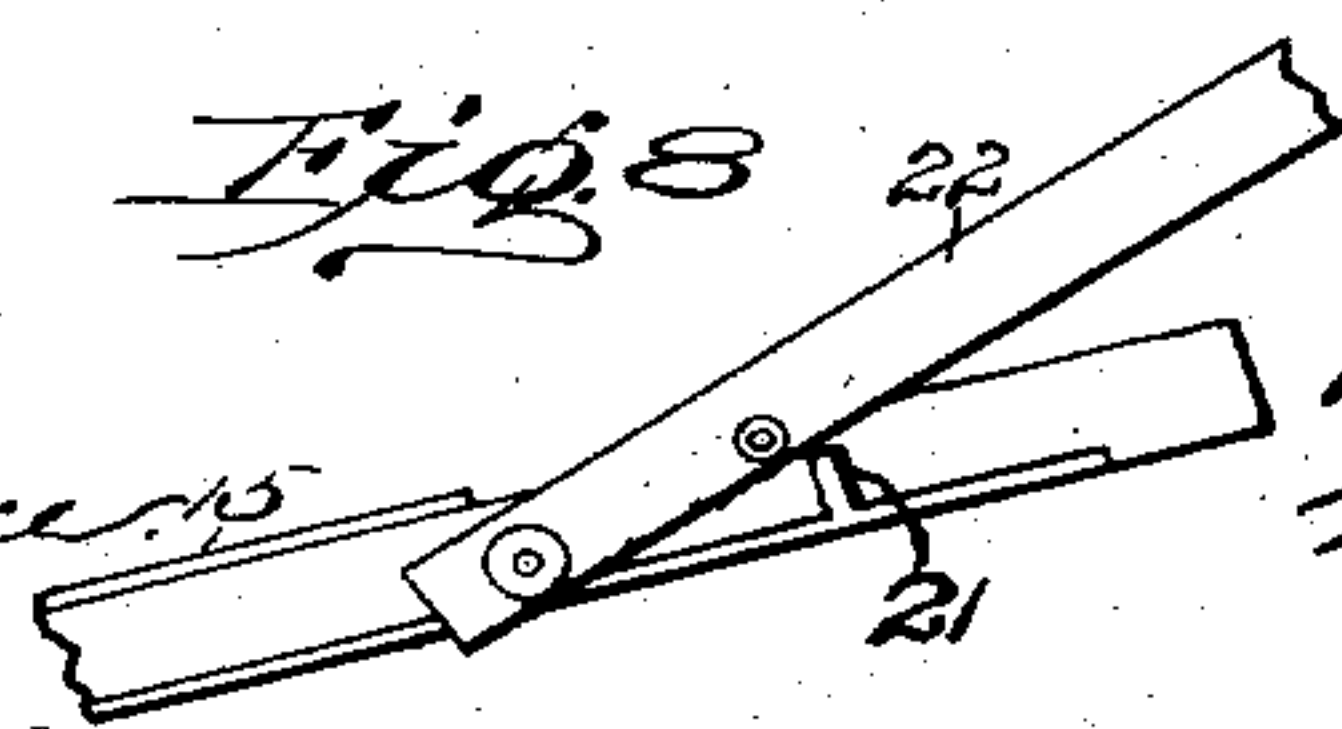
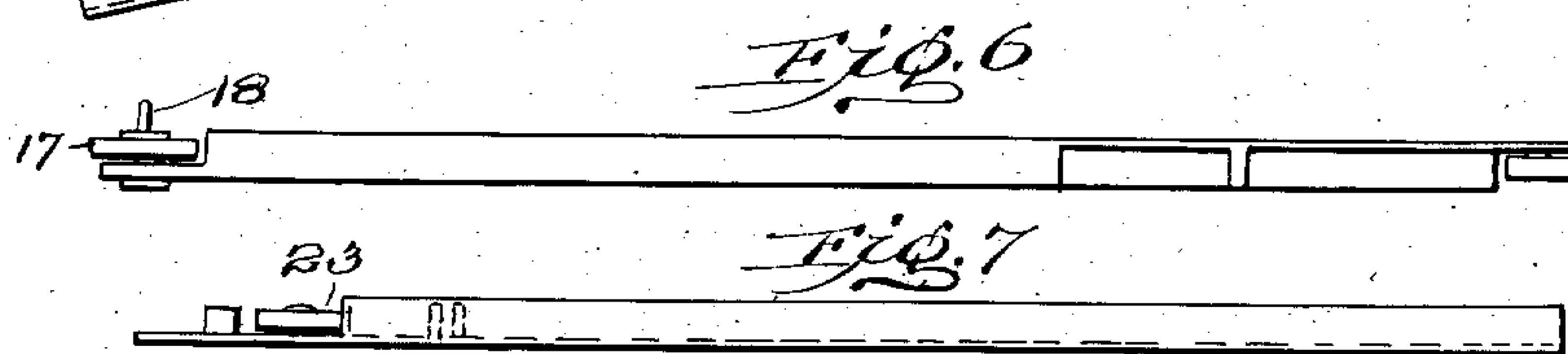
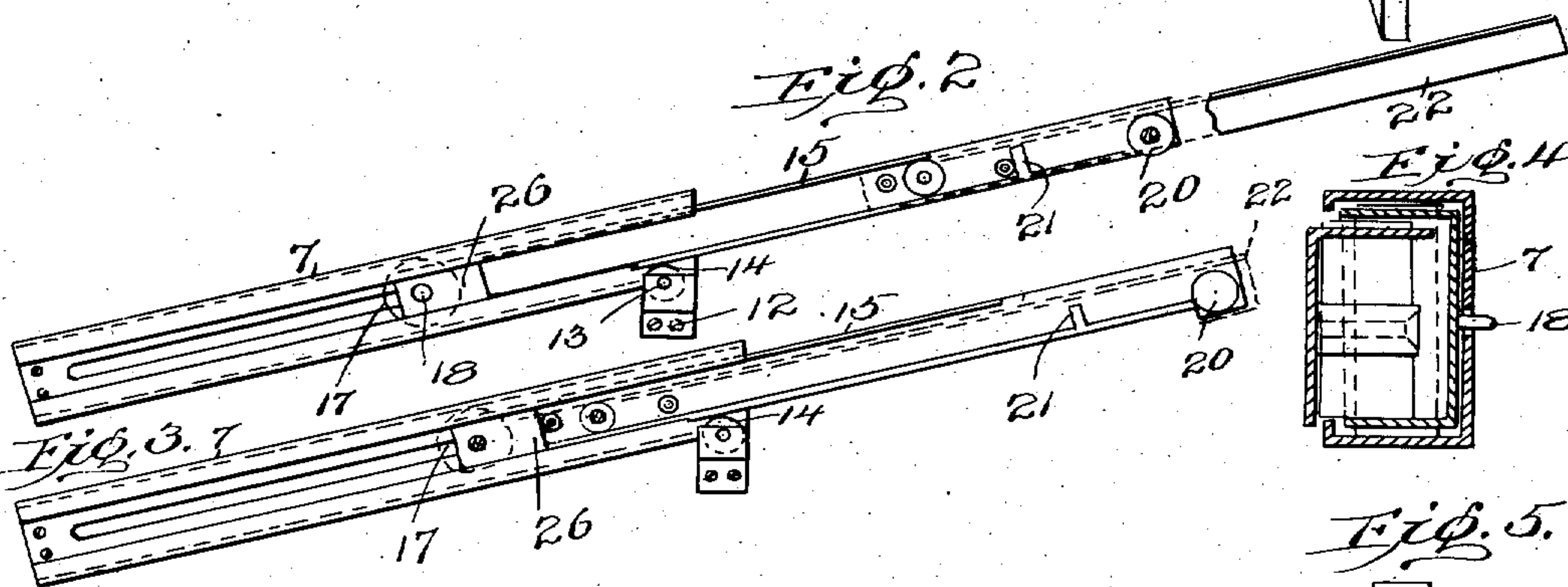
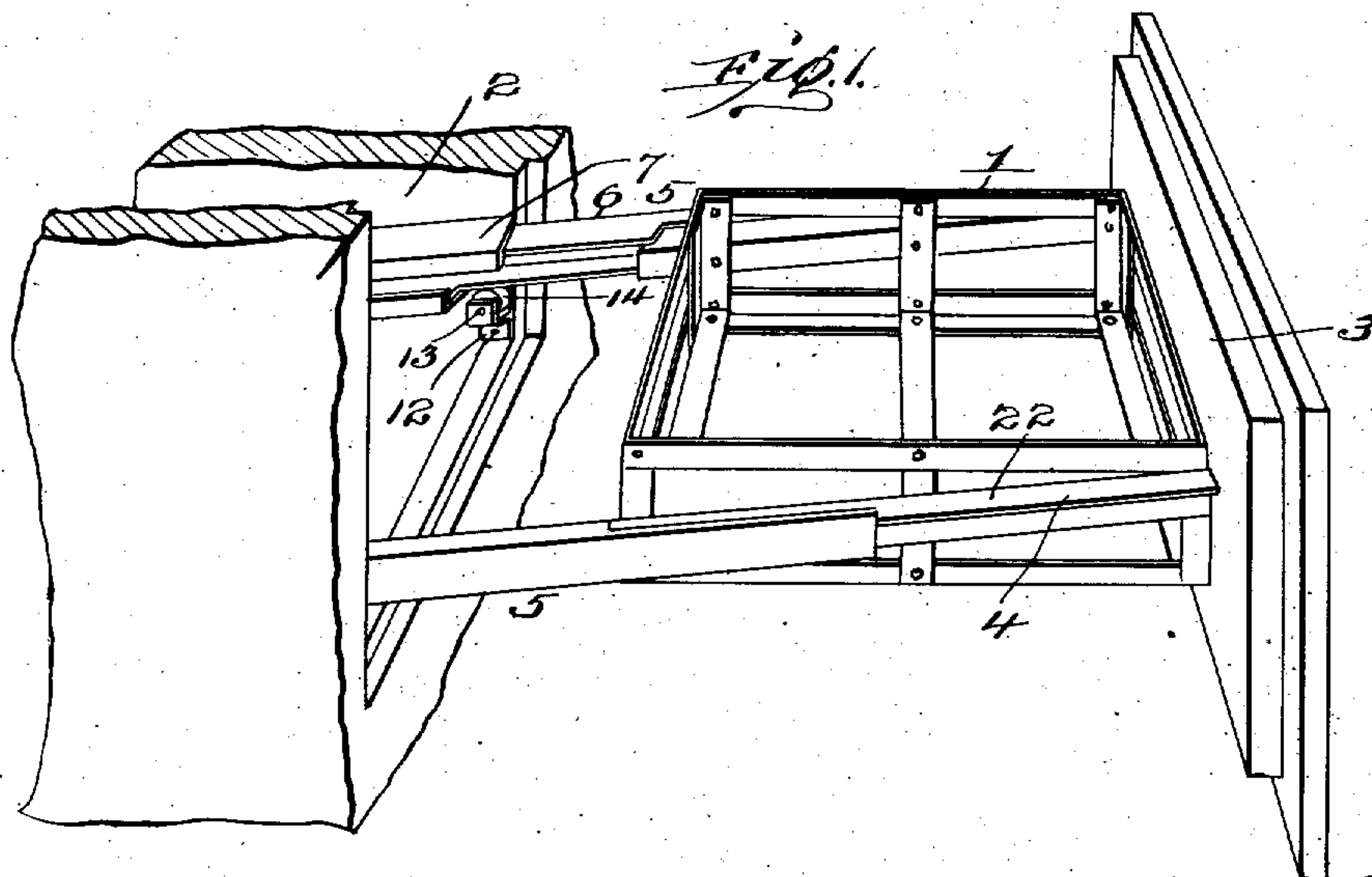


No. 886,192.

PATENTED APR. 28, 1908.

V. A. DE CANIO.  
SELF CLOSING DRAWER.  
APPLICATION FILED NOV. 18, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

VICTOR A. DE CANIO, OF UNION HILL, NEW JERSEY.

## SELF-CLOSING DRAWER.

No. 886,192.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed November 18, 1905. Serial No. 288,091.

*To all whom it may concern:*

Be it known that I, VICTOR A. DE CANIO, a citizen of the United States, residing at Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Self-Closing Drawers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in drawers and particularly to self closing drawers, and it is the object of the invention to provide a slide drawer or other receptacle with guiding and supporting means which will facilitate the movement of the drawer or other receptacle into and out of a casing, cabinet or, other closure.

The invention has for a further object the arrangement of the guiding and supporting means of the drawer or other receptacle so that the weight of the drawer or receptacle or its contents will operate to return the drawer or receptacle to its closed condition.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawing Figure 1 is a perspective view of the improved drawer mechanism forming the subject matter of the present invention. Fig. 2 is a detail view showing a portion of the wall of the cabinet, box or other closure and the guide run-ways or supports for one end of the drawer or other receptacle, the said drawer or receptacle not being shown, and the parts of the run-way being shown in their separated or distended positions. Fig. 3 is a view similar to Fig. 2 but showing the outer section of the drawer supporting means upon one side of the drawer, in its folded or collapsed condition. Fig. 4 is an enlarged detail transverse, sectional view through one of the folded guided run-way mechanisms. Fig. 5 is an enlarged end view of the fixed section of a run-way or drawer guide. Fig. 6 is a top plan view of the intermediate run-way section. Fig. 7 is the top plan view of the outer section of the run-way mechanism. Fig. 8 is a detail view showing one of the side bars carried by the drawer in position as it is being raised from its engagement with the adjacent channel bar.

The mechanism forming the subject matter of this invention is designed for use in the proper mounting of supports, drawers, slides or other receptacles in refrigerators, ice-tanks, ice-receptacles, mortuary receptacles, or other casings or closures in which such movable parts as are necessarily coupled therewith, are likely to bind or become difficult of operation.

Although the drawer supporting and guiding mechanism may be arranged for the movable support of a drawer or receptacle when it is mounted so as to operate in a horizontal plane the parts of the mechanism are preferably however, set at an angle to a horizontal plane so that the weight of the drawer or other receptacle, together with its contents will operate to close the said drawer.

In the accompanying illustration, I have shown a practical embodiment of the invention, and in the drawing, 1 indicates a receptacle or drawer adapted to fit into a casing, as 2, the said casing in this instance being a refrigerator or ice-box. The receptacle 1 when used for ice, need only be an open frame work formed of flat bars secured together in any suitable or desired manner and a front piece or board 3 is secured to said receptacle and arranged to fit into and close the opening formed in the front of the ice-box or other casing. Secured to the opposite sides of the drawer or receptacle 1 are the outer sections 4 of the run-ways or guiding supports 5. The said outer sections 4 of the run-ways are carried by intermediate run-ways 6, which in turn extend into and are properly held in position by inner sections 7.

The sectional run-ways forming the guiding and supporting devices for the drawer or receptacle 1, are preferably formed of angle bars, the inner sections 7 being made of channel bars having inwardly extending upper and lower flanges 8 and 9 respectively and the said flanges are also provided at their inner edges with inwardly turned portions forming narrow edge flanges as at 10 and 11. The space between the flanges 8 and 9 is suitable for receiving the intermediate run-way section 6 and the flanges 10 and 11 serve to prevent the lateral escape of the intermediate run-way section from the said channel bar. The forward or outer ends of the channel bar forming the inner run-way section 7 is provided with a depending portion part of which forms an attaching lug 12, while above the said lug is the bracket 13 in



which is pivotally mounted a roller 14 or other anti-frictional means. The anti-frictional roller 14 of each channel bar 7 is arranged to project slightly above the upper surface of the flange 9 and the intermediate section 6 is thus prevented from resting and moving upon the floor or bottom of the inner channel section 7.

The intermediate sections 6 are each also formed of channel bars having upper and lower intumed flanges 15 and 16. The said flanges 15 and 16 are not quite as wide as the flanges 8 and 9 of the inner sections 7 so that there is ample room between the flanges 10 and 11 and the web portions of the bars 7 to accommodate the intermediate sections 6. To facilitate the movement of the intermediate sections 6 the inner ends of said section have their upper and lower flanges cut away for a short distance and an anti-friction roller 17 is journaled upon a pin 18 secured in the said inner end of each intermediate bar 6. Each pin is so set that the roller 17 will project at its periphery beyond the upper and lower edges of the bar, as clearly shown in Figs. 2 and 3. This arrangement of the roller will prevent any frictional engagement between the bar 6 and the bar 7. In order to limit the outer movement of bar 6 in the bar 7, the pin 18 is permitted to extend sufficiently beyond the roller 17 to extend into an elongated slot 19 formed in the web portion of the said bar 7. The said slot 19 is made of suitable length to permit of the intermediate bar 6 being folded into and entirely closed within the said bar 7 and yet to also permit of the withdrawal of said bar 6 to a suitable extent for carrying the drawer or receptacle 1 outside the casing 2. The outer end of each bar 6 is also provided with an anti-friction roller as at 20, which is so arranged as to offer a movable support for the angle bar 4 upon that side of the drawer. To facilitate the insertion and removal of the angle bar 4 with respect to the intermediate bar 6, the upper flange 15 thereof is removed for considerable distance back from its outer end as clearly shown in Figs. 2 and 3. At a short distance from the outer end of each bar 6 a detent or projection 21 is provided, which projection or detent extends upwardly from the lower flange 16 of said intermediate bar.

The angle bars 4 secured to the sides of the drawer or receptacle 1 are arranged with their upper horizontal flanges 22 extending outwardly from the sides of the drawer and the said flanges thus project in an opposite direction from the web portions of their bars to the direction in which the flanges of the channel bars 6 and 7 extend from the web portions of their bars. The inner ends of the angle bars 4 have their horizontal flanges cut away a short distance and anti-friction rollers 23 are journaled opposite said cut

away portion, so that their peripheries project above the upper edges of the said bars. Detents or stop rollers 24 and 25 are also secured to the inner ends of the angle bars 4, being preferably mounted upon the web portions thereof. The stop or detent roller 24 engages the closed end portion 26 of the adjacent intermediate bars 6 thus limiting the inward movement of the angle bar 4. The detent or stop 25 of each bar 4 engages the stop 21 of the adjacent intermediate bar 6 when the drawer is pulled to its outermost position. The outward movement of the drawer is thus limited, and the bar sections cannot be pulled apart.

In assembling the parts of the run-ways which support the drawer, the said run-ways are preferably inclined from their outer ends toward their inner ends to a sufficient degree to cause the weight of drawer to roll the parts to the inner extremities of their movement. When the bars 6 are inserted in position within the bars 7, their outer ends are supported by the anti-friction rolls 14 while their inner ends are prevented from rising by the anti-friction rolls 17, which run upon the under surface of the upper flanges 8. It will thus be apparent that any weight placed upon the outer ends of the bars 6 will be entirely carried upon the anti-friction rollers 14 and 17. The angle bars 4 when in position engage with their horizontal flanges the anti-friction rollers 20 carried by the outer ends of the intermediate bars 6 and at the same time the anti-friction rollers 23 upon the inner ends of the said angle bars 4 engage the inner surface of the upper flange 15 of the adjacent intermediate bar 6. The twisting strain placed by weight supported upon the said angle bars 4 are thus brought entirely to bear upon anti-friction rollers no matter what the position of the parts. It would be evident from this construction that any weight supported by the angle bars 4 can be moved to the extent permitted by the limiting pins 18 and detents 25 with a minimum of friction and that when the sections of the run-ways are set at an inclination with respect to a horizontal plane as indicated in the drawings, the drawer or other receptacle will move by the action of gravity from its outer to its innermost position when released.

The parts of the run-way are of course made preferably of metal and there is no chance of swelling in material so as to produce any binding action between any of the sections in the movement of the drawer. The sections of the run-ways, because of their thoroughly braced support each within the other are admirably adapted for movably holding a drawer or receptacle even when considerable weight is placed therein. The parts of the run-ways are easily secured to any drawer or receptacle and to any casing,



refrigerator or other box. The inner sections 7 are secured by screws, nails or other means, as shown in Figs. 2 and 3 to the walls of the casing or box and the vertical flanges of the angle bars 4 are also secured in any suitable manner to the sides of the drawer or other receptacle. The front 3 of the drawer is of course made to fit snugly the opening in the casing when such casing is an ice-box refrigerator or other like closure.

The construction of the drawer is not only advantageous for many places and many uses, but it is particularly advantageous for use in a refrigerator, as it is self-closing thus preventing the refrigerator from being accidentally left open, and is tight fitting so that air is excluded and the contents of the refrigerator are kept intact.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A drawer mechanism, comprising a drawer receptacle positioned in a horizontal plane, a drawer carrying member positioned at an angle to said drawer and secured thereto, and run-ways positioned at an angle to a horizontal plane for receiving said member.

2. A drawer mechanism comprising a drawer receptacle positioned in a horizontal plane, a drawer carrying angle iron positioned at an angle to said drawer and secured thereto and run-ways for said angle iron, said run-ways comprising a fixed member having inwardly extending flanges, and a movable member having inwardly extending flanges.

3. A drawer mechanism comprising a drawer receptacle, drawer carrying run-ways, each of said run-ways having a fixed section provided with inwardly extending flanges, edge flanges upon said inner extending flanges and extending at a right angle thereto, movable sections for each fixed section having lateral flanges at the top and bottom, said movable sections fitting be-

tween said edge flanges and the top of said fixed section, and angle bars secured to the said drawer, and anti-friction rollers interposed between the adjacent ends of the run-way sections.

4. A self-closing drawer mechanism, comprising a receptacle, an inclined channel iron fixedly secured in place, an angle iron secured to said receptacle, an angle iron connecting said channel iron and the first mentioned angle iron, the weight of the drawer operating to close the same by gravity when released, anti-friction means positioned upon the outer end of said channel iron, anti-friction means positioned on both ends of said connecting angle irons and anti-friction means positioned on the inner ends of said first-mentioned angle iron, all of said anti-friction means being designed to hold said irons out of contact with each other.

5. A drawer mechanism, comprising a receptacle inclined run-ways arranged at the sides of the drawer, each run-way comprising an inclined channel bar, a movable channel bar telescoping within the same, a roller carried at the inner end of the movable channel bar, a limiting detent carried by the movable channel bar, the fixed channel bar having an elongated slot for engaging and limiting the movement of the said detent, an angle bar carried by the drawer, a detent projecting from said angle bar and a cooperating detent on the movable channel bar for limiting the movement of the angle bar, the said movable channel bar having a cut away portion for facilitating the assembling of the parts and anti-friction rollers interposed between said angle bar and the said movable channel bar.

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

VICTOR A. DE CANIO.

Witnesses:

WILLIAM R. DE VOE.

HUGO MOCK.

Correction in Letters Patent No. 886,192.

It is hereby certified that in Letters Patent No. 886,192, granted April 28, 1908, upon the application of Victor A. De Canio, of Union Hill, New Jersey, for an improvement in "Self-Closing Drawers," an error appears in the printed specification requiring correction, as follows: In line 25, page 3, the word "agle" should read *angle*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 12th day of May, A. D., 1908.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.



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