No. 844,456. PATENTED FEB. 19, 1907.

I. MENDEL.

LOCKING MEANS FOR TRUNK FLAPS.

APPLICATION FILED APR. 14, 1906.

Fig. 1.

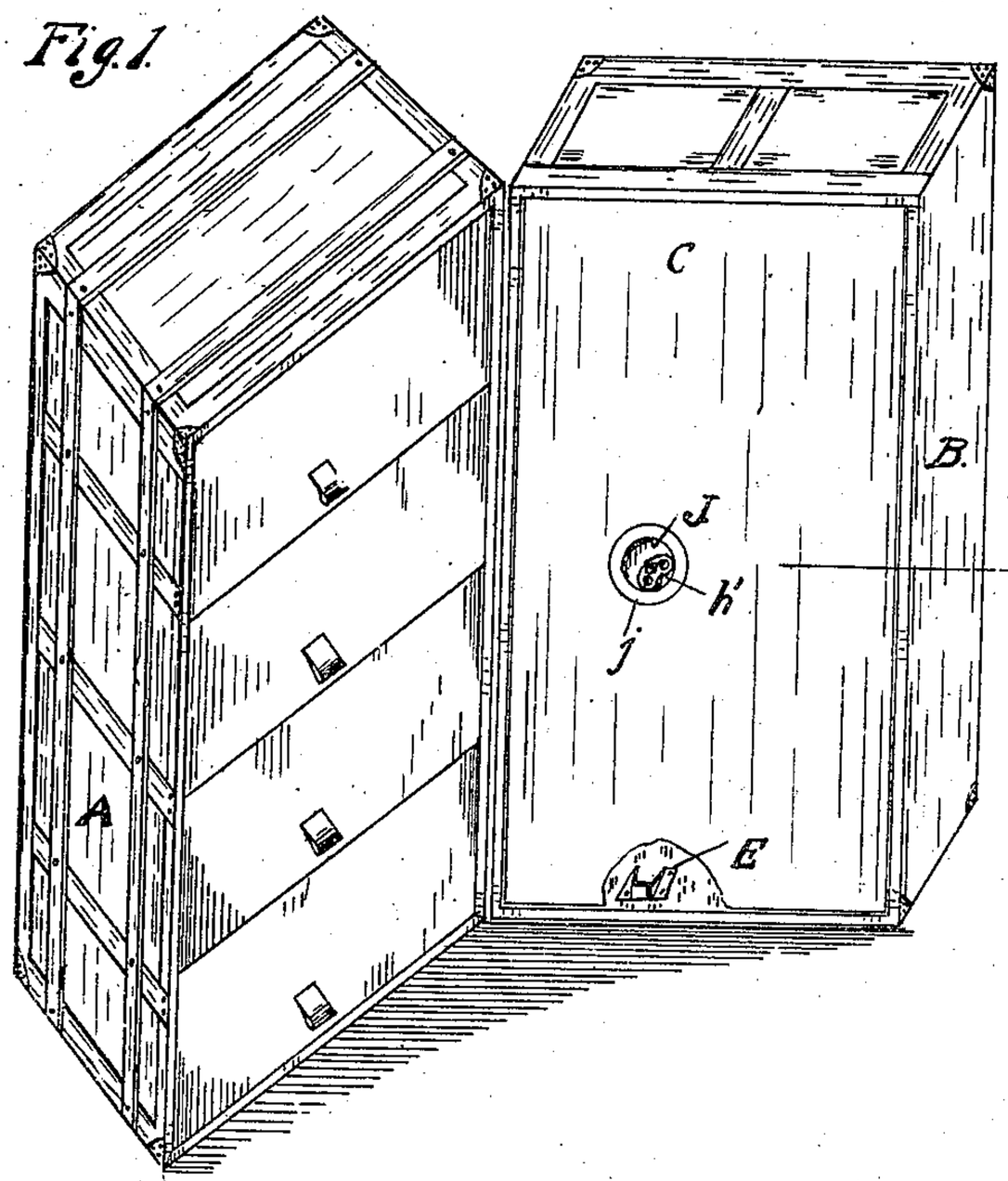


Fig. 2.

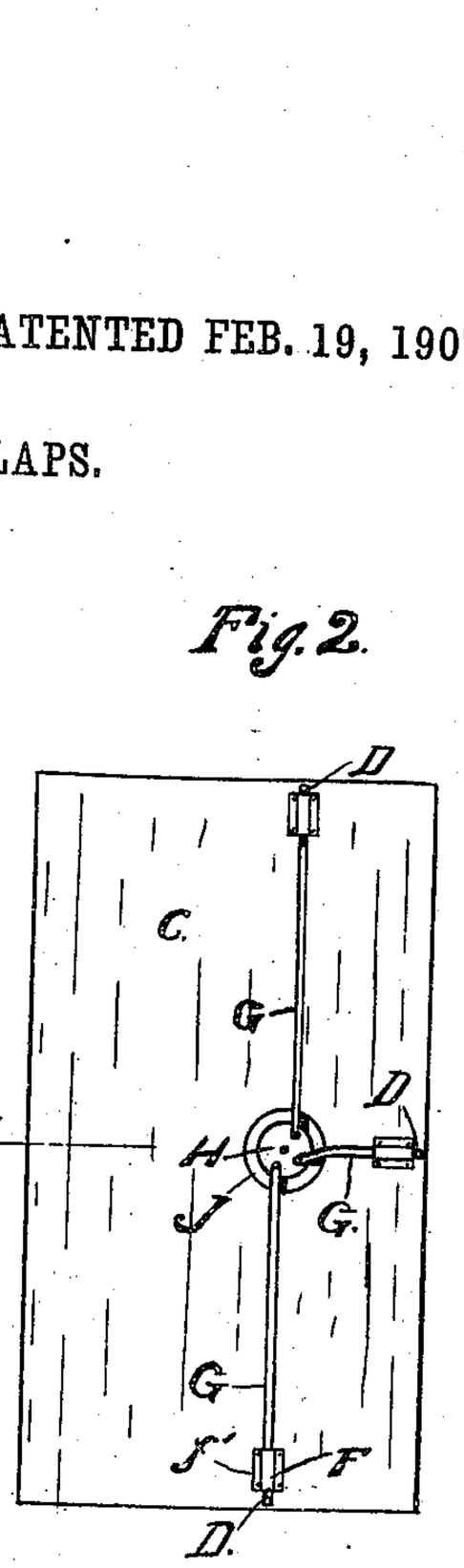


Fig. 3.

Fig. 4.

Fig. 5.

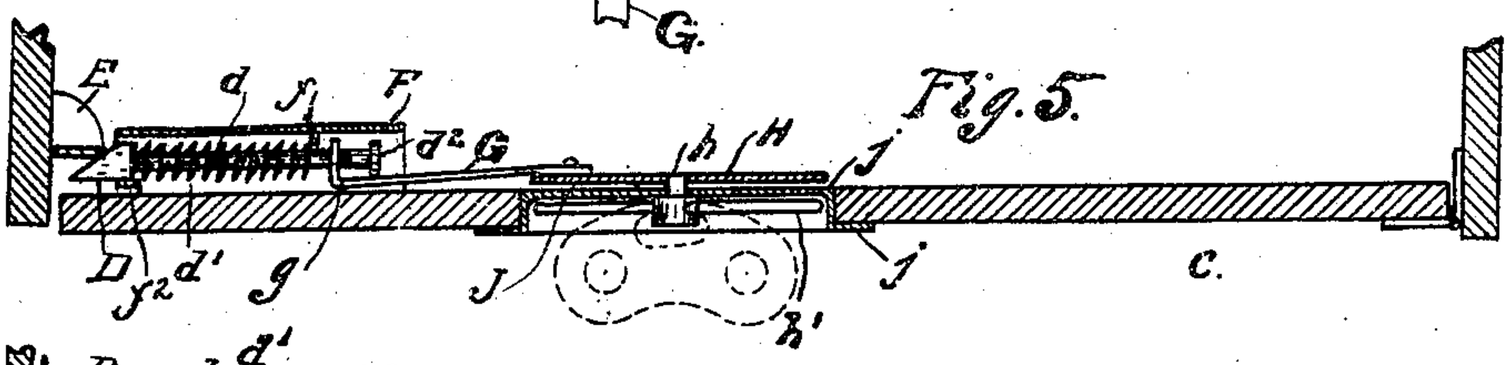
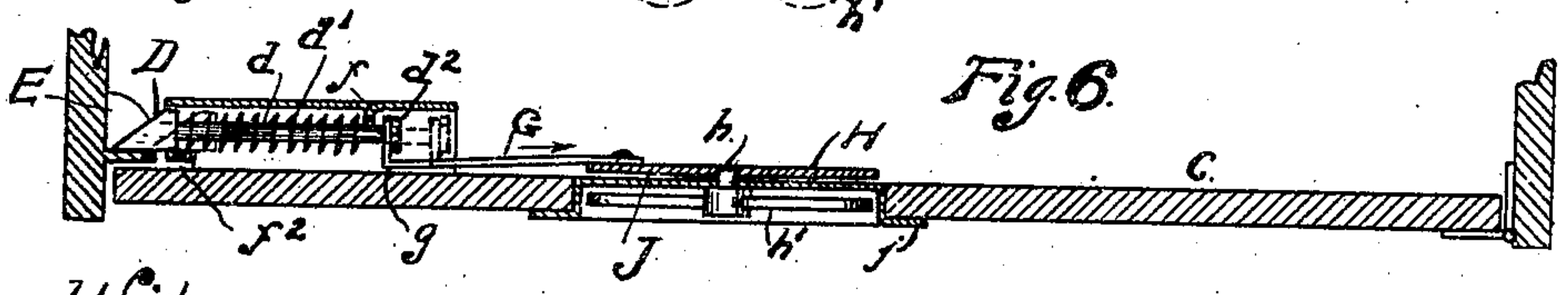


Fig. 6.



Witnesses

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LOCKING MEANS FOR TRUNK-FLAPS.

No. 844,456. Specification of Letters Patent. Patented Feb. 19, 1907.

Application filed April 14, 1906. Serial No. 311,630.

To all whom it may concern:

Be it known that I, ISIDOR MENDEL, a citizen of the United States, residing at Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Locking Means for Trunk-Flaps; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawings, with the reference characters marked thereon, which form also a part of this specification.

This invention relates to locking means designed to be especially adapted for internal trunk doors or flaps, but not necessarily limited to such use.

In the following specification and particularly pointed out in the claims is found a full description of my invention, together with its operation, parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective view a wardrobe-trunk to which my invention is applied. Fig. 2 shows a reverse view of the internal door to which my locking means are applied. Fig. 3 shows, in enlarged detail view, the manipulating parts as they appear in Fig. 1, also part of the locking means as they appear behind the door to which they are secured and when a portion of the same is broken away. Fig. 4 shows a rear view of these parts and as they appear in Fig. 2. Fig. 5 is a horizontal section on line 5 of Figs. 1 and 2 or 3 and 4 and shows position of parts immediately before locking. Fig. 6, in a similar view, shows the locking act complete.

Wardrobe-trunks consist usually of two sections A and B, (see Fig. 1,) hinged to each other, and of which one section is usually provided with a door or flaps C to close it independently against the other section.

The locking means consist of spring-catches D, their number depending on the size of the door, and may be one only in small doors. In larger sizes it is preferable to have one at least for each of the free edges of the door, they operating in conjunction with keepers E, provided within the particular section.

Each catch has a shank *d*, upon which is sleeved a spring *d'*, whereby it is kept in normal engagement with its keeper. The rear end of the spring rests against a shoulder *f*, formed within a housing F, which contains the catch and its spring. The housings are preferably of sheet metal, and said shoulders are obtained by punching an opening into one side of the housing and turning the metal inwardly thereat at an angle. This may be done at one or at all three of the sides of the housing. The larger part of the two opposite sides of a housing is also turned outwardly to form attaching-flanges *f'*, except near the front end of the housing, where this metal is turned inwardly to completely inclose the catch, as shown at f^2, so as to keep the same at a proper space between it and the door to admit the keeper (see Fig. 6) and to positively guide the catch over the edge of this latter.

To release a catch from its keeper, I provide a pull-rod G, engaging with one end its shank *d*, and if there are several catches I provide such a rod for each catch. In such a case it is also necessary that these pull-rods are manipulated simultaneously from a central point of operation. For such purpose they connect with their other ends to a central tumbler or rocking plate H, mounted upon a pin *h*, supported so as to be free for rotation and provided on its outer end with an operating-handle *h'*. In view of the limited thickness and strength of material out of which these trunk-flaps are usually made, it is preferable to provide a metallic bearing for these pins, which I do in shape of a disk-shaped housing J, open toward the front and set and fitted into an opening in door C, which it fills, the arrangement and dimensions being such that an outwardly-open recess is formed in the front of the door, (see Figs. 1, 5, and 6,) into which handle *h'*, jointedly connected to the outer end of pin *h*, may be turned when not in use, so as to present no obstructing projection which would interfere with the closing of the trunk. For use this handle is turned up on its pin *h* so as to project outwardly to permit it to be grasped, as shown in dotted lines in Figs. 3 and 5 A flange *j* is provided on this housing J for its attachment to the door. It will now be seen that by means of a partial rotation of plate H all catches may be simultaneously withdrawn from their keepers. For locking, the door is simply pushed inwardly until the inclined side of the catches encounters their keepers, (see Fig. 5,) when they yield against their springs until passed over their keeper, after which they are again forced outwardly by the springs. The keepers are now in front of the catch and occupy the space between them and the door. (See Fig. 6.) The thickness of the keepers is lim-

ited, they being of sheet metal, and may thus readily occupy this space. The flaps or doors of these trunks are usually of light material, presenting little rigidity or stiffness, and therefore when pushed into closing position the catches should yield readily and simultaneously when coming in contact, as shown in Fig. 5, with their keepers. Otherwise only some of the catches might engage their keepers, while as to stiffly-working ones the light material of the flap would bend thereat, so that these particular catches would not lock readily. Therefore to remove resistance as much as possible the engagement of rods G to the catches is not a positive one, so that when these latter are pushed back by contact with their keepers the movement of the parts and resistance incident thereto does not go beyond these catches. This is done by providing the ends of shanks *d* with shoulders *d*², the shanks being engaged in front of their shoulders by the forked ends *g* of rods G. It will now be seen that when a catch engages its keeper for locking, as shown in Fig. 5, it will readily yield and in its retractive movement does not have to overcome the resistance otherwise present if all the locking-rods and the central manipulating parts would have to be moved simultaneously. To provide for equal movement of all the catches and to limit the manipulating action, I provide a stop K, which works in conjunction with a notch *k* in the edge of plate H and limits the manipulation to the proper extent.

Having described my invention, I claim as new—

1. A spring-catch having a rearwardly-extended shank with a shoulder at its end, a sheet-metal housing fitted to receive the same, part of the opposite sides being turned outwardly to form attaching-flanges, the remaining part of these sides being bent inwardly to inclose the catch, a spring sleeved upon the shank of this catch and a shoulder against which the inner end of the spring rests, such shoulder being formed by turning part of the metal of the housing inwardly.

2. In means for locking the inner door which closes one of the sections of a wardrobe-trunk, and which door has an opening, the combination of a housing set into this opening, a pivot-pin supported centrally in this housing, a rocker-plate and a manipulating-handle connected to opposite ends of this pin on opposite sides of the housing, the handle being hingedly connected and adapted to occupy the housing when not in use, rods connected to the rocker-plate and extending from there toward the edges of the door, housings provided at these edges into which these rods extend and within which they terminate, the end of each rod being forked, catches fitted into these housings having shoulders at their inner ends which are engaged by the forked ends of the rods, keepers one for each catch and springs provided for each catch, operating to hold them in locking engagement with their keepers when opposite them, but permitting them to yield independently of these rods when passing in or out of their catches.

3. In means for locking the inner door which closes one of the sections of a wardrobe-trunk, the combination of a number of housings secured at the edges of the door, they being open at opposite ends and provided with an internal shoulder which forms a spring-seat, catches contained therein, having shanks extending rearwardly beyond the shoulders mentioned, where they terminate into a shoulder, complementary keepers for these catches, springs within these housings adapted to engage with their outer ends the catches, to hold them normally in locking engagement with their keepers and seated with their inner ends on the shoulders mentioned, rods having forked ends engaging the shanks of the catches between the shoulders at their ends and the spring-seat so as to permit the catches to move inwardly independently of the rods and means to manipulate these rods to simultaneously unlock all catches.

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

ISIDOR MENDEL.

Witnesses:
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