E. STUCK.

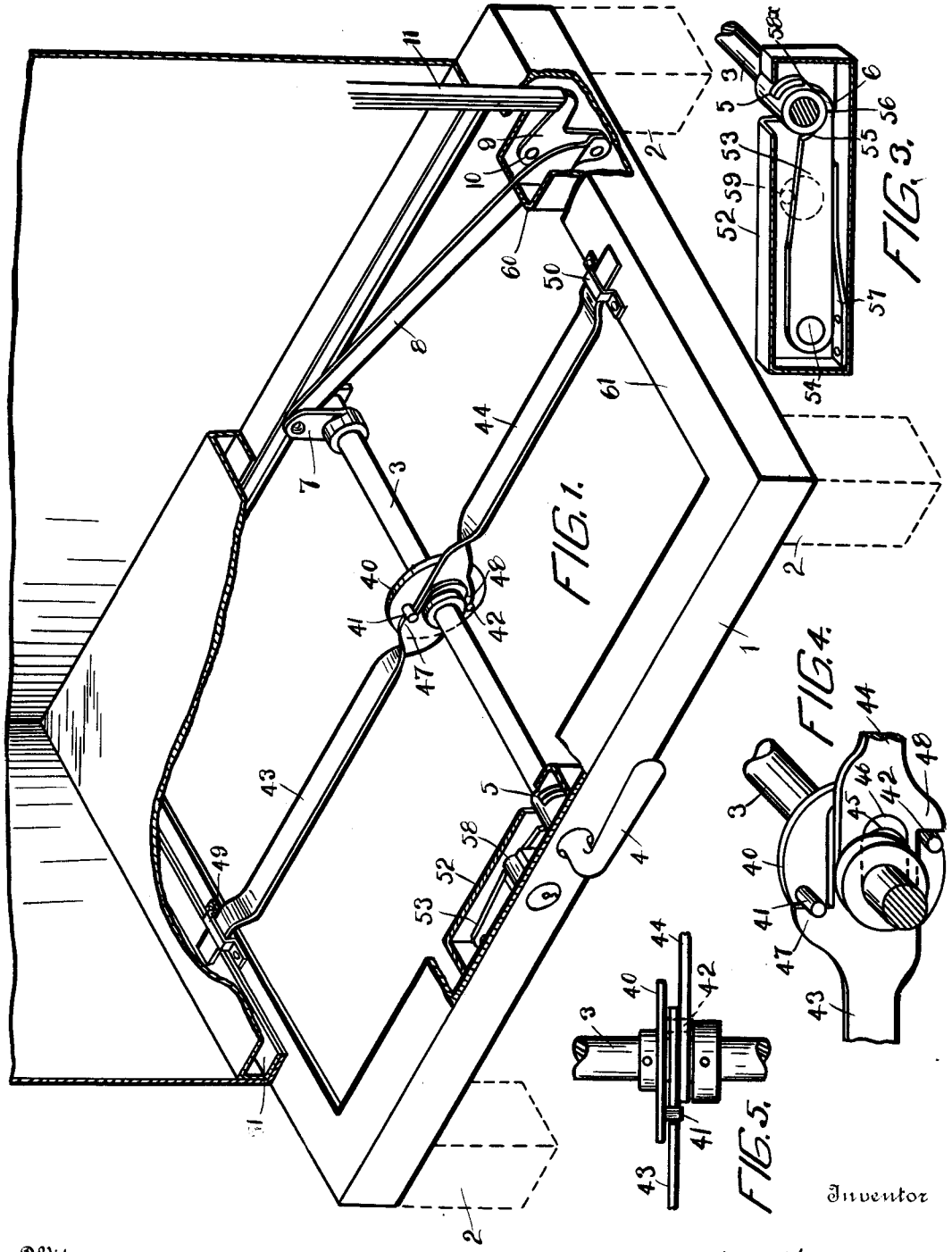
BASE LOCK FOR HORIZONTAL UNITS.

APPLICATION FILED APR. 18, 1913.

1,109,086.

Patented Sept. 1, 1914.

3 SHEETS—SHEET 1.



Witnesses

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Edna K. Booth

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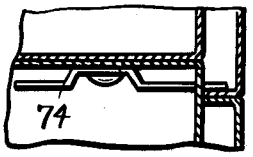


FIG. 7.

FIG. 2.

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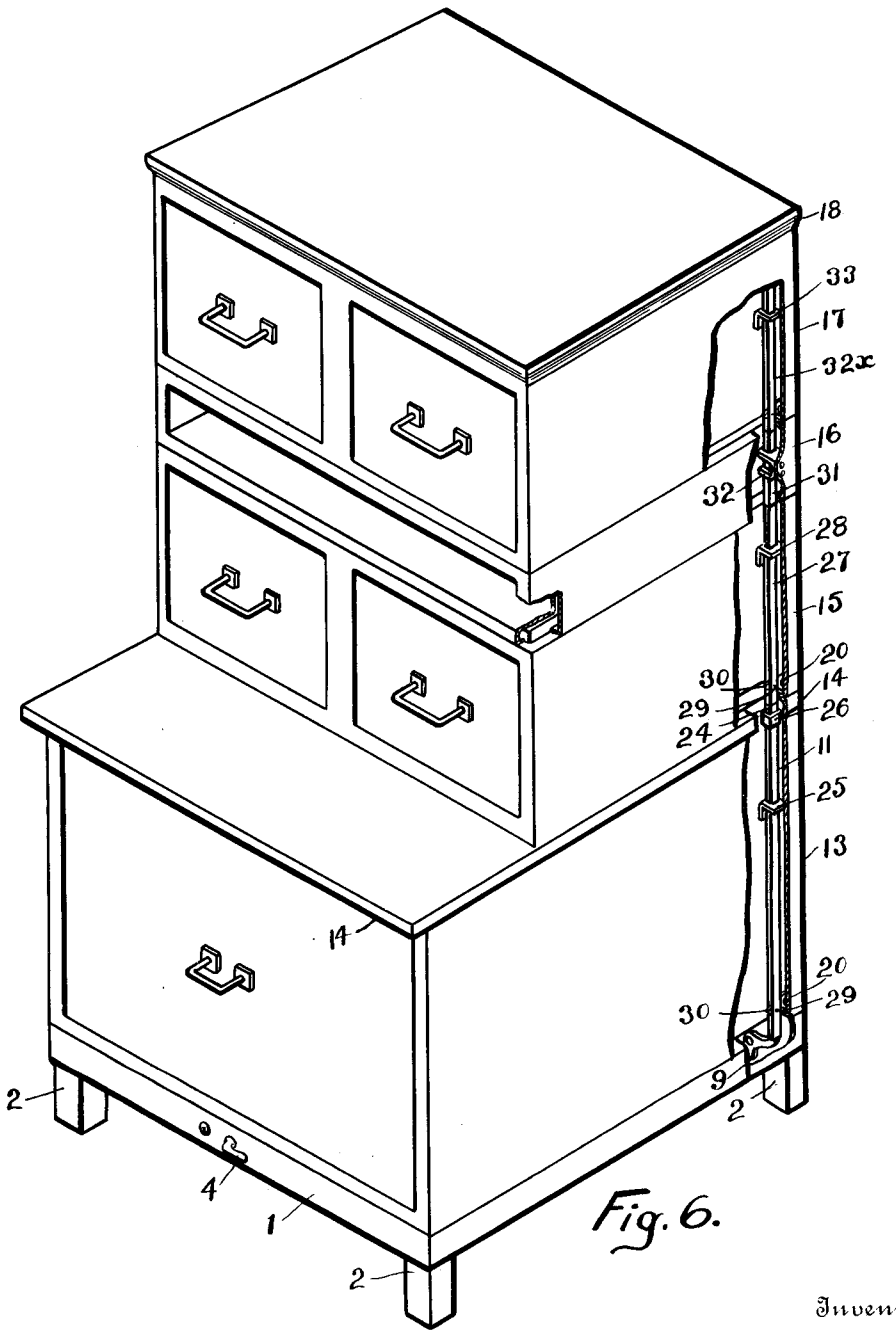


Fig. 6.

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UNITED STATES PATENT OFFICE.

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BASE-LOCK FOR HORIZONTAL UNITS.

1,109,086. Specification of Letters Patent. Patented Sept. 1, 1914.

Original application filed March 29, 1912, Serial No. 686,993. Divided and this application filed April 18, 1913. Serial No. 762,007.

To all whom it may concern:

Be it known that I, EVERETT STUCK, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Base-Locks for Horizontal Units, of which the following is a specification.

This invention relates to mechanism for locking drawers and is particularly adapted for use in horizontal units made of either wood or metal, which units are capable of being stacked up in a vertical series similar to the so called well known Wernicke sectional book cases and filing cases.

The invention also relates to the construction of such units in metal.

One object of my invention is to construct a base section having a locking and controlling mechanism therein.

Another object of my invention is to construct intermediate horizontal sections capable of engaging with or being stacked up on said base section and locked thereto, said horizontal sections containing drawers or other filing mechanism.

Another object of my invention is to provide said horizontal sections with a locking mechanism for said drawers to prevent the opening thereof.

Another object of my invention is to make the locking mechanism of each section complete within itself, a part of such locking mechanism interchangeably connecting, registering and interlocking with the locking mechanisms of other sections and with the base section by which it may be controlled.

Another object of my invention is to construct the locking mechanism so as to permit the return of and the locking of individual drawers in one section without disturbing the remaining drawers or unlocking the locking mechanism of the other sections.

Another object of my invention is to enable the locking mechanism of the base to operate and control all the locking mechanisms of the series of sections above the base.

These and other objects of my invention will be fully described in the specification and pointed out in the claims at the end thereof.

In the accompanying drawings, Figure 1 is a perspective view of the base with the locking mechanism thereof exposed. Fig. 2 is a perspective view of the casing and locking mechanism thereof, partly broken away, to show the operating parts. Fig. 3 is a detail view of the lock which controls all the operating parts. Fig. 4 is a detail perspective view of the locking mechanism that is used for joining the first section to the base. Fig. 5 is a top plan view of the mechanism shown in Fig. 4. Fig. 6 is a perspective view of the assembled case, showing the position of the locking bars therein. Fig. 7 is a vertical sectional view showing the button for locking consecutive sections together.

In the accompanying drawings like reference numerals indicate like parts.

In the drawings, reference numeral 1 indicates a base supported on four legs 2, 2, which are indicated in dotted lines in Fig. 1. Mounted to oscillate in this base is the rock shaft 3 which has a handle 4 thereon which extends through the front of the base and by which the parts hereinafter described may be operated. This handle has thereon the cams 5 and 6 by which the shaft 3 is held against rotation, as will presently be described.

On the rear of the shaft is the crank 7 which is keyed thereto. Connected to this shaft is the link 8 which at its other end connects with the bell crank 9 which is pivotally mounted on the base at 10. The free arm of the crank engages with the bar 11 which is mounted to slide in suitable guides in the first unit section 13 above the base, as is illustrated in Fig. 6.

In Fig. 2 I have illustrated a perspective skeleton view of a stack of the sections in the following order: first, a unit section of large size, second, a ledge top, third, a unit section of small size, fourth, a section containing a sliding shelf, fifth, a unit section of small size.

It will be noticed that in Fig. 6 the various parts are indicated as follows: the base by the reference numeral 1, the large size unit section immediately thereabove by the reference numeral 13, the ledge top 14, the reduced section 15, the sliding shelf section 16, the last reduced section 17, and the cap 18.

With the bell crank 9 in the base section is

the series of bars which are vertically in line with each other, through which the motion is transmitted to the various locking rock shafts that are contained in the several sections where they are needed.

In the large unit section immediately above the base, the bar 11 is contained, which bar has the pin 29 thereon. Mounted in this section is the rock shaft 20 having the locking dog 21 thereon and having at the end thereof the arm 30 which is engaged by the pin 29 so as to be rocked thereby on the upward movement of the bar, these parts being identical with the corresponding parts shown in sections 15 and 17 of Fig. 2. A spring 23 is shown engaged with the dog 21 at one end and with the case at the other end, by which the rock shaft 20 is normally held in the position in which the dog is in position to lock the drawer of the filing device. The bar 11 is of the same length as the vertical height of the section which contains it. On top of the section 13 is placed the ledge top 14, and in this ledge top is contained the locking bar 24 which is of the same length as the vertical height of the ledge top. In the section 13 the guide 25 is provided for the purpose of holding the bar 11 in place. No guide whatever is provided however for the ledge top 14, the locking bar being kept in place as follows: The locking bar 24 is provided with a ferrule 26 at its lower end, which ferrule engages with the top of the bar 11, with which it can rise and fall.

The section 15 is provided with the locking bar 27, which bar is held in place by the guide 28. At the bottom this bar 27 rests on the bar 24, with which it rises and falls. It has thereon the pin 29 which engages with the arm 30 for the purpose of rocking the shaft 20 in the section 15, it being understood that the arms, rock shafts and locking dogs are substantially the same in all of the sections, the difference being confined to the method of transmitting the motion of the locking bar from one section to the next.

Placed above the section 15 is the sliding shelf section 16, which section has no part therein to be locked and from which therefore the rock shaft and dogs thereon are omitted. This section contains the locking bar 31, which bar is held in place by the guide 32 which is integral with the section 16. Above the section 16 is carried the drawer section 17 which has therein the bar 32^{x}, held in place by the guide 33, which bar has pins thereon for the purpose of engaging with and causing the rocking of the rock shafts and their dogs, as has heretofore been described.

It will be seen that by arranging the vertical bars for transmitting the locking effect from the lower section as has been herein described, any system of sections may be accommodated consecutively, all of which will stack up together and all of which will be locked from the base simultaneously.

In any vertical series in which the drawers are locked, it is desirable to have the consecutive sections locked together so that the base lock will more securely hold the various filing devices locked so that they cannot be unlocked by the simple expedient of taking the various sections apart. To secure this result I have provided a special locking device in the base for holding the first section to the base, and auxiliary locking devices for locking each consecutive section upon the section below it, which locking devices are accessible as follows: The locking device in the base is accessible from the opening in the bottom thereof and can only be got at by turning the base upside down, or by reaching under it by hand.

The base locking device will now be described.

Keyed to the shaft 3 is the disk 40 which has the pins 41 and 42 thereon. Mounted to slide in the base are the bolts 43 and 44. These bolts have the slots 45 and 46 therein, through which passes the shaft 3 and by which they are held in place. The bolt 43 has the shoulder 47 thereon and the bolt 44 has the shoulder 48 thereon. With these shoulders engage the pins 41 and 42, so that by turning the handle 4 up to the position shown in Fig. 1, the bolts are moved outwardly transversely to the shaft 3. Each of these bolts is given a quarter turn and the ends thereof slide in sockets 49 and 50 carried on the base, by which the ends of the bolts are held to a strictly longitudinal movement. The bolts project beyond the guides with a suitable tongue which is adapted to engage the flange with the unit section which rests on the base, this flange being indicated at 51 in Fig. 1. The shaft 3 is locked in the position indicated in Fig. 1 by the lock shown in Fig. 3, as will presently appear, and while so held it directly holds the bolts 43 and 44 in locked engagement with the first unit section. The upper unit sections are held together by locking devices that are indirectly controlled by the base locking device, as will presently appear, so that the base locking device directly or indirectly prevents the filing case from being taken apart.

Consecutive sections interlock with each other in the manner indicated in Fig. 2. The top of each section is stepped at the sides, as indicated at 70 in Fig. 2. The bottom of each section rests on the top of the section below it, as indicated at 71 and 72, while the sides of the section extend below the bottom and are turned in as indicated at 73 to engage with the stepped sides of the section below it, which engagement will prevent consecutive sections from moving lat-

erally on each other, the stepped sides together forming a continuous uniform surface on the ends of the built up case.

Pivoted to the under side of the top of each section at each side thereof are the locking buttons 74 which swing through slots 75 in the stepped side 70 of the section. When the sections are in place as is indicated in Fig. 2, and the drawers or other filing devices are removed therefrom, these buttons are accessible so that they may be turned to the position indicated in Fig. 2, in which position the button in the top of each section will engage with the inturned flange 73 on the bottom of the section above it and lock the two securely together. If the drawers or filing devices are now put in place and locked in place, it is obvious that the buttons cannot be turned back, and all of the parts of the section will be more securely locked together, so that the base lock of the whole series will control the whole section. These same buttons 74 are used on the ledge top or the sliding shelf sections. These sections are hollow on the under side, so that the buttons may be reached from beneath, permitting either of these sections to be connected to the section above, after which both sections as a single unit may be connected or fastened to the section below, thus holding all of the sections securely locked together, as above described. The section below completely closes the opening in the ledge top or sliding shelf section through which the buttons can be reached, thus preventing any tampering therewith.

The shaft 3 is locked in the position indicated in Fig. 1 by the locking device illustrated in Figs. 1 and 3, which will now be described. This locking device is contained in the lock casing 52 which carries therein the pawl 53, pivotally mounted at 54. This pawl at its forward end has a curved recess 55 terminating with an abrupt shoulder 56 with which the cam 6 on the shaft 3 is adapted to engage, by which the backward rotation of that shaft is prevented. The pawl 53 is pressed upwardly by the leaf spring 57 contained in the bottom of the case. Mounted in the base is the barrel 58 of an ordinary Yale lock, which can be turned by a suitable key therefor. On the end of this barrel and eccentric to its center of rotation, is provided a pin 59 normally in engagement with the pawl 53. By turning the pin to the right and down from the position shown in Fig. 3, the pawl 53 is depressed and the shoulder 56 is taken out of engagement with the cam 6 on the shaft 3, permitting the handle to be turned down from the horizontal position shown in Fig. 1. When the handle is turned to the position shown in Fig. 1 the pawl 53, urged upward by the spring 57, will snap in behind the shoulder of the cam 6 and lock the shaft 3 in the position shown. An additional shoulder $58^{\times}$ is provided which engages with the shoulder 56 to hold the shaft 3 from moving beyond its unlocked position. This effect may also be secured by the pins 41 and 42 engaging with the sides of the bolts 43 and 44.

When the shaft 3 is placed in the position shown in Fig. 1, the locking bars 11, 24, 27, 31, $32^{\times}$, etc., will all be lowered, permitting the springs 23 on the locking dogs 21 to press them down into locking position, and when the shaft 3 is given a quarter turn from the position shown in Fig. 1, the locking bars aforesaid will all be lifted, causing the dogs 21 to be raised out of engagement with the filing devices, permitting the filing devices to be removed from the casing, and also permitting access to the various buttons which fasten the filing devices together.

The locking bars 11, 27 and $32^{\times}$, it will be noticed, are made up of two parallel bars spaced apart by blocks, while the bars 24 and 31 are solid bars. The bars 11, 27 and $32^{\times}$ carry the pins 29 extending between them, which in turn engage with the arms 30, the arms 30 being rocked by the raising of the bars because of their engagement with the pins 29. This engagement between the bars and the rock arms causes the rock arms to act as guides for the bars and causes the locking bars to hold the rock shaft 20 against endwise movement.

It will be understood that the base section can be of any size and that the unit sections can be stacked up in any order thereon that may be desired, omitting or including the sections that do not include the filing devices or the sections that do include them.

A shield 60 is provided in the base that together with the angle 61 of the base, completely incloses the bell crank 9 and prevents access thereto and to the lower end of the bar 11. The angle 61 is cut away to permit the bar 11 to pass therethrough and the shield 60 is slotted to let the connecting rod 8 through, thus insuring the proper operation of the parts and preventing interference with or improper manipulation thereof.

This application is a division of my prior application No. 686,993, filed March 29, 1912.

I claim:

1. The combination in a system of horizontal units of a base section having a rock shaft mounted therein, a lock thereon for controlling the rocking of said shaft, a unit section superimposed upon said base, a pair of bolts in said base capable of engaging with said unit section to fasten the unit section to the base, said bolts being movable to and held in locking position by the operation of said rock shaft, said rock shaft being capable of being thereafter freely rocked

without moving said bolts from their locking position.

2. The combination in a system of horizontal units of a base section having a rock shaft mounted therein, a lock thereon for controlling the rocking of said shaft, a unit section superimposed upon said base, a pair of bolts in said base capable of engaging with said unit section to fasten the unit section to the base, said bolts being movable to and held in locking position by the operation of said rock shaft, a bell crank in said base section connected to and operated by said rock shaft, a locking bar carried in said unit section in line with one arm of said bell crank, said bar being positively raised by the bell crank upon the operation of the rock shaft, a spring operated rock shaft in said unit section connected to and operated by said bar.

3. The combination in a system of horizontal units of a base section having an operating and locking device therein, a unit section on the top thereof, a locking device in said base section comprising a central shaft having a crank plate thereon, a pair of slotted locking bolts mounted to slide transversely of the shaft, each of said bolts having a shoulder thereon, pins on the plate to engage with the shoulders on said bolts, said pins operating to drive said bolts forward when the shaft is operated in one direction, a bell crank in the base section connected for operation by said rock shaft, an operating bar in the unit section making contact with an arm of said bell crank for operation longitudinally thereby, drawer locking means in the unit section controlled by said operating bar.

4. The combination in a system of horizontal units of a base section having an operating and locking device therein, a unit section on the top thereof, a locking device in said base section comprising a central shaft having a crank plate thereon, a pair of slotted locking bolts mounted to slide transversely of the shaft, each of said bolts having a shoulder thereon, pins on the plate to engage with the shoulders on said bolts, said pins operating to drive said bolts forward when the shaft is operated in one direction, a bell crank in the base section connected for operation by said rock shaft, an operating bar in the unit section making contact with an arm of said bell crank for operation longitudinally thereby, said bolts being operable to engage with a unit section and lock it to the base section upon the operation of said rock shaft.

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

EVERETT STUCK.

Witnesses:
H. D. AINGE,
A. E. JONES.