A. H. SCHAFFERT.

INTERLOCKING DRAWER UNIT.

APPLICATION FILED OCT. 1, 1914.

1,271,083.

Patented July 2, 1918.

2 SHEETS—SHEET 1.

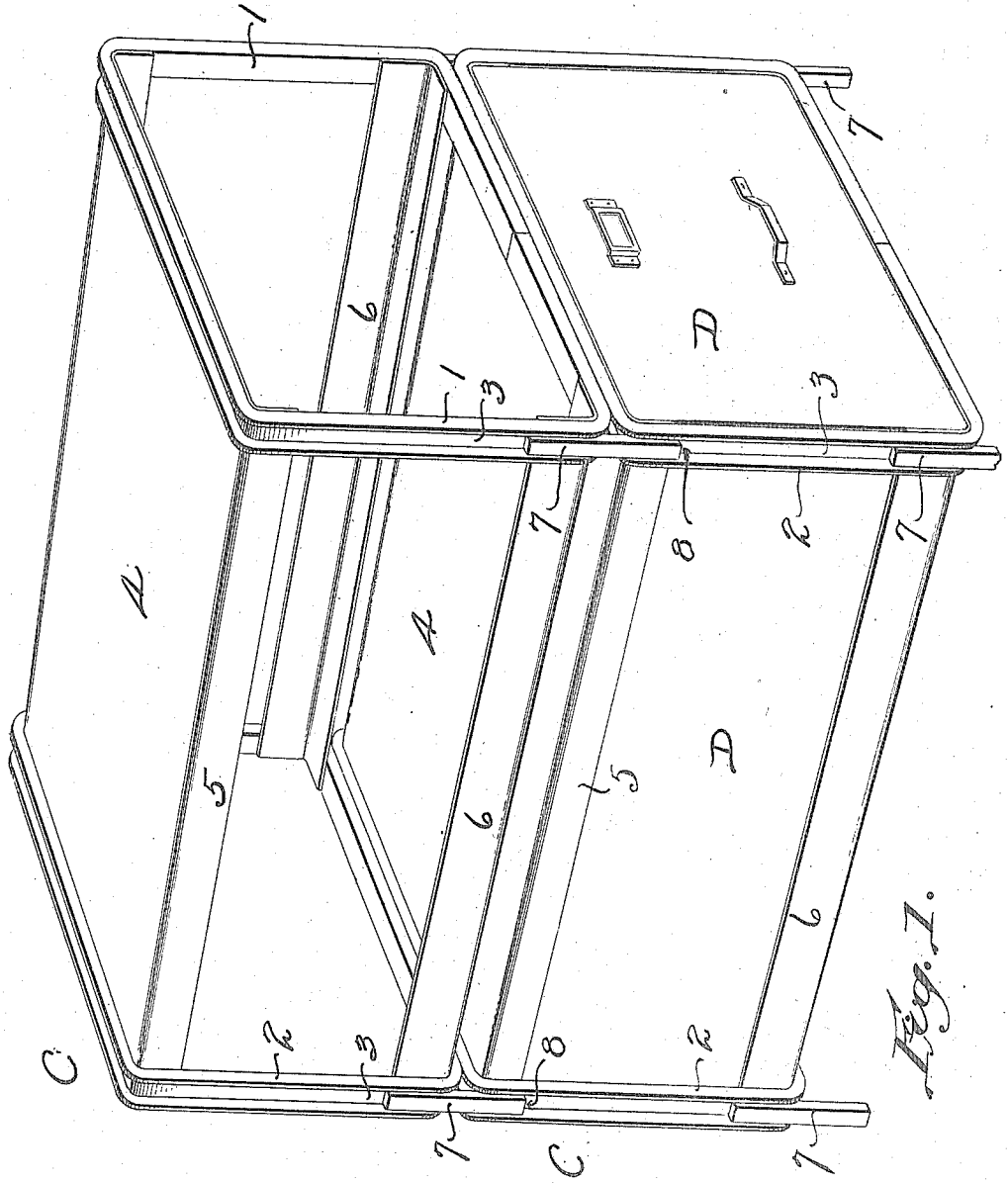


Fig. 1.

Witnesses

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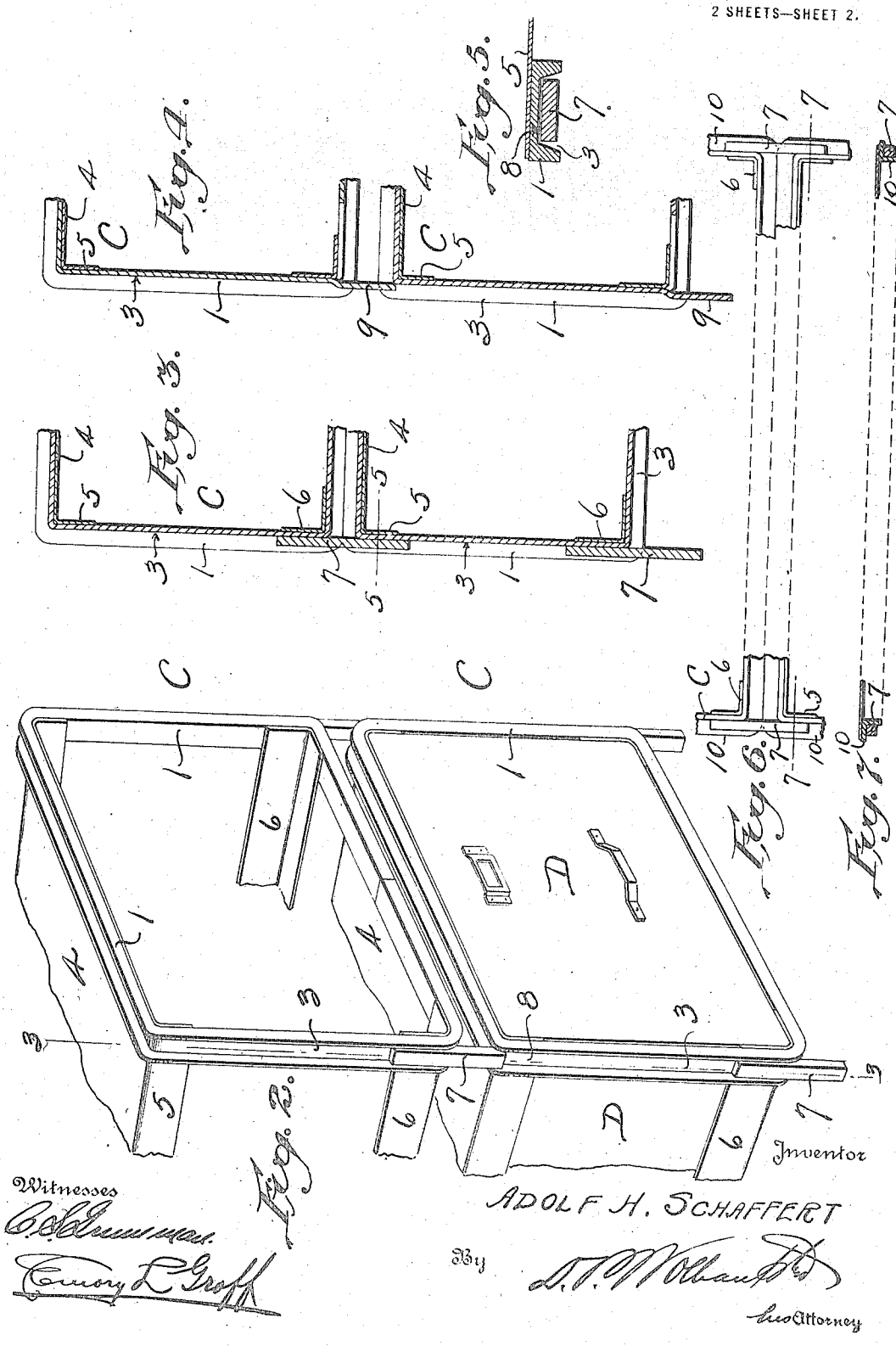
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Witnesses

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UNITED STATES PATENT OFFICE.

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INTERLOCKING DRAWER UNIT.

1,271,083. Specification of Letters Patent. Patented July 2, 1918.

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To all whom it may concern:

Be it known that I, ADOLF H. SCHAFFERT, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Interlocking Drawer Units, of which the following is a specification.

This invention relates to sectional furniture, and more particularly to metal furniture of the built-up sectional cabinet-type involving a plurality of interlocking drawer units, each of which includes a casing-section and a slide drawer mounted therein.

A primary object of the invention is to provide a simple and practical form of construction adapted particularly for the economical manufacture of an all-metal storage cabinet of the type generally utilized for storage filing purposes, and to that end the invention contemplates a structure of this character which can be made from standard stock material, thereby reducing the cost of manufacture and making a strong and durable piece of furniture, while at the same time involving certain novel structural characteristics which provide a convenient, efficient, and reliable interlocking connection between juxtaposed drawer units.

A requisite feature of the interlocking means employed for this purpose is that the same should accurately and positively guide the units into proper alinement, and also secure them against relative displacement while in use, but some forms of interlocking connections between drawer units of a sectional cabinet are open to serious objections, because of the fact that they do not reliably hold the units against relative displacement under all conditions. That is to say, in some types of construction, the interlocking drawer-units are susceptible of relative displacement upon the pulling open of the drawer, thus causing out-of line conditions, and the possibility of an entire displacement of a drawer unit.

These objections to some interlocking connections, between the drawer units of a cabinet, are entirely obviated and overcome by the present invention which contemplates a simple and practical construction, and combination of elements, which not only admit of the ready and convenient locking and unlocking of the units, but at the same time provide means for effectually securing the units in such a manner as to positively prevent horizontal movement or displacement thereof in any direction, even when subjected to the displacing tendency occasioned by the forcible opening of a drawer against its stops.

With these and other objects in view which will be readily understood by those familiar with this class of devices, the improvement consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of two drawer units of a metal cabinet shown in locked relation, and exposing the elements of the improved interlocking connection provided therefor.

Fig. 2 is a fragmentary perspective view of end portions of two drawer units showing the interlocking devices partly engaged.

Fig. 3 is a vertical sectional view of a portion of the reinforcing end-frame members of the two drawer units locked together, the line of section being indicated by the line 3—3 on Fig. 2.

Fig. 4 is a view similar to Fig. 3 (but with the units partly separated) showing a modified form of the invention wherein the locking tenons are struck out from the channeled end frame.

Fig. 5 is a cross sectional view on the line 5—5 of Fig. 3.

Fig. 6 is a detail fragmentary elevation showing the use of angle bars in place of channel bars for the end frames.

Fig. 7 is a sectional view on the line 7—7 of Fig. 6.

Like reference characters designate corresponding parts in the several figures of the drawings.

The improvement contemplated by the present invention is specially applicable to metal furniture of the built-up sectional cabinet type involving a plurality of interlocking drawer units each of which includes a casing section and a slide drawer mounted therein. Accordingly, for illustrative purposes, there is shown in the accompany-

ing drawings the casing-sections of two drawer units of a sectional cabinet, said units being designated generally by the reference letters C—C. The structural formation of the casing-sections of these units provides a novel character and arrangement of the interlocking devices. Each casing section is provided with a complement of these interlocking devices so that all drawer units, which are alike in this respect at least, are readily interchangeable.

Referring particularly to the details of construction of a drawer unit C, it will be observed that the casing portion includes the opposite front and rear rectangular reinforcing end frames 1 and 2 respectively. These end frames are preferably of channeled formation having the external continuous channel 3 between its flanges. That is to say, in the preferred form of the invention, the end frames may consist of ordinary channel bars, of standard construction and form, and bent into the desired frame form at a comparatively small cost. This type of end frame is not only desirable to accomplish a novel interlock, but materially reinforces each drawer unit, thereby giving the same great rigidity and strength which is one of the essential characteristics of these units, especially in a storage cabinet.

The end frames 1 and 2 are connected by an upper sheet-metal casing plate 4 suitably secured to the inside edges of the upper portions of the end frames, and having side flanges 5 bent downwardly at the inside of the side walls of the end frames to form upper drawer guides. The lower corners of the opposite end frames are connected by means of the longitudinally disposed sheet-metal angle plates 6 which are preferably secured to the lower side walls and bottom wall of the end frames to provide a lower set of guides for the bottom of the drawer D. It will thus be apparent that each drawer unit is well braced to withstand both lateral and longitudinal strains, and is doubly reinforced at its front and rear ends by the character of the end frames 1 and 2. In connection with the casing plate 4, it will be observed that the same is coextensive with the width and length of the drawer unit, and is arranged at the top thereof so as to shield and protect the contents of the drawer mounted in the unit, as well as to assist in guiding the drawer. Furthermore, the plate 4 of each unit not only has the advantage of protecting the contents of its own drawer when the unit is the top one of a plurality of sections, but at the same time forms a partition wall between superimposed units when they are assembled in numbers.

Referring particularly to the novel interlocking means, it will be noted by reference to the drawings that the opposite end frames of each drawer unit C are provided at their lower bottom corners within the channel 3, with downwardly projecting locking tenons 7. Each tenon preferably has one end welded to the end frame within the channel, or otherwise rigidly carried thereby, while its opposite end extends below the body of the drawer unit after the fashion of a leg. In this form, the tenon may consist of simply a short cut-length from a light metal bar.

To complete each set of the interlocking devices, the upper portion of the channel 3 of the end frame of an adjacent unit is utilized to form a keeper socket 8. That is to say when the units C are disposed one above the other, so that the top of one end frame supports the bottom of the end frame of the upper unit, the side channels 3 of each end frame come into vertical alinement, thereby making it possible for the locking tenon 7 carried by the upper unit to register with the groove or channel of the lower unit, and thereby locking the two units against horizontal displacement in any direction.

Accordingly, in assembling the units into cabinet or similar formation, it is only necessary to place the units one upon the other, so that the locking tenons projecting from each of the lower corners of one unit seat in the keeper socket portions of the channeled end frame members of the section below, thereby rendering each section locked with the other and capable only of disengagement by being lifted apart. In connection with this interlocking feature, attention is directed to Fig. 5 of the drawings which shows the locking tenon lying within the channel of the end frame.

With reference to the modification shown in Fig. 4 of the drawings, it will be observed in this instance that instead of having a separate locking tenon which may be welded or otherwise secured to the lower corner of the end frame, the locking tenon, designated as 9, may be formed directly from the end frame itself. For example, the bottom wall of the channeled bar which forms the end frame can be displaced or punched out downwardly from a horizontal plane into a vertical plane with the extreme lower corner of the frame member as its hinging point. This construction affords the same novel locking effect as that disclosed in Figs. 1 to 3 of the drawings, and maintains the sections in proper vertical alinement by being slightly offset at its bending point, as clearly shown in Fig. 4.

A further modification of the invention is shown in Figs. 6 and 7 of the drawings, wherein the same general locking effect is obtained, but the end frame members are formed of angle bars instead of channel

bars. That is to say, substantially the same results are obtained by using a bar of L-shaped cross section in forming the reinforcing end frames, as are obtained by using the channel bars, inasmuch as the front flange of the latter type of bar merely acts as an additional reinforcing element. In said Figs. 6 and 7, the numeral 10 designates the angle bar of the end frame, and it will be observed that the locking tenon 7 in this instance fits snugly within the angle of the bar, locking against the inner flanges thereof and thereby securely fastening the sections together. Since the locking tenons 7 are carried by the lower corners of the end frame, and in this form of the invention the said end frames are reversely arranged, that is so that their angles or holding grooves are disposed toward the front and the rear of the unit, it will be impossible for the sections to be moved either laterally or longitudinally.

In all of the constructions disclosed herein, the manner of interlocking and separating the drawer units is the same. In other words, it will be observed by reference to the several figures of the drawings that the locking tenons and the keeper sockets, owing to their novel arrangement, positively prevent relative horizontal movement of the drawer units in any direction until after a vertical separation thereof. Therefore, the interlocking devices described absolutely prevent a forward displacing movement of a drawer unit when subjected to the shock of a drawer being forcibly opened against its stops.

Without further description, it is thought that the various features and advantages of the present invention will be readily understood by those skilled in the art, and that minor details of construction may be resorted to without departing from the spirit or scope of the appended claims or sacrificing any of the advantages of the invention.

I claim:

1. A drawer unit for filing cabinets comprising channel-bar end-frames presenting external grooves, and having at their bottom corners projecting locking tenons rigidly secured within the groove portions of the said end frames, and adapted to slidably interlock within the upper corner portions of the end frames of a similar juxtaposed unit.

2. A drawer unit for filing cabinets comprising channel-bar end-frames presenting external grooves, a casing plate connecting the tops of said frames and having depending side flanges, angle members connecting the lower portions of the frames, and locking tenons rigidly secured within the groove portions of said end frames at the lower corners thereof, and adapted to slidably interlock within the upper corner portions of the end frames of a similar juxtaposed unit.

3. A drawer unit for filing cabinets consisting of a skeleton frame work including flanged-metal end-frames having their flanges turned outward forming external grooves and provided at the bottom corners of their upright portions with downwardly projecting locking tenons extending below the bottom of the unit and adapted to slidably interlock within the upper corner portions, and between the flanges, of the end frames of a similar juxtaposed unit, and metal plates connecting the opposite frames.

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

ADOLF H. SCHAFFERT.

Witnesses:
A. J. WATSON,
O. D. KAISER.