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A. MAIN

2,430,473

FARE BOX CONSTRUCTION

Filed Oct. 21, 1944

2 Sheets-Sheet 1

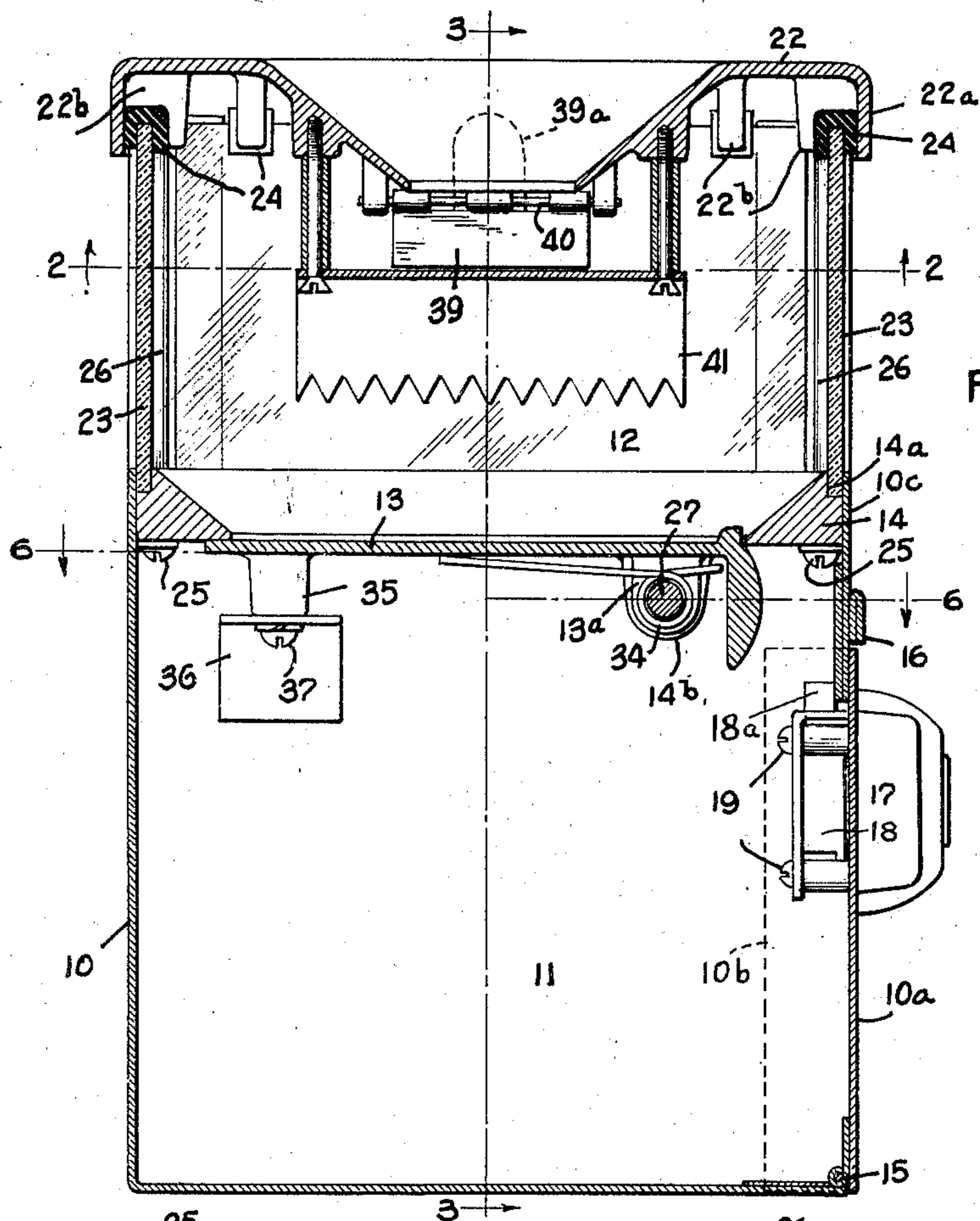


FIG. 1.

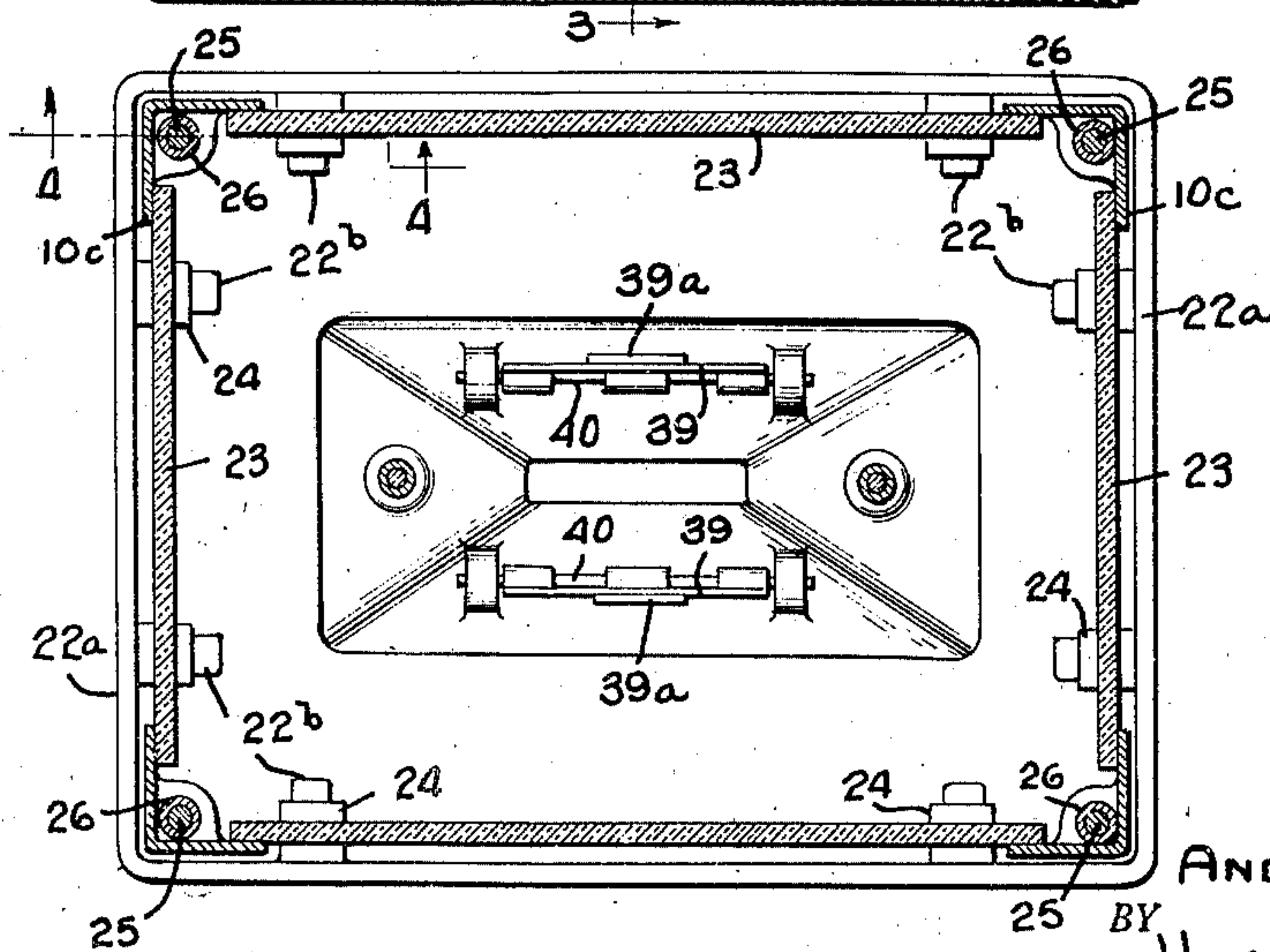


FIG. 2.

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2 Sheets-Sheet 2

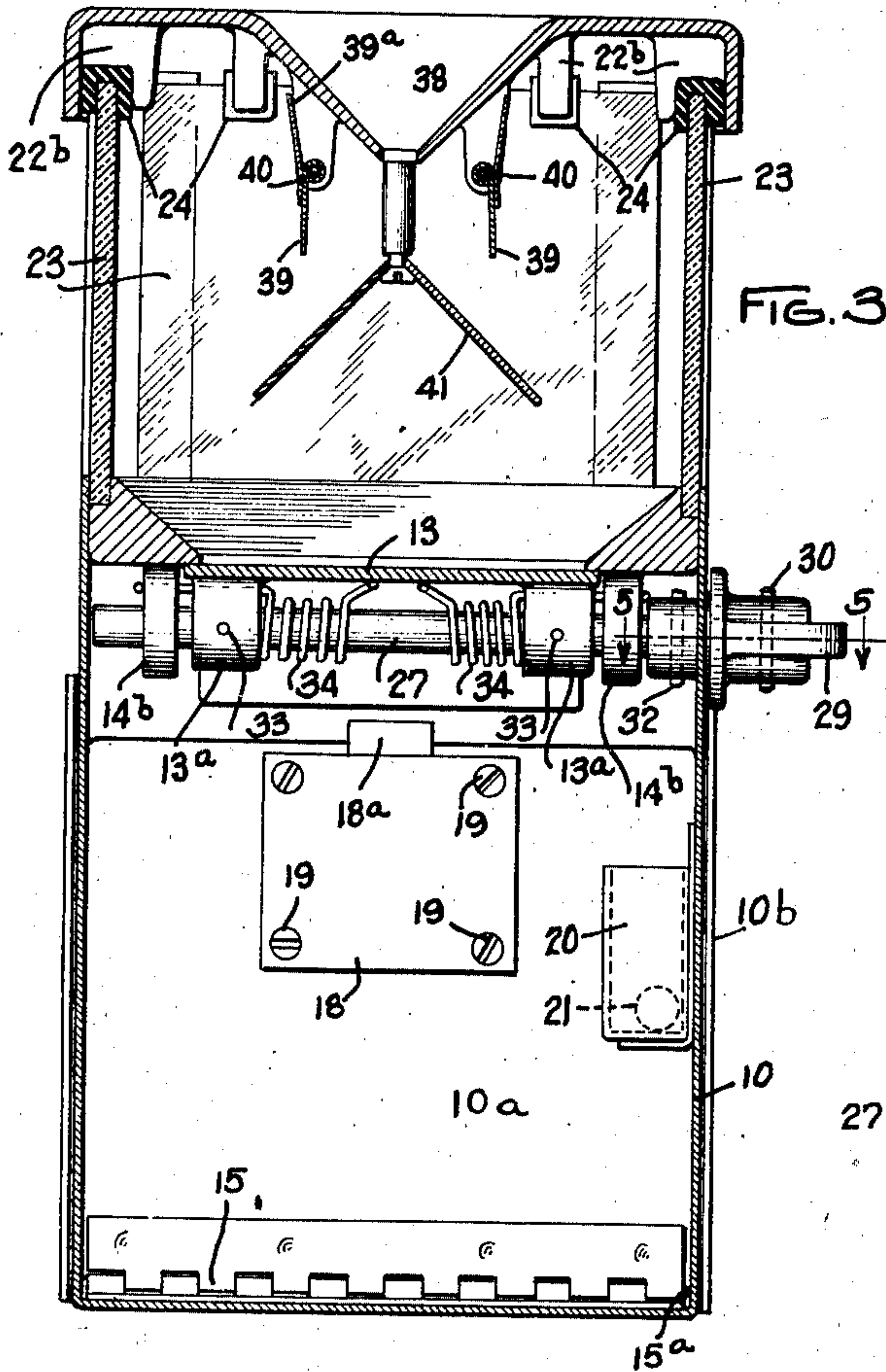


FIG. 3.

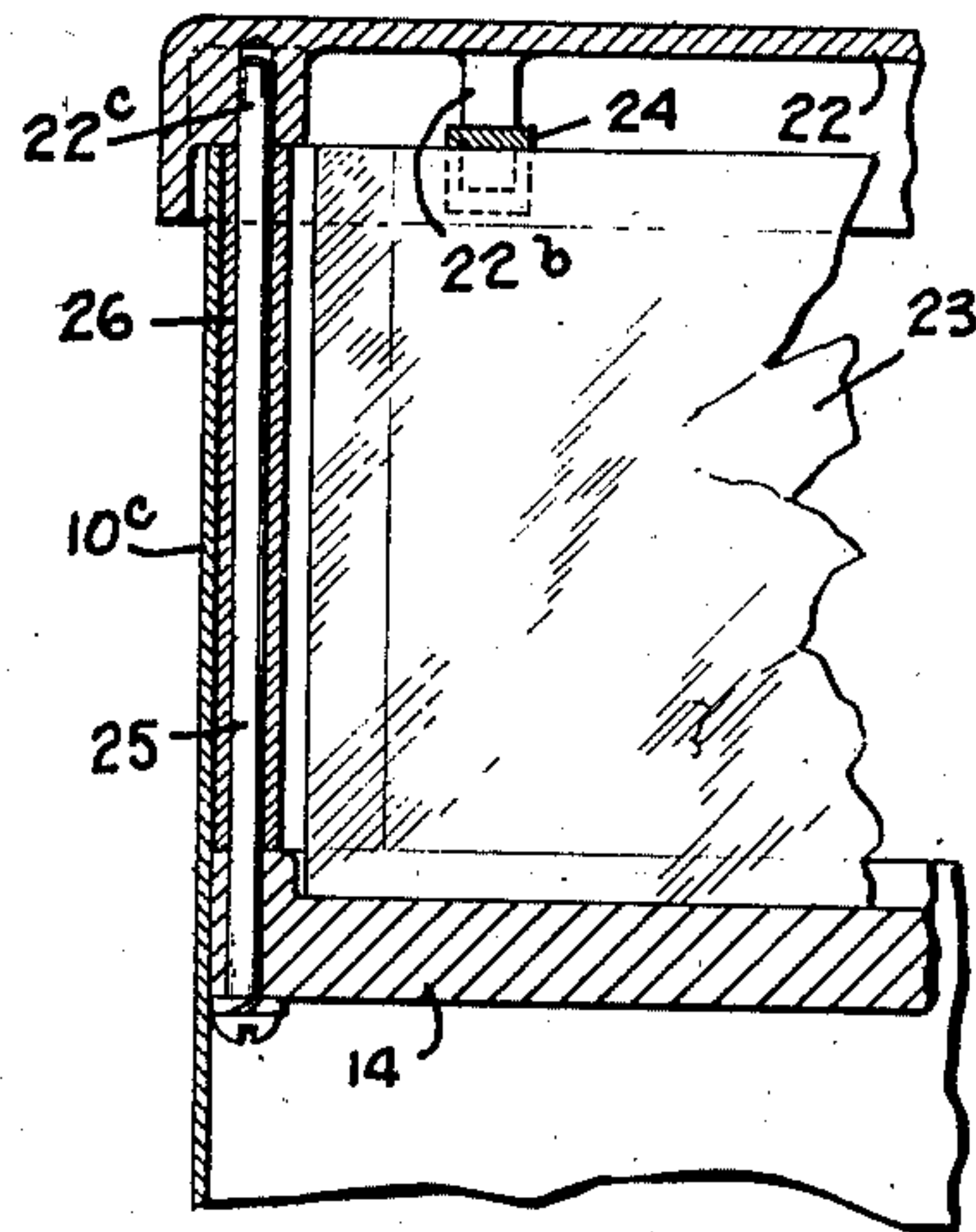


FIG. 4.

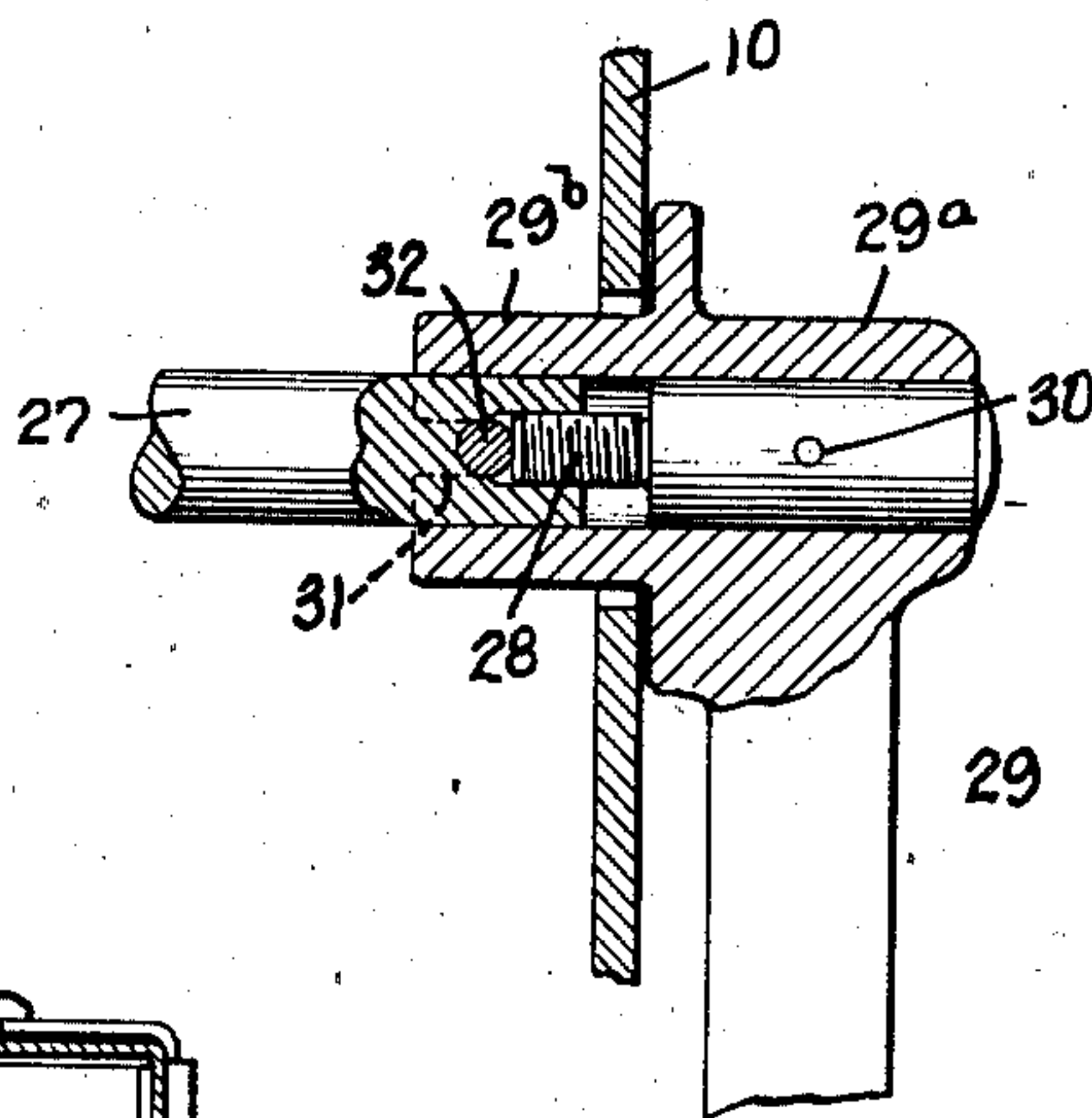


FIG. 5.

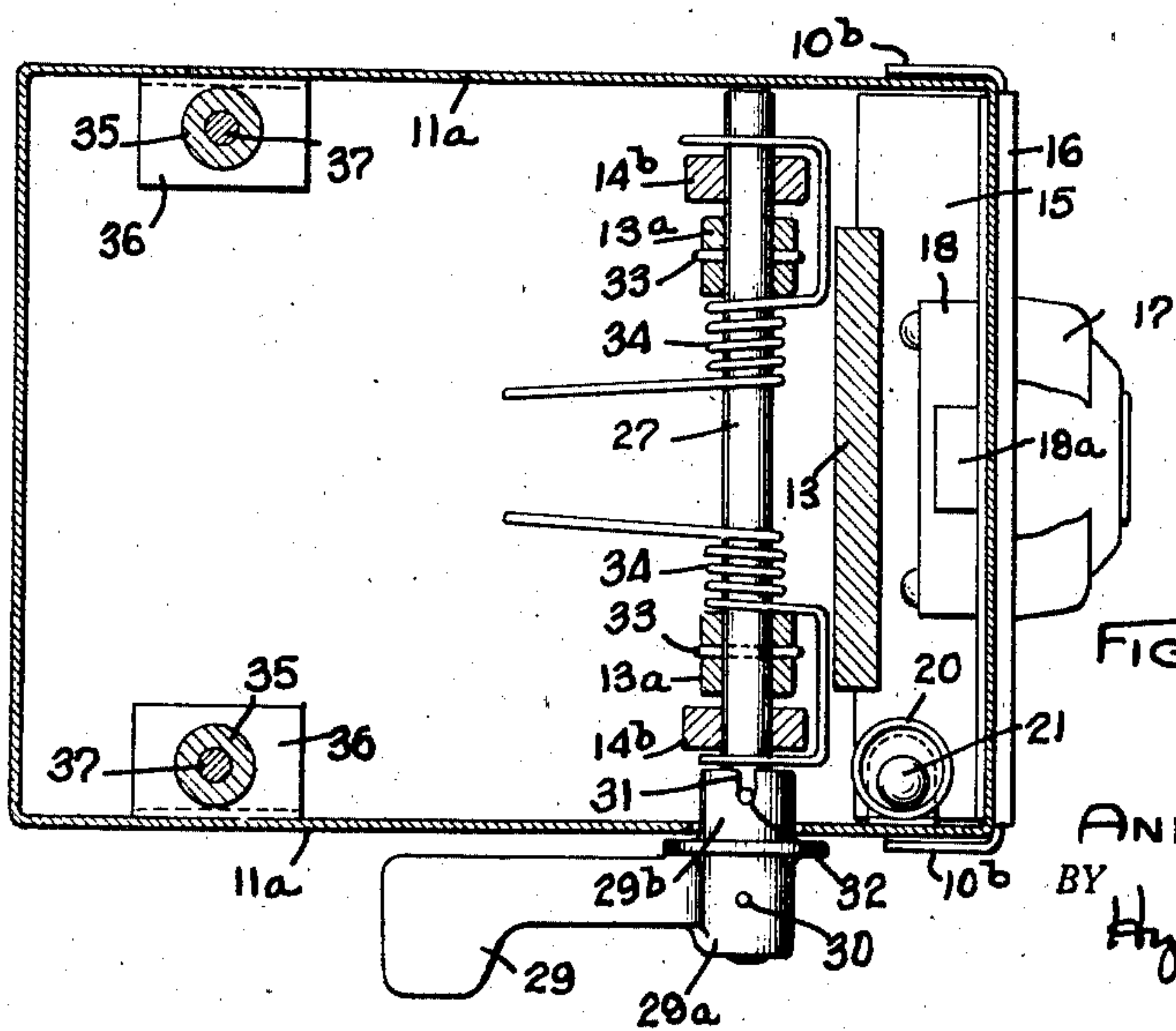


FIG. 6.

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## UNITED STATES PATENT OFFICE

2,430,473

## FARE BOX CONSTRUCTION

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Application October 21, 1944, Serial No. 559,692

4 Claims. (Cl. 232—7)

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This invention relates to improvements in a fare box of the type used in busses and street railway cars.

One of the objects of the present invention is to so construct the box that it is substantially tamper-proof, that is to say, money cannot be pilfered from the locked compartment of the box without detection.

Another object of the present invention is to provide a novel construction involving the box top, the inspection plate, and the inspection windows.

Other portions of my invention have to do with details of construction, all of which contribute to the utility or ease of construction of my improved box.

In the drawings,

Fig. 1 is a central sectional view taken vertically through a box embodying my improvements;

Fig. 2 is a transverse sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 1;

Fig. 4 is a fragmental sectional view taken along the line 4—4 of Fig. 2;

Fig. 5 is a fragmental sectional view, enlarged, taken along the line 5—5 of Fig. 3; while

Fig. 6 is a transverse sectional view taken along the line 6—6 of Fig. 1.

In the embodiment of my invention illustrated in the drawings, I provide a one-piece housing 10 which might be a casting or the like but which I have illustrated as formed of sheet metal welded together so that there are no screws, bolts, or other fastening devices accessible on the outside of the housing. This housing is divided into a lower locked compartment 11 and an upper fare-receiving compartment 12 by means of the inspection plate 13 and its coacting frame 14.

Other than the inspection plate just mentioned, there is a single locked opening providing access to the compartment 11. This comprises the door 10a which extends the entire width of one of the end walls of compartment 11, this door being pivoted on the hinge 15 which extends the entire width of the compartment 11. The door is provided with wide flanges 10b as best seen in Figs. 1 and 6. These flanges are at right angles to the door proper and lie close against the outer face of the side walls 11a of the compartment 11. These flanges 10b and the side walls 11a overlies the ends of the hinge pin 15a as best seen in Fig. 3. This prevents tampering with the hinge pin to unfasten the door at its lower edge. When the door is closed as shown in Figs. 1 and 6, the

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upper edge of the door fits snugly beneath a heavy strip of metal 16 which is welded to the wall of the box across the entire width thereof just above the door. This prevents the inserting of a pry beneath the upper edge of the door.

The locking means for the door comprises key-operated tumblers located in the housing 17 on the outside of the door, and the keeper portion of the lock 18 housing the keeper or throw 18a is secured on the inner face of the door 10a by means of screws 19 which pass through the door 10a into the member 17 for securing the latter also. It results from this construction that I can fasten the housing 17 in position during the painting of the box while omitting the portion 18 at this time. Later the screws 19 are removed and the member 18 positioned in its proper place with the assurance that the operating parts for the keeper are free of paint.

Positioned on one of the inner walls of the compartment 11 is a cup 20 fixed in position and opening at the top only. In this cup is the tell-tale ball 21. If an operator turns the box upside down in an attempt to shake out money, the tell-tale ball will be found loose in the locked compartment to give evidence of tampering.

In the upper compartment 12, I have provided a novel construction involving the top 22 of the box, the inspection windows 23, and the inspection plate and frame 13, 14.

Generally, four inspection windows 23 are provided as shown in Fig. 2, and for this type of construction, the housing 10 is cut away leaving only the L-shape corner posts 10c as best seen in Fig. 2. Obviously, the wall for the upper compartment 12 could be solid between any pair of these corner posts without affecting my invention as applied to the sides where the windows are provided.

Referring to Figs. 1 and 3, shoulders 14a are provided on the upper, outer walls of those sides of the rectangular frame 14 which are to receive inspection windows. In the present instance, all four sides are so constructed. The top cover 22 is provided with a downwardly-extending flange 22a around the four sides thereof adapted to overlies the corner posts 10c. Spaced inwardly from the flanges are ears 22b adapted to lie inside the top of each inspection window, there being two of these ears for each window as clearly shown in Fig. 2. Preferably, these ears are so spaced from flange 22a to permit the introduction of a pad 24 of rubber or the like to cushion the window at this point. Four long screws 25 are provided one at each corner of the frame 14.



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Each of these bolts, as clearly shown in Fig. 4, passes upwardly through the frame 14 and is threaded into a boss 22c on the top cover. Preferably, a spacer sleeve 26 is provided around each screw to limit the action of the screw drawing cover 22 toward the plate 14 so as to insure against any overstraining of the glass windows 23 when these screws are tightened. However, these sleeves 26 are not absolutely essential because careful construction of the corner posts 10c will also limit this movement.

It will be noted from the above description that when the windows are in position, they are overlapped on the bottom and two vertical sides by the posts 10c and along the top by the cover flange 22a. On the inside, the windows are held by the shoulder 14a at the bottom and by the ears 22b at the top. The windows are of such a width that they extend substantially to the corner sleeves 26 so that there is no room to displace the windows sideways. It will be noted from this construction that windows are easily inserted or replaced when broken; they are always safely held and yet they are under no strain such as often causes breakage of windows of this type.

The inspection plate 13 has two downwardly-extending ears 13a which lie opposite two downwardly-extending ears 14b of the frame 14. Through suitably bored openings in all of these ears passes a shaft 27 which is short enough to pass between the inner faces of the walls of the housing 10 as best shown in Figs. 3 and 5. It will be noted in Fig. 3 that the shaft stops short of the wall of the housing in the left end, and it will be noted in Fig. 5 that the shaft is cut off short of the wall of the housing at the right end and is there provided with a short extension means to pass through the wall of the housing. This extension means comprises a short screw 28 which is held in the handle hub 29a by means of a pin 30. The handle hub has a sleeve flange 29b which fits over the end of shaft 27. This sleeve 29b has diametrically-opposed slots 31 which embrace the opposite ends of a pin 32 which passes through shaft 27. Thus when the handle 29 is screwed into the threaded opening of shaft 27 which receives screw 28 after which pin 32 is inserted, the inspection plate may be manipulated in the usual manner as the ears 13a are pinned through shaft 27 by the pins 33. Double coil springs 34 are wound around shaft 27 with one end fixed by bending around ear 14b and the other end lying beneath the inspection plate so as to normally hold the plate in its closed position.

It will be noted that the above-described construction of shaft 27 holds the right-hand end of frame 14 (as viewed in Fig. 1) in fixed relation to the housing 10 when the screw 28 and handle 29 are in the position described in Fig. 5. The left-hand end of frame 14 (as viewed in Fig. 1) is held in fixed relation in housing 10 by means of two bosses 35 integral with frame 14 and extending downwardly therefrom to overlie L-shaped brackets 36 welded on the inner side walls of the housing. Screws 37 pass through the brackets into the bosses. It results from this construction that to disassemble the upper portion of the box, screws 37 must be removed, and handle 29 and screw 28 must be unfastened from the end of shaft 27 as shown in Fig. 5 after which the top cover 22, the frame 14, and the inspection windows may be lifted upwardly away from the box.

I provide means for preventing the shaking of coins or the like out of the box if the same should be turned upside down. On each side of the slot

## 4

38, through which fares are inserted in the box, I mount a flapper member 39 which is hinged at 40 to a projecting ear on the cover. These flapper members are so hung and counterweighted by the upstanding ears 39a that they normally hang substantially vertically as shown in Figs. 1 and 3, but on turning the box upside down, they fold over the slot 38 preventing the escape of coins at this point. The deflector plate 41 of inverted V-shape just below the slot 38 is a standard means for making it difficult to remove fares from the box through the slot 38.

What I claim is:

1. In fare box construction, a housing closed at the bottom and sides and open at the top, an inspection plate dividing said housing into a lower locked compartment and an upper fare-depositing compartment, a locked door in said lower compartment, an inspection window in said upper compartment, a top cover engaging a top portion of said housing for closing the top of said housing and said upper compartment, a portion of said top cover embracing the top of said window, and means securing said cover to said housing and holding said window in place, said means and housing coacting to limit the pressure of said cover on said window.
2. In fare box construction, a housing closed at the bottom and sides and open at the top, a frame having a central opening, an inspection plate movably mounted on said frame for closing said opening, said frame and plate dividing said housing into a lower locked compartment and an upper fare-depositing compartment, said frame being movable out of the open top of said housing, means inside said locked compartment securing said frame to said housing, a top cover for closing the top of said housing, an inspection window in said upper compartment and held in place by said top cover, and securing means for said top cover attached to said frame and accessible only in said locked compartment, said frame securing means being independent of said top cover securing means.
3. In fare box construction, a housing closed at the bottom and sides and open at the top, a frame having a central opening, an inspection plate movably mounted on said frame for closing said opening, said frame and plate dividing said housing into a lower locked compartment and an upper fare-depositing compartment, said frame being movable out of the open top of said housing, a top cover for closing the top of said housing, a two-part operating member for said inspection plate secured to said plate and secured to said frame nearer one end thereof, said operating member having a part held in said frame and movable out of the open top of said housing with said frame, said operating member having a removable part extending through a wall of said housing, the inner end of said removable part operatively engaging said frame-held part, means securing said top cover to said frame, and means nearer the other end of said frame and inside said locked compartment for securing said frame to said housing.
4. In fare box construction, a housing closed at the bottom and sides and open at the top, a frame having a central opening, an inspection plate movably mounted on said frame for closing said opening, said frame and plate dividing said housing into a lower locked compartment and an upper fare-depositing compartment, said frame being movable out of the open top of said housing, a top cover engaging a top portion of said



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housing for closing the top of said housing, there being an opening through a wall of said housing at the top, an inspection window inside said housing and overlapping the edges of said opening, said cover and frame engaging said window at its top and bottom edges respectively, means securing said cover to said frame and said frame to said housing, and means limiting the movement of said cover toward said frame, whereby to prevent strain on said window.

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## REFERENCES CITED

The following references are of record in the file of this patent:

## UNITED STATES PATENTS

Number	Name	Date
1,499,904	Bell et al.	July 1, 1924
1,534,163	Cox	Apr. 21, 1925