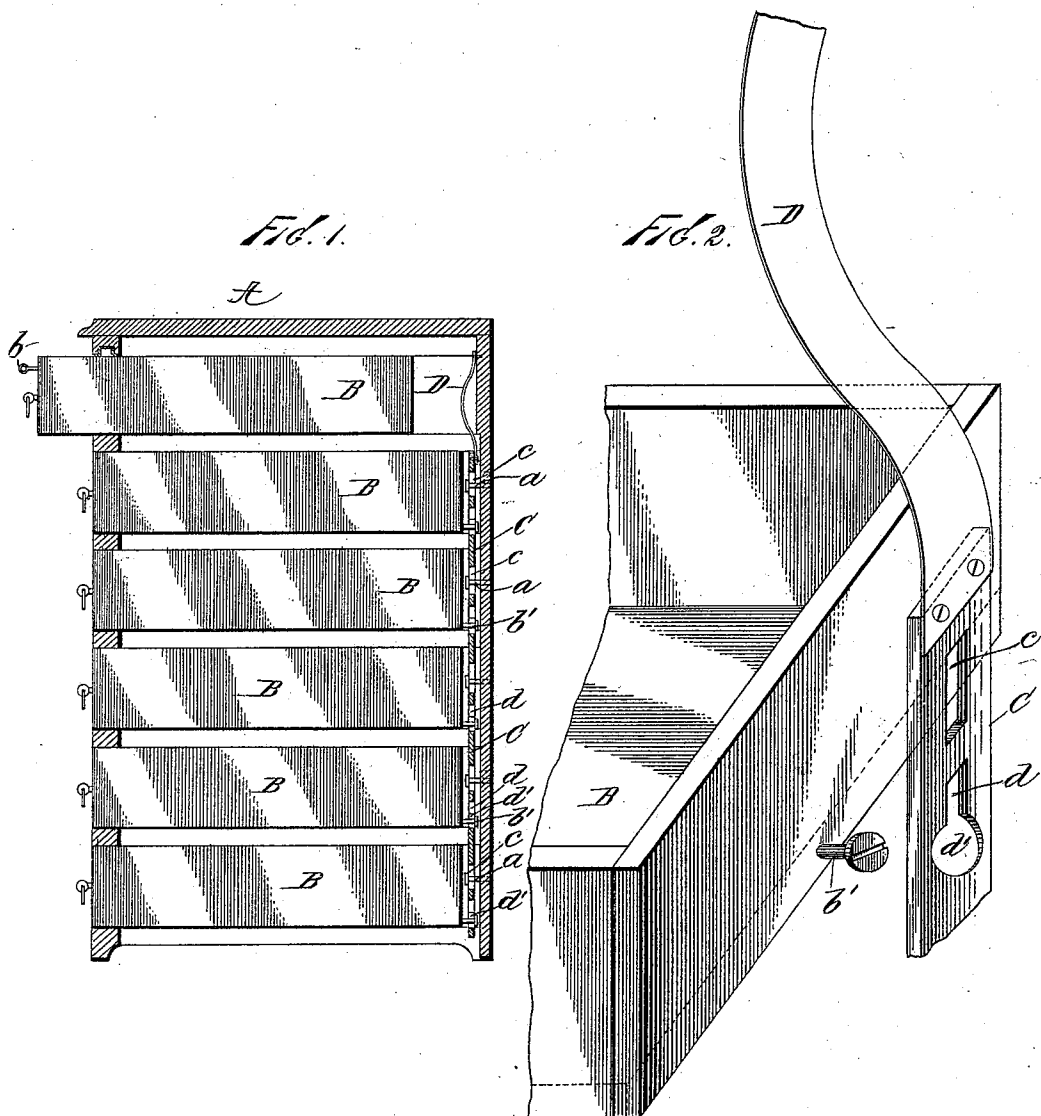


(No Model.)

L. DU BOIS & M. LE GRAND.
DEVICE FOR LOCKING DRAWERS, DOORS, &c.

No. 497,406.

Patented May 16, 1893.



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UNITED STATES PATENT OFFICE.

LEWIS DU BOIS AND MELVIN LE GRAND, OF BROOKLYN, NEW YORK.

DEVICE FOR LOCKING DRAWERS, DOORS, &c.

SPECIFICATION forming part of Letters Patent No. 497,406, dated May 16, 1893.

Application filed January 18, 1893. Serial No. 458,847. (No model.)

To all whom it may concern:

Be it known that we, LEWIS DU BOIS and MELVIN LE GRAND, citizens of the United States, and residents of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Devices for Locking Drawers, Doors, &c., of which the following is a specification.

Our invention relates to that class of locking devices which are employed to simultaneously lock and unlock a series of drawers, doors, or both, and especially to that class in which the series is locked and unlocked by the closing and opening of one of its number; its object being to provide a locking device of this character which shall be simple in construction, efficient in operation, and not liable to get out of order.

To this end, the invention consists in the employment with a series of drawers, doors, or both, provided with headed studs, and a movable bar arranged in connection therewith and provided with peculiarly shaped slots for engagement with such studs, of a bent or bowed spring connected with said bar, and a drawer or door for co-operating with the spring whereby to cause the movement of the bar in one or the other direction, as said drawer or door is opened or closed, and, through it, the locking and unlocking of the drawers or doors of the series, all as will hereinafter more fully appear.

Referring to the accompanying drawings, which form a part of this specification, Figure 1, is a vertical transverse section of a case of drawers with our improved locking device applied in connection therewith, and Fig. 2, an isometric projection of portions of the rear of a drawer and of the locking bar and attached spring.

In the figures, like letters of reference are employed to designate corresponding parts.

A indicates a frame or case having a series of drawers B arranged therein. This case may represent a bureau, a chiffonier, a portion of a desk, or any other article that may be required to support a series of drawers, and may be constructed in any approved form or

design. As shown in the drawings, the series of drawers is arranged one above another, and the upper one may be provided with a lock or other fastening device, as indicated by the key *b* in Fig. 1.

Located in the frame or case A, preferably, though not necessarily, in rear of the drawers, is a locking bar, C, which is provided with suitable slots, *c*, at various points along the same, for the reception of pins or screws, *a*, which project therethrough. These pins or screws, as here shown, are secured in the back of the frame or case, but may be secured to any other fixed portion thereof, and, while engaging with the slots and serving as a means to hold the bar firmly to the back of the case, they yet permit of its moving vertically thereon as the exigencies of the locking and unlocking of the drawers may demand.

Fixedly secured to the upper end of the locking bar C, by screws or otherwise, is the lower end of a spring, D, the upper end of which extends up in rear of the upper drawer of the series, and is rigidly attached to the back of the frame or case in any convenient manner so as to be practically immovable thereon. This spring is preferably constructed in plate form with the portion between its ends bent or bowed outward from the back of the frame or case toward the rear of the drawers or the front of the frame or case, as shown. The object and purpose of this spring are to support the locking bar C, and to co-operate with the upper drawer of the series to depress or raise such locking bar to lock or unlock the remainder of the series of drawers as may be required. In its normal condition, which is that shown in Fig. 1 of the drawings, the locking bar is held in its most elevated position and the drawers of the series will be unlocked. When, on the other hand, the spring is depressed or straightened out, as will be the case when the upper drawer of the series is pressed back against the same, the locking bar will be forced down to its lowest limit of movement and the several drawers of the series below the upper one locked thereby.

To effect the locking and unlocking of the several drawers of the series, below the upper drawer thereof, by this vertical movement of the locking bar, each of such first mentioned drawers is provided at any suitable point in its rear, but preferably in the center thereof, with a headed stud or screw, b' , which engages with a co-operating slot, d , formed in the locking bar C in proper relationship thereto. These slots d , (there being as many slots as there are drawers less one) instead of being made of a uniform width throughout, are provided at their lower ends with enlargements, d' , which are made of a size sufficiently great to permit of the heads of the studs or screws b' passing readily therethrough, when brought opposite the same, while the portions of the slots above such enlargements are made of a width that is only a little greater than the diameter of the shanks of such studs or screws, which, as will be seen, is much less than that of the heads thereof.

When the spring D is in its normal condition, and the locking bar C is raised to its highest limit, the enlargements d' in the several slots d will all be brought into coincidence with their respective studs or screws, allowing the heads of these latter passing readily therethrough and the several drawers are then unlocked and may be opened or closed at pleasure. When, on the other hand, the several drawers have been closed with the studs or screws b' on their backs passed through their respective enlargements d' , and the locking bar C depressed by forcing in the upper drawer against the side of the bent or bowed spring D, until such spring has been nearly straightened, the narrower portion of the slots d will have been slid down over the shanks of the studs or screws in rear of their heads, and the several drawers of the series below the upper one, which may be fastened by any suitable lock or fastening device, locked, and so remain until the locking bar is again raised by the action of the spring D on the opening of the upper drawer. By this construction and arrangement of parts, we produce, as will be seen, a locking device through which a series of drawers or other analogous articles may be simultaneously locked and unlocked by the simple act of opening and closing one of its number, which is at once exceedingly simple in construction and efficient in operation.

Although in the above, we have described the invention as applied in connection with a series of drawers arranged one above another, and the locking and unlocking of the series effected from the uppermost drawer, yet it is obvious that, instead of being so arranged and operated, we may, if we so desire, arrange the drawers side by side, in which event the locking bar will be disposed horizontally in rear of the same and be operated from one of the end drawers of the series. Again, instead of employing our locking de-

vice in connection with a series of drawers, we may, if we so desire, make use of it in connection with a series of doors, or with drawers and doors, in which cases the doors will be provided with headed studs or screws, and the depression of the spring effected either from the movement of one of the doors or from the movement of the drawers, the locking bar, as will be understood, being arranged in the proper position,—vertically, horizontally, or obliquely—to permit of the desired locking and unlocking being accomplished.

We are aware that a locking bar provided with slots for engagement with studs or screws projecting from the rear of drawers, and with an eccentric and shaft for operating such bar is not new. We are also aware that locking bars provided with hooks for engagement with studs on the back of drawers, or with the backs of the drawers themselves, and with levers or arms for co-operating with the backs of drawers or with abutments thereon are likewise not new. These we do not claim. Our invention differs from these in that, instead of requiring a key for operating the shaft upon which the eccentric is mounted to effect the locking and unlocking of the drawers; a separate spring for raising the locking bar after it has been depressed, or relying entirely upon the action of gravity to move such locking bar downward after it has been elevated, the one bent or bowed spring in our invention serves alone to move the locking bar in both directions, and the entire construction is entirely automatic and reliable in operation.

Having now described the nature of our invention and explained certain of the ways in which the same is or may be carried into effect, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a locking bar provided with a series of slots having enlargements at one of their ends, and a frame or support on which such bar is held and guided, of a series of movable members provided with headed studs or screws, and a bent or bowed spring connected at one end to the locking bar and at the other end to the frame or support for such bar, whereby by the back and forth movements of one of said members the straightening of said spring is effected and its return to its normal position permitted, to thereby move the said locking bar to automatically effect both the locking and unlocking of the remainder of the series of members as such former member is moved in one or the other direction, substantially as described.

2. The combination, with a series of drawers, B, provided with headed studs or screws, b' , and the frame or case A in which such drawers are arranged, of a locking bar, C, provided with slots, c d d' , pins, a , and the bowed spring D connected at one end to the

locking bar and at the other to the frame, and arranged to be struck and straightened by one of said drawers as such drawer is closed and returned to its normal position as this drawer is opened, to automatically effect both the locking and unlocking of the remainder of the drawers of the series, as and for the purposes set forth.

In testimony whereof we have hereunto set our hands this 16th day of January, 1893.

LEWIS DU BOIS.
MELVIN LE GRAND.

Witnesses:

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FRANK S. OBER.