

No. 753,656.

PATENTED MAR. 1, 1904.

L. J. BAKER & R. E. FRENCH.

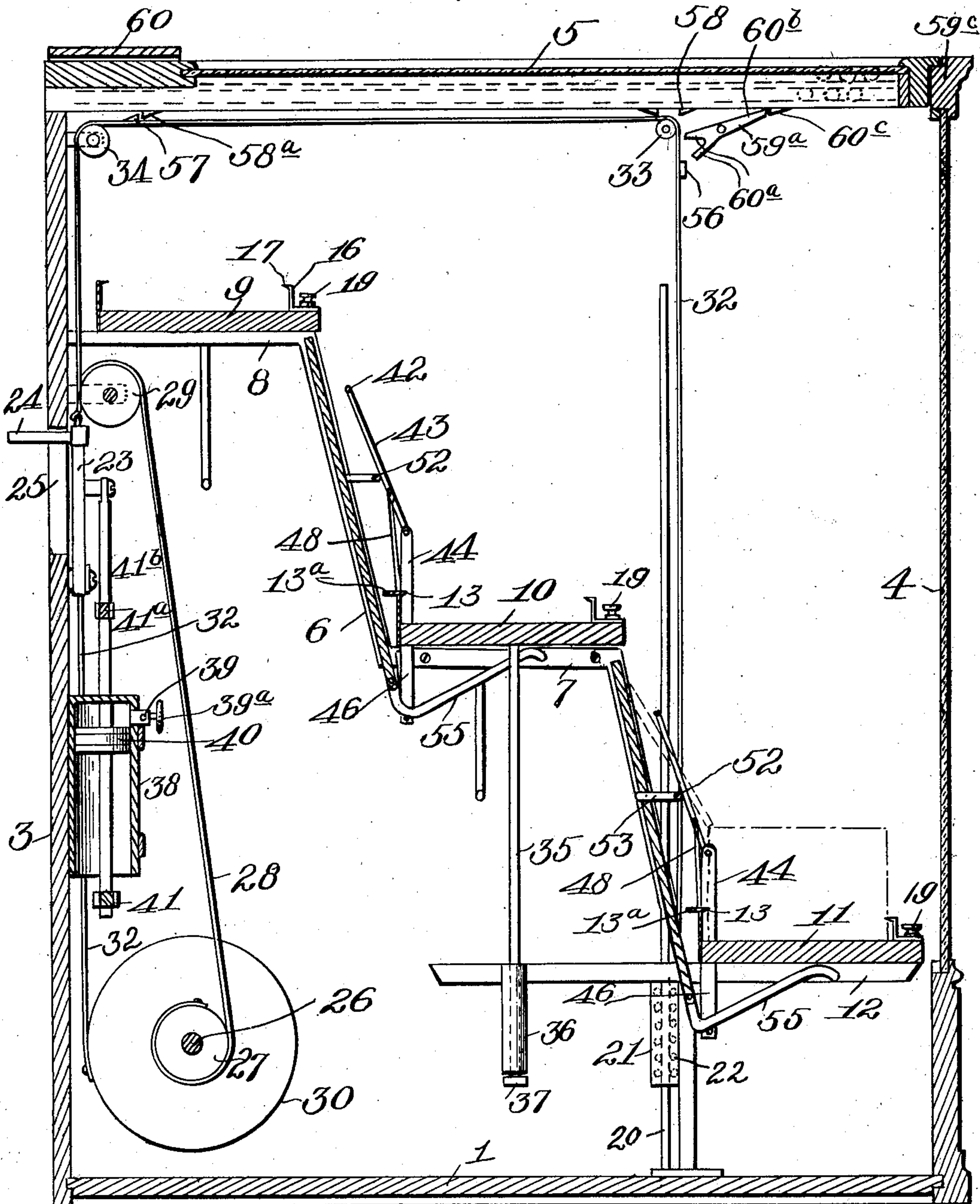
SHOW CASE.

APPLICATION FILED MAY 13, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.



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J. B. Kesler

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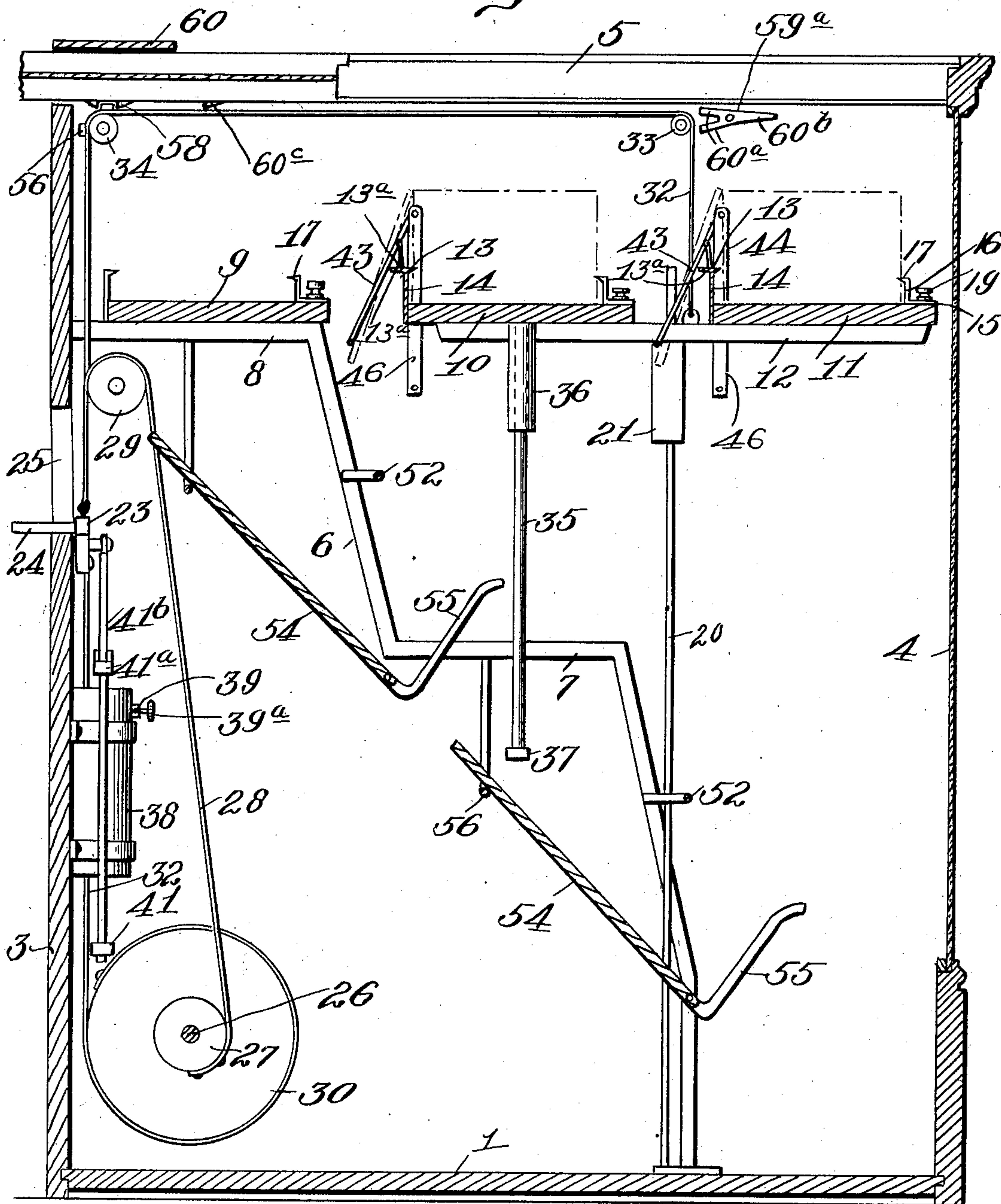
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4 SHEETS—SHEET 2.

Fig. 2.



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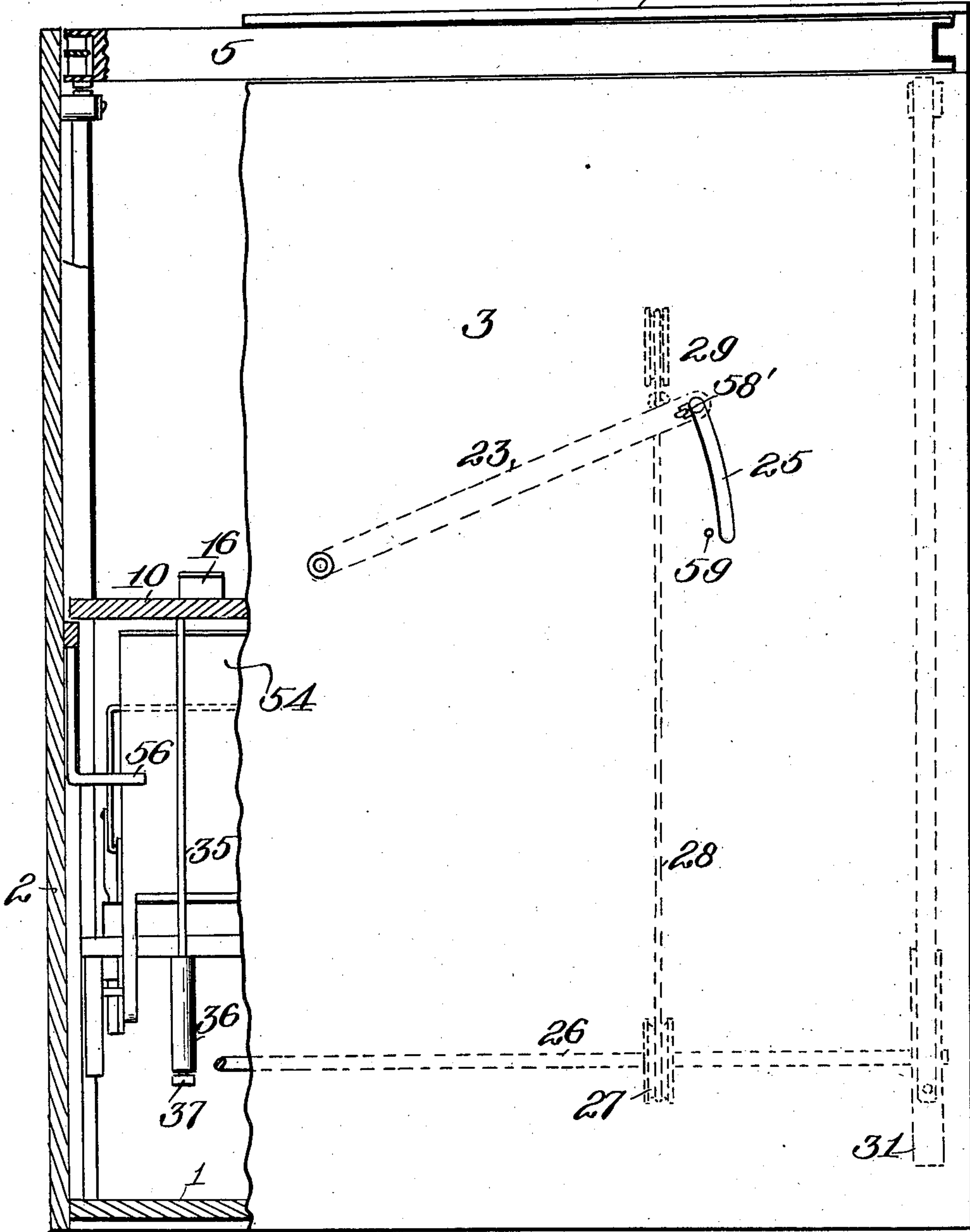
APPLICATION FILED MAY 13, 1903.

NO MODEL.

4 SHEETS—SHEET 3.

Fig. 3.

60



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NO MODEL.

4 SHEETS—SHEET 4.

Fig. 4.

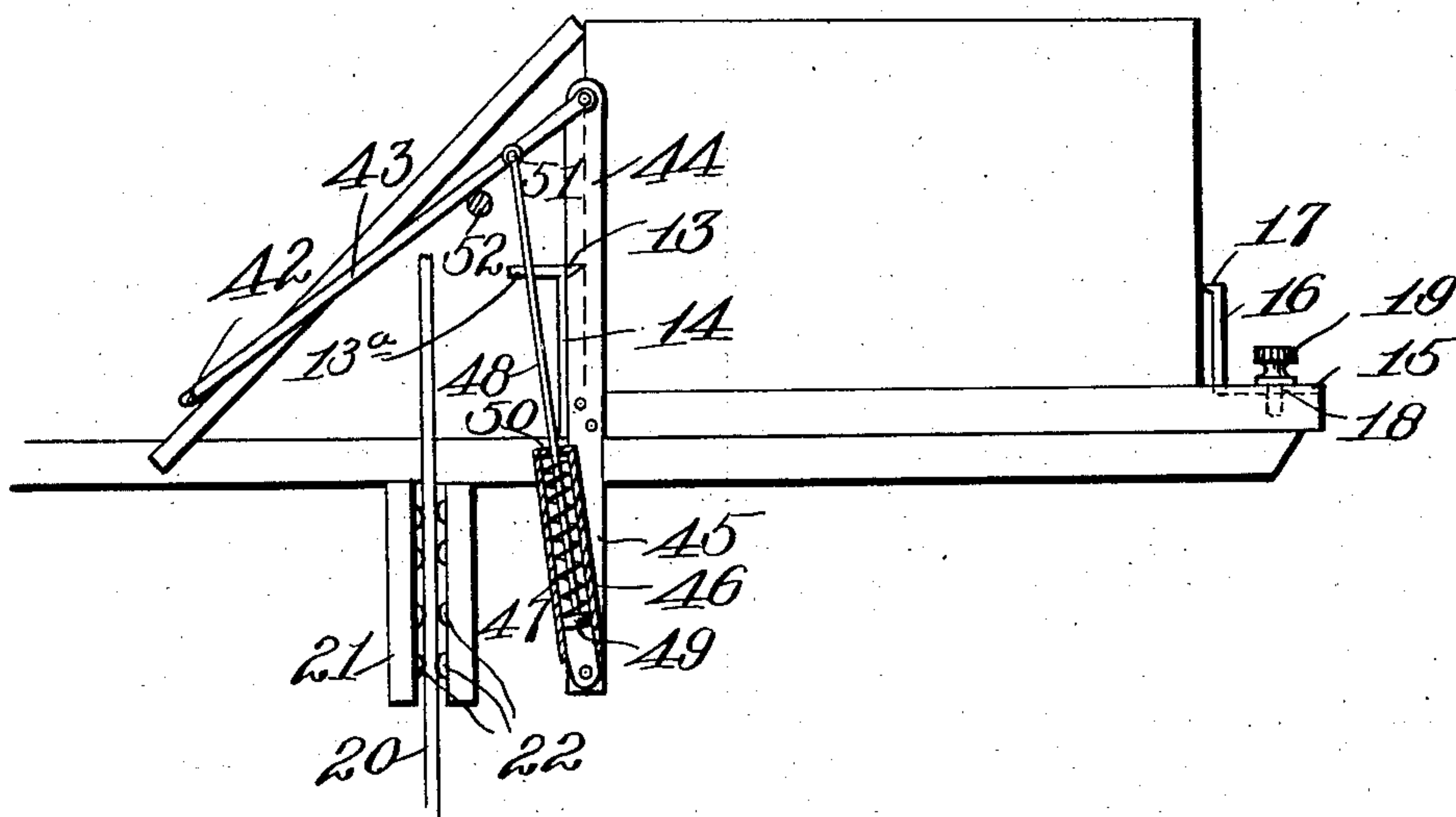
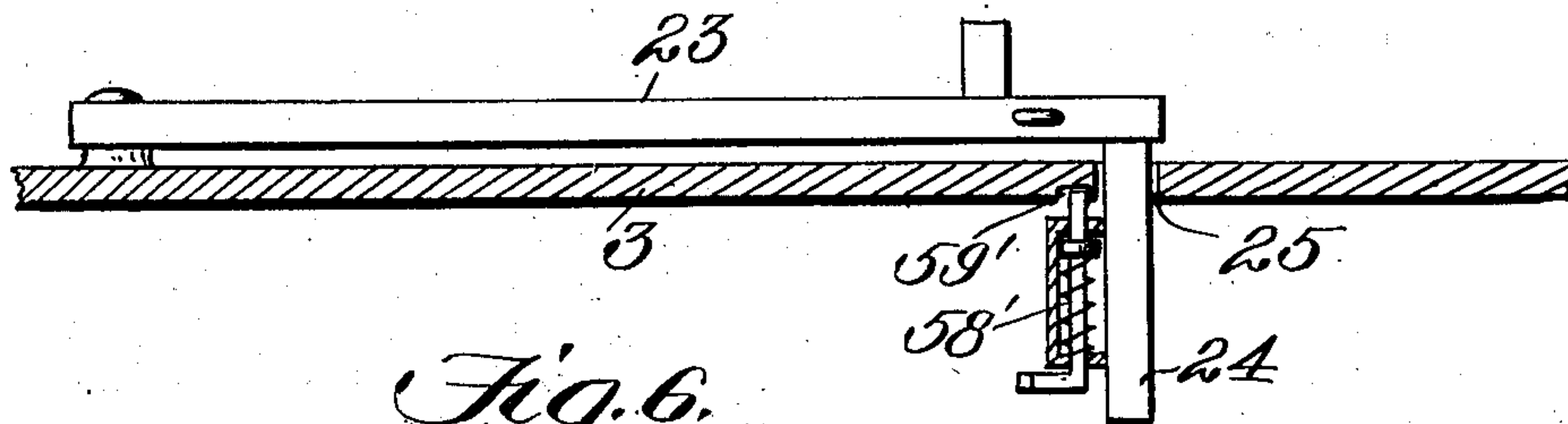
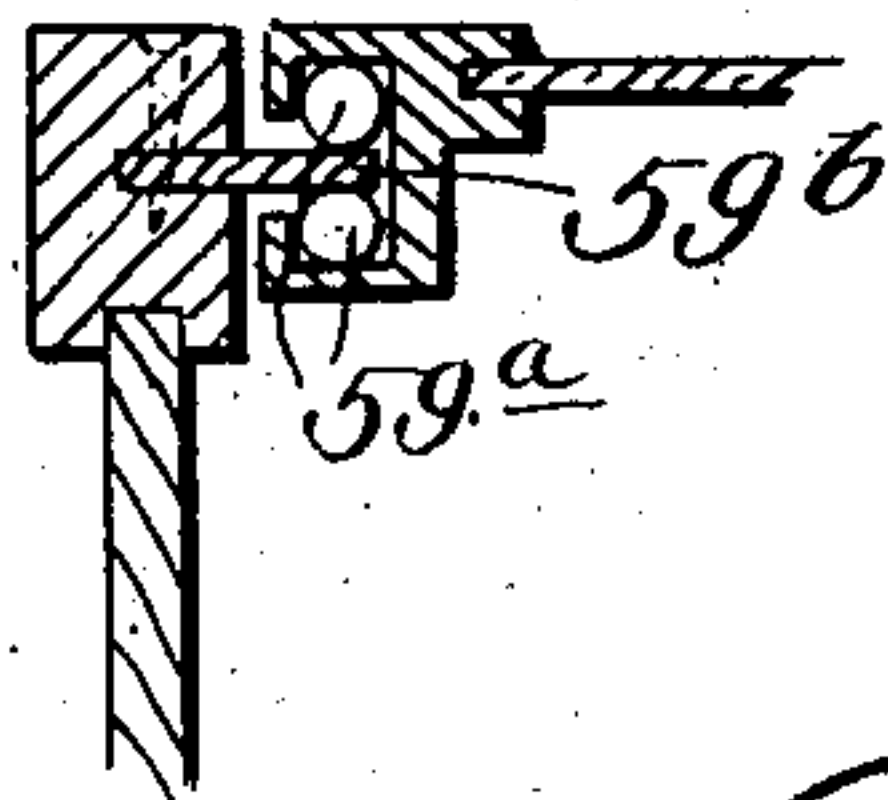


Fig. 5.



*Fig. 6.*₅₉

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76
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UNITED STATES PATENT OFFICE.

LOUIS J. BAKER AND RALPH E. FRENCH, OF LASCRUCES, TERRITORY OF
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SHOW-CASE.

SPECIFICATION forming part of Letters Patent No. 753,656, dated March 1, 1904.

Application filed May 13, 1903. Serial No. 156,981. (No model.)

To all whom it may concern:

Be it known that we, LOUIS J. BAKER and RALPH E. FRENCH, citizens of the United States, residing at Lascrucres, in the county of Donna Ana and Territory of New Mexico, have invented new and useful Improvements in Show-Cases, of which the following is a specification.

This invention relates generally to show-cases, and particularly to one adapted for the exhibition of cigars.

The object of the invention is mechanically to exhibit cigars in a manner that shall be at once novel and attractive and to present the articles to the purchaser in such way as to permit of ready inspection and handling for the purpose of selection and to effect the return of the goods to their normal position within the case after such selection has been made.

The show-case of the present invention embodies means for lifting a plurality of tiers or rows of boxes to a common plane; means for automatically throwing back the box-lids as the boxes rise, thus to obviate interference to the purchaser in making a choice; means for automatically opening the top of the case to permit access to the goods; means for automatically raising the box-lids as the box-supports resume their normal positions; means for automatically closing the top or cover of the case coincident with the lowering of the boxes; means for cushioning the box-supports to cause them gradually to seat themselves, and means for closing the gaps or spaces between the various tiers to give a neat and finished appearance to the case and to hide the operating mechanism thereof.

Generally stated, the device of this invention embodies a plurality of shelves, three in this instance being shown, the upper one of which is stationary and the two lower ones vertically movable; but it is to be understood that the invention is not to be limited to this precise number, as they may be increased if found desirable or necessary and still be within the scope of the invention. Operatively connected with the two lower shelves is means for raising and lowering them, said means being operable from the exterior of the case and hav-

ing combined with one part thereof a cushioning device and mechanism for locking the shelves either in their raised or lowered positions. The shelves are supported on fixed brackets, the spaces between which are normally closed by movable backgrounds, which may be ornamented to constitute a display-board and may bear matter descriptive of the goods, or may be merely ornamented to give a neat and finished appearance to the structure as a whole. These backgrounds are operatively connected with the shelves in such manner that as the latter lift the former swing inward and away from the path of movement of the shelves, thus to prevent any interference between them and the boxes. In addition to the movable backgrounds there is provided means for opening or turning back the lids of the boxes as the shelves or supports raise and for lifting the lids back to their normal position as the shelves or supports lower, the first-named means being movable and actuated by the movement of the shelves and the last-named means being stationary and constituting, in effect, abutments against which the box-lids rest.

The invention further contemplates the employment of clamping devices for securely holding the boxes in position upon the shelves and for permitting their removal when desired.

Further and more specific features of the invention will be hereinafter fully described and the device as a whole defined by the claims.

In the accompanying drawings, forming a part of the specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in these drawings—

Figure 1 is a view in side elevation, partly in section, of a show-case embodying the features of the present invention and showing the box-supports in their normal position.

Fig. 2 is a similar view showing the box-supports raised. Fig. 3 is a view taken from the rear of the case, a part of the casing being broken away to show certain parts of the interior mechanism. Fig. 4 is a detail view in elevation, partly in section, displaying, on an enlarged scale, the means for holding a box upon a support, the means for lowering the lid thereof, and the means for raising the same. Fig. 5 is a horizontal sectional view taken through the back of the case. Fig. 6 is a sectional detail view showing the sliding supports for the lid or cover of the device.

The case of the apparatus may be constructed in any desired manner, but preferably with solid—that is to say, opaque—bottom, sides, and back 1, 2, and 3, respectively, and a transparent front 4. The front may be associated with the sides in any preferred manner, as by providing the sides with vertical grooves in which the front may fit or by having ornamental corner-posts at the front edges of the sides channeled to receive the front, as with show-cases of the ordinary construction. The top 5 may be made of opaque or transparent material, as may be preferred, and, as will presently appear, is arranged for sliding movement rearward to permit access to the interior of the case when a selection of goods is to be made.

Secured within the case and to its back and base and near each end is a stepped bracket 6, which in this instance is shown as provided with two horizontally-disposed members 7 and 8 to constitute rests for the two upper box-supports 9 and 10, the lower box-support 11 being supported upon vertically-movable brackets 12, presently to be described. The box supports or shelves 9, 10, and 11 are preferably made of wood or any other suitable material, and each is provided with means for securely clamping or fastening the cigar-boxes in position thereon to prevent displacement as the shelves 10 and 11 are raised and also to preclude the possibility of the surreptitious removal of a box. The above means embodies a clamp comprising a bar or plate 13, supported by a standard 14, secured to the back edge of each of the shelves. The bar or plate 13 has its forward edge or that facing the front of the case sharpened or serrated to bite into the boxes, the rear portion of the plate constituting a stop 13^a to limit the downward movement of the box-lid-lowering mechanism, as will presently appear.

Spaced along each shelf at proper intervals to engage with the boxes are a plurality of slides 15, which work in grooves or guides in the upper face of the shelves and carry each two or more vertically-disposed arms 16, the inner face of each of which is provided with one or more prongs or prods 17 to be inserted in the wood of the boxes. Each slide is provided near its outer end with an orifice 18,

through which is adapted to project a set-screw 19, screwed into the shelf and operating to clamp the slide at its proper adjustment.

The brackets 12, to which reference has been made, are mounted for movement upon vertical rods 20, secured near each end of the case, and each bracket has attached to its under side a guide-collar 21, housing ball-bearings 22 to engage the rods, thus to insure proper operation of the device and to obviate danger of binding.

Mechanism for raising and lowering the shelves 10 and 11 embodies in its construction a lever 23, pivoted to the inner side of the back of the case and having its free end provided with a handle 24, which projects outward through a curved slot 25 in the said back, the handle operating to rock the lever in a manner that will be readily understood. In the lower rear portion of the case is arranged a shaft 26, at the center of which is mounted a sheave 27, to the periphery of which is secured a band or cord 28, the upper end of which passes around a sheave 29, mounted in suitable bearings upon the back of the casing, and thence downward and is secured to the lever 23, as clearly shown in Figs. 1 and 3.

On each end of the shaft 26 is mounted a sheave 30 and 31, respectively, and to each of these sheaves is secured one end of a band or cord 32, the other ends of which pass upward and around guide-pulleys 33 and 34, journaled, respectively, at the front and rear portion of the case, thence downward, and are secured to the brackets 12 adjacent to the guide-rods 20, as clearly shown in Fig. 2.

It will be seen from the description thus far given that upon downward movement being imparted to the lever 23 the band or cord 32 will be drawn down, thereby rotating the shaft 26 and imparting movement to the sheaves 30 and 31, and these pull down upon the bands or cords 32 and operate to lift the brackets 12. Under the continued rotation of the sheaves 30 and 31 the rear portions of the brackets 12 contact with the under side of the shelf 10 and lift it upward until all three of the shelves occupy the same horizontal plane, as clearly shown in Fig. 2. It will be observed by reference to Fig. 3 that the diameters of the sheaves 30 and 31 are much greater than that of the sheave 27, this difference in the diameters of the three sheaves being necessary in order that by relatively short movement of the lever 23 a multiplied range of movement will be imparted to the sheaves 30 and 31, thus moving the shelves 10 and 11 the distance requisite to bring all of the shelves in a horizontal plane.

The means for transmitting motion from the brackets 12 to the shelf 10 for the purpose of lowering the latter comprises a rod 35, the upper end of which is secured to the under side of the shelf 10, and the lower end works in a tubular guide 36, rigidly secured to one end

of one of the brackets 12, the lower end of the rod being provided with a stop or nut 37 to prevent it from being accidentally disconnected from the guide 36. As the brackets 12 are lifted in the manner above described the guide 36 slides on the rod 35, and when the shelf 10 is lifted with the shelf 11 the stop 37, when all of the shelves are in the same horizontal plane, will be close against the under side of the guide 36, so that when the shelves start to return to their normal position the lower end of the guide will engage with the stop, and thus force the shelf 10 downward to its lowest position.

The means referred to for cushioning the shelves on their descent is clearly shown in Fig. 1 and comprises a cylinder 38, provided at its upper end with an extension having a port 39 for the admission of air, a valve 39^a, coacting with the port, operating to control the admission of air to the cylinder to vary the cushioning power of the device as may be found necessary or desirable. Working within the cylinder is a piston 40, the rod of which carries at its lower end a cross-bar 41, to the terminals of which are connected two arms which pass upward on each side of the cylinder and connect at their ends with a cross-bar 41^a, and to the latter is secured a rod 40^b, suitably connected with the lever 23. It will be seen that when the lever 23 is depressed for the purpose of raising the shelves the piston 40 will suck air into the cylinder, and on the reverse motion of the lever the air contained between the piston and the head of the cylinder will act as a cushion, the resisting force of which will be in proportion to the area of the port 39, thus to effect gradual seating of the shelves. If, however, the lever be released for the purpose of permitting the shelves to drop by gravity, the escape of air through the port will be so gradual as to prevent rapid descent of the shelves, and thus any jarring, with attendant danger of damage to the goods contained in the boxes.

The means for automatically throwing back the box-lids as the shelves rise comprises a bail 42, (clearly shown in Fig. 1,) which is adapted to pass along the front of the lids of the boxes. To the terminals of this bail are connected one end of a pair of arms 43, the other ends of which are pivotally connected to standards 44, a pair of each of which is secured to the rear ends of each of the shelves 10 and 11. Projecting downward from each end of the shelves 10 and 11 and constituting a continuation of each of the standards 44 is a hanger 45, and pivoted to each of these hangers is a tube 46, inclosing a coiled spring 47. Disposed in each of the tubes is a rod 48, the upper end of each of which is suitably connected with the arms 43, as clearly shown in Fig. 1. Each rod carries at its lower end a head or stop 49, adapted to bear against the lower end of the spring 47, and the upper end

of the tube is provided with a stop 50 to hold the spring within the case. The rods 48, together with the spring-retracting device, consisting of the pivoted tube and the spring, constitute the means for automatically drawing down the bails 42, thus to force the lids of the boxes back to the position shown in Fig. 4 when the shelves are raised to the same horizontal plane, it being seen that as the springs 47 exert a constant downward pull upon the rods 48 when the shelves are raised the bails are drawn backward, and thus fold back the lid in the manner described. To limit the downward or backward movement of the bails, the stops 13^a of the plates 13 are provided, as before described, and, as shown in Fig. 2, when the bails have moved backward the predetermined distance, the arms 43 will contact with the said stops, and thus check the movement of the bails.

As a means for lifting the lids of the boxes as the shelves resume their normal or lowered positions there is provided above each of the shelves 10 and 11 a stationary transverse rod or bar 52, the ends of each of which are rigidly secured in arms 53, projecting outward from the upright members of the bracket 6 at a point approximately midway of their height. These rods or bars 52 are, as clearly shown in Fig. 1, disposed back of the lids of the boxes, and as the shelves rise the lids are forced backward and down by the bails 42 and ride against the said bars, as will readily be understood by reference to Fig. 2. As the shelves lower the lids are forced against the bars 52 and by riding thereon are brought back to their normal positions, the bails 42 during this operation being held in positive contact with the lids through the medium of the springs 47.

The mechanism for closing the gaps between the shelves above referred to, which is provided for the purpose of shielding the operative mechanism from view and also to give a highly neat and finished appearance to the case, comprises a pair of boards or surfaces 54, at the lower portion of the end of which is an L-shaped lever 55, pivoted in any suitable manner to the lower portions of the brackets 6. As will be observed by reference to Fig. 2, the upright members of the brackets 6 are inclined, so that the boards 54 will occupy a like position, and will thus have a normal tendency to drop backward; but this is overcome by the levers 55, which are normally borne upon by the shelves 10 and 11. As the shelves rise the boards automatically drop backward, their range of rearward movement being limited by depending stops 56, secured to the horizontal portions 7 and 8 of the brackets 6. Upon descent of the shelves the levers 55 are engaged thereby and the boards are pushed forward to their normal position.

It will be seen from this description that

the throwing backward of the boards to permit the boxes to rise without interference is effected automatically and also the return of the boards to their normal position. To prevent any interference between the boards and the box-lids, the stops 56 are so disposed as to check the backward movement of the boards before the shelves have approached anything like the common horizontal plane of the shelf 9, so that upon return movement of the shelves these will practically have resumed their lowest position before actuating the levers 55 again to lift the board. It will of course be obvious that by the time the shelves have all reached the same plane the lid or cover 5 of the case should be opened, and this is effected by the following mechanisms:

Upon the vertical portion of the bands or cords 32 adjacent to the sheaves 33 and upon the horizontal portions of the bands or cords adjacent to the sheaves 34 are secured catches 56 and 57, respectively, the catches 56 being designed to engage with stops 58, secured to the under side of the top or cover 5, and the catches 57 to engage with lugs 58^a, depending from the under rear side of the top or cover, as clearly shown in Fig. 1.

As a means for locking the lid or cover against movement except through the medium of its actuating mechanism, there are provided two three-armed dogs 59^a, suitably pivoted to the sides of the casing, the two rear arms 60^a of which are disposed in the path of movement of the catches 56 and the forward single arms 60^b of which are disposed in the path of movement of lugs 60^c, depending from the under front side of the lid or cover. When the parts of the case are in the position shown in Fig. 1, the arms 60^b of the dogs will oppose the lugs 60^c, and thus positively prevent backward movement of the lid or cover. As soon, however, as the bands or cords are raised the catches 56 will engage with the upper rear arm of each of the dogs and throw the arms 60^b downward, thus leaving the lid or cover free to be moved backward in a manner that will be presently described, the reverse movement of the bands or cords 32 causing the stops 56 to engage with the lower arms 60^a, and thus again bring the arms 60^b back of the lugs 60^c.

The top or cover, as before stated, is transparent, although, if preferred, it may be opaque, and comprises a metallic frame 59, in which the glass or top is properly secured, the two side members of the frame being provided with roller-bearings 59^a, which are adapted to travel upon and are spaced by a track or guide 59^b, suitably secured to the molding or cornice 59^c of the top of the case. As shown in Fig. 1, there is secured to the upper ends of the sides of the casing a cross-piece 60, which operates to prevent the lid or cover from tilting downward when moved to its rearward position.

The manner in which the lid or cover is opened is as follows: When the lever 23 is depressed for the purpose of raising the shelves in the manner before described, the bands or cords 32 are drawn upward, thereby bringing the catches 56 into engagement with the dogs 59^a and tilting them, and thus leaving the lid or cover free to be moved back. Upon further movement of the bands or cords the catches engage with the stops 58, moving the top or cover backward in a manner that will be readily understood, the catches 57 during this movement of the cords or bands being moved out of engagement with the lugs 58^a. On the reverse movement of the bands or cords, as when the lever is raised or is released, and as the shelves resume their normal position the catches 57 engage with the lugs 58 and force the lid forward, and when brought to its normal position the catches again trip the dog 59 and bring their forward arms into locked engagement with the lugs 60^c.

In order to lock the shelves either in their raised or lowered positions, as may be desired, there is combined with the handle 24 a spring-latch 58, which is designed to spring into engagement with a depression 59, one of which is arranged at each terminal of the slot 25, thus in an obvious manner effecting the function designed.

It will be seen from the foregoing description that while the apparatus of this invention embodies but a comparatively few number of parts these are so disposed and organized that they will with certainty and precision perform the functions designed; furthermore, that owing to the simplicity of arrangement of the different parts liability of derangement in use is reduced to a minimum.

It will be obvious that in carrying the invention into effect changes in the shape, proportion, and arrangement of parts may be resorted to, and for this reason it is to be understood that the invention is not to be confined to the precise construction of mechanism shown and its particular mode of operation.

While the case herein has been described as adapted for the exhibition and sale of cigars, it is to be understood that it is equally adaptable for the presentation of other kinds of merchandise, and, as this will be obvious, detailed illustration thereof is deemed unnecessary. It will also be understood that the lever 23 may be pivoted either to the inner or outer side of the back of the case, as may be found necessary for operating the device or as may be preferred.

Having thus described the invention, what is claimed is—

1. A show-case having arranged therein a plurality of shelves normally disposed in different planes, and means for bringing all of the shelves to a common plane.
2. A show-case containing a plurality of

shelves normally disposed in different planes, means for bringing all of the shelves to a common plane, and means for causing return of the shelves to their normal position.

5 3. A show-case containing a plurality of shelves normally disposed in different planes, means for bringing all of the shelves to a common plane, and means for causing gradual return of the shelves to their normal position.

10 4. A show-case containing a plurality of box-supporting shelves normally disposed in different planes, means for bringing all of the shelves to a common plane, and means for automatically throwing back the lids of the boxes
15 supported by the shelves as the latter are raised.

5. A show-case containing a plurality of shelves normally disposed in different planes, means for bringing all of the shelves to a common plane, means operating automatically to
20 throw back the lids of the boxes supported by the shelves as the latter rise, and means for automatically returning the lids to their normal position as the shelves descend.

25 6. A show-case containing a plurality of vertically-movable shelves, and box-lid-lowering and box-lid-raising mechanisms coöperating therewith.

30 7. A show-case containing a plurality of vertically-movable shelves, and automatically-operating box-lid-lowering and box-lid-raising mechanisms coöperating therewith.

8. A show-case containing a plurality of vertically-movable shelves, box-lid-lowering
35 and box-lid-closing mechanisms coöperating therewith, and means for normally closing the spaces between the shelves and operating automatically to open such spaces as the shelves are raised.

40 9. A show-case containing a plurality of vertically-movable shelves, means for closing the spaces between the shelves and operated by gravity to open such spaces as the shelves rise, and means actuated by the shelves on
45 their downward movement to return the space-closing means to their normal position.

10. A show-case containing a plurality of vertically-movable shelves, spring-actuated box-lid-lowering means operable on the raising
50 of the shelves, and box-lid-raising means operable on the lowering of the shelves.

11. A show-case containing a plurality of vertically-movable shelves, means released thereby in lifting to lower the lids of the boxes
55 supported by the shelves, and stationary means for raising the lids of the boxes when the shelves resume their normal position.

12. A show-case containing a plurality of vertically-movable shelves, pivoted back-
60 grounds for closing the spaces therebetween and having a normal tendency to swing away from the spaces by gravity, and means connected with backgrounds and actuated by the shelves to cause the backgrounds to close the

spaces between the shelves when the latter are 65 in their lowered position.

13. A show-case containing a plurality of vertically-movable shelves and having a sliding top or lid, and mechanism operating to lift the shelves to a common plane and at the
70 same time to open the lid or cover.

14. A show-case containing a plurality of vertically-movable shelves and having a horizontal slidable lid or cover, bands or cords coöperatively connecting the shelves with the
75 lid or cover, and means for actuating the bands or cords to cause them simultaneously to raise the shelves to a common plane and to slide back the lid or cover.

15. A show-case containing a horizontally-
80 slidable lid or cover, vertically-movable shelves disposed within the case, box-lid-lowering mechanism operatively disposed with relation to the shelves, and means for effecting lifting of the shelves to a common plane,
85 opening of the lid or cover and the lowering of the box-lids.

16. A show-case containing a plurality of vertically-movable shelves and having a horizontally-sliding lid or cover, a shaft arranged
90 in the lower portion of the case and provided at each end and intermediate of its ends with a sheave, a band or cord passed around each of the end sheaves, thence upward across the top of the case and downward and connected
95 at their lower ends to a portion of the shelves, means carried by the bands or cords for engaging the lid or cover, a band or cord having one end secured to the intermediate sheave, thence passed upward over a roller and down-
100 ward, and a lever to which the last-named band or cord is secured, said lever upon depression and through the medium of the last-named band or cord, operating to revolve the intermediate sheave and the shaft and thus ef-
105 fect lifting of all of the shelves to a common plane and the opening of the lid or cover, and upon reverse movement the lowering of the shelves and the closing of the lid or cover.

17. In a show-case, a stepped bracket,
110 shelves loosely supported on certain of the steps, vertical guide-rods disposed within the case, brackets movable on the guide-rods and supporting the lower shelf, and means connected with the last-named brackets to lift
115 them and thus to raise the movable shelves to a common plane.

18. In a show-case, the combination with a plurality of vertically-movable shelves, of mechanism for raising and lowering the same,
120 and means coacting with the said mechanism to lock the shelves in their raised or lowered positions.

19. A show-case embodying means for lifting a plurality of tiers or rows of boxes to a
125 common plane and for returning them to their normal positions, means for automatically throwing back the box-lids as the boxes

rise, means for automatically opening the top
of the case to permit access to the goods,
means for automatically raising the box-lids
as the box-supports resume their normal po-
5 sition, means for automatically closing the
top or cover of the box coincident with the
lowering of the boxes, means for cushioning
the box-supports to cause them gradually to
seat themselves, and means for closing the
10 gaps or spaces between the various tiers.

20. A show-case containing a plurality of
vertically-movable shelves and having a slid-
ing top or lid, locking means for holding the

lid in closed position, and mechanism oper-
ating simultaneously to lift the shelves to a 15
common plane, to release the locking means,
and to move back the lid or cover.

In testimony whereof we have hereunto set
our hands in presence of two subscribing wit-
nesses.

LOUIS J. BAKER.
RALPH E. FRENCH.

Witnesses:

ADDISON P. CENTER,
DUNCAN McCOWEN.