M. E. HOOD, O. B. ANDERSON, W. L. FETTERS, J. H. McGLINCY, J. E. GAGNON & W. M. KIDDER.

STEEL FURNITURE CONSTRUCTION.

APPLICATION FILED DEC. 3, 1914.

1,244,609.

Patented Oct. 30, 1917.

4 SHEETS—SHEET 1.

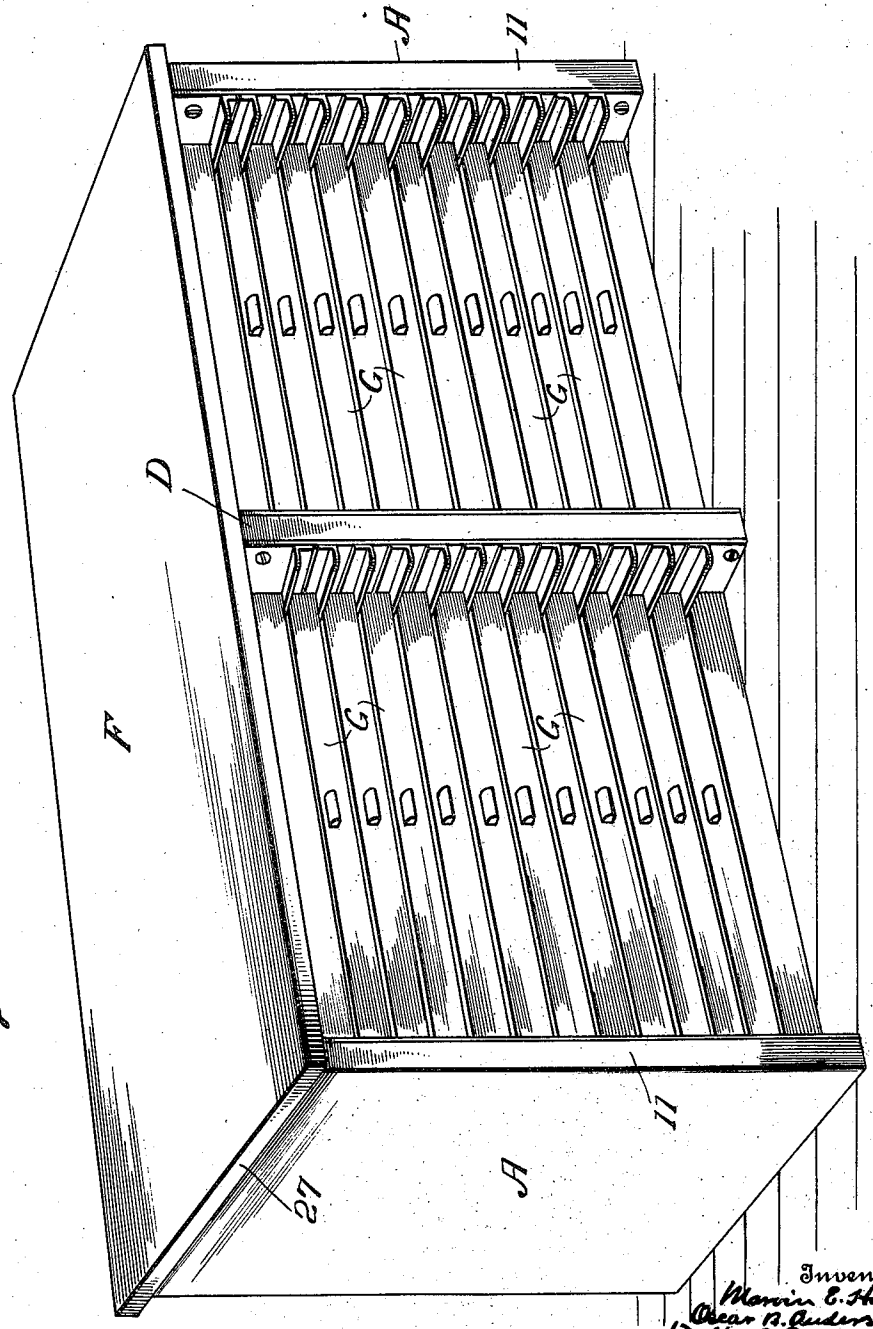


Fig. 1.

Witnesses

Helge Murray

C. F. Clement

Inventors

Marvin E. Hood,

Oscar B. Anderson,

Walter L. Fetters

James H. McGlincy

Joseph E. Gagnon

Walter M. Kidder

By Bradford & Doolittle,

Attorneys

M. E. HOOD, O. B. ANDERSON, W. L. FETTERS, J. H. McGLINCY, J. E. GAGNON & W. M. KIDDER.

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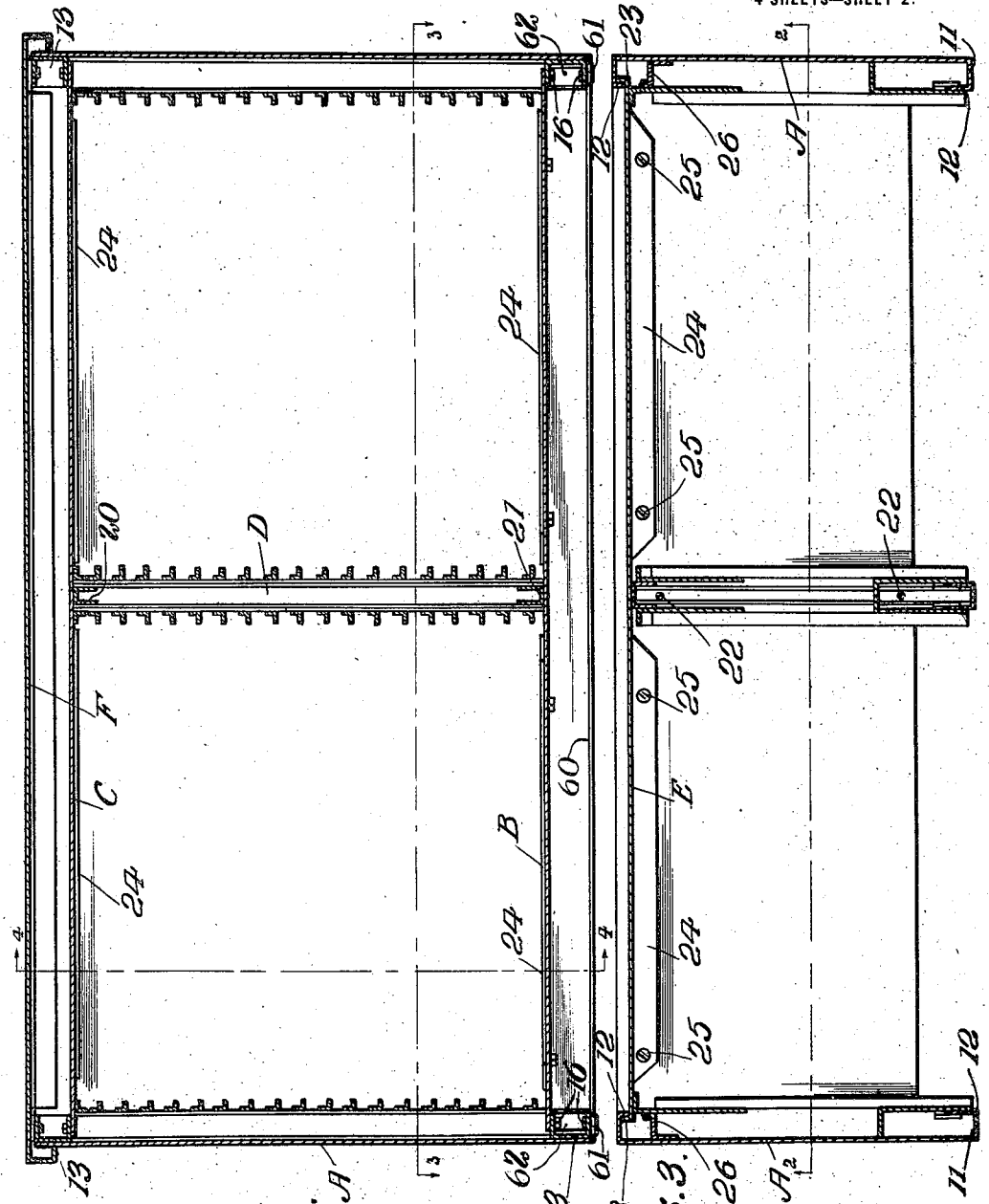


Fig. 2.

Fig. 3.

Witnesses

Helge Muncy

E. J. Clements

Inventors

Marvin E. Hood,

Oren B. Anderson,

James H. McGlincy,

Walter L. Fetters,

Joseph E. Gagnon

& Sweeten M. Kidder,

By Bradford & Doolittle,

Attorneys

M. E. HOOD, O. B. ANDERSON, W. L. FETTERS, J. H. McGLINCY, J. E. GAGNON & W. M. KIDDER.

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4 SHEETS—SHEET 3.

Fig. 4.

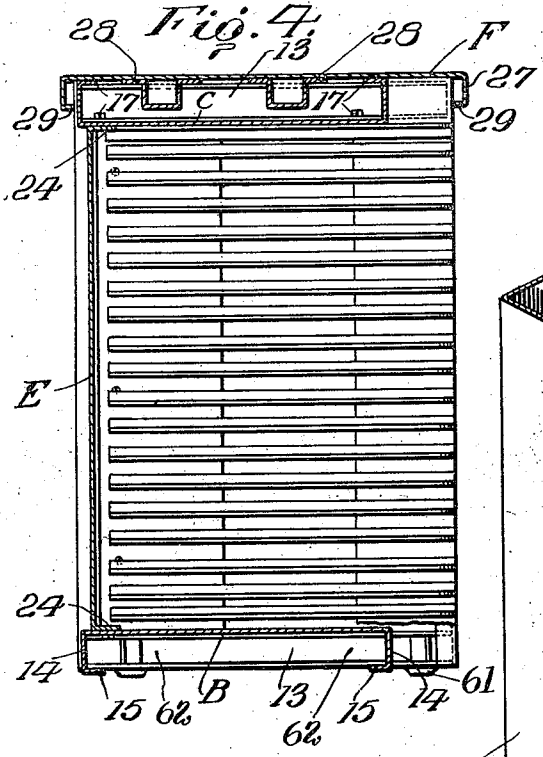
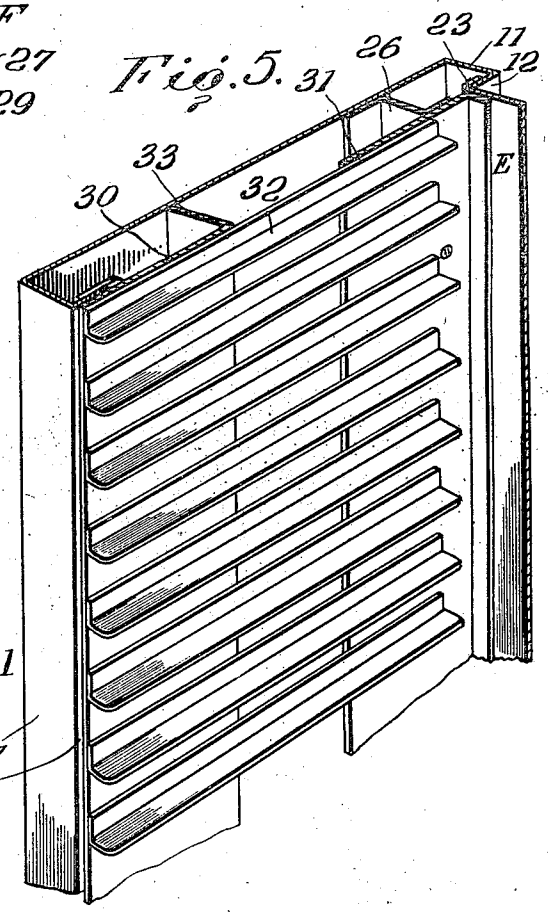


Fig. 5.



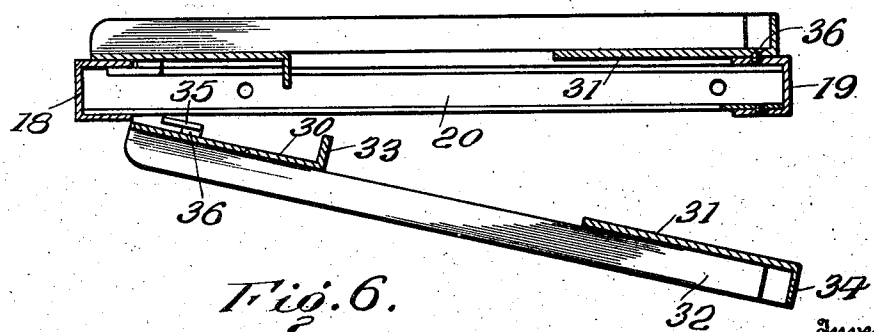


Fig. 6.

Witnesses

Helyn Murray

E. J. Clements

Inventors

Marvin E. Hood,
Oscar B. Anderson,
Walter L. Fetters,
James H. McGlincy,
Joseph E. Gagnon, and
Walter M. Kidder,

By Bradford & Doolittle, Attorneys

M. E. HOOD, O. B. ANDERSON, W. L. FETTERS, J. H. McGLINCY, J. E. GAGNON & W. M. KIDDER.

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4 SHEETS—SHEET 4.

Fig. 7.

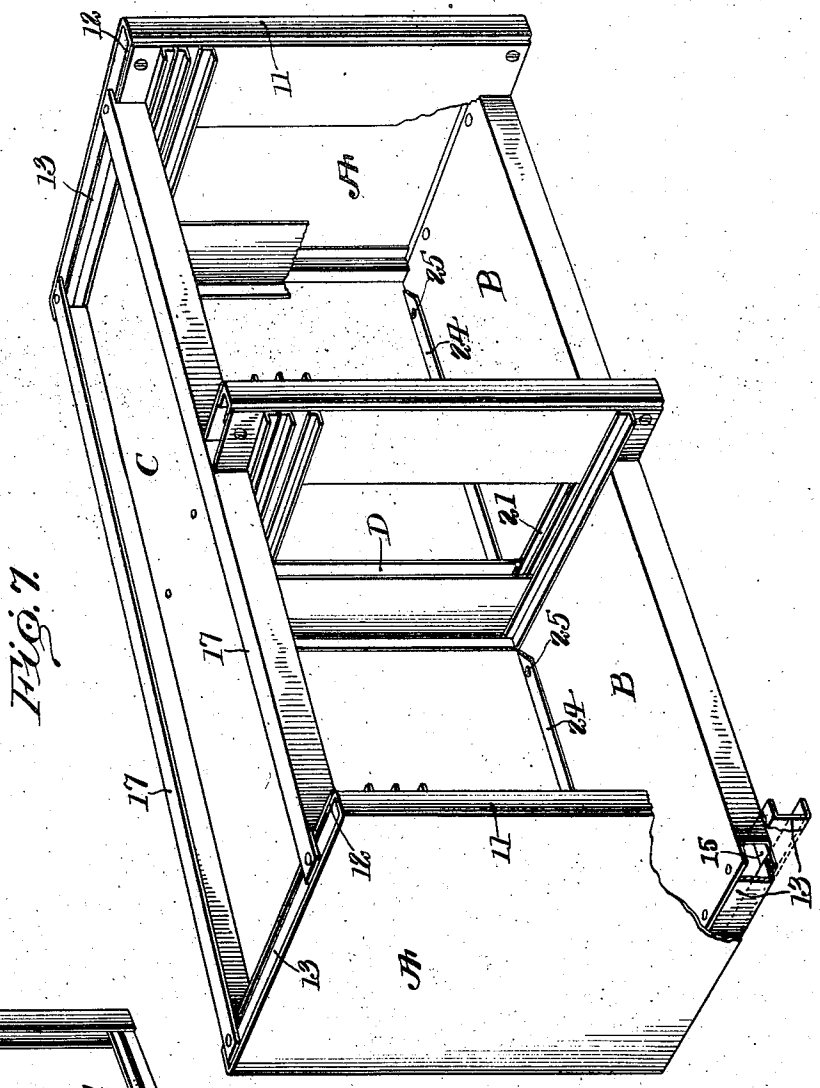


Fig. 8.

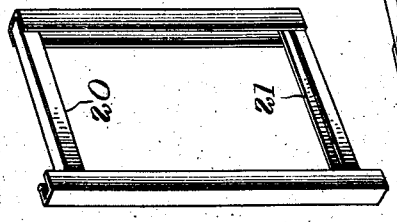


Fig. 9.



Witnesses

Inventors

Marion E. Hood,

Oscar B. Anderson,

Walter Fetters,

James H. McGlincy,

Joseph E. Gagnon,

and Walter M. Kidder,

By Bradford & Doolittle Attorneys

UNITED STATES PATENT OFFICE.

MARVIN E. HOOD, OSCAR B. ANDERSON, WALTER L. FETTERS, AND JAMES H. McGLINCY, OF CHESTER, AND JOSEPH E. GAGNON AND WALTER M. KIDDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS, BY MESNE ASSIGNMENTS, TO HAMILTON MANUFACTURING COMPANY, OF TWO RIVERS, WISCONSIN, A CORPORATION OF WISCONSIN.

STEEL FURNITURE CONSTRUCTION.

1,244,609. Specification of Letters Patent. **Patented Oct. 30, 1917.**

Application filed December 3, 1914. Serial No. 875,370.

To all whom it may concern:

Be it known that we, MARVIN E. HOOD, OSCAR B. ANDERSON, WALTER L. FETTERS, and JAMES H. McGLINCY, citizens of the United States, residing at Chester, Delaware county, and State of Pennsylvania, and JOSEPH E. GAGNON and WALTER M. KIDDER, citizens of the United States, residing at Philadelphia, Philadelphia county, and State of Pennsylvania, have invented and discovered certain new and useful Improvements in Steel Furniture Constructions, of which the following is a specification.

Our said invention consists in certain improvements in the construction and arrangement of parts of steel or metal furniture, such, for example, as cabinets, type cases, and other furniture for printing office use, whereby such furniture is made of a comparatively inexpensive and light construction, while at the same time being strong and rigid to afford substantial support for the storage compartments, and any other use for which it may be designed, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings which are made a part hereof, and on which similar reference characters indicate similar parts,

Figure 1 is a perspective view of a steel cabinet structure illustrating our said invention,

Fig. 2 a central vertical section through the same as on the dotted line 2—2 in Fig. 3, the drawers or compartments being omitted.

Fig. 3 a horizontal section as on the dotted line 3—3 in Fig. 2,

Fig. 4 a transverse section on the dotted line 4—4 in Fig. 2,

Fig. 5 a detail perspective view of the portion of one end looking at the interior face thereof,

Fig. 6 a detail sectional view through the central support showing one of the shelf or drawer support brackets as in process of assembling,

Fig. 7 a perspective view of the assembled frame broken out at places to show details of construction,

Fig. 8 a perspective view of the assembled intermediate supporting frame, and

Fig. 9 a detail view showing one of the feet and its brace more clearly.

In said drawings the portions marked A represent the ends of the cabinet, B the bottom apron, C the top apron, D the intermediate support or frame, E the back, F a supplemental cabinet top, and G the drawers or type cases.

The ends A are formed of sheet steel pressed into the form as best shown in Fig. 3, the front and rear edges being bent at right angles with the plane of the end for a distance and then bent inward parallel with the main outer face of the end, forming edges 11 with the inturned flanges 12. Channel braces 13 of sheet steel, in the form of tongued channels, are secured to the upper and lower edges of said end pieces by spot welding, or any other desired means. It will be understood that the particular form of these channels may be changed as desired, for any particular job, either that shown in the principal views, or that shown in Fig. 9, being used, as preferred.

The bottom apron B consists of a steel plate bent to form vertical front and rear edges 14 with inturned flanges 15 parallel with said bottom or floor. The ends of said bottom apron fit over the lower channel braces 13 resting on top of said channels, and their inturned flanges 15 underneath the lower flange of said channels, at each end of the cabinet, each end of the apron thus embracing a channel and secured to the flanges of said channels by screws or bolts 16, or other suitable means. The only notching of the parts in the entire construction is at the ends of the top and bottom aprons near their edges to enable the interned flanges 15 to slip over the flanges of the channels 13.

The top apron C is similar in formation to the bottom apron B and its ends embrace the upper channels 13 in a manner the same

as described for the bottom and are secured thereto by screws or bolts 17, or other suitable means.

The end pieces A with the bottom apron B and top apron C of the form described, secured together as stated, thus form a rigid rectangular frame for the support of the other parts of the cabinet. Notwithstanding the fact that the plates of which these parts are composed are comparatively thin, the inturned wide edges with flanges and braces render said parts not only of a thick and substantial appearance, but constitute an unusually rigid and substantial structure. It will be seen that the flanges of said several supporting parts are continuous from end to end and not weakened by notches where strength is required to resist weight or strain. Thus their strength and rigidity is preserved and this constitutes an important feature of the invention.

The intermediate support, or partition, D, consists of two vertical channels 18 and 19 secured by spot welding or other appropriate means to horizontal channels 20 and 21, as will be best seen from an examination of Figs. 2, 6, and 8. This intermediate support is secured in place by screws 22 inserted through perforations in the channels 20 and 21 and the bottom B and top C, respectively. The channels 18 and 19 are spaced apart in accordance with the width of the cabinet and the channels 20 and 21 in accordance with the height of the cabinet and together form a rigid rectangular central support to the structure.

The back E consists of a plate of sheet steel with its ends formed with rearwardly bent flanges 23 and with its top and bottom edges formed with inturned horizontal flanges 24. Said vertical flanges 23 fit behind the inturned flanges 12 of the rear edge of the ends A, while the horizontal flanges 24 are secured by screws 25 to the bottom B and top C, respectively, near their rear edges.

Z-shaped braces 26 are secured to the ends A by spot welding, or other appropriate means, near their rear edges, the rearwardly extending flange being substantially in line with and a short distance from the inwardly turned flange 12 of said end pieces A. The flanges 23 of the back E are adapted to pass through the groove formed between the adjacent edges of said flanges, the back being put in position by first placing one end in position and then sliding endwise until the other end will slide into position, and then inserting said other end, when the screws 25 are put in place and thus add strength and rigidity to the structure.

The supplemental cabinet top F may be formed of a sheet of steel having a downwardly turned flange 27 surrounding its edge to lend stiffness and rigidity to the top and afford a finished appearance thereto. It is further stiffened and braced by longitudinal braces 28 extending throughout the length thereof from end to end and adapted to fit between the end channels 13 of the structure, extending only to a point adjacent to the inner edges of said channels. The edges 27 of said top F preferably overhang the structure somewhat and are formed with inturned horizontal flanges 29 adapted to fit against the outer surface of the end pieces A, central support D, and rear edge of top C, as shown.

The supports for the type cases shown, or any other appropriate storage compartments for use in any particular cabinet, consist of vertical plates 30 and 31 having horizontal angle-iron runs 32 secured thereto by spot welding, or other appropriate means. The front vertical plate 30 has an outturned flange 33 on its rear edge and the rear vertical plate 31 has an inwardly turned flange 34 on its rear edge, serving to stiffen said plates for the purpose. The flange 33 of the plate 30 is of a width to bridge across the space represented by the thickness of the edge 11 of the ends A and the flange 34 projects inwardly a distance substantially equal to the width of the runs 32 and serves to stop or limit the inward movement of the type cases, or other storage compartments sliding on said runs.

Each upright plate 30 has an interlocking plate 35 secured to the back thereof by spot welding, or other means, a short distance back from its front edge, as at a point 36. Said plate 35 instead of being a continuous plate extending from top to bottom may consist of several short sections, or hooks, if preferred. Whether in a single plate or in sections it is off-set at the outer edge from the face of plate 30 sufficient to form a groove adapted to receive the inturned flanges of the edges of ends A and of the central support D. The construction and arrangement of these parts is most clearly illustrated in Figs. 5 and 6. In Fig. 6 one of the supports is shown in adjusted position and the other in position just as the support is being assembled, which operation is completed from said position (as shown at the lower side of Fig. 6) by sliding said part over the flange of the upright 18 and swinging the part into position with the plate 31 resting against the face of the flange of the upright 19. When in place it also locks the back securely in place. The parts are secured at their rear edges by screws 36 passing through said parts into perforations in the supports 26 at the ends and the flanges of the upright 19 at the center of the structure.

The cases G, of any character desired, or of any ordinary or approved steel construction are slid into place and used as in cabinets of ordinary construction and arrangement.

It will be understood, of course, that other characters of storage compartments may be used and that the supports therefor may be varied in character and distance apart to accommodate the character of storage compartment desired.

In Fig. 9 we illustrate more clearly the manner of supporting the cabinet on the floor. Each of the channels 13 has a foot or "dome of silence" 61 attached to or struck up in its lower flange adapted to serve as a rest and support for the structure. An angle iron brace 62 formed to just fit between the upper and lower flanges of the channels 13 is inserted and secured between said flanges to support the lower flange and transmit the thrust upwardly to the complete end structure.

In this structure the ends are reinforced by channels continuous from front to back, and in the entire structure the only notching of the parts is at the ends of the top and bottom aprons near their edges to enable the inturned flanges 15 to slip over the flanges of the channels 13. Thus the parts are rendered very stiff and rigid without adding surplus metal with its consequent weight and expense, and a structure is provided which is capable of resisting great strain notwithstanding the comparative lightness of the material used in its construction.

By this construction, as will be seen, a cabinet is provided wherein all of the parts may be formed rapidly, and with comparatively small expense, from sheet steel and readily assembled without requiring especially trained or unusually skilled artisans for the purpose, while as a whole the cabinet presents an attractive finish and is of a very substantial and durable character.

Having thus fully described our said invention what we claim as new and desire to secure by Letters Patent is:

1. In a cabinet of the character described, the combination of a bottom wall, end walls having channel bars secured thereto, a rear wall, and a top wall each constructed of sheet metal, and said top wall fitting over said channel bars and having upwardly disposed edge portions, a removable cover for the top wall constructed of sheet metal and having inturned edge portions engaging with the edge portions of said top wall, and reinforcing channel bars for the cover fitting within the space provided by said edge portions of the top wall, said reinforced walls constituting a rigid unit structure when assembled, substantially as set forth.

2. In a cabinet of the character described, the combination of a bottom wall constructed of sheet metal and having inturned edge portions, end walls of sheet metal having inturned edge portions, reinforcing channel bars for the end walls extending along the upper edges thereof, a top wall of sheet metal having upturned edge portions, cutaway to fit the channel bars of the end walls, a rear wall of sheet metal having inturned flanges engaging with said top and bottom walls and outwardly turned flanges engaging with said end walls, a partitioning wall comprising upright channel bars, and transversely disposed channel bars secured to said upright channel bars; a removable cover for the top constructed of sheet metal having downwardly turned edge portions engaging with the edge portions of said top wall, and reinforcing channel bars for the cover fitting within the space provided by the edge portions of said top wall, said reinforced walls constituting a rigid unit structure when assembled, substantially as set forth.

3. The combination with a cabinet having a wall thereof constructed of sheet metal and formed with inturned end portions, of plates supporting drawer guides removably fitted to the inturned end portions of said cabinet wall, members mounted on said wall and on one of said plates, respectively spacing said guide supporting plates from said wall, and means securing said plates to said wall, substantially as set forth.

4. The combination with a cabinet having a wall thereof constructed of sheet metal and formed with an inturned flange at one edge thereof, of a pair of vertically disposed plates fitted to said wall, drawer guides mounted on said pair of plates, a locking device carried by one of said pair of plates engaging with the inturned flange portion of the wall, and means securing the other of said pair of plates to said wall, substantially as set forth.

5. The combination with a cabinet having a side wall thereof constructed of sheet metal and formed with inturned flanges at its vertical edges, and a sheet metal rear wall secured to one of said inturned flanges, of a pair of vertically disposed plates fitting against the other flange of the side wall and the rear wall, members spacing said vertically disposed plates from the side wall, drawer guides mounted on said pair of plates, a locking device carried by one of said pair of plates engaging with one flange of the side wall, and means for securing the other of said pair of plates, substantially as set forth.

6. The combination with a cabinet of a partition therefor comprising a pair of ver-

tically disposed channel bars, horizontally disposed channel bars secured to said vertical channel bars, two pairs of vertically disposed plates respectively fitting against the opposite sides of said vertical channel bars, drawer guides mounted on each pair of said plates, two adjacent plates of said pairs constructed with flanges adapted to engage and provide a spacing element, locking devices mounted on said flanged plates engaging with one of the vertical channel bars, and means securing the others of said plates to the second channel bar, substantially as set forth.

In witness whereof, we have hereunto set our hands and seals at Chester, Pennsylvania this 24th day of November A. D., nineteen hundred and fourteen.

MARVIN E. HOOD. [L. S.]
OSCAR B. ANDERSON. [L. S.]
WALTER L. FETTERS. [L. S.]
JAMES H. McGLINCY. [L. S.]
JOSEPH E. GAGNON. [L. S.]
WALTER M. KIDDER. [L. S.]

Witnesses:
HAROLD V. MULFORD,
CLARENCE T. SCHWARTZ.