

(No Model.)

I. G. LANE.
HOUSE DOOR LETTER BOX.

No. 446,258.

Patented Feb. 10, 1891.

Fig. 1.

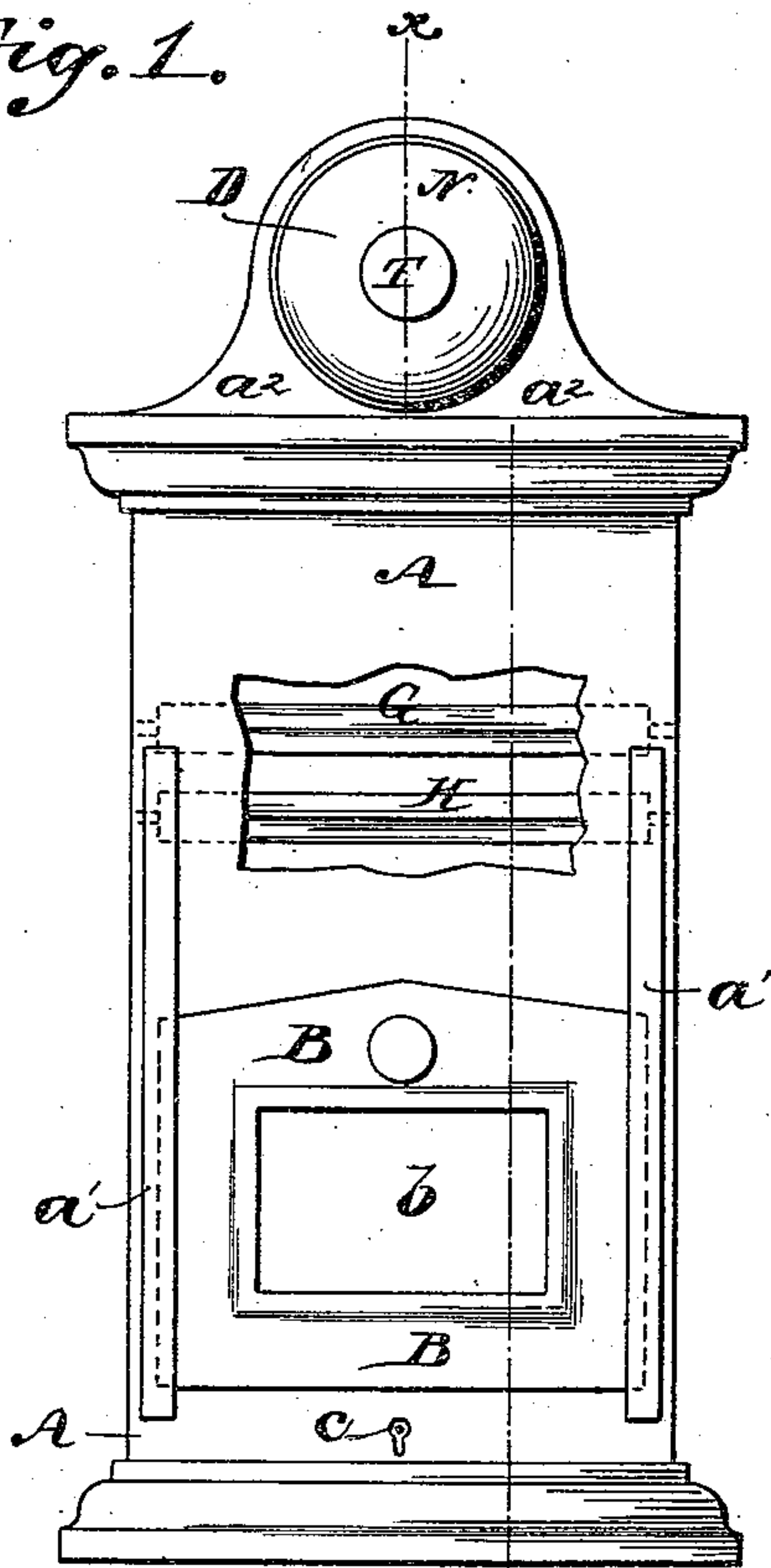


Fig. 2.

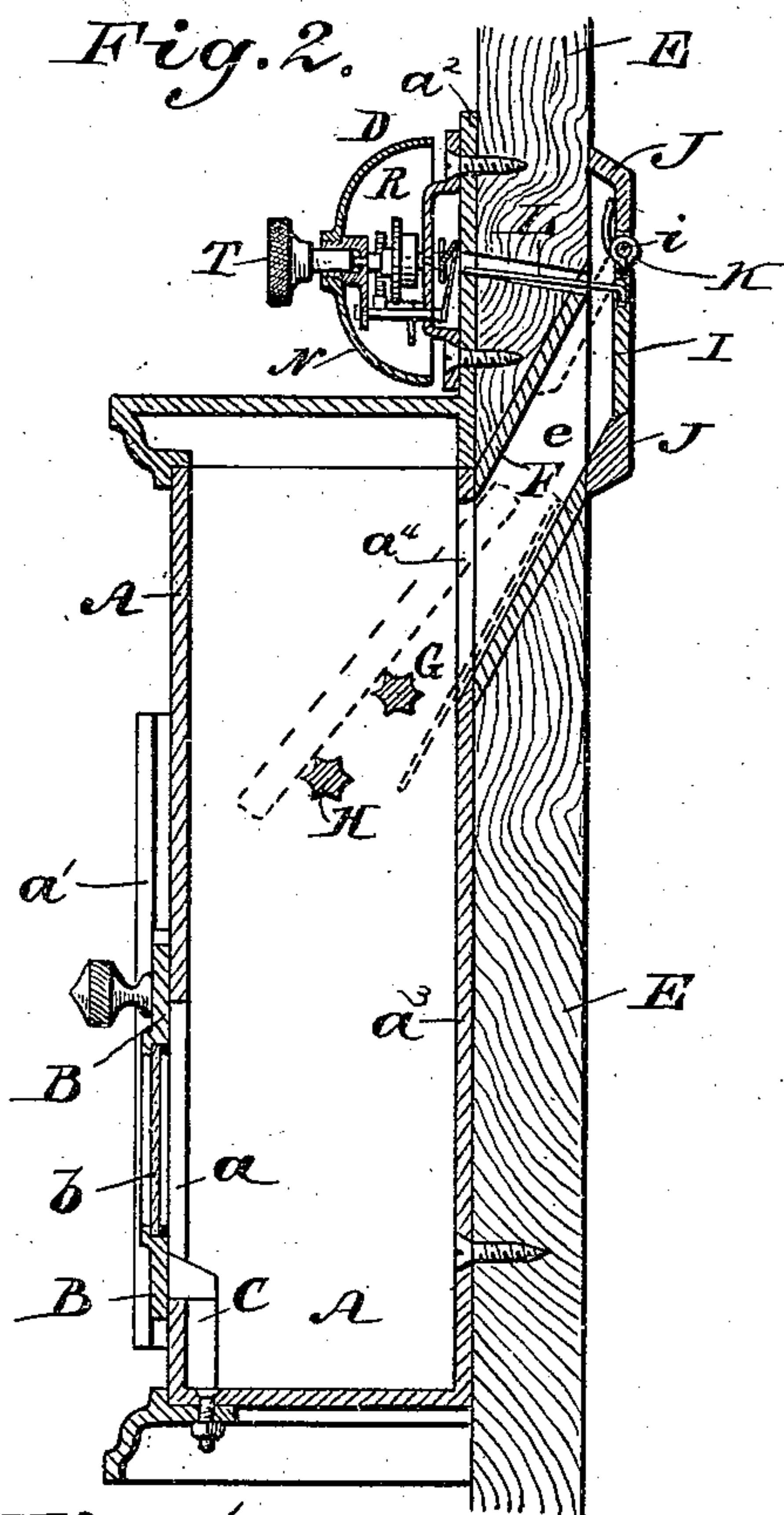


Fig. 3.

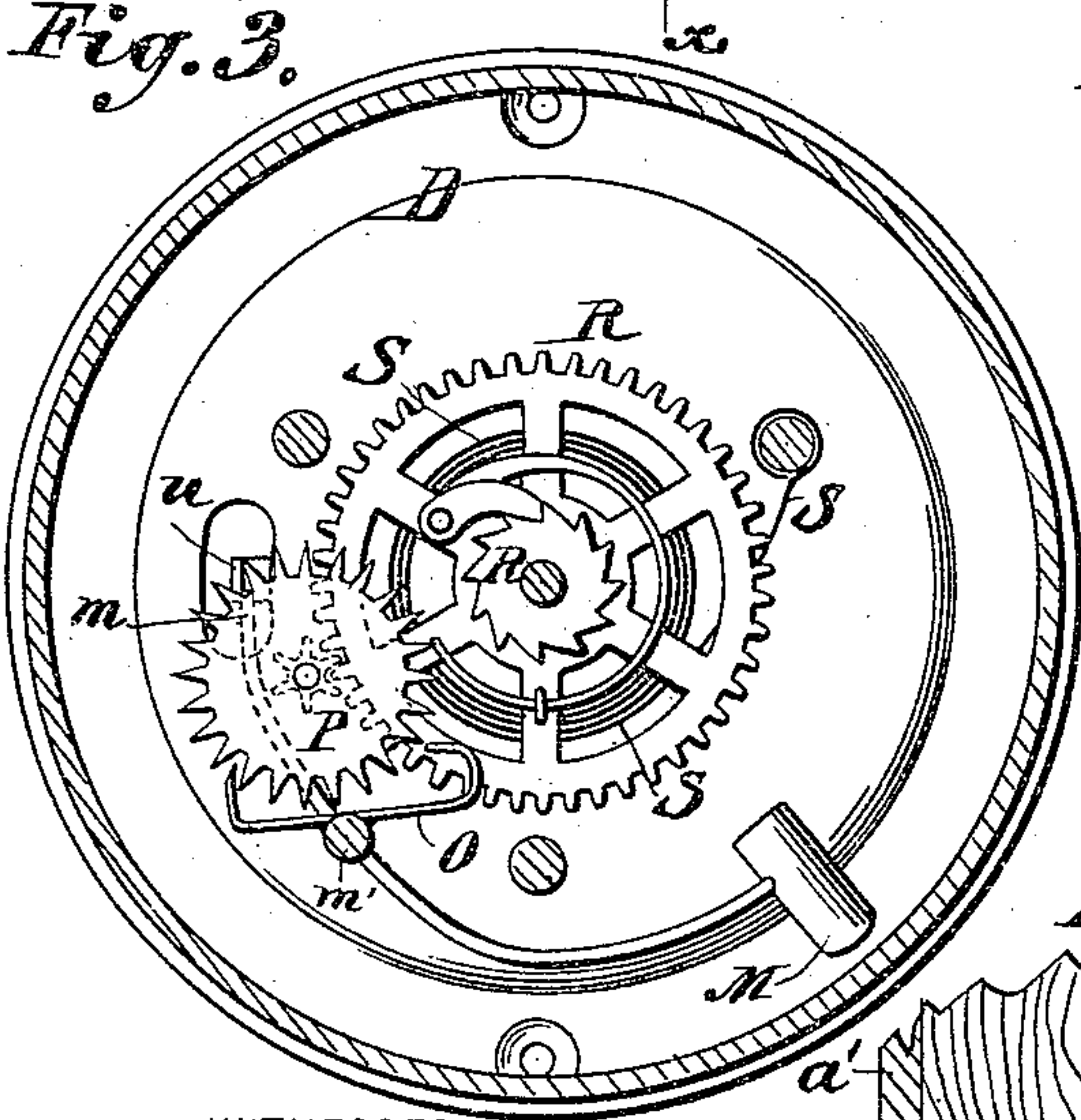
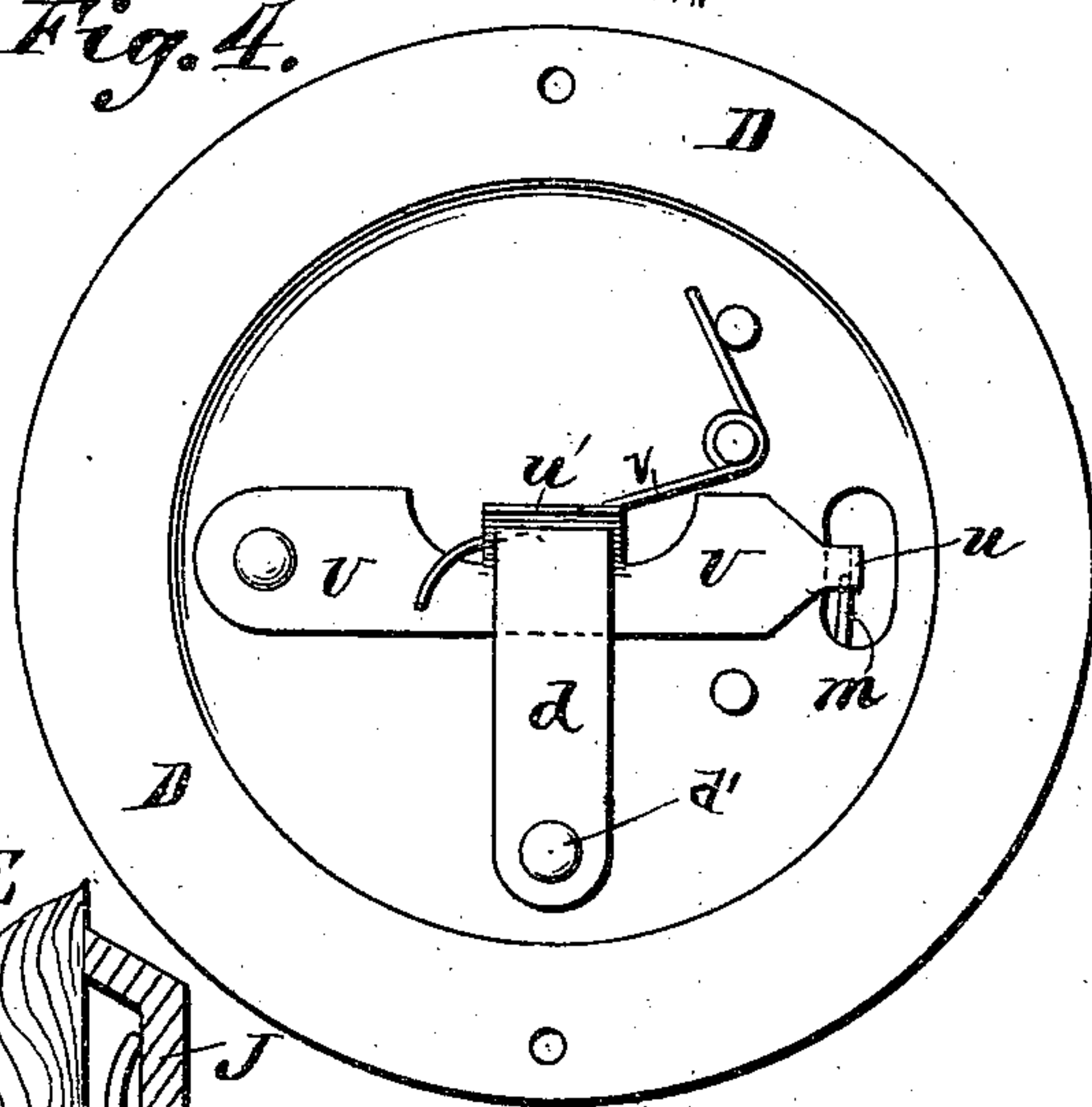


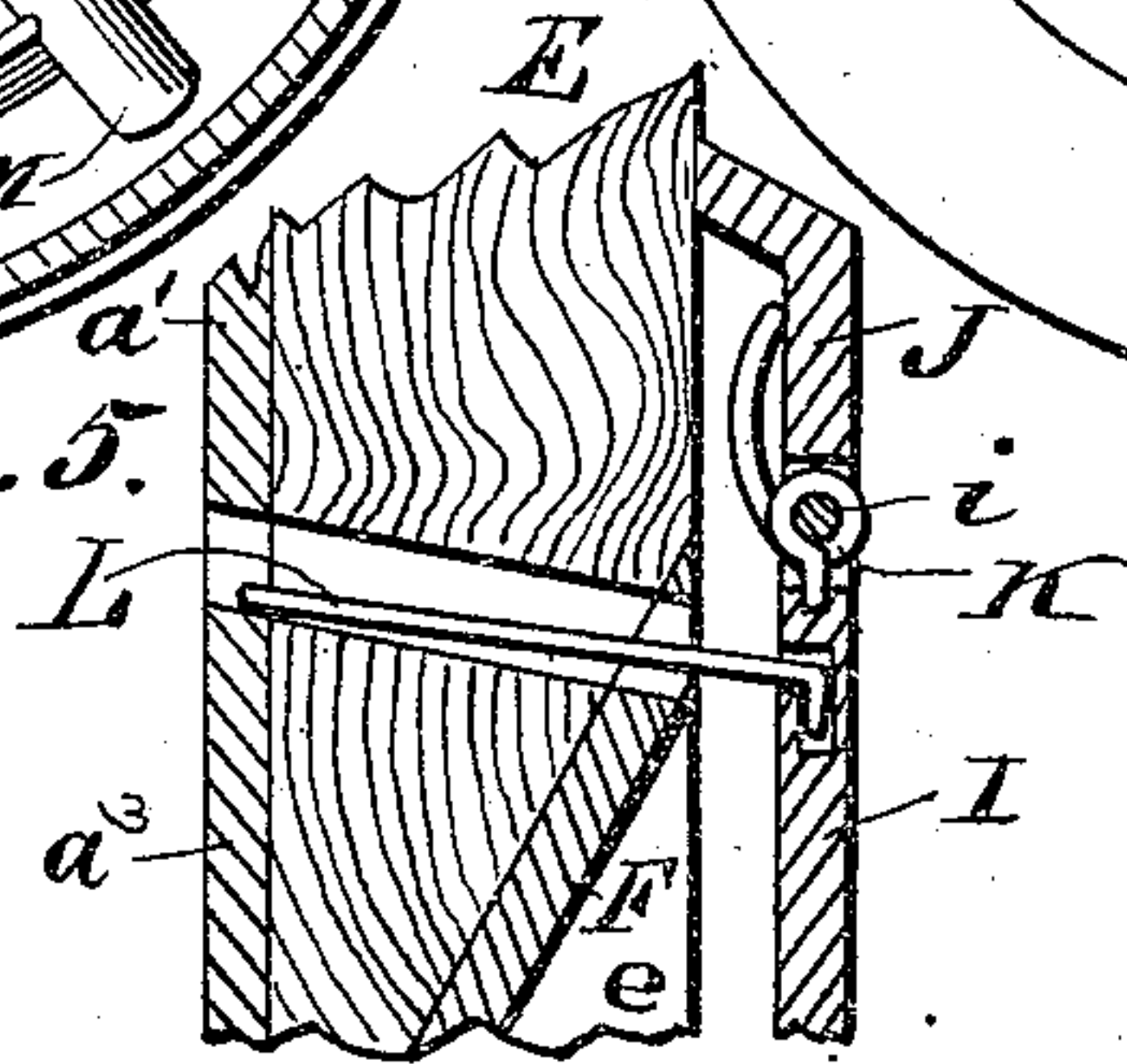
Fig. 4.



WITNESSES:
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Fig. 5.



INVENTOR:

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UNITED STATES PATENT OFFICE.

IRA G. LANE, OF NEW YORK, N. Y.

HOUSE-DOOR LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 446,258, dated February 10, 1891.

Application filed September 9, 1890. Serial No. 364,420. (No model.)

To all whom it may concern:

Be it known that I, IRA G. LANE, of the city, county, and State of New York, have invented a new and Improved Letter or Mail Box, of which the following is a full, clear, and exact description.

My invention relates to letter or mail boxes to be supported in an office or elsewhere at the inside face of a door or partition-wall having an opening through which the mail or other matter is passed into the box; and the invention has for its object to provide such a box with a reliable interior bar to prevent abstraction of mail from or at the drop-lid or inlet-opening and also to facilitate passage of mail into the box.

A further object is to connect a reliable alarm device, preferably a "mechanical electric" or "roll-strike" bell or gong, with the box to cause the alarm to be sounded whenever the drop-lid is opened either to give notice of the delivery of mail into the box or of attempts to fraudulently abstract its contents.

The invention will first be described, and then will be particularly defined in claims hereinafter set forth.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of my improved letter-box, partly broken away. Fig. 2 is a vertical sectional view of the box, taken on the line xx in Fig. 1. Fig. 3 is a front view of the alarm-bell of the box removed therefrom and with parts broken away and in section. Fig. 4 is a rear view of the bell, and Fig. 5 is an enlarged detail view of the drop-lid and connected push-rod.

The main body A of the letter-box may be made of metal or wood or any other suitable materials and in any size required for house or office use. I show the box provided with a lower opening a , which is provided to allow removal of the mail, and is normally closed by a sliding door B, which is fitted in vertical guides $a' a'$ on the box-body, and is preferably provided with a glass or transparent panel or part b , through which the box contents may be seen, and is also adapted to be secured, when closed, by any suitable lock device, which may be an interior lock C, open-

able by a key inserted at a hole c in the body A; but a padlock fastening may be employed, if preferred. As represented in the drawings, the box is presumed to be made of cast metal, having ornamental top and bottom parts and a rear upward extension a^2 , which is preferably provided as a support for a bell-alarm device D, which forms practically a part of the letter-box, and will be hereinafter more particularly described.

I prefer to make the letter-box with a back wall a^3 independently of the door, wall, or partition-support E, to which the box is fixed in a manner allowing mail-matter—such as letters and papers or other articles delivered by the messengers—to be dropped into the box-body through a rather sharply inclined opening or passage e , made through the box-support and coinciding with an opening a^4 , made in the rear wall of the box. I prefer to line the passage e with a metal chute F, as shown in Fig. 2 of the drawings, which also most clearly shows the position of two transversely-journalled rollers G H relatively to the letter-drop passage e . These rollers G H are preferably made star-shaped in cross-section or with alternating grooves and comparatively sharp ridges around their peripheries. The chief object of these rod or roller guards G H, which extend from side to side of the mail-box, is to prevent abstraction of the mail or other contents of the box, but they serve incidentally to facilitate passage of bulky matter into the box. Letters or quite thin parcels or packages will fall through the passage e or its chute F and will pass directly into the box beneath the rollers, but newspapers or other rather long and bulky packages will pass over the rollers and thence down into the box, both of these operations being indicated by dotted lines in Fig. 2 of the drawings. As a safeguard against abstraction of mail from the box these rod or roller guards G H are alone quite effective, but the obstruction they offer to attempted abstraction of the contents of the box is made much more effective by the co-operation with them or either of them of the alarm-signal device D, which is connected with or operative by a drop-lid I, which is preferably hinged by a rod i or otherwise to a suitable frame J, made, preferably, of metal and fixed to the outside

of the door or partition support E of the box. A suitable spring, preferably a spring K, coiled around the drop-lid pivot *i* and acting on the lid and its frame-support, normally swings the lid outward to close the letter-drop passage *e* or chute F, but allows the drop-lid to be swung inward, as indicated by dotted lines in Fig. 2, to allow passage of mail or other matter into the box.

10 The outside letter drop-lid I carries a push-rod L, which is preferably held loosely or pivoted to the lid for vertical movement and projects through a hole made in the door or partition support E, and is adapted, when the drop-lid is pushed inward or opened ever so little, to press or push the spring-plate *d* at the inner or rear face of the signal-bell device or alarm D, which I prefer to employ. This alarm-signal is a well-known and commonly used mechanical electric alarm or one giving a rolling or continuous strike of its hammer M against a gong N as long as its push-plate or spring *d* is pressed by the push-rod of the drop-lid. The bell-hammer M is connected to a rod or shaft *m'*, which is its fulcrum, and carries an escapement O, which works into a toothed wheel P, actuated from a train of gearing or clock-work R, driven by a spring S in a well-known manner, and provided with a knob T, by turning which the spring may be rewound at pleasure. The tail end *m* of the bell-hammer is normally detained by the free end *u* of a vertically-movable lever-plate U, pivoted to the back of the alarm device, said lever-plate being formed with an upwardly and outwardly inclined lip *u'*, upon the rear face of which bears a spring *v*, attached to the back of the alarm device above the lever-plate, and upon the front face of said lip bears the outwardly-inclined free end of a vertical spring-plate *d*, attached by a screw *d'* to the back of the alarm device.

As the drop-lid is pushed inward, the rod L bears upon the upper end of the spring-plate opposite the inclined lip on the lever-plate and presses it inward, and the spring-plate, pressing on the inclined face of the lip, causes the lever-plate to rise against the pressure of the spring *v* and free its end *u* from the tail *m* of the hammer to allow the latter to roll-strike the gong and thus give an effective signal or alarm whenever the drop-lid I is opened either to deposit mail-matter therein or with the intent of fraudulently abstracting the contents of the mail-box through the drop-lid opening or passage *e* or its chute F when used. On the release of pressure on the drop-lid and spring-plate the spring *v* reacts to again engage the free end of the lever-plate with the end of the bell-hammer. The same screws which hold the alarm-bell or signal device to the letter-box plate *a*² may be utilized to hold the upper part of the box to the door or partition support.

Manifestly the same signal or alarm would be given by the bell or gong device were it

fastened to the door or partition E and the upward extension *a*² of the mail-box were dispensed with; but I purposely fix the signal device directly to a part of the mail-box to make the box and signal device one complete and self-contained structure, which may be fastened in place by any person of ordinary intelligence with the assurance of its unfailing operation relatively to the drop-lid and its push-rod working from the other side of the door or partition support of the box. As regards safety against abstraction of mail from the box at the drop-lid opening by forked, "snake," or "gum or pitch ball" devices, the rollers G H may be substituted by fixed rods; but the rollers are more effective than fixed rods would be for this purpose, while their turning also facilitates the passage of paper or package mail into the box.

The pivotal or hinged connection of the push-rod L with the drop-lid I is important, as it allows the rod to be directed from the drop-lid either about horizontally or upward or downward through the door or partition E, thereby allowing the same desirable comparatively steep incline to be given the mail-passage *e* or chute F whether the mail-box be fastened to a thicker or thinner door or wall support, as will readily be understood.

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

1. A letter or mail box provided with one or more roller-guards journaled near the mail-inlet opening, substantially as described.

2. A letter or mail box provided with one or more circumferentially-corrugated or star-shaped roller-guards near the mail-inlet opening, substantially as described.

3. The combination, with a letter or mail box, of an alarm device provided with a presser-plate which when pushed trips the alarm into action, combined with a drop-lid fitted to the wall or support through which the mail enters the box, and a rod interposed between the drop-lid and the alarm-presser plate, substantially as described, whereby as the drop-lid is opened the alarm will be sounded, as and for the purposes set forth.

4. A letter-box provided with an attached alarm device forming a part of the structure and provided with a presser-plate which when pushed trips the alarm into action, combined with a drop-lid fitted to the wall or support through which the mail enters the box, and a rod interposed between the drop and alarm-presser plate and causing sounding of the alarm as the drop-lid is opened, substantially as described.

5. A letter-box attached to a wall or support through which the mail enters the box and provided near the mail-inlet opening with one or more rod or roller guards, combined with a drop-lid device on the box-support, an alarm device at or on the box, and connections between the drop-lid and alarm device to sound the alarm when the drop-lid is

opened, substantially as described, whereby the rod or roller guards and the alarm will co-operate to prevent abstraction of mail from the box at the drop-lid opening, as set forth.

5 6. In a letter or mail drop alarm device, the combination, with a door or wall support, of a frame J, a spring-closed lid I, hinged thereto, a rod held to the lid and extending
10 inward, and an alarm device D, comprising a

gong N, hammer M, escapement and wheel O P, gearing R, spring S, a lever U, normally engaging the hammer to drop it, and a presser-plate d, operating the trip-lever U and operative by the drop-lid, substantially as de- 15 scribed.

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Witnesses:

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