(No Model.)

I. C. FRIESEN.

ANTIFRICTION DRAWER.

No. 588,565. Patented Aug. 24, 1897.

Fig. 1.

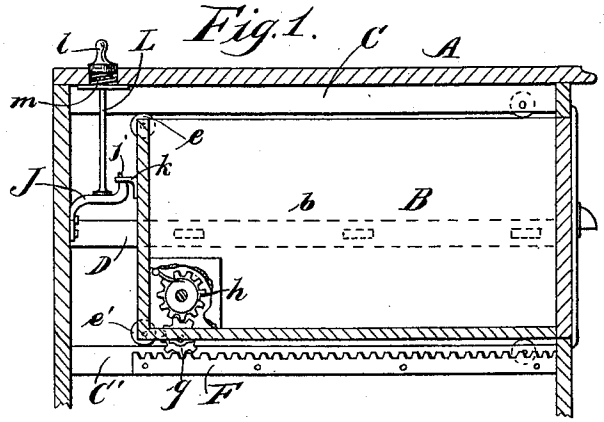


Fig. 2.

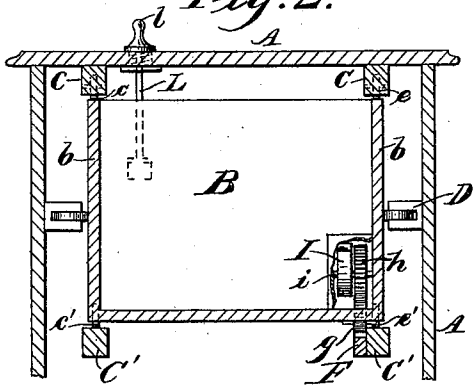
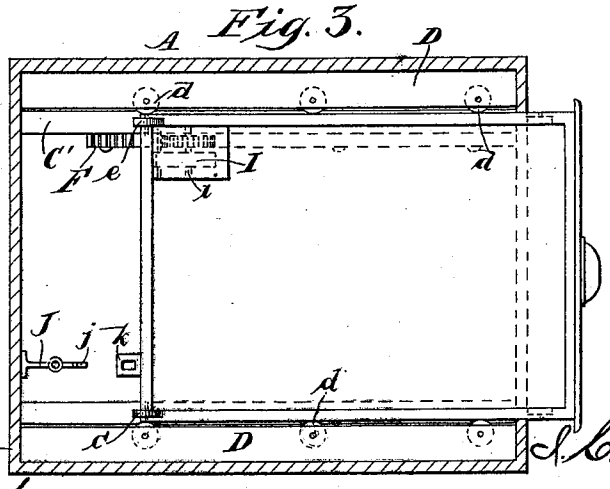


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ISEBRAND C. FRIESEN, OF INMAN, KANSAS.

ANTIFRICTION-DRAWER.

SPECIFICATION forming part of Letters Patent No. 588,565, dated August 24, 1897.

Application filed April 19, 1897. Serial No. 632,752. (No model.)

To all whom it may concern:

Be it known that I, ISEBRAND C. FRIESEN, a citizen of the United States, and a resident of Inman, county of McPherson, and State of Kansas, have invented certain new and useful Improvements in Antifriction-Drawers, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to that class of antifriction-drawers which embody tracks and rollers, and has for its object to provide an improved drawer of this class which will possess advantages in point of convenience, positive operation, adaptability, and general efficiency.

In the drawings, Figure 1 is a vertical longitudinal sectional view showing a drawer embodying my improvements. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is a longitudinal horizontal sectional view.

My improvements are adapted for application to a single drawer or to a set of drawers and may be embodied in the construction of the drawers of desks, bureaus, and various other types or arrangements.

Referring to the drawings, A designates a frame or casing surrounding the drawer B.

C C designate tracks which are arranged above the drawer on a longitudinal plane and at each side thereof. These tracks carry friction-rollers *c* at their front ends, which bear upon the top edges of the sides *b b* of the drawer.

The tracks C C′, carrying friction-rollers *c′* at their front ends, are arranged below the drawer.

D D designate tracks, which are longitudinally arranged at the side of the drawer and carry a longitudinal series of friction-rollers *d*, bearing against the sides *b b* of the drawer.

The foregoing bottom and top sets of tracks and lateral tracks provide an antifrictional inclosure within which the drawer is mounted and freely operates, and the lateral sets of friction-rollers serve to retain the drawer in proper position with relation to the top and bottom tracks and guide the same in a direct plane of movement. The various tracks may be comprised in and mounted upon the outer frame or casing A, as shown. At the rear end of the drawer at the top and bottom friction-rollers *e′ e′* are provided, respectively, which rollers bear, respectively, upon the top and bottom tracks C C′ and operate to retain the drawer in true horizontal position when it is opened and projects from the casing A.

F designates a rack, which is longitudinally arranged with respect to one of the bottom tracks C′ and engages a pinion *g*, mounted at the bottom of the drawer at the rear end of the latter, and intermeshes with the gear *h* upon a shaft *i*, carrying a spiral spring I, the relative construction and arrangement of the rack and spring mechanism being such that the spring operates to automatically carry the drawer forwardly into open position, and as the drawer is forced rearwardly in the operation of closing the same the spring will be automatically wound upon its shaft into position for the next operation.

To retain the roller-mounted spring-actuated automatically-operated drawer in closed position, I provide a catch mechanism at the rear. This mechanism preferably comprises a bowed spring J, secured to the back of the casing A, the point of which, J, is adapted to engage an eye or staple *k* upon the back of the drawer. This spring may be operated to release the drawer and permit of automatic opening by means of the rack and pinion and spring mechanism and of the downwardly-extending rod L, bearing upon the spring and adapted to depress the same to disengage its point or end *j* from the staple *k*. The rod L is provided with an operating head or handle *l*, projecting at the top of the casing A, and may be sustained by a coil-spring *a*.

Under the scope of my invention slight structural changes might be made. For instance, the side tracks D might contain but one roller at the front end thereof to be used in combination with a roller mounted upon the side of the drawer at the rear end thereof.

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

1. In an antifriction-drawer of the class described, comprising a drawer mounted upon rollers, a longitudinally-arranged rack located upon one of the bottom tracks meshing with a pinion upon the rear end of the drawer, in

combination with spring mechanism carried upon the drawer and operated by said pinion to automatically carry the drawer into open position, substantially as set forth.

2. In an antifriction-drawer of the class described, comprising the drawer mounted upon rollers, a longitudinal rack mounted on the bottom track, in combination with a pinion carried by the drawer, and a shaft journaled in the drawer carrying an operating-spring and a gear meshing with said pinion, whereby the drawer is projected into open position, substantially as and for the purpose set forth.

3. In an antifriction-drawer of the class described, the combination, with the drawer mounted upon rollers, and spring mechanism carried by the drawer and adapted to force the same into open position, of a bowed spring secured to the back of the casing adapted to engage an eye or loop upon the drawer and a vertical operating-rod adapted to bear upon and depress said spring, substantially as and for the purpose set forth.

4. An improved antifriction-drawer, comprising the top and bottom tracks, having friction-rollers, lateral tracks having friction-rollers, the rack and pinion, the spring mechanism embodying a gear meshing with said pinion, the bowed spring-catch adapted to engage an eye or staple upon the drawer and a vertical rod bearing upon the said spring, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 13th day of April, 1897.

ISEBRAND C. FRIESEN.

Witnesses:
PETER G. KROEKER,
AARON BARGEN.