

(No Model.)

2 Sheets—Sheet 1.

W. M. POINDEXTER.
BOOKCASE.

No. 541,678.
Fig. 1.

Patented June 25, 1895.

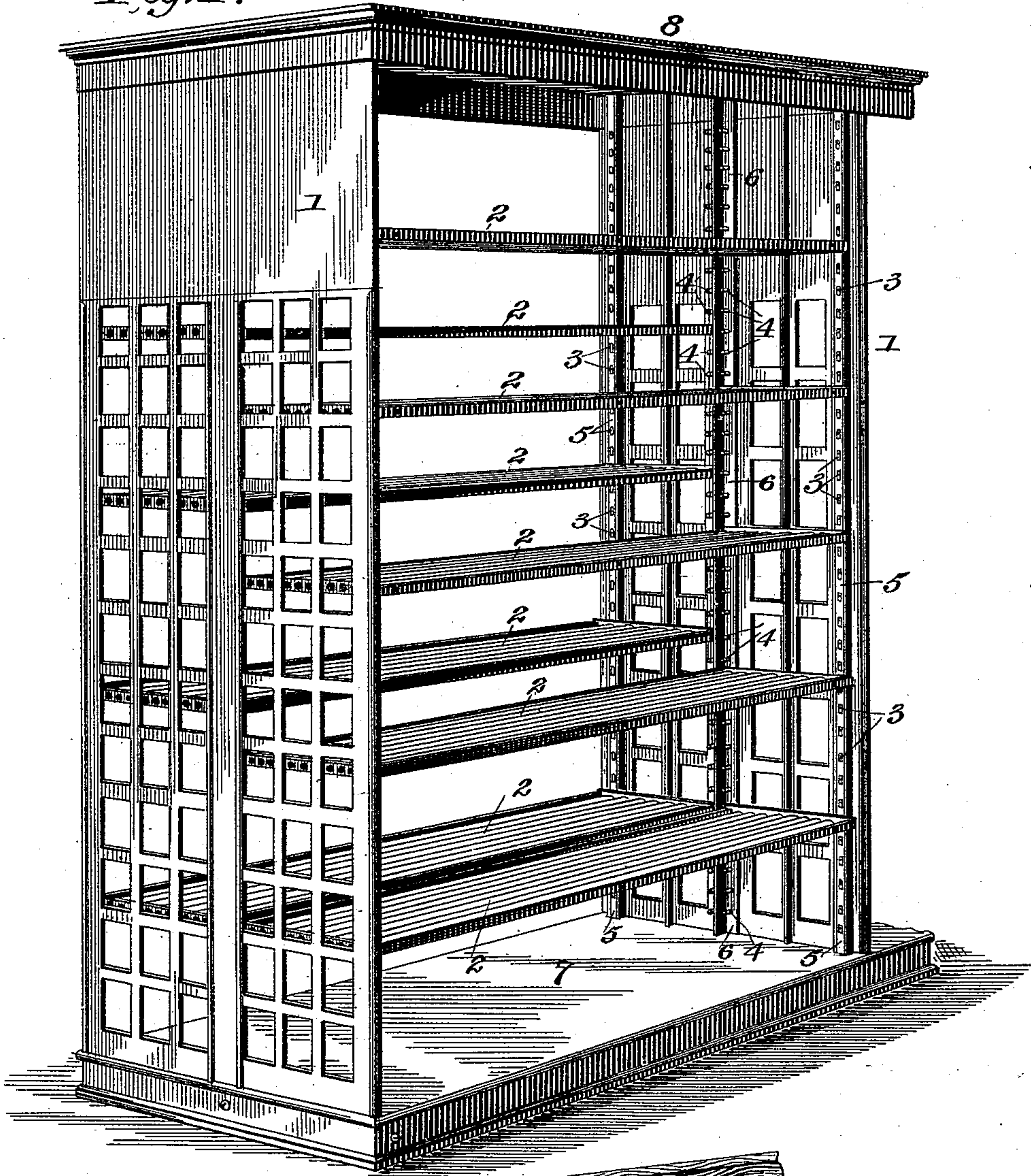
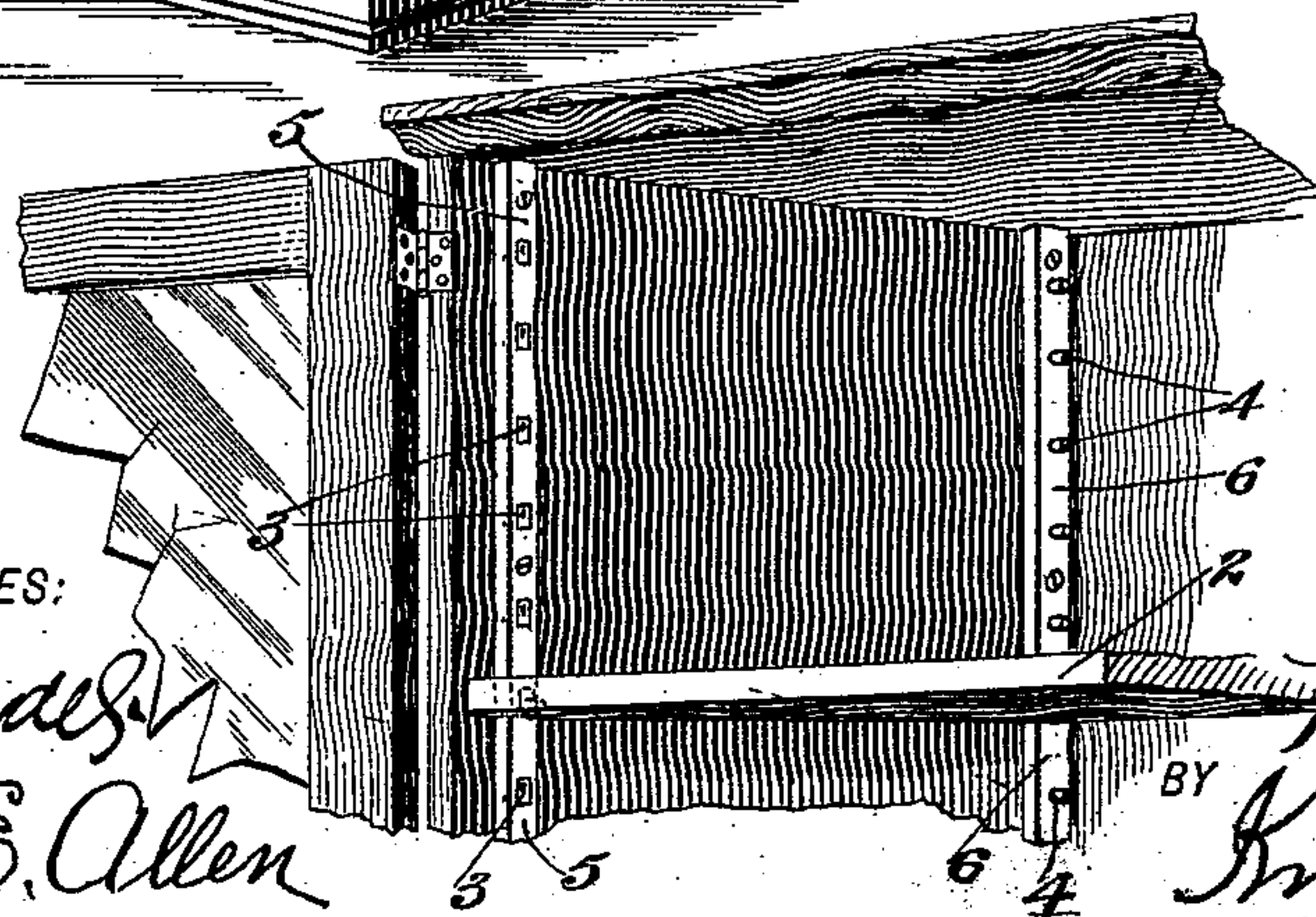


Fig. 2.



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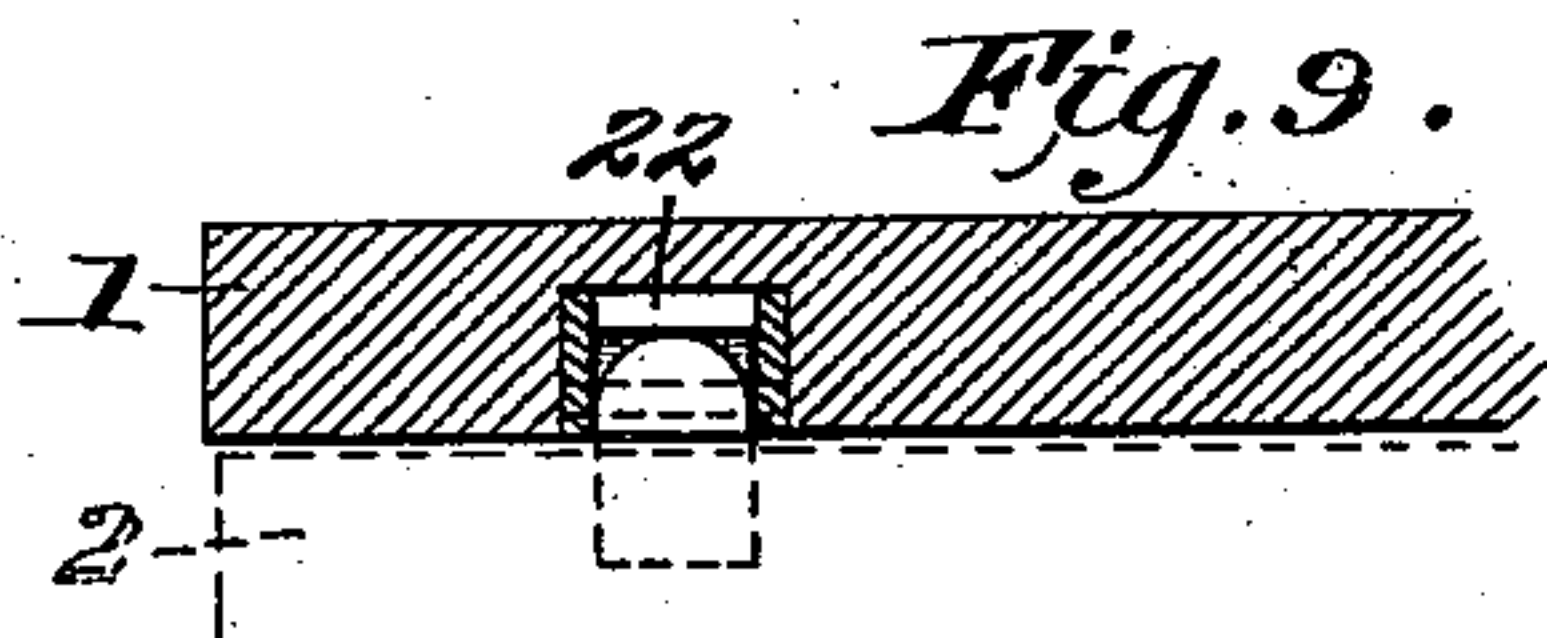
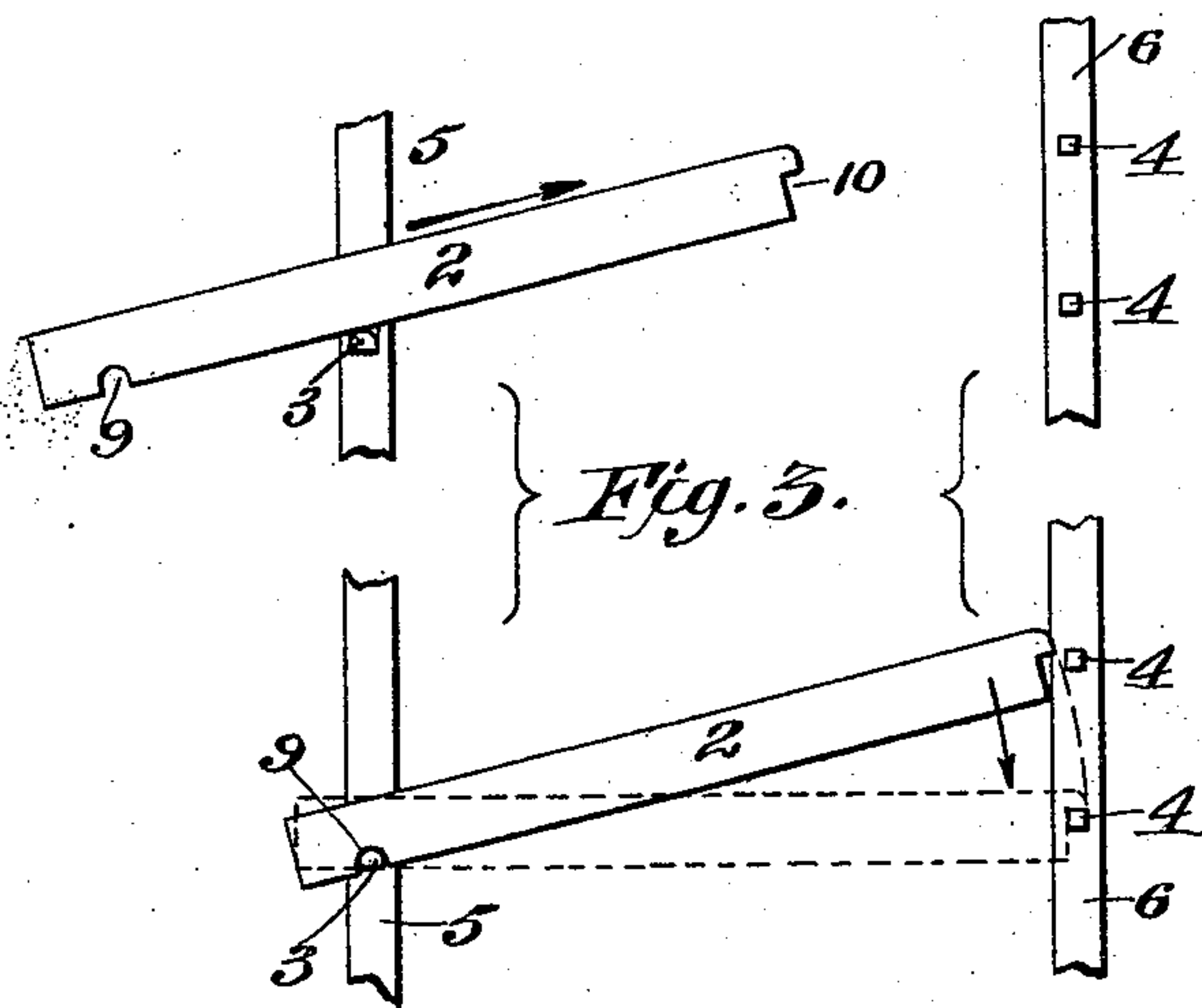
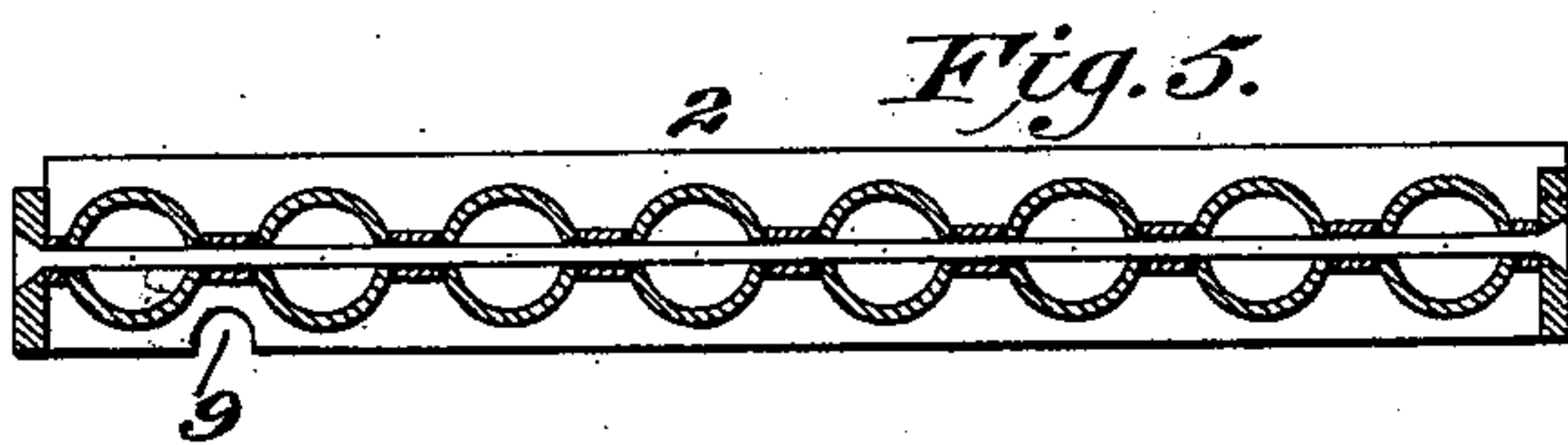
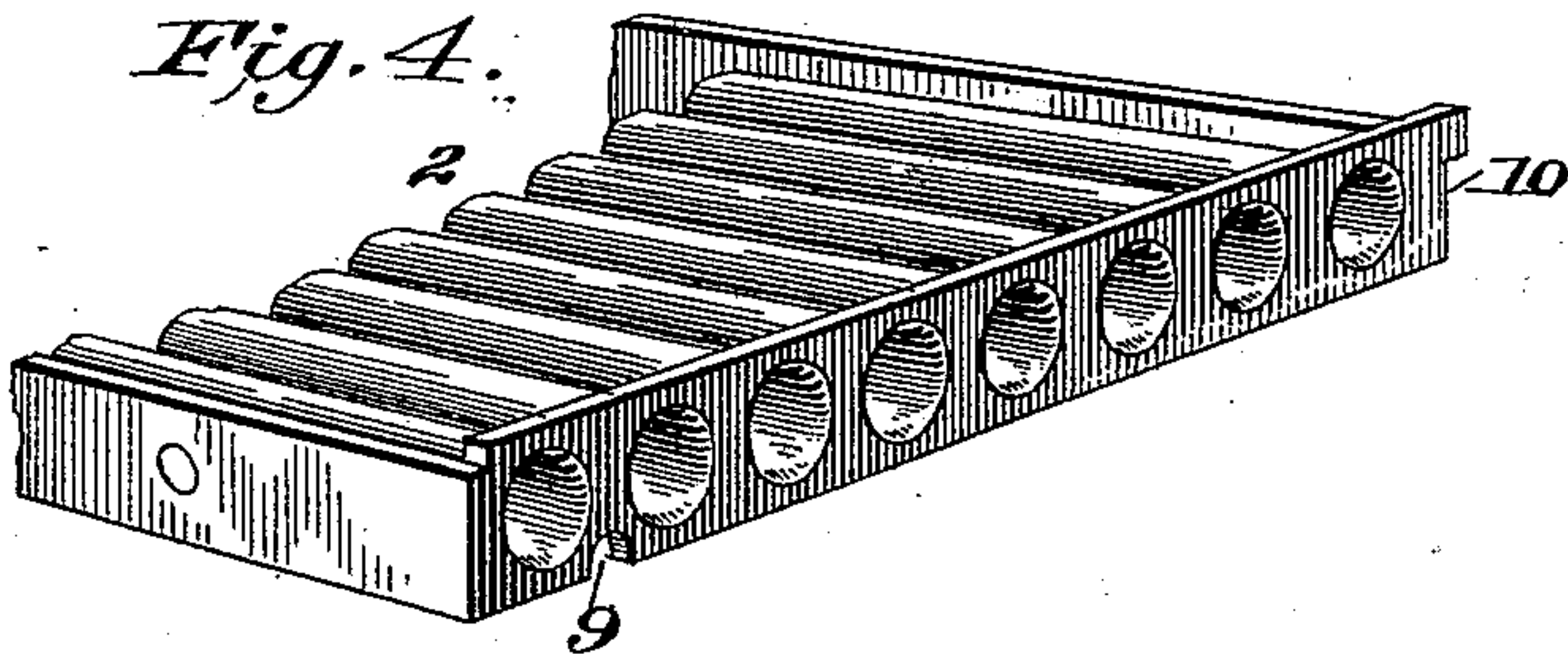
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W. M. POINDEXTER.
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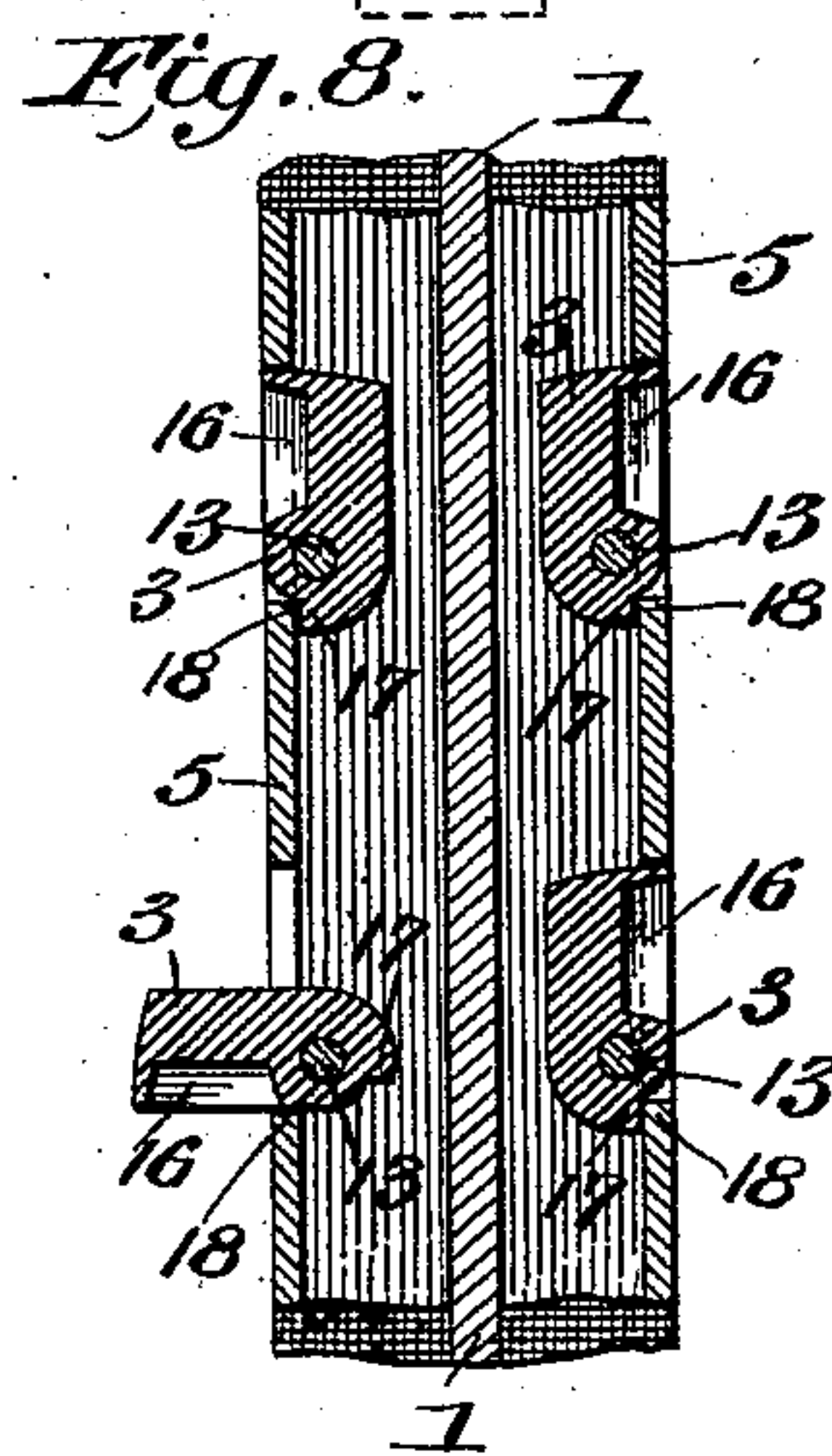
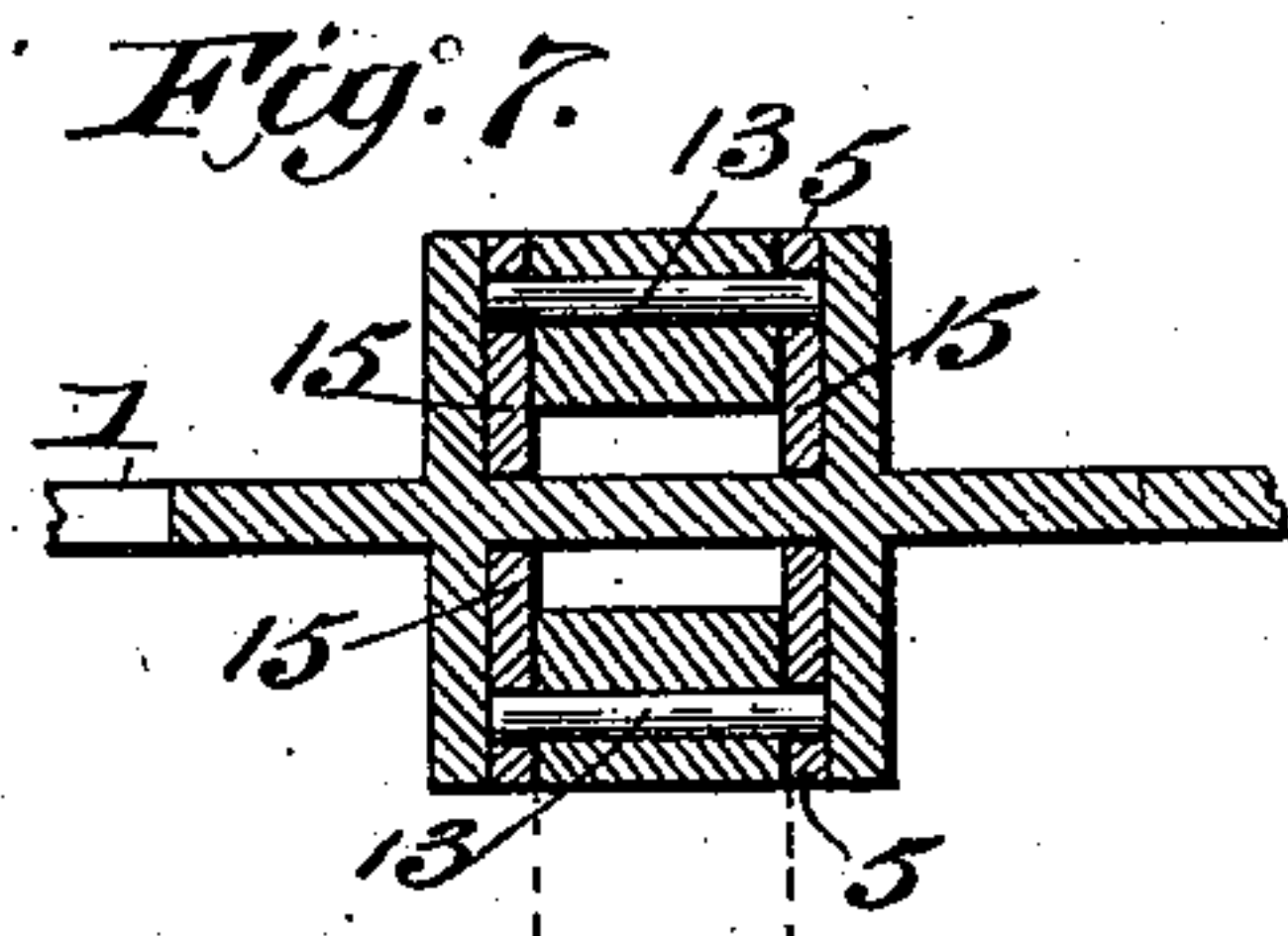
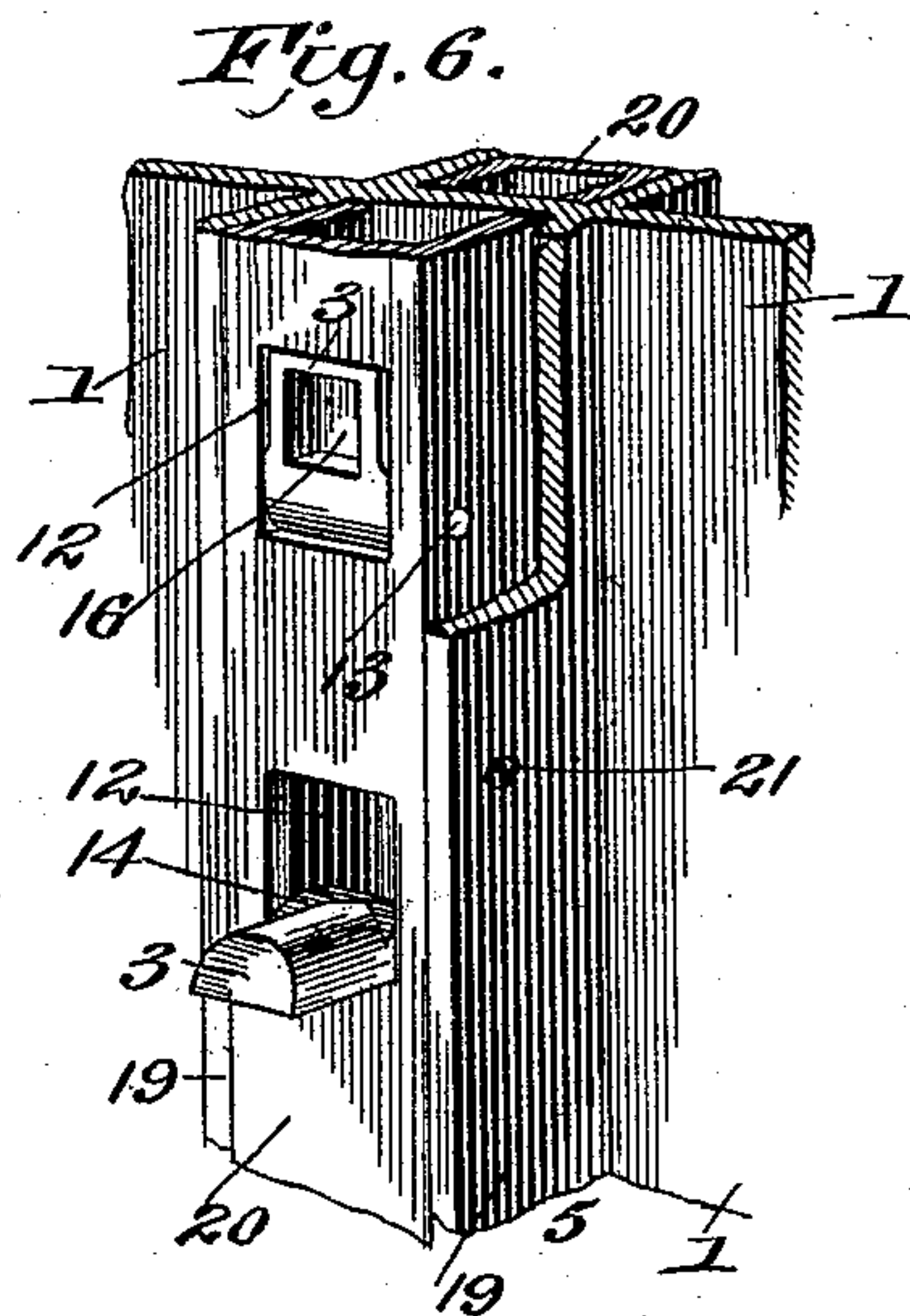
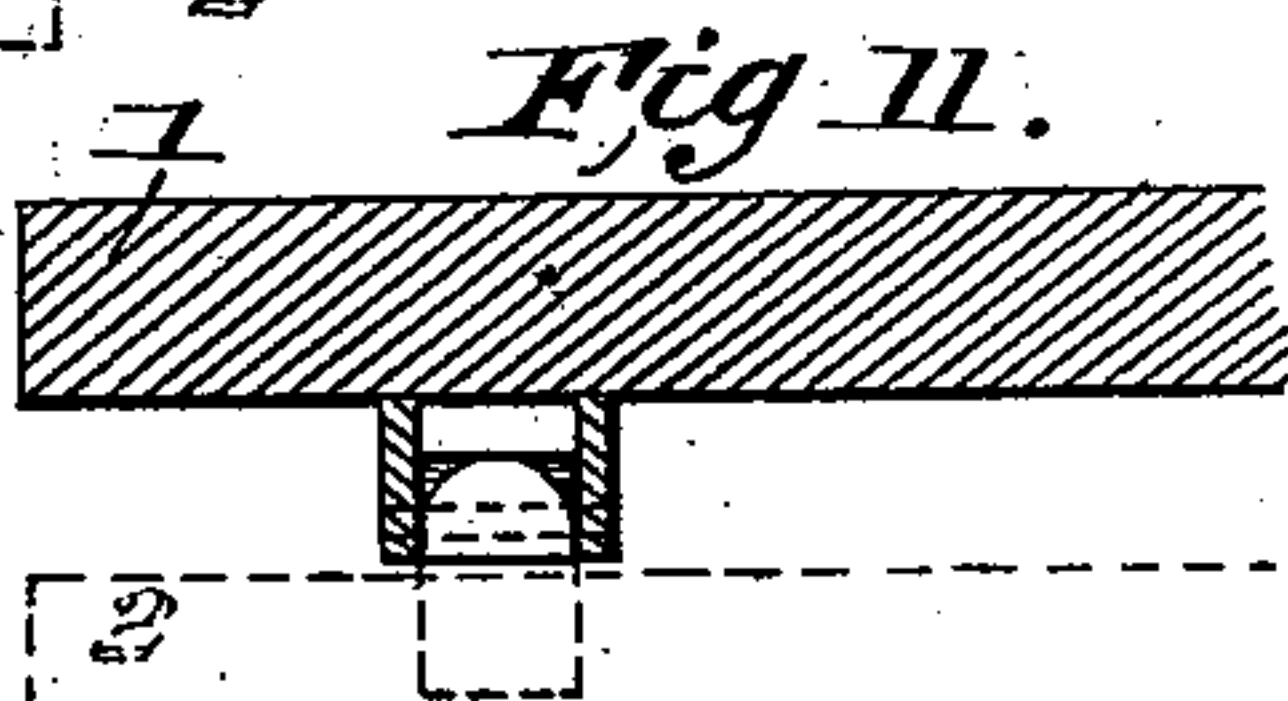
No. 541,678.

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UNITED STATES PATENT OFFICE.

WILLIAM M. POINDEXTER, OF WASHINGTON, DISTRICT OF COLUMBIA.

BOOKCASE.

SPECIFICATION forming part of Letters Patent No. 541,678, dated June 25, 1895.

Application filed March 29, 1895. Serial No. 543,684. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. POINDEXTER, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Bookcases, of which the following is a specification.

My invention relates partly to the manner of locating the pins or equivalent supports for the ends of the shelves of book-cases, this part of my invention having for its object to render it unnecessary in the act of adjusting a shelf, to give any attention to the rear or inner supports for the shelf, but requiring simply the selection of the two front supports to determine the height of the shelf, and the passing of the shelf inward over these two front supports until it is arrested at the proper time and directed upon the two corresponding rear supports. This part of my invention is carried out by employing for rear supports two series of fixed pins at convenient vertical distances apart, then adapting the front supports to engage and to act as trunnions for the shelves and so locating each pair of said front supports that when a shelf is introduced over them at an upward inclination it will be arrested at the proper time and caused to swing downward upon the proper corresponding rear supports, and without interference with the rear supports next above.

My invention further relates to a construction of front supports and shelf whereby each pair of said supports is adapted to guide the shelf as described and whereby said supports are normally retracted but may be dropped into active position at will. In carrying out this portion of my invention, I employ for front supports pivoted dogs arranged in vertical series on the side walls of the case, and trunnioned in recesses which they enter when not in use, but from which they are readily withdrawn for service. I also employ certain details in the construction of these parts to be hereinafter referred to.

My invention further relates to the manner of mounting the pivoted dogs upon the book-case, this being preferably done through the medium of a separate mounting such as a strip or cleat in which all the dogs on one side are mounted and which is then applied to the side of the case in one of a number of ways

differing according to taste and the construction of the case.

A strip, cleat, or equivalent mounting having permanently trunnioned therein one or more of the dogs, constitutes a new article of manufacture, and is applicable to any book-case of common construction.

The details of construction of the various parts of my invention will now be described with reference to the drawings forming part of this specification, and in which—

Figure 1 is a perspective view of a book-case of known construction having my invention applied thereto. Fig. 2 is a detail perspective showing the application of the invention to a bookcase of different construction. Fig. 3 is a detail view illustrating that part of my invention which relates to the manner of rendering the shelves self-leveling. Figs. 4 and 5 illustrate the construction of a fireproof or metallic book-shelf in connection with my invention. Figs. 6, 7, and 8 are respectively a detail perspective, a horizontal section, and a vertical transverse section of a bookcase partition-wall on opposite sides of which my improved form of support is mounted, and likewise illustrating one manner of applying the same to metallic cases. Figs. 9, 10, and 11 are horizontal sections illustrating different positions in which the cleat may be placed in the case.

In Fig. 1 is shown a structure designed as a metallic, fire proof and ventilated book-case and embodying two sections placed back to back, and in each of which my invention is employed. In this case 1 represents the sides, 2 the shelves, resting upon front supports 3 and rear supports 4, which are applied to the sides through the medium of strips or cleats 5, 6, while 7 and 8 represent the base and top of the case.

The part of my invention which relates to the relative location of the supports and the manner of manipulating the shelves to render them self-leveling, is illustrated by Fig. 3. The front supports 3 are rounded or otherwise adapted to serve as trunnions, and the shelf is provided with a shoulder, which may be formed by a notch 9, whereby when the shelf is passed inward in the manner illustrated by the upper part of Fig. 3, it is engaged by the front pins and arrested after it

has moved the proper distance and takes the position shown by full lines in the lower portion of said figure, after which the shelf is released and falls upon and is arrested by the proper rear supports to level the shelf. The inner corner or, if more convenient to make, the rear edge of the shelves are preferably shouldered as shown at 10. The relative positions of the front and rear supports are determined by the depth of the shelf and the proximity of the stops in a vertical line. The front support must be so located that an arc having a radius at least equal to the depth of the shelf beyond the shoulder and with its center at the front support, will include the corresponding rear support but exclude the one next above it, so that when the shelf is pushed in the proper distance over any pair of front supports it will pass the next higher pair of rear supports and fall upon that pair of rear supports which will establish the level of the shelf. If the supports are quite close together it is obvious that the arc in which the rear edge of the shelf swings must be of materially shorter radius than if the supports are farther apart. The maximum arc radius being thus determined by the distance between supports, the radius of the arc in which the rear edge of the shelf swings is adjusted accordingly, by simply selecting the position of the front supports with reference to the depth of shelf. It is not essential that the front and rear supports 3, 4 shall be exactly in the same horizontal plane, as it is obvious from the drawings that they might be slightly otherwise and the difference compensated by the relative depth of notch 9, and shoulder 10. If the pair of front supports is lower than its corresponding rear ones, a slight advantage is gained in that the shelf swings in a direction which assists it in clearing the rear supports, and the position of the front supports may in that case be kept farther forward, which will obviously add to the stability of the shelf. The fundamental principle of this part of my invention is having the supports and shelf so arranged that when the shelf is trunnioned on the front supports, the arc described by its rear edge includes the proper rear supports to level the shelf, but excludes those next above them.

While it may be preferable to make the front or outer pins after the manner set forth with reference to Figs. 6, 7, and 8, it is obvious that the first part of my invention which relates to the relative location of the front and rear supports, is not dependent upon any particular form of these parts nor upon their being movable or otherwise adapted to be gotten out of the way when not in service, as shown in Figs. 3 and 4. Plain fixed pins are ample for this purpose. It is obvious that any common and well known pin, removable or fixed, may likewise be employed.

That part of my invention which relates to the construction of the front supports is best illustrated by Figs. 6, 7, and 8. From these

figures it will be observed that the front supports 3 have rounded upper surfaces which adapt them to receive a shelf containing the recess 9, and permit said shelf to swing, said supports 3 being in the form of dogs permanently trunnioned in recesses 12 by means of pintles 13, or equivalent pivots, and adapted to swing up into said recesses and lie flush with the face of the part in which the latter are made. In trunnioning these dogs they are provided with cross-heads 14 which fit snugly between cheeks 15 formed on the part in which they are mounted, and through which cheeks the transverse pintles or trunnions 13 pass. To cause the dogs to retain their vertical position in recesses 12, and at the same time to adapt them for engagement by the finger when they are to be drawn into active position, they are recessed on their under faces as shown at 16 in Figs. 6 and 8. This has the effect of throwing the center of gravity sufficiently to one side of the pintle to retain them in vertical position without opposing their rest in a horizontal position when drawn down. These dogs are further provided with shoulders 17, see Fig. 8, which engage with the edges of their sockets at 18 to limit their inward movement. These dogs 3 may be mounted directly between cheeks of flanges 19 on the side wall 1 of a book-case or I prefer to mount them in channel iron such as represented in the drawings, the recess 13 being formed in the face of the channel iron while the flanges serve as the cheeks through which the pintles 13 are passed to trunnion the dogs. This channel iron may then be attached to the side walls 1 of the book-case in any convenient manner which will vary according to taste or the construction of the case. In a metallic case, they can be conveniently attached by forming flanges 19 at such distance apart as will admit the channel iron 20 between them and then kept from displacement by any suitable means such for instance as a pin or screw 21. This will readily be understood upon reference to Figs. 6, 7, and 8. In securing the channel iron to wooden cases the side walls are plowed so as to permit the channel iron to be countersunk as shown at 22 in Fig. 9, or as shown at 23 in Fig. 10 or said channel iron may be attached to the surface by any suitable means as illustrated at Fig. 11. From what has been said with regard to this channel iron provided with the series of trunnioned dogs, it is obvious that this may constitute an article of manufacture to be sold for general application to book-cases or for use in other suitable connections.

In Figs. 4 and 5 I have shown the construction of shelf which I prefer to use in a metallic or fire proof structure.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a book-case, means for adjustably supporting shelves consisting of a series of suitably spaced projections at the inner portion

of each side, and a series of correspondingly spaced projections on the outer portion of each side, constructed to engage the shelf at the proper point and so located with respect to the inner series and with respect to the depth of shelves that the shelf passed in over any pair of front supports will be directed down upon the corresponding pair of rear supports, as explained.

2. In a book-case the combination of front and rear supporting projections spaced apart and corresponding pair and pair as shown and shelving constructed to engage the front supports and to swing thereon; the front supports being so located with respect to the rear supports, that the arc, in which the rear edge of the shelf swings will include the corresponding rear supports but exclude those above them, as explained.

3. As a means for adjustably supporting shelves the combination of a series of rear supports, suitably spaced apart to give the desired range of adjustment, a series of front supports correspondingly spaced apart and a shelf recessed to engage the front support and swinging thereon said front supports being spaced apart from their corresponding rear ones, a distance which will cause the rear edge of the shelf to pass in front of the next higher rear support and swing down upon the proper rear supports to level the shelf, as explained.

4. In a book-case or analogous structure the combination of a series of suitably spaced fixed rear supports, correspondingly spaced front supports and a shelf adapted for engagement by the front supports; said front

supports being movable into and out of active position at will and located at points to cause the shelf to swing thereon down upon the corresponding rear support without interference with supports above the latter, as explained.

5. The herein described support for the shelves of book-cases or for analogous purposes consisting of the dog 3 having a trunnion to permit it to be turned up out of position, recessed on its under side to permit it to stand in vertical position, and having the shoulder 17 for limiting its movement, as explained.

6. In a device for adjustably supporting shelving, or for analogous uses the combination of a housing formed of a front plate having a longitudinal series of slots and a pair of side plates, and the series of dogs inclosed within the housing and each having one end constructed to swing in and out of the housing through one of the slots, and supported in horizontal position by said front plate substantially as and for the purpose set forth.

7. As a new article of manufacture, means for supporting shelving at any desired height consisting of the channeled mounting having recesses formed in its face and the series of dogs trunnioned in said mounting so as to fold in and out of the recesses, recessed on their under faces to counterbalance them inward when in vertical position, substantially as explained.

W. M. POINDEXTER.

Witnesses:

H. S. KNIGHT,
OCTAVIUS KNIGHT.