No. 790,916. PATENTED MAY 30, 1905.

A. PEDERSON.

CABINET.

APPLICATION FILED SEPT. 28, 1904.

2 SHEETS—SHEET 1.

Fig. 2.

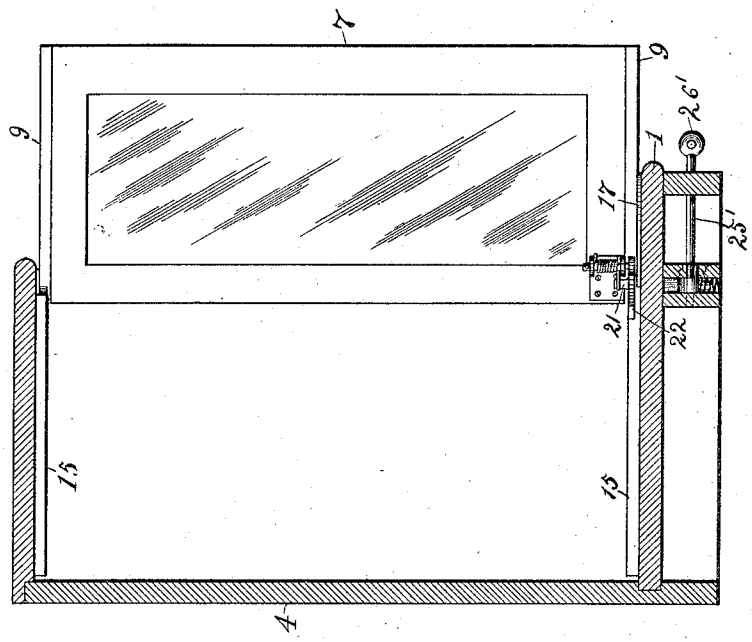
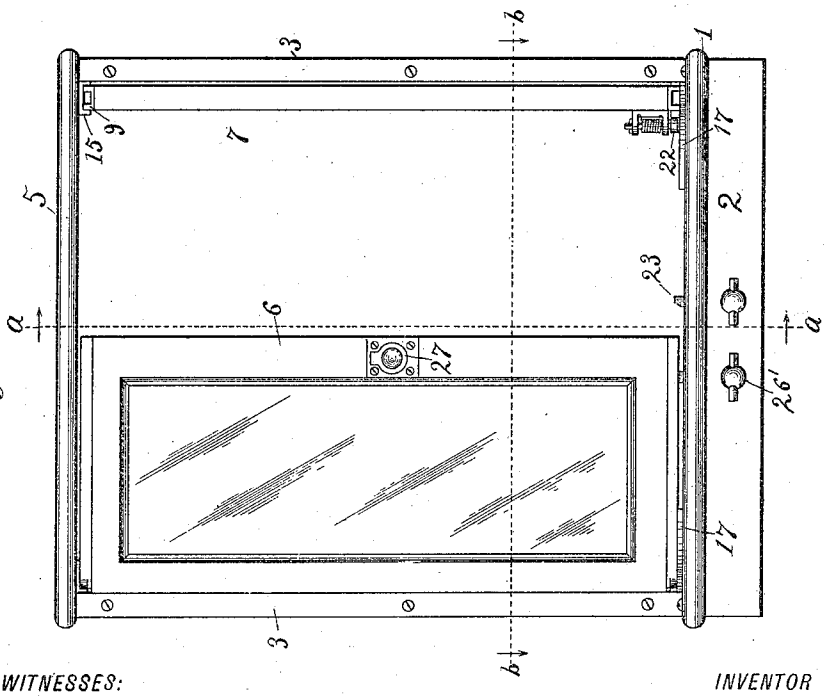


Fig. 1.



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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

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2 SHEETS—SHEET 2.

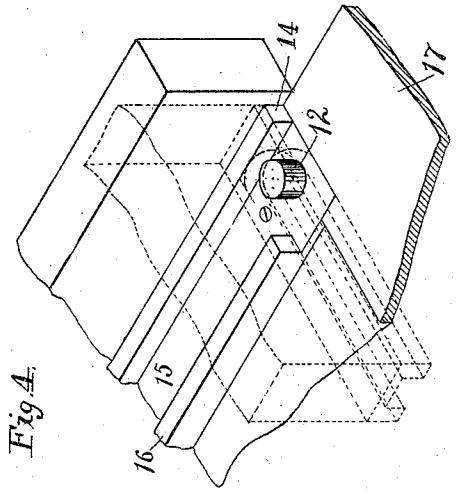


Fig. 4.

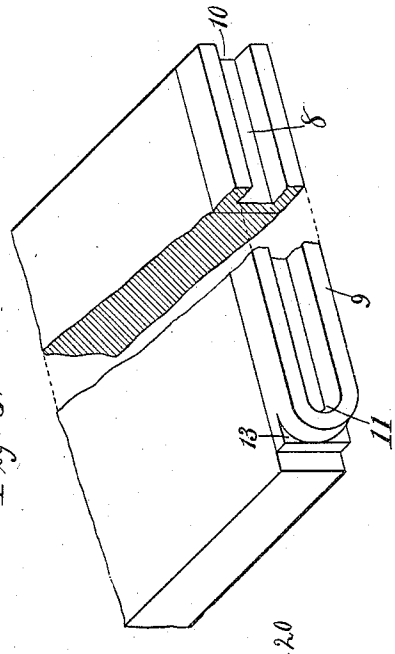


Fig. 5.

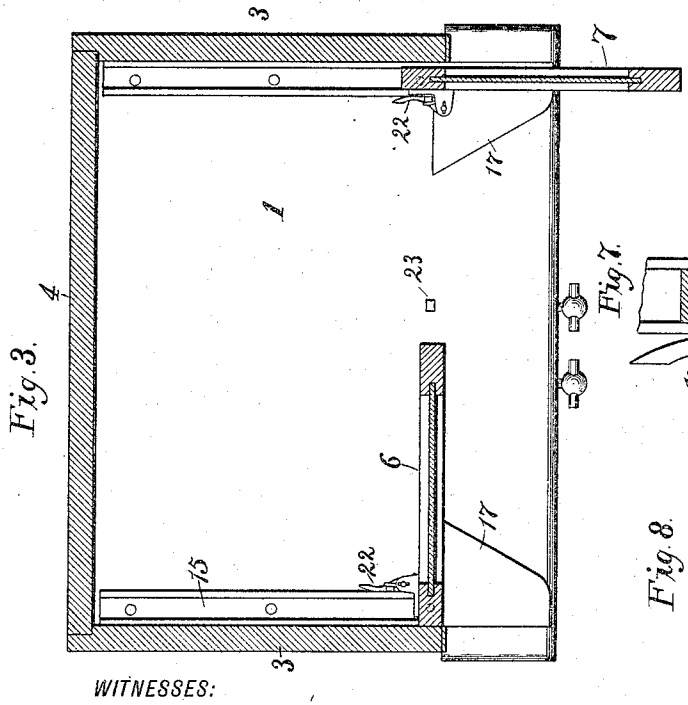


Fig. 3.

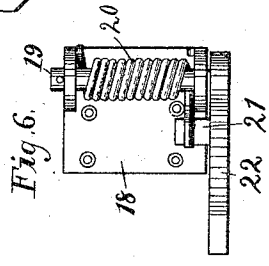


Fig. 6.

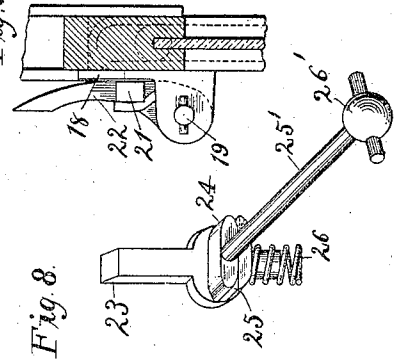


Fig. 7.

Fig. 8.

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No. 790,916. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

ADOLPH PEDERSON, OF AURORA, ILLINOIS.

CABINET.

SPECIFICATION forming part of Letters Patent No. 790,916, dated May 30, 1905.

Application filed September 28, 1904. Serial No. 226,287.

To all whom it may concern:

Be it known that I, ADOLPH PEDERSON, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a certain new and useful Improvement in Cabinets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to clothing-cabinets, bookcases, or the like, and is of particular utility in connection with that class of cabinets shown in my Patent No. 746,569, issued December 8, 1903.

In the device of my aforesaid patent there was employed upon the top and bottom of each door a grooveway which in that construction was formed in a metal element fastened in position. The groove was open at one end and closed at the other. The attachment having the groove was square upon its exterior at the closed and rear end of the groove, rendering it difficult for the hinged margins of the door snugly to fit the corresponding cabinet-wall, particularly when the door was in a closed position. This was due to the fact that there was provided upon the top and bottom walls of the cabinet cylindrical pins that projected into the grooveways and defined fixed axes of rotation for the doors when the closed ends of the grooves engaged the pins, the grooveways having been made open at the front ends or ends opposite the closed ends to permit the doors to be slid into the cabinet into positions parallel with the side walls of the cabinet.

One feature of my present invention consists in not only making the inner surfaces of the grooveways where they engage the pins of a contour corresponding to the pins, but also to make the exterior end surface of the grooved portions of the doors or door attachments concentric with said inner end surfaces, so that when the inner end surfaces are in engagement with the pins the curved external surfaces of the grooved portions will permit of the rotation of the doors without permitting the space between the hinged margins of the doors and the corresponding cabinet-walls to vary in size.

In the device of my aforesaid patent there were provided runways at the top and bottom of the cabinet which guided the doors into and out of the cabinet, these runways terminating at the front of the cabinet, where they carried the pins upon which the rear edges of the door would swing when the doors were withdrawn from the cabinet. The lower runways were elevated a slight distance above the floor of the cabinet, which permitted a tendency of the doors to sag when withdrawn from the cabinet whether said doors were opened or closed.

Another feature of my present invention resides in providing plates beneath the doors when said doors are withdrawn. These plates are preferably of such dimensions and shape that they will lie under the doors when withdrawn from the cabinet whether the said doors be opened or closed, so that the doors would not be apt to sag when withdrawn from the cabinet whether they are opened or closed.

Another feature of my invention consists in providing a mechanical agency for storing power as the doors of the cabinet are swung to, which accumulated power serves to open the doors when the doors are released, there being preferably provided in connection with each door a spring-latch, which catches the door when moved shut, handles or knobs and cam mechanism being so associated with these catches that they may be released from engagement with the doors to permit them to open. The mechanism for storing this energy preferably includes a shoe pivotally mounted near the bottom and inner edge of each door, the shoe of each device riding upon an inner surface of the cabinet as the door is swung to to effect its rotation upon its pivotal mounting carried by the door. A spring is employed in this mechanism opposing the rotation of the shoe, which spring is maintained under tension, as before specified, by the spring-catch associated with the corresponding door, the tension of the spring being released when the catch is released to permit the shoe to work upon the surface of the cabinet in engagement with it to cause the door to open.

I will explain my invention more fully by

reference to the accompanying drawings, illustrating the preferred embodiment of my invention, in which—

Figure 1 is a front elevation of a cabinet constructed in accordance with my invention. Fig. 2 is a view on line *a a* of Fig. 1. Fig. 3 is a view on line *b b* of Fig. 1. Fig. 4 is a perspective view illustrating a runway portion, a portion of the door mounted upon the runway, and a portion of the plate to prevent the door from sagging. Fig. 5 is a perspective view showing one of the grooveways upon a horizontal edge of a cabinet-door. Fig. 6 illustrates one of the spring-power devices operating to open a door when the door is released, the device in connection with the right-hand door being illustrated. Fig. 7 is a plan view of the device shown in Fig. 6. Fig. 8 is a perspective view of the latching device.

Like parts are indicated by similar characters of reference throughout the different figures.

The base or floor 1 of the cabinet may, if desired, be provided upon a subbase 2 and carries the side walls 3, a rear wall 4, (upon which walls the top 5 is mounted,) the left-hand door 6, and the right-hand door 7. The top and bottom or horizontal margins of the doors are preferably provided with grooves 8, these grooves desirably not being provided directly in the wood of the door, but being preferably formed in metal castings or fittings 9, that are substantially coextensive with the lengths of these margins of the doors. The grooves have their forward ends open, as indicated at 10, and their rear ends closed, as indicated at 11, it being the rear ends that furnish the means whereby the doors are guided in their swinging movements.

The wall defining each groove 8 is made semicircular at the end 11, the interior and exterior surfaces of the semicircular end of each grooved wall being concentric with the corresponding pin 12 when said pin is in engagement with the said end, as indicated most clearly in Fig. 4. The curved end of each fitting 9 is preferably provided with a square continuation 13. The curved portion, however, of the fitting is preferably coextensive with that portion of the rear wall 14 projecting from the surface (the bottom, as indicated in Fig. 4) of the fitting 15, that constitutes a runway for the corresponding door, there being one fitting 15 for the bottom of each door and a corresponding fitting for the top of each door, these fittings facing each other. In addition to the back wall 14 there is a front wall 16, the distance between the walls 14 and 16 substantially equaling the thickness of the door to guide the same in a substantially straight-line direction into and out of the cabinet. While I prefer to form these walls as parts of a separate fitting to be secured to the bottom and top of the cabinet, I do not wish to be limited to this precise construction. The pins 12 preferably form parts of the runway-fittings, though I do not wish to be limited to this feature. The wall 16 does not extend as far forwardly as does the wall 14, the wall 16 terminating a distance back of the wall 14 equivalent to the thickness of the door, so that the said door will rest against the front end of the corresponding wall 16 when said door is closed. A portion of each door is continued beyond each curved wall 11 and lies over the wall 14 when the door is in the position indicated in Fig. 4, this projection of the door being coextensive with the width of the wall 14. If the wall portion at 11 were made square, as in my aforesaid patent, it is obvious that a more expensive construction would have to be devised in order to maintain each door close to the corresponding side wall of the cabinet.

In order that the doors may not sag when in a closed position, the running horizontal surfaces of the lower fittings 15 are continued forwardly or toward the center of the cabinet. In order that a similar sagging may be prevented when the doors are open, a similar continuation of these running-surfaces is effected. As these running-surfaces are a slight distance above the bottom of the cabinet, these surfaces are continued by providing a single plate 17 for each lower fitting 15, that has a thickness coextensive with the elevation of the bottom horizontal running-surfaces from the bottom of the cabinet.

My improved device for automatically opening the doors comprises a mounting 18, secured upon the interior of each door near the grooved end 11, which mounting carries a shaft 19, wrapped about with a spring 20, one end of which engages the plate or mounting 18 and the other end of which engages the lug 21, which projects from a shoe 22, rigidly secured to the shaft 19. As a door is closed the corresponding shoe 22 is caused to run or work upon the outer surface of the wall 16, as indicated most clearly in Fig. 3, whereby a rotation of the shaft 19 is forced. The upper end of the coil-spring 20 resting against the plate 18 and the lower end of said spring being connected with the shoe 22, said spring is wound as the corresponding door is closed, a latch, such as that exhibited in Fig. 8, serving to hold the door in a closed position, preferably by having the latch enter the grooveway upon the bottom of the door. When it is desired to permit the spring 20 automatically to open the door, the cam-block 24 is turned against a corresponding cam-surface 25, provided upon a projection of the latch 23, whereby the said latch is depressed against the force of a spring 26, which when free of the influence of the cam 24 will effect the normal elevation of the said latch. Each cam 24 is provided with a shaft 25, having a fixed axis

of rotation, and a handle 26′ for the said shaft projecting through the front of the cabinet, there to be accessible to the user. In case the springs 20 are not relied upon to open the doors each door may be provided with a finger-ring 27 to open the same.

The operation of the mechanism of my invention will be readily understood. The clothing salesman or other user approaches the same, turns one or both of the handles 26′ to release the corresponding door or doors, whereupon the springs 20 open the doors. If it is desired to place the doors when open out of the way, they are simply shoved back to the rear of the cabinet, which operation is permitted by the runways 16.

I do not wish to be understood as limiting myself to the exact details of construction herein illustrated; but,

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

1. In mechanism of the class described, in combination with the sides, top and bottom of a cabinet, pivot-pins 12 projecting from the top and bottom of the cabinet near a side thereof, a door having grooves in its top and bottom permitting the door to be moved in and out of the cabinet, said grooves being closed near the back of the door by a semi-circular wall portion whose inner and outer surfaces are concentric with the pivot-pins when said pivot-pins are in engagement with this end of the wall, whereby pivot-bearings are afforded about said pins upon which the door is adapted to swing and which permits the end of the door thus hinged to lie very close to the side of the cabinet and runways, substantially as described.

2. In mechanism of the class described, in combination with the sides, top and bottom of a cabinet, pivot-pins 12 projecting from the top and bottom of the cabinet near a side thereof, a door having grooves in its top and bottom permitting the door to be moved in and out of the cabinet and engaging said pins, whereby pivot-bearings are afforded about said pins upon which the door is adapted to swing, the surface of the cabinet upon which the bottom of the door runs when said door is moved back and forth being continued toward the center of the cabinet to prevent the door from sagging when closed, substantially as described.

3. In mechanism of the class described, in combination with the sides, top and bottom of a cabinet, pivot-pins 12 projecting from the top and bottom of the cabinet near a side thereof, a door having grooves in its top and bottom permitting the door to be moved in and out of the cabinet and engaging said pins, whereby pivot-bearings are afforded about said pins upon which the door is adapted to swing, the surface of the cabinet upon which the bottom of the door runs when said door is moved back and forth being continued forwardly from the cabinet, whereby the door is prevented from sagging when open, substantially as described.

4. In mechanism of the class described, in combination with the sides, top and bottom of a cabinet, pivot-pins 12 projecting from the top and bottom of the cabinet near a side thereof, a door having grooves in its top and bottom permitting the door to be moved in and out of the cabinet and engaging said pins, whereby pivot-bearings are afforded about said pins upon which the door is adapted to swing, a fitting affording a surface upon which the door runs, said running-surface being slightly above the bottom of the cabinet, and a plate 17 in front of the fitting effecting a continuation of the said running-surface, whereby sagging of the door is prevented, substantially as described.

5. In mechanism of the class described, in combination with the bottom, top and side walls of a case, a door having swinging connection with the case, mechanism for automatically opening the door comprising a mounting 18 secured to the door near the hinged edge thereof, a shaft 19 in said mounting, a shoe 22 rigidly secured to the shaft, and a spring 20 engaging the shoe at one end and substantially stationarily anchored at the other end with respect to the mounting 18, substantially as described.

In witness whereof I hereunto subscribe my name this 10th day of September, A. D. 1904.

ADOLPH PEDERSON.

Witnesses:
GEORGE L. CRAGG,
LEON STROH.