

No. 803,070.

PATENTED OCT. 31, 1905.

C. G. SCHMIDT.  
TILTING DRAWER CASE.  
APPLICATION FILED APR. 15, 1905.

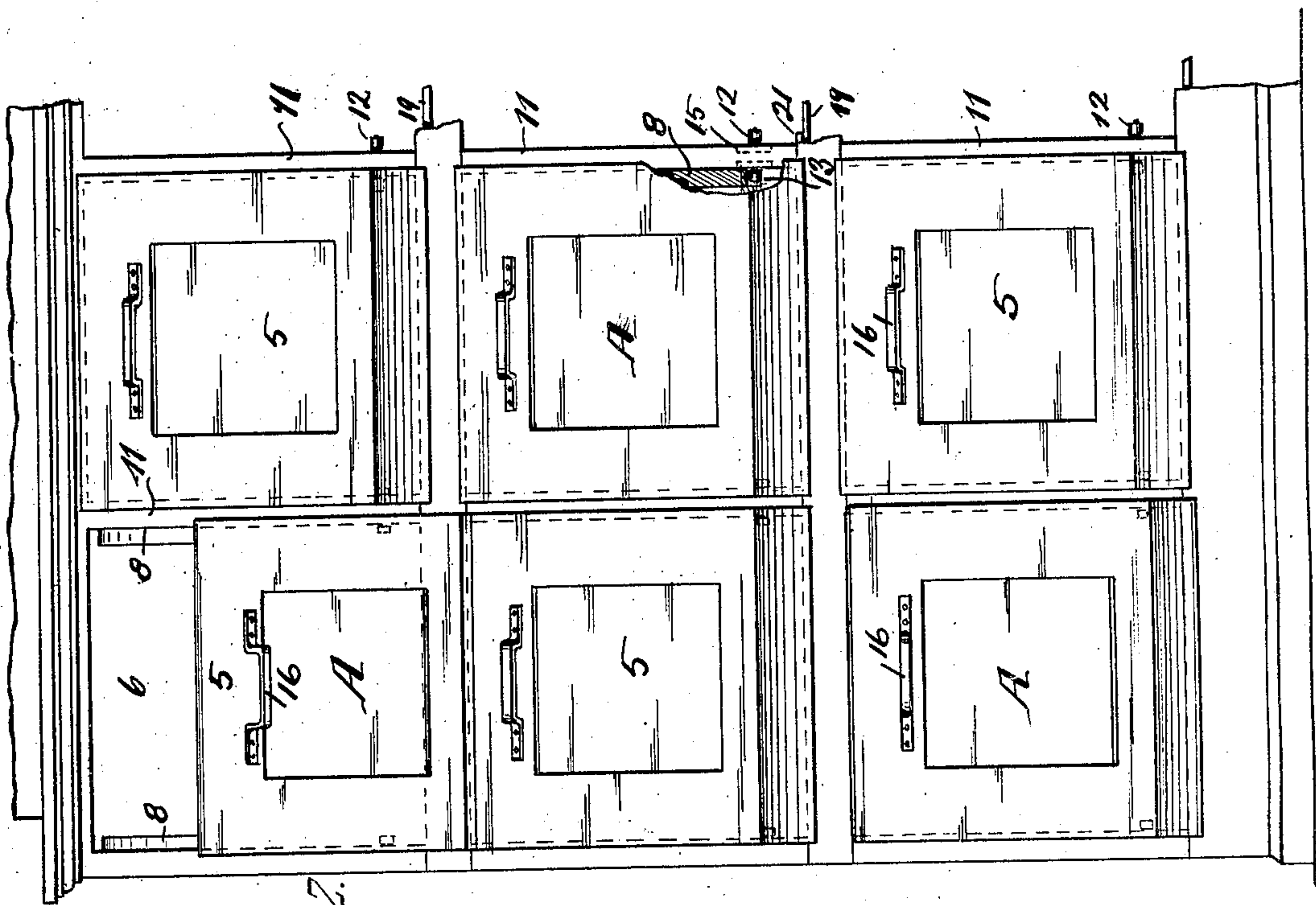


Fig. 2.

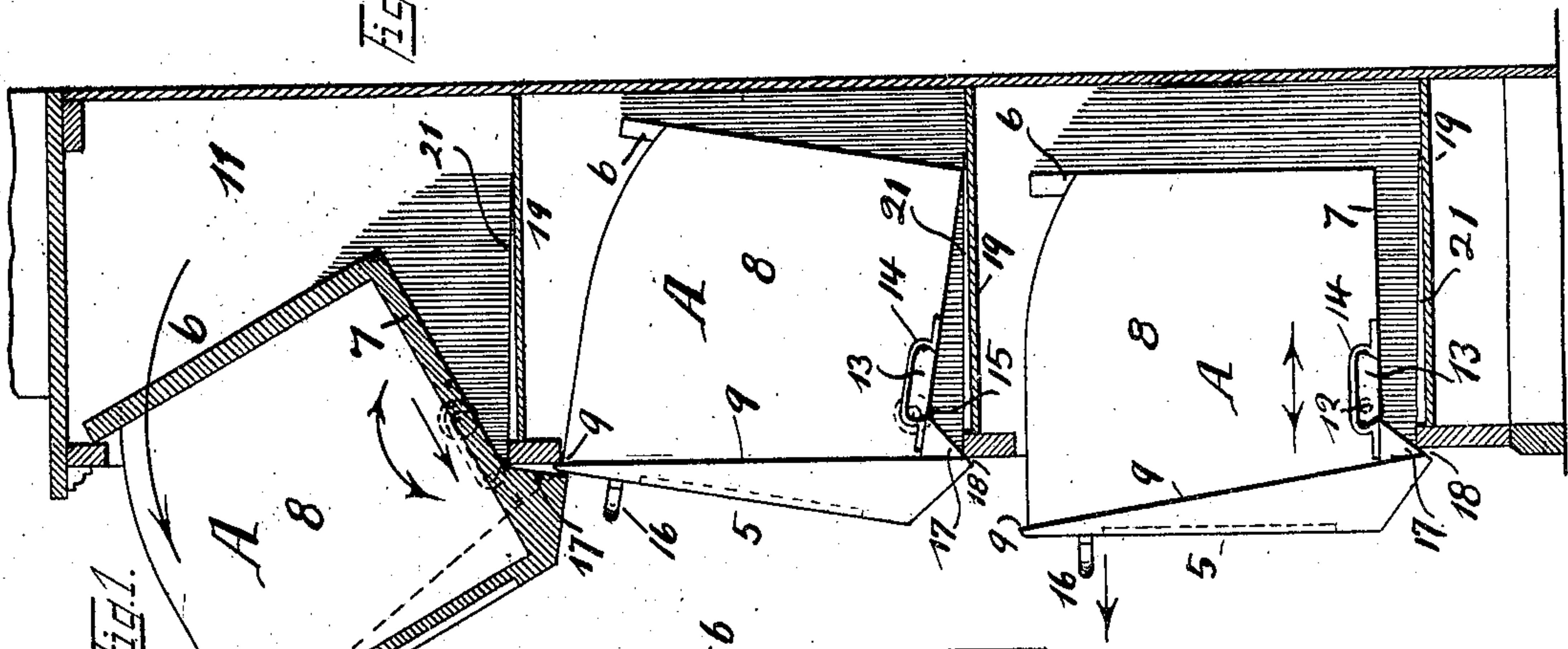


Fig. 1.

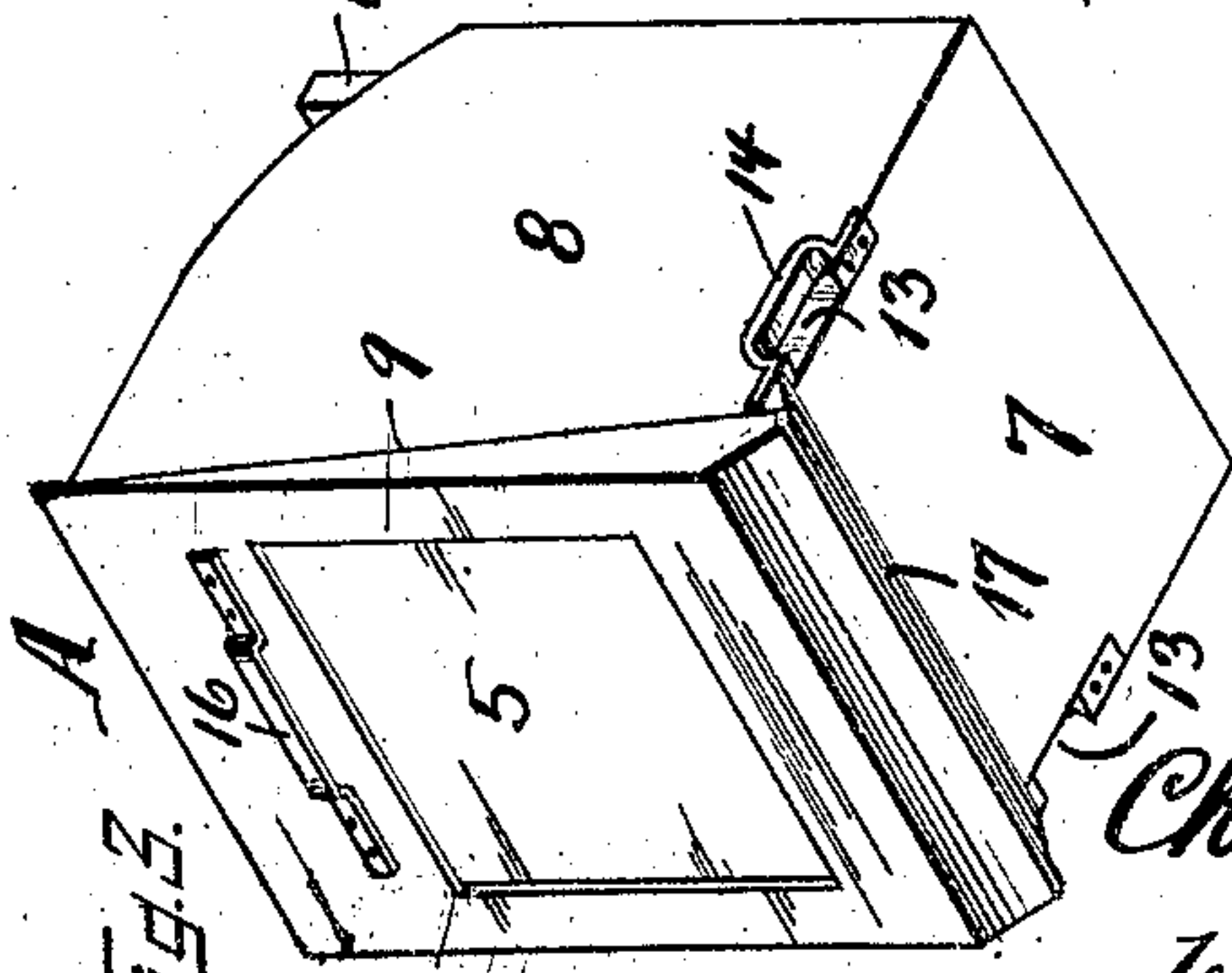


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## TILTING-DRAWER CASE.

No. 803,070.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed April 15, 1905. Serial No. 255,622.

*To all whom it may concern:*

Be it known that I, CHARLES G. SCHMIDT, a citizen of the United States, residing at Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Tilting-Drawer Cases; and I do declare the following to be a clear, full, and exact description thereof, 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 certain improvements in chests, cases, and similar store furniture which are provided with bins or drawers supported within in a manner that for access they are swung or tilted outwardly. Groceries, drug-stores, and similar business establishments selling varieties of goods in bulk are places where such furniture is found and used, although the use is not so limited and may extend to general house furniture. These drawers swing on fixedly-located centers or fulcrums, which are formed in various ways, usually by hinges or pins. They are held in either one of their extreme positions—that is, within their case, or closed, or hanging out, or open—by a preponderance of their weight, which is either on one or on the other side of the fulcrum on which they swing. To hold them safely in either one of these extreme positions, the operating parts and centers have to be so arranged and located as to provide for a sufficiency of overweight on either side of the center to prevent the drawers from falling back from one position into the other one when such is not desired. In moving such drawers from one position into their other one this overweight has to be swung, which manipulation is resisted to the extent of this preponderance which has to be overcome.

The object of my invention is to reduce this resistance as much as possible and to arrange and support these drawers so as to render their manipulation as easy and as convenient as possible.

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

Figure 1 is a sectional side view of a tier of such drawers as they appear when assembled in a chest or case, the drawers being shown

in various positions. Fig. 2 is a front view of such a chest, it showing substantially two tiers of drawers, the one on the left being the one shown in the preceding figure. Fig. 3 is one of the drawers removed.

In the drawings, A indicates the drawers, 5 being their front wall, 6 the back, 7 the bottom, and 8 8 the sides. They are fitted into and supported by and between the walls, sides, or partitions of chests or cases which may be arranged in any suitable manner—that is, they may be wall-cases or counter-cases or chests. The arrangement of the drawers within these cases is in rows and tiers, horizontally and vertically disposed, to the extent of any number to suit requirements. By preference these cases are manufactured in sectional units all of equal size and each comprising a certain number of tiers or rows, so that an establishment may be readily fitted out by simply assembling the required number of case units side by side. The front walls of the drawers are so fitted as to size that when the drawers are in closed position these front walls close the openings in the front wall of the case provided for them, and by preference they also at their edges lap over the margin around these openings to effectually cover the interstices and cracks thereat, rendering thereby the closure dust-proof and improving the appearance of the furniture. This lap is indicated at 9, and its effect is best observed by noting Fig. 2. Interiorly these cases may be subdivided by partitions vertically as well as horizontally, subdivisions in one direction at least being necessary to provide means for attachment of the supporting devices of the drawers. In the present case I provide vertical partitions 11 for such purpose and attach to them in any suitable manner laterally-projecting pins, preferably mounting rollers 12 to reduce friction, and upon which rollers the drawers rest and move, they being closely fitted between these partitions and recessed at opposite sides, as shown at 13, to receive such rollers. To reduce wear, these recesses are provided each with a metal lining 14, which comes in contact with the rollers. The pins mentioned, which carry the rollers, may project each from a base-plate 15, attached to the sides of partitions 11.

For manipulating, particularly for opening, the drawers handles 16 are provided on their front side and the beginning of this operation is shown in Fig. 1 at the lowermost drawer.



In detail this action proceeds as follows: The first effect of a pull on handle 16, moving a drawer from its normal closed position, (shown in the middle drawer,) imparts a tendency to tilt as well as to slide forward on rollers 12. As soon as the center of gravity of the drawer has passed over the supporting-fulcrum the drawer starts to meet the action of the manipulator and moves out fully, sliding as well as tilting on its supporting-rollers to a position, as shown, in the uppermost drawer. This outward movement may be limited by either of or both the inner end of recesses 13 or by the upper edge of the rear wall 6, which strikes against the upper inner edge of the opening in the case-front. It is clear that facility in opening a drawer depends on the promptness with which it commences to act in response to the initial movement started by a pull on its handle, and which action depends again on the moment when the center of gravity passes over rollers 12. I hasten the appearance of this event by means of an inclined plane 17, provided on the under side of each drawer near its lower front edge and produced in any suitable way, as by the attachment of additional material thereat. This inclined plane is in contact with the lower edge 18 of the drawer-opening in the case-front. The practical effect of this arrangement, calling attention to the lowermost drawer in Fig. 1, is that a pull on handle 16 produces immediately a compound action on the drawer, which not merely tilts the same only on its rollers, but causes the drawer to also slide out on them. This is because edge 18 prevents the inclined plane 17 from tilting inwardly below the upwardly and inwardly located rollers, a motion which would naturally result as a consequence of a tilt on these rollers of the upper part of the drawers outwardly. As it is, however, inclined plane 17 cannot yield rearwardly, and therefore the drawer simultaneously with a tilt on its rollers is also drawn outwardly on them. The result is that a drawer when pulled tilts and rolls out at once, as shown in the top-most position, its inclined plane sliding over and down on edge 18, and the center of gravity passes quickly over the supporting-fulcrum, so that a mere start on handle 16 causes a drawer to respond and follow the hand of the operator almost instantly. The opening manipulation is thus rendered easy and convenient and the drawer by reason of this added sliding movement drops at once into a position which brings more of it outwardly than a mere tilt would do and gives a free access to its contents. To return a drawer to its closed position, (shown at the intermediate drawer of Fig. 1,) a pushing movement is resorted to, when the same actions transpire again, only in opposite direction, and the drawer drops inwardly as soon as it has passed over its center. It hangs inwardly, as shown, with this

movement limited by lap 9 at the upper edge of the front wall, which butts against the upper edge of the opening in the case-front. A floor 19 may also be provided under each drawer and upon which the same may come to a rest partly or altogether, or strips 21 may be provided on each partition for such purpose, reaching under the lower side edges of the drawers.

It will be noted the arrangement and design is such, particularly as to position of operating parts, that all sides of the drawers may be formed out of rectangular pieces, thus facilitating construction and saving material.

Having described my invention, I claim as new—

1. In a tilting-drawer case, the combination of a general inclosure having drawer-recesses, drawers fitted into these recesses to close them outwardly when in their normal position and rollers provided therein and supported on fixed centers which engage the sides of these drawers at opposite sides in a manner to permit them to tilt thereon, the arrangement being such that the drawers are free to have also a limited sliding movement on these rollers.

2. In a tilting-drawer case, the combination of a general inclosure, vertical partitions provided therein, rollers projecting from these partitions, and drawers closely fitted between these partitions and supported on the rollers on them, the drawers being provided with recesses into which the rollers project and whereby the drawers are free to simultaneously tilt as well as slide on these rollers.

3. In a tilting-drawer case, the combination of a general inclosure, drawers fitted into the same, pivots which support them, one at each side, which support is such that the drawers are free to simultaneously tilt as well as slide, they being shaped and supported so as to project beyond the front of the case at their lower front portion and an inclined surface provided on the under side of this projecting part for the purpose specified.

4. In a tilting-drawer case, the combination of a general inclosure, drawers provided therein, which have longitudinal recesses at opposite sides, rollers in the inclosure occupying these recesses in a manner to permit the drawers to tilt as well as to slide on these rollers, said drawers being formed and supported so as to project beyond the front of the case at their lower front part and an inclined surface provided on the under side of this projecting part and forward of the recesses mentioned to operate for the purpose described.

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

CHARLES G. SCHMIDT.

Witnesses:

C. MEYER,  
C. SPENGEL.

It is hereby certified that in Letters Patent No. 803,070, granted October 31, 1905, upon the application of Charles G. Schmidt, of Cincinnati, Ohio, for an improvement in "Tilting-Drawer Cases," errors appear in the printed specification requiring correction, as follows: On page 1, line 109, the comma after the word "opening" should be stricken out, and a comma should be inserted after the word "drawers" in line 110, same page; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 14th day of November, A. D., 1905.

[SEAL.]

F. I. ALLEN,  
*Commissioner of Patents.*