

June 6, 1961

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2,987,358

LOCKING MEANS FOR CABINETS

Filed March 23, 1959

2 Sheets-Sheet 1

Fig. 1.

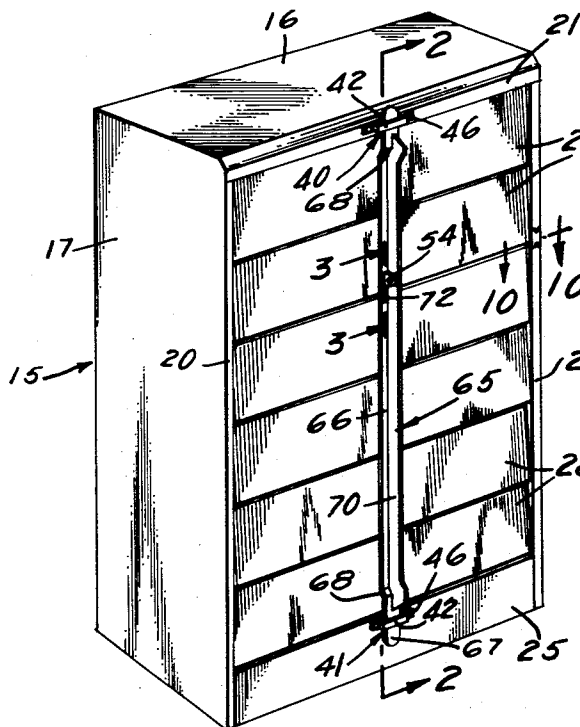


Fig. 2.

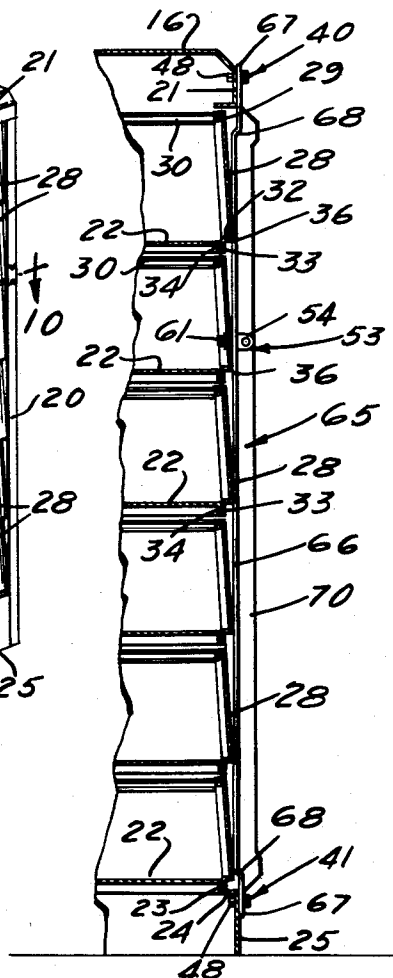


Fig. 3.

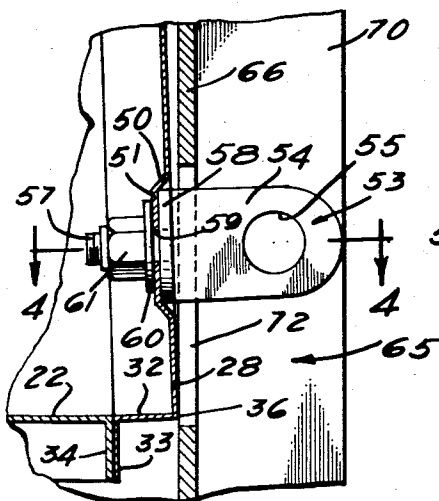
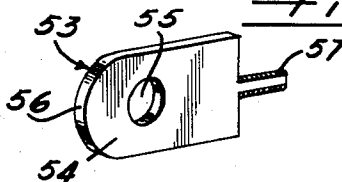


Fig. 5.



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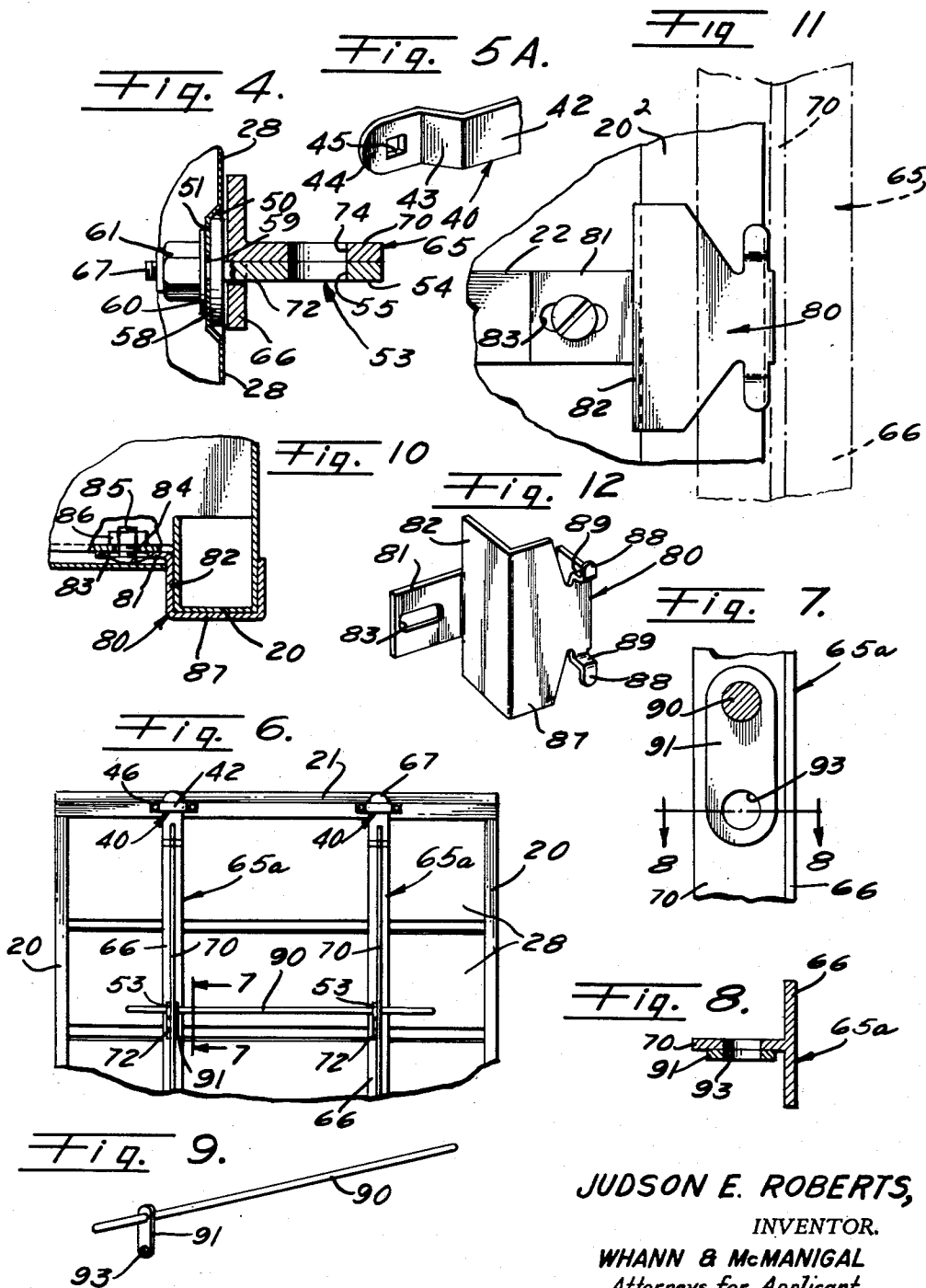
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2 Sheets-Sheet 2



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2,987,358

## LOCKING MEANS FOR CABINETS

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6 Claims. (Cl. 312-216)

This invention relates generally to filing cabinets and relates more particularly to security locks therefor.

While the invention has particular utility in connection with steel filing or storage cabinets and is shown and described herein in such connection, it is to be understood that its utility is not confined thereto.

Government security regulations have certain requirements for locking cabinets and the like in which confidential, classified material and the like is kept or stored. One type of securing means that may be used and which meets the requirements of the security regulations is a steel bar and certain types of locks for such bars are specified.

Certain difficulties or problems have been encountered in providing a lock for such bar arrangements at a location where the lock may be easily and conveniently actuated.

The present practice is to use padlocks at the top of the cabinets and when combination padlocks are used and the cabinets are tall, it is particularly difficult to see the combination of the padlock to work same and open the padlock due to the operator having to look up and stretch his or her arms overhead.

It is, therefore, an object of the present invention to provide a bar and lock arrangement which will overcome this problem.

It is another object of the present invention to provide a bar arrangement wherein the lock will be at approximately eye level so that it will be at the right height for easy actuation even with relatively high cabinets.

It is still another object of the invention to provide a bar arrangement for such cabinets or files that will secure the doors or drawers thereof so that they may not be opened even a slight amount.

A further object of the invention is to provide a bar arrangement that may be easily and quickly placed in the locking position and as easily and quickly removed therefrom.

A still further object of the invention is to provide means of this character that may be easily and quickly installed on storage cabinets with a minimum amount of modification of standard cabinets.

Another object of the invention is to provide means attachable to the cabinet for holding the bar when not in use for locking the cabinet.

Still another object of the invention is to provide security bar means that is relatively simple in construction and inexpensive to manufacture and install.

The characteristics and advantages of the invention are further sufficiently referred to in connection with the following detailed description of the accompanying drawings which represent certain embodiments. After considering these examples, skilled persons will understand that variations may be made without departing from the principles disclosed and the employment of any structures, arrangements or modes of operation that are properly within the scope of the appended claims is contemplated.

Referring to the drawings:

FIG. 1 is a front perspective view of a filing cabinet with a security bar embodying the present invention installed thereon;

FIG. 2 is an enlarged sectional view taken on line 2-2 of FIG. 1;

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FIG. 3 is an enlarged sectional view taken on line 3-3 of FIG. 1;

FIG. 4 is a sectional view taken on line 4-4 of FIG. 3;

FIG. 5 is a perspective view of an eye bolt used in the present arrangement;

FIG. 5A is a perspective view of a portion of a bracket for the bar;

FIG. 6 is a partial front elevational view of an alternative security bar arrangement;

FIG. 7 is an enlarged sectional view taken on line 7-7 of FIG. 6;

FIG. 8 is a sectional view taken on line 8-8 of FIG. 7;

FIG. 9 is a perspective view of a horizontal locking bar used in the arrangement of FIG. 6;

FIG. 10 is a sectional view taken on line 10-10 of FIG. 1;

FIG. 11 is an enlarged front elevational view of the hanging bracket; and

FIG. 12 is a perspective view of said hanging bracket.

Referring more particularly to FIGS. 1 to 5, there is shown a steel filing cabinet indicated generally at 15. The cabinet includes a top 16, sides 17 and a back, not shown. At the front there are vertical side edge strips 20 and at the top there is a top cross strip 21 which is formed integrally with the top member 16 by turning a front edge portion thereof downwardly as best shown in FIGS. 1 and 2. Within the space defined by the sides, top and back of the cabinet are secured a plurality of horizontal, vertically spaced shelves 22. The lowermost shelf 22 is spaced upwardly from the plane of the bottom of the cabinet, as shown in FIG. 2, and a front marginal portion of said lower shelf is turned downwardly at 23 outwardly at 24 and downwardly at 25 to provide a front bottom strip. The strips 20, 21 and 25 are all in the same plane.

The storage compartments defined by the shelves 22 are each provided with a door 28. These doors are each provided with pins 29 at the upper corners thereof and these pins are arranged in axial alignment and are slidable in horizontal guides 30 which extend from front to rear of the cabinet and are secured to the inner sides of the side walls 17. The doors 28 depend from said pins and are swingable thereon. As best shown in FIG. 2, the doors 28 incline downwardly and slightly outwardly. Each door has an turned edge portion 32 along the lower edge and a flange 33 depending from the inner edge of the portion 32. The flange 33 is adapted to abut against a flange 34 depending from the forward edge of the respective shelf 22, thus limiting inward swinging of the door. Rubber bumpers are provided in the downturned flanges 34 to provide cushions for the flanges 33 of the doors. When opening the doors they are swung outwardly and pushed inwardly but are disposed as shown in FIG. 2 when in the closed position. It is to be noted that the lower transverse edges 36 of the doors are in a common plane which is spaced inwardly of the plane of the parts 20, 21 and 25 at the front of the cabinet.

The cabinet heretofore described is of well-known construction and operation and further detailed description thereof is believed to be unnecessary.

The locking means of the present invention comprises a top bracket 40 and a bottom bracket 41. These brackets are the same and are formed of relatively heavy sheet material. There is an elongated central portion 42 at the ends of which are laterally inclined oppositely arranged intermediate portions 43 from the free ends of which are outwardly extending ears 44 which are in the same plane as the portion 42, the planes of said ears and said central portion being spaced apart in parallel rela-

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tionship. The ears 44 have square openings 45, said brackets being secured to respective parts of the cabinet by means of carriage bolts 46 or the like which have a relatively flat rounded head with a portion adjacent thereto that is square in cross section, said bolts being of known character.

The brackets 40 and 41 are positioned substantially midway between the sides of the cabinet and are secured to the front members or strips 21 and 25 respectively. Holes are drilled in said members so as to register with the openings or holes 45 in the brackets and the bolts are secured by means of resilient lock nuts 48 of well-known character. As the square portions of the bolts are received in the square openings 45 of the brackets said bolts cannot rotate in said holes and the resilient lock nuts 48 prevent loosening of said bolts. As the heads of the bolts are flat and are without slots, said bolts cannot normally be removed. The cabinet doors 28 are provided with recesses 50 midway between the ends thereof and the bottom walls 51 of said recesses are provided with knock out portions for locks. The lock hole is knocked out of one of the doors as, for example, the fifth door from the bottom. A hasp, indicated generally at 53 is provided and comprises a relatively flat body portion 54 with an opening 55 therein. The free end of the hasp is rounded, as at 56 while the opposite end is provided with a longitudinally extending, externally threaded stem 57 on which is disposed a relatively thick washer 58 which is received in the recess 50. The stem 57 extends through the opening 59 provided by knocking out the knock out portion of the recess bottom and a relatively thin washer 60 is provided at the back or inner side of said recess bottom. A resilient lock nut 61 is screwed onto the stem 57 for securing the hasp in position. It is to be noted that the body 54 of the hasp is in a vertical plane.

The bar is indicated generally at 65 and is relatively flat, there being a central portion 66 adapted to be positioned so that the inner surface is in the plane of the lower edges 36 of the doors when the cabinet is locked, said bar being of sufficient length to engage all of said doors. At the ends of the bar are oppositely arranged longitudinally extending ears 67 which are spaced outwardly of the plane of the central part 66 and are connected therewith by offset parts 68.

At the outer side of the central portion 66 there is a web 70 which may be integrally formed with a bar or welded or otherwise secured thereto, the bar with its web being T-shaped in cross section. It is to be noted that the ends of the web project onto the inner end portions of the ears 67 to add strength to the entire bar.

The central part 66 is provided with a longitudinally extending slot 72 at one side of the web 70, said slot being positioned to receive the body portion 54 of the hasp.

In order to position the bar 65 in the locking position the upper ear 67 is slipped into the notch defined by the bracket 40 a sufficient distance so that the lower end of the lower ear 67 is just above the lower bracket 41. The bar is then pushed against the lower edges of the doors 28 at which time the flattened portion 54 of the hasp slips into the slot 72 adjacent the lower end of said slot. The lower ear 67 is then moved downwardly into the slot defined by the bracket 41 until the upper end of slot 72 engages the upper edge of the flattened part 54 of the hasp. The bar is then so positioned that the ears 67 are disposed beneath the respective brackets 40 and 41 so that the bar cannot be pulled outwardly. Because the central portion 66 of the bar is offset inwardly it engages the lower edges 36 of all of the doors to thereby prevent said doors from being swung open. The web 70 of the bar is provided with an opening 74 which registers with the opening 55 of the hasp when the bar is in the securing position whereat the upper end of the slot 72 engages the upper edge of the part 54 of the hasp. The shackle or bow of a suitable padlock is then passed through the aligned openings and the padlock locked. This prevents

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longitudinal movement of the bar so that it cannot be removed from the brackets and is held securely in the locking or securing position.

When the bar is not in use, it may be hung on a bracket 80 provided therefor and attached to the cabinet at a suitable height. The bracket is formed of sheet material and is in the general shape of a U with an ear 81 extending laterally from the free edge of one of the arms of said U. This arm, indicated at 82, is relatively wide and the ear 81 has an elongated opening 83 therein for reception of an attaching screw. The ear 81 is adapted to be attached to the front edge of one of the shelves as, for example, the fifth shelf from the bottom. The rubber bumper at the adjacent end of the shelf is removed from its opening 84 to accommodate a screw 85 which extends through the slot 83 and is secured by means of a nut 86. The U-shaped portion of the bracket extends about the strip 20 and at the side of the wall 87 connecting the arms of the bracket, a pair of oppositely arranged ears 88 are cut and formed from said wall. These ears are offset outwardly and are connected to the wall 87 by parts 89 which are substantially normal to the plane of the wall 87. The ears 88 are in substantially the same plane which is substantially parallel to the plane of the wall 87 and spaced outwardly therefrom in amounts slightly greater than the thickness of the bar 66. When it is desired to hang the bar on the bracket 80, the ears 88 are disposed in the slot 72 of the bar and the upper end of the slot engages the part 89 of the upper ear 88. As both ears are received in the slot 72, the bar is prevented from swinging by the part 89 of the lower ear 88 which serves to limit oscillation of the bar by engagement of respective sides thereof. It is to be noted that when the bar is hung on the bracket 80, the inner edge of the bar does not extend into the path of movement of any of the doors 28 so that same may be readily opened and closed.

Referring to the arrangement shown in FIG. 6, a pair of securing bars are used. These bars, which are given the reference numeral 65a, are of the same construction as the bars 65. In this case, however, holes must be specially drilled in the door 28 to which the hasps 53 are attached. The threaded stem portion 57 of the hasps are received in respective holes and the hasps are secured in substantially the same manner as described hereinabove.

When the bars 65a are in the securing position, the openings in the hasps and the openings in the webs are in axial alignment for reception of a locking rod 90. The rod 90 is provided with a link 91 which has an opening therethrough adjacent one end for reception of the rod to which said link is suitably secured as by brazing or the like. The opposite or free end of the link 91 is provided with an opening 93 and said link is disposed adjacent one end of the rod 90 but spaced inwardly somewhat from said end. When the bars 65a are in their securing position, the end of the bar 90 remote from the link 91 is inserted in the holes of the hasp and web of one of said bars. In the arrangement shown, the right-hand end of the rod 90 is inserted in the said holes in the hasps and web of the right-hand bar 65a. The bar 90 is moved a sufficient distance through said holes so that the opposite end may be inserted into the hole in the other hasp and the aligned hole in the web of the other bar 65a. The bar 90 is moved leftwardly as shown in FIG. 6, to a position whereat the link 91 engages the web of the adjacent bar. The web of said bar is provided with an opening therethrough which is aligned with the opening 93 in the link 91 when said rod 90 is positioned as last described and said link is in a depending position. The shackle or bow of a suitable padlock is then inserted in the opening 93 in the link 91 and the opening in the web aligned therewith. Removal of the locking or securing mechanism is effected by a reversal of the steps above described.

When two bars are used, a bracket 80 may be attached

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to each of the side members 20 of the cabinet in the manner described hereinabove. It is to be noted that the brackets 80 are of such a nature that they are reversible so that they may be attached to either of the edge parts 20.

From the foregoing it will be apparent that whether the cabinet has one or a plurality of bars, the lock will be at the right height, approximately the eye level of persons of ordinary height, so that the lock will be located where such person may easily see the padlock dial and actuate same without having to look up and stretch their arms overhead.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description and it is believed that it will be apparent that various changes may be made in the form, construction and arrangement of the parts of the invention without departing from the spirit and scope thereof or sacrificing all of its material advantages, the embodiments hereinbefore described being merely for purposes of illustration.

I claim:

1. Locking means for cabinets having a plurality of horizontal, vertically spaced shelves defining compartments and a door for each compartment, said doors having pins at the upper corners receivable in respective horizontal guides so that said doors swing outwardly and upwardly from the closed position and said cabinet having top and bottom transverse members adjacent the upper edge of the top door and adjacent the lower edge of the bottom door respectively, comprising: top and bottom brackets secured to the respective top and bottom transverse members of the cabinet and having parts thereof spaced from said top and bottom transverse parts of the cabinet to therewith define bar receiving slots; a hasp secured to one of the doors in alignment with the brackets, said hasp having a flat outwardly extending part with an opening therein, said part being in a vertical plane; a relatively flat bar having a vertically extending slot therein for reception of said hasp part, said slot being long enough to permit limited longitudinal movement of the bar; oppositely arranged longitudinally extending end portions on said bar slidably receivable in the slots defined by said brackets, the slot in said bar being so positioned and of such extent as to permit insertion of the upper end portion of the bar in the upper bracket a sufficient distance to permit the lower end portion of the bar to be aligned with the slot defined by the lower bracket and then moved downwardly thereinto, the upper end of the bar slot then resting on the upper edge of the hasp; a longitudinally extending web integral with said bar so that said bar and web are T-shaped in cross section, said web extending onto said end portions of the bar and being located at one side of the bar slot, said web having an opening therein registrable with the opening in the hasp when the bar is in the position whereat the upper end of the bar slot rests on the upper edge of said hasp so that the shackle of a suitable padlock may be disposed in said aligned openings; and a hanging bracket secured to the front of the cabinet at one side edge out of the path of the adjacent door, said bracket having a pair of oppositely extending outturned ears receivable in the slot of the bar for suspending same out of the path of the doors when said bar is not in use.

2. Locking means for cabinets having a plurality of horizontal, vertically spaced shelves defining compartments and a door for each compartment, said doors having pins at the upper corners receivable in respective horizontal guides so that said doors swing outwardly and upwardly from the closed position and said cabinet having top and bottom transverse members adjacent the upper edge of the top door and adjacent the lower edge of the bottom door respectively, comprising: top and bottom brackets secured to the respective top and bottom transverse members of the cabinet and having parts

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thereof spaced from said top and bottom transverse parts of the cabinet to therewith define bar receiving slots; a hasp secured to a door at substantially eye level and in alignment with the brackets, said hasp having a flat outwardly extending part with an opening therein, said part being in a vertical plane; a relatively flat bar having a vertically extending slot therein for reception of said hasp part, said slot being long enough to permit limited longitudinal movement of the bar; oppositely arranged longitudinally extending end portions on said bar slidably receivable in the slots defined by said brackets, the slot in said bar being so positioned and of such extent as to permit insertion of the upper end portion of the bar in the upper bracket a sufficient distance to permit the lower end portion of the bar to be aligned with the slot defined by the lower bracket and then moved downwardly thereinto, the upper end of the bar slot then resting on the upper edge of the hasp; and a longitudinally extending web integral with said bar so that said bar and web are T-shaped in cross section, said web extending onto said end portions of the bar and being located at one side of the bar slot, said web having an opening therein registrable with the opening in the hasp when the bar is in the position whereat the upper end of the bar slot rests on the upper edge of said hasp so that the shackle of a suitable padlock may be disposed in said aligned openings.

3. Locking means for cabinets having a plurality of horizontal, vertically spaced shelves defining compartments and a door for each compartment, said doors having pins at the upper corners receivable in respective horizontal guides so that said doors swing outwardly and upwardly from the closed position and said cabinet having top and bottom transverse members adjacent the upper edge of the top door and adjacent the lower edge of the bottom door respectively, comprising: top and bottom brackets secured to the respective top and bottom transverse members of the cabinet and having parts thereof spaced from said top and bottom transverse parts of the cabinet to therewith define bar receiving slots; a hasp secured to one of the doors at substantially eye level and in alignment with the brackets, said hasp having an outwardly extending part with an opening therein; a bar having a vertically extending slot therein for reception of said hasp part, said slot being long enough to permit limited longitudinal movement of the bar; oppositely arranged longitudinally extending end portions on said bar slidably receivable in the slots defined by said brackets, the slot in said bar being so positioned and of such extent as to permit insertion of the one end portion of the bar in one of the brackets a sufficient distance to permit the other end portion of the bar to be aligned with the slot defined by the other bracket and then moved thereinto; and a longitudinally extending web integral with said bar, said web having an opening therein registrable with the opening in the hasp when the bar is in the securing position so that the shackle of a suitable padlock may be disposed in said openings.

4. Locking means for cabinets having a plurality of horizontal, vertically spaced shelves defining compartments and a door for each compartment, said doors having pins at the upper corners receivable in respective horizontal guides so that said doors swing outwardly and upwardly from the closed position and said cabinet having top and bottom transverse members adjacent the upper edge of the top door and adjacent the lower edge of the bottom door respectively, comprising: top and bottom brackets secured to the respective top and bottom transverse members of the cabinet to which parts of a securing bar may be removably attached; a hasp secured to one of the doors at substantially eye level and in alignment with the brackets, said hasp having a part with an opening therein; a relatively flat bar having a vertically extending slot therein for reception of said hasp part, said slot being long enough to permit limited longitudinal

tudinal movement of the bar; oppositely arranged longitudinally extending end portions on said bar slidably attachable to said brackets; and a longitudinally extending web on said bar, said web having an opening therein registerable with the opening in the hasp when the bar is in the door securing position so that the shackle of a suitable padlock may be disposed in the registered openings of said hasp and said web.

5. A hanger for a bar having an opening therein, comprising: a generally U-shaped part formed of sheet metal material; an ear extending from the free edge of one of the arms forming said U-shaped part at an angle normal thereto and having an opening therein for reception of a screw; and ears secured to the wall connecting the arm to the U-shaped part, said ears extending in opposite directions and being spaced outwardly of the plane of said wall.

6. Locking means for cabinets having a plurality of horizontal, vertically spaced shelves defining compartments and a door for each compartment, said doors having pins at the upper corners receivable in respective horizontal guides so that said doors swing outwardly and upwardly from the closed position and said cabinet having top and bottom transverse members adjacent the upper edge of the top door and adjacent the lower edge of the bottom door respectively, comprising: a pair of top brackets secured to the top transverse member of the cabinet and spaced apart transversely; a corresponding pair of bottom brackets secured to the bottom transverse part of the cabinet, the top brackets being aligned with respective bottom brackets: a pair of hasps secured to one of the doors in alignment with respectively aligned top and bottom brackets, each of said hasps having an opening therein; a pair of relatively flat bars each having a vertically extending slot therein for reception of a respective hasp, said slot being long enough to permit limited longitudinal movement of the respective bar; oppositely arranged longitudinally extending end portions on said bars slidably receivable in the slots defined by

said brackets, the slots in said bars being so positioned and of such extent as to permit insertion of the upper end portions of the bars in the upper brackets a sufficient distance to permit the lower end portions of the bars to be aligned with the slots defined by the lower brackets and then moved downwardly thereinto, the upper ends of the bar slots then resting on the upper edges of the hasps; a longitudinally extending web for each bar integral therewith so that said bars and webs are T-shaped in cross section, said webs extending onto said end portions of the respective bars and being located at one side of the bar slots, said webs having openings therein registerable with the openings in the hasps when the bars are in the position whereat the upper ends of the bar slots rest on the upper edges of said hasp; a locking rod slidable in the aligned openings of the webs of said bars and the openings of said hasps, said rod being removably positioned in said aligned openings; and a link on said rod positioned adjacent the web of one of said bars when the rod is in the securing position, said web and said link having aligned openings therein for reception of the shackle of a padlock.

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