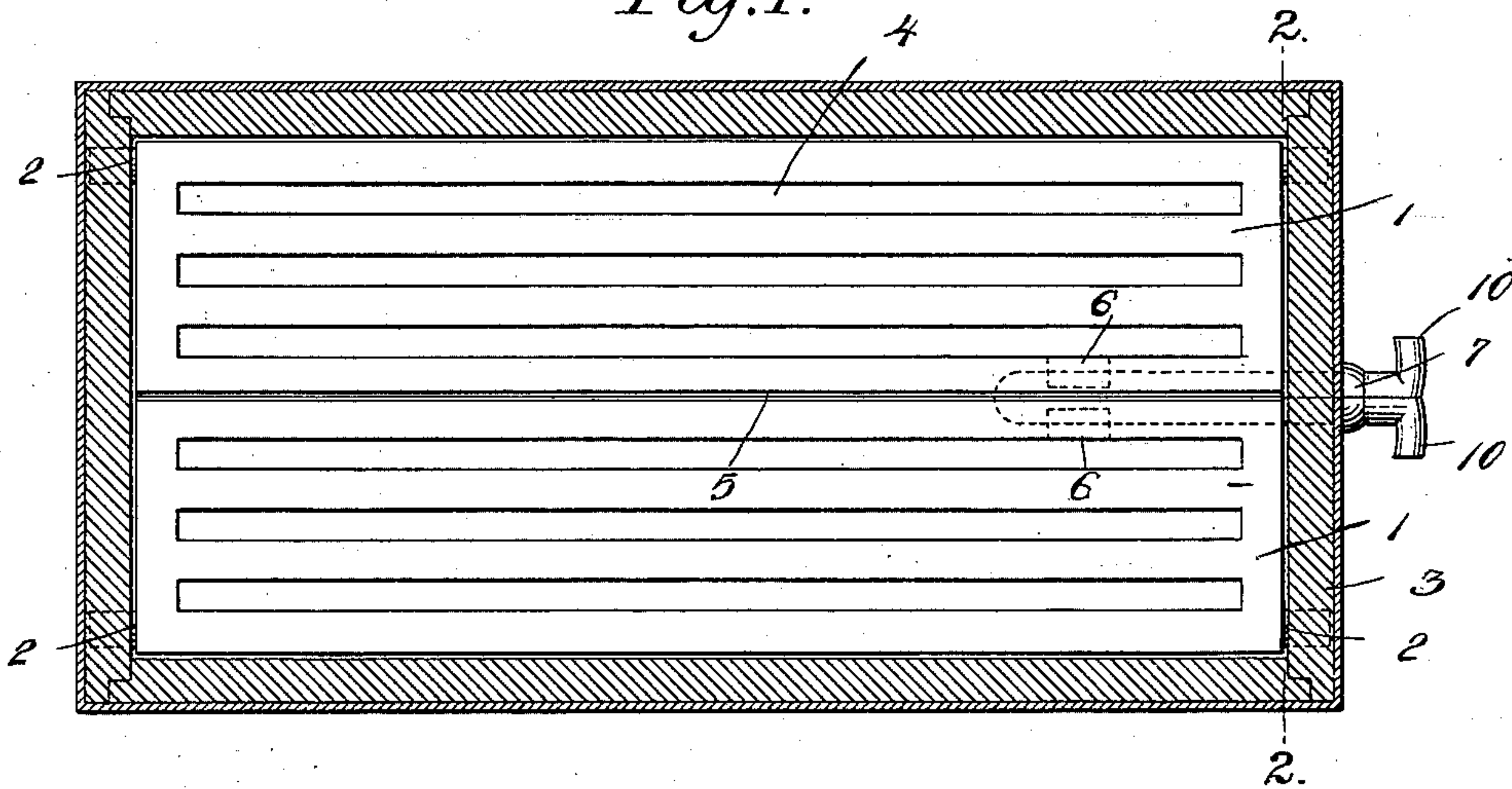


Fig. 2.

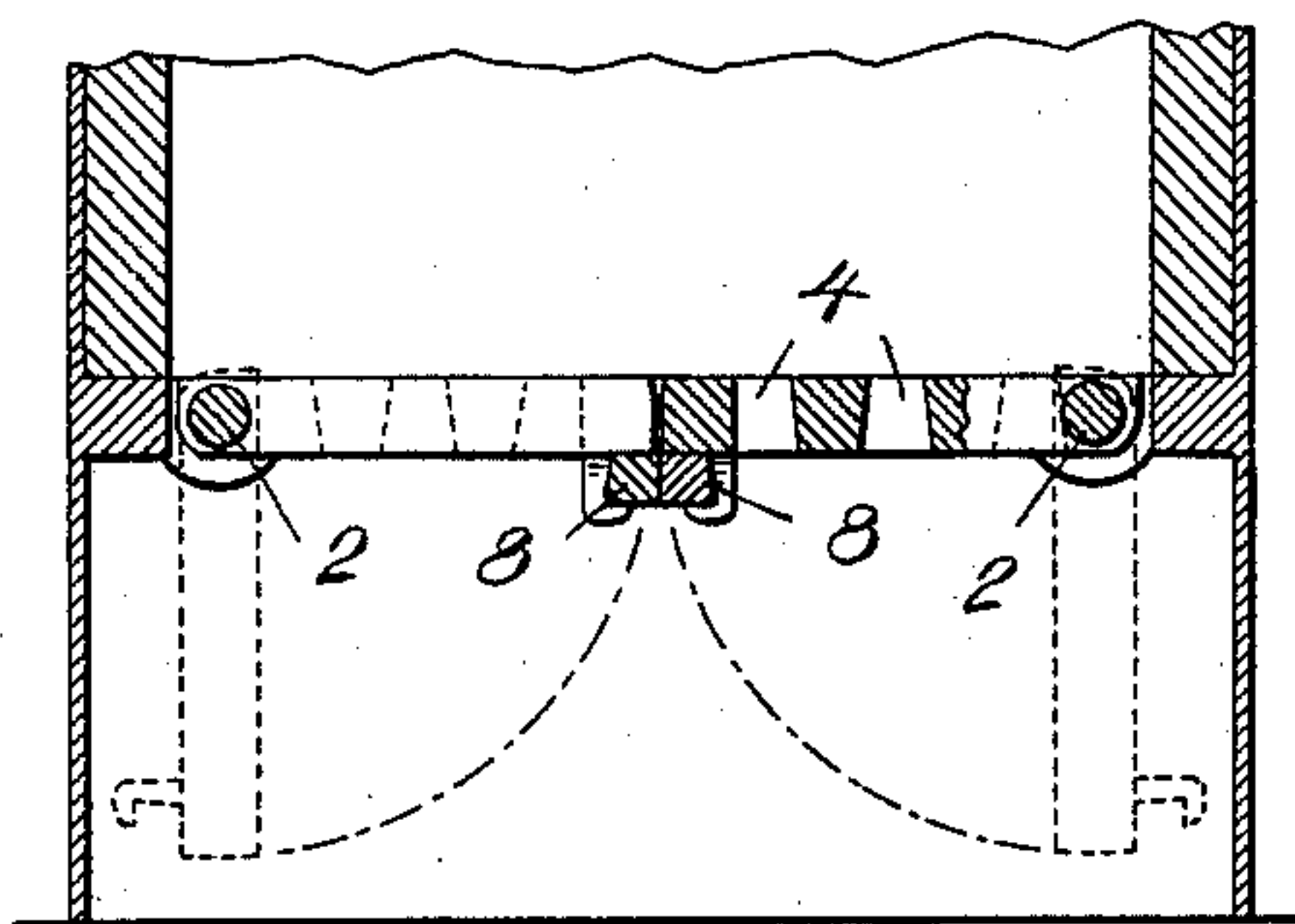


Fig. 3.

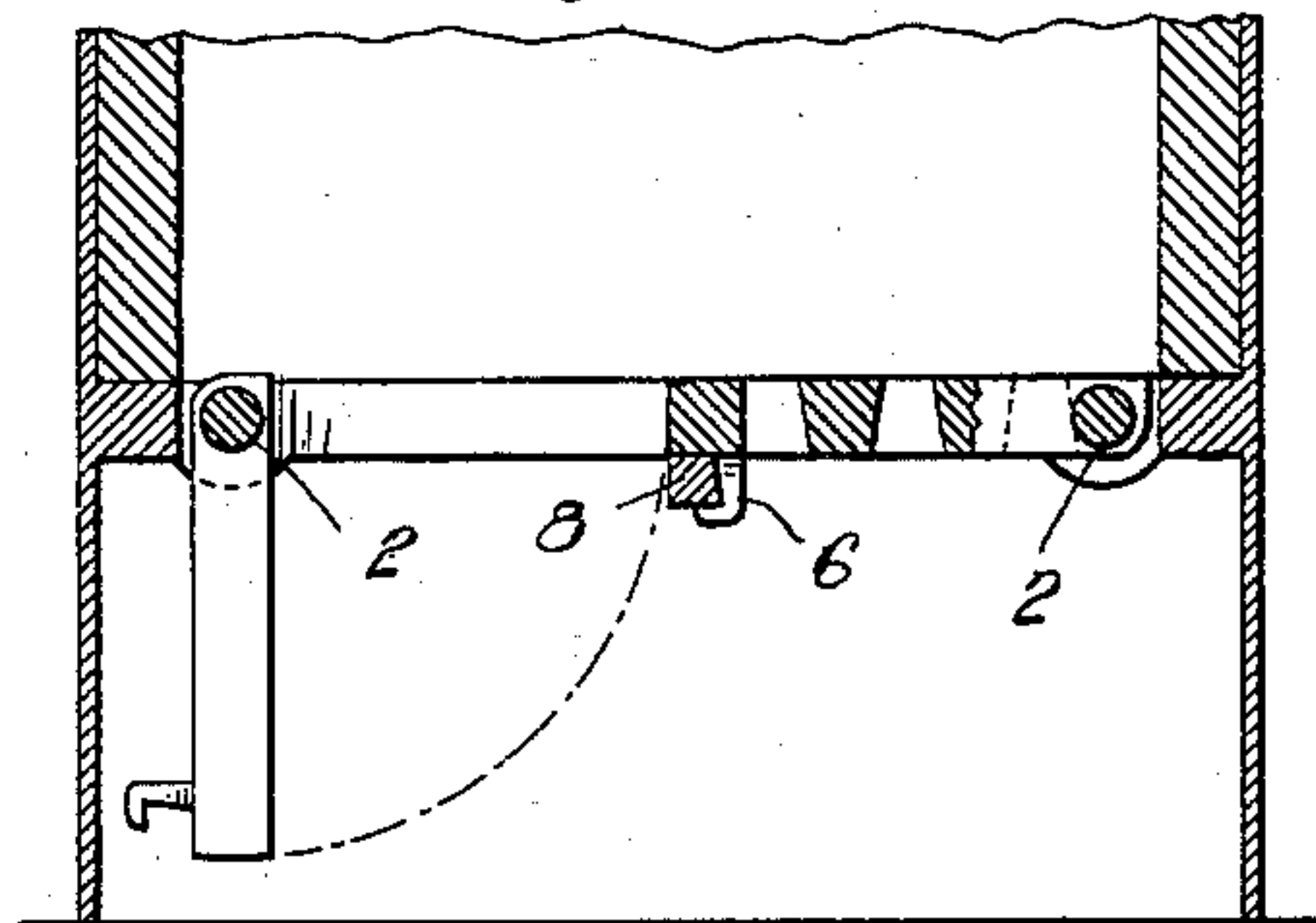


Fig. 4.

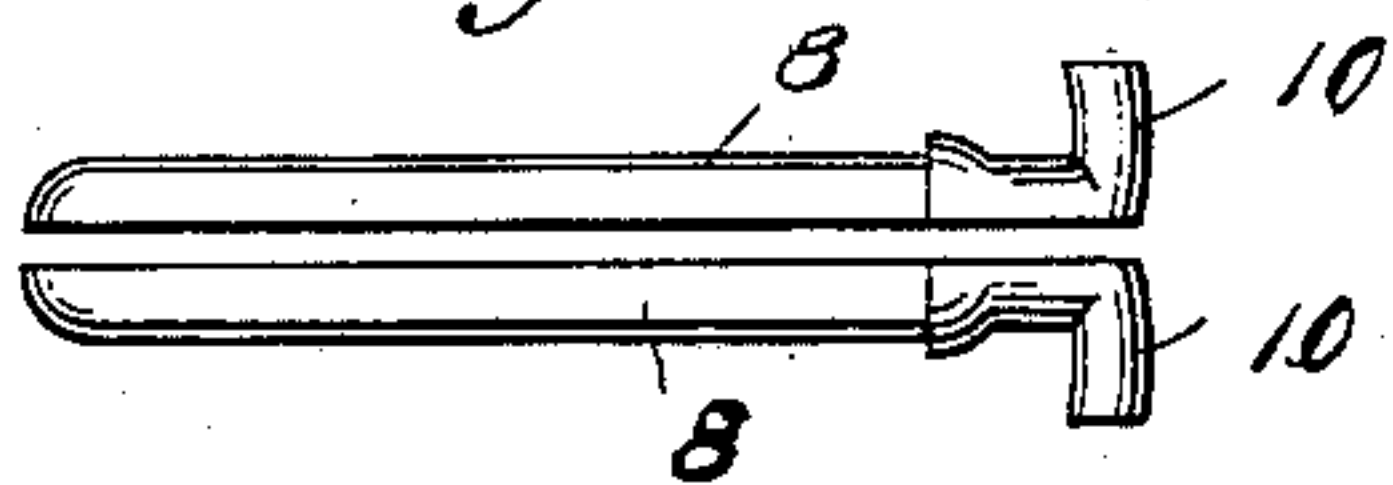
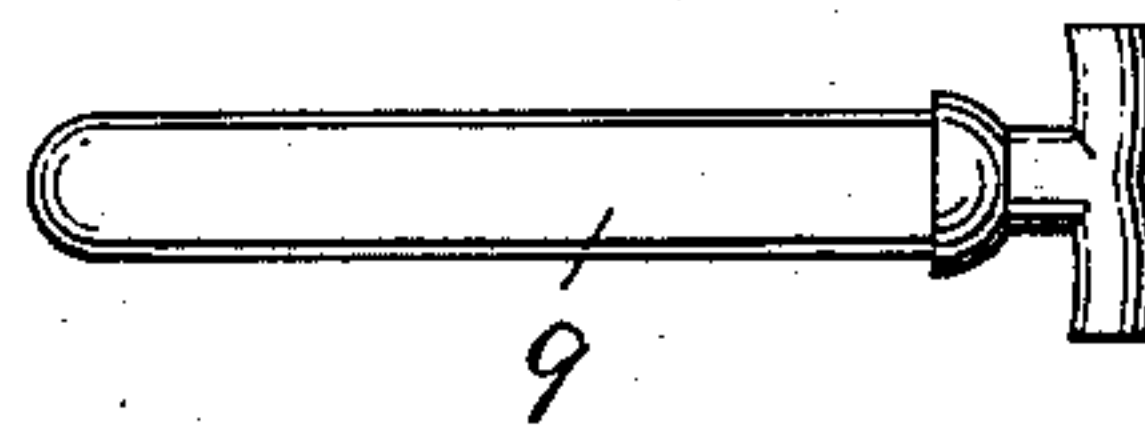


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

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GRATE.

SPECIFICATION forming part of Letters Patent No. 654,849, dated July 31, 1900.

Application filed April 19, 1900. Serial No. 13,427. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL VINCENT SCULLY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in grates, and has particular reference to that style of grate which is capable of being quickly dumped to put out the fire or free the grate from ashes, cinders, and clinkers.

It consists in a grate comprising hinged portions mounted upon suitable trunnions or journals and one or more pegs or key-pins for supporting the hinged portions in their horizontal position when in use.

It also consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a top plan view of a grate constructed in accordance with my invention, the walls of the fire-box or fuel-chamber being shown in section. Fig. 2 represents a vertical transverse section through a portion of a stove or furnace, showing my improved grate mounted therein, the key-pins being in position for holding the grates horizontal. Fig. 3 represents a similar view, but showing one of the grate-sections in its turned-down position. Fig. 4 represents a divided or double key-pin, and Fig. 5 represents a single key-pin.

The great majority of hinged dumping-grates in common use are difficult of operation and likely to become clogged, because of the manner in which they are mounted in stoves or furnaces. By my improved grate I am enabled to overcome a great many difficulties experienced in connection with dumping-grates and can produce a grate of very simple construction and one which can be instantly dumped when desired and entirely cleared of the coal or other fuel resting upon it.

My improved grate is applicable to all

kinds of stoves, ranges, or furnaces, stationary engines, or locomotives, and while it may be formed in various shapes—as circular, oval, square, &c.—for the purpose of illustration I have shown an oblong grate, as clearly indicated in Fig. 1 of the drawings.

The grate preferably comprises hinged sections, as 1 1, which are provided near their outer corners with supporting journals or trunnions, as 2 2. These find a suitable bearing in the walls 3 of the stove or furnace, so that the said grate-sections are hinged along one side or the other of the fire-box or fuel-chamber of said stove or furnace. The grates are preferably formed with elongated slots, as 4 4, to permit the draft to pass upwardly to the fuel in the usual manner. The sections 1 1, however, may be grated or formed in any desired configuration without departing from the spirit of my invention, it only being necessary to provide them with suitable apertures through which air can reach the fuel for the purpose of combustion. The inner edges of the grate-sections are adapted to approximately meet at a central point, as at 5, the inner edges of the grate-sections being preferably slightly beveled or arranged so as to permit them to be raised or lowered without binding against each other.

Each of the grate-sections is provided upon its under surface with an inwardly-facing hook or detent, as 6, which is adapted to be engaged by a supporting key-pin. As seen in dotted lines in Fig. 1, the hooks 6 6 are preferably arranged opposite to each other and at a point near one end of the fuel-chamber. A single or double key-pin, as 7, is inserted through an aperture in the wall of the stove or furnace, its inner end extending sufficiently far to engage the hooks 6 6, as clearly indicated in Figs. 2 and 3 of the drawings. When in this position, the grate-sections will rest at their inner edges directly upon the key-pin and be prevented from dropping under the weight of the fuel. The hooks 6 6 and inner end or ends of the pin or pins prevent the parts from sagging or bending downwardly and operate to firmly lock them in position. By arranging the hooks 6 6 on the abutting edges of the grate-sections and placing them face to face each part of the pin will serve to hold the other from side movement and pre-

vent displacement of either. The key-pin may be made of two separable parts, as 8 8, (seen in Fig. 4 of the drawings,) or may be constructed in a single piece, as at 9 in Fig. 5.

5 I preferably employ the divided pin 8 8, because it makes it possible to dump or raise one-half of the grate at a time, if desired. This is seen in Fig. 3 of the drawings. One-half of the double key-pin 8 may be withdrawn
10 from beneath its grate-section, and that side of the grate will be permitted to drop and discharge its fuel and ashes, while the other grate-section is supported in its normal position. Both key-pins may, however, be withdrawn
15 at the same time when it is desired to quickly discharge the whole contents of the grate. The key-pin is preferably provided with laterally-projecting lugs or handle portions, as 10 10, by which it can be readily grasped for pulling out of place.

20 It will be seen from the above description that my improved grate is particularly well adapted for dumping the contents of a fire-box and that when the key-pin is withdrawn
25 the grates fall apart so easily and so completely that ashes, cinders, or any other material supported upon the grate will be dumped without clogging or without the likelihood of portions of fuel and ashes remaining upon the
30 grates. This is an admirable means of putting out a fire quickly when it is necessary to do so, for the quick dumping of a live bed of fuel will operate to extinguish it in a very short time. It will be apparent that hinged
35 sections or leaves of this character could be utilized for supporting various substances besides fuel in stoves and that no matter what

the use is put to the construction would be practically the same and the utility large. It will also be noted that when the grate-sections 40 are released they are free to swing downwardly in an uninterrupted manner, and thus easily clear themselves.

Having thus described my invention, what I claim as new, and desire to secure by Letters 45 Patent, is—

1. A dumping-grate comprising hinged sections, a pin or peg adapted to project inwardly beneath the meeting edges of the grate-sections, and hooks on the abutting edges of the 50 said sections arranged opposite to each other, so that the said pin cannot become accidentally displaced, the said hooks preventing the pin from sagging and holding the same in a horizontal position for supporting the grates. 55

2. A dumping-grate comprising grate-sections pivotally mounted in a fire-box, their inner edges being arranged so as to come close together when the sections are raised, a divided key-pin for supporting the sections in 60 their elevated positions, said key-pin being inserted in suitable apertures in the walls of the fire-box, and hooks for engaging said pin located on the abutting edges of the grate-sections and arranged face to face, so that each 65 portion of the pin serves to hold the other from side movement, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL VINCENT SCULLY.

Witnesses:

JOHN CAMPBELL,
JOHN H. BLIGH.