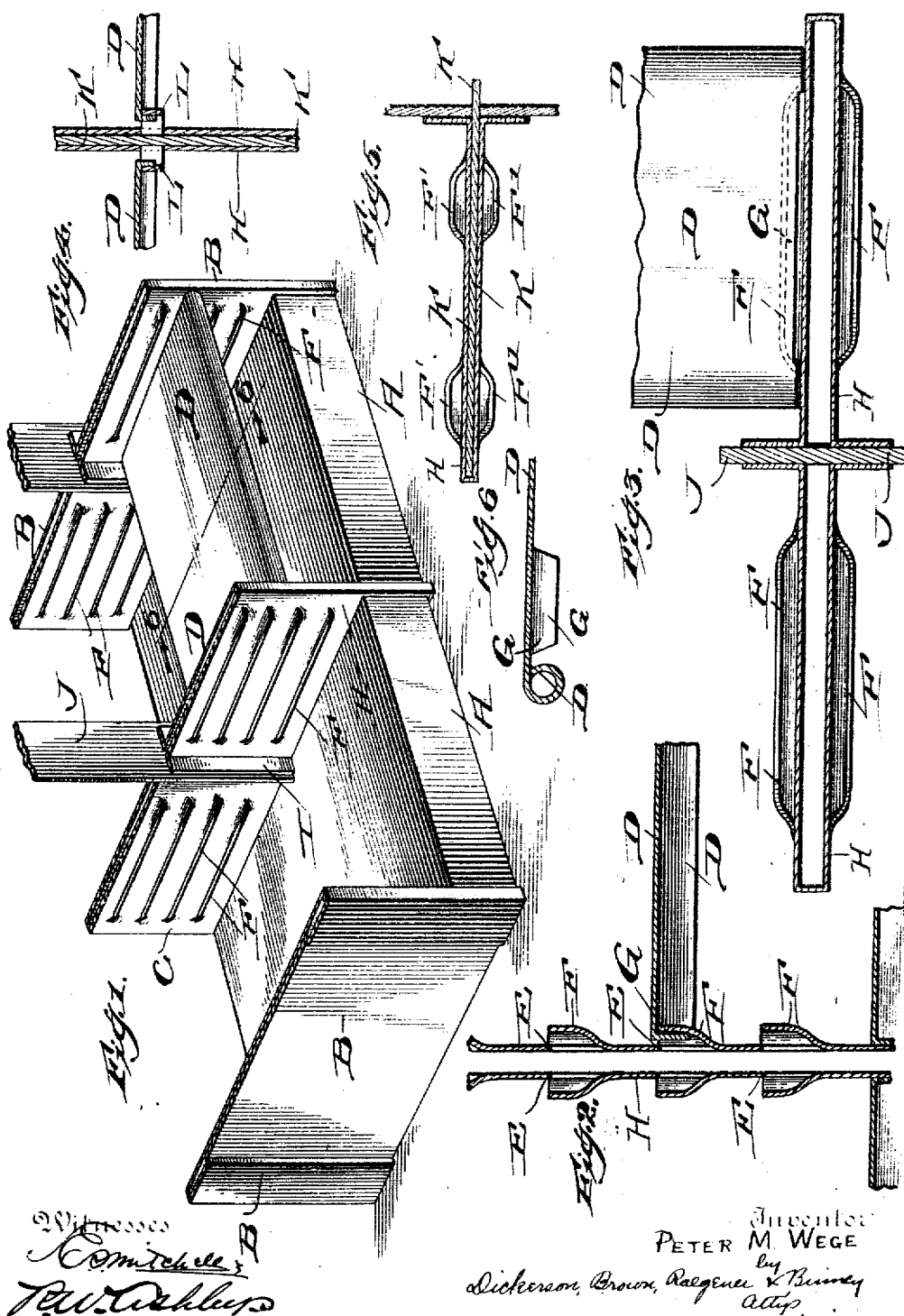


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PATENTED JULY 18, 1905.

P. M. WEGE.  
SHEET METAL BOOK STACK.  
APPLICATION FILED JAN. 14, 1905.



# UNITED STATES PATENT OFFICE.

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## SHEET-METAL BOOK-STACK.

SPECIFICATION forming part of Letters Patent No. 794,759, dated July 18, 1905.

Application filed January 14, 1905. Serial No. 241,036.

*To all whom it may concern:*

Be it known that I, PETER M. WEGE, a citizen of the United States, and a resident of Youngstown, Ohio, have invented certain new and useful Improvements in Sheet-Metal Book-Stacks, of which the following is a specification, accompanied by drawings.

This invention relates to sheet-metal furniture, but more particularly to library book-stacks, although the principles of construction may be applied to whatever use they may be found applicable.

The objects of the invention are to improve upon book-stacks of sheet metal and secure a stiff strong stack the shelves of which will not sag away from the uprights under a heavy load of books.

Another object of the invention is to enable the uprights to be bound very firmly together, so that they will not spring either together or apart.

Further objects of the invention will hereinafter appear; and to these ends the invention consists of a sheet-metal book-stack embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as hereinafter fully described and claimed in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a perspective top view, partly in section, of a book-stack embodying one form of the invention. Fig. 2 is a transverse sectional view through one of the uprights of a portion of one shelf. Fig. 3 is a horizontal sectional view through one of the uprights. Fig. 4 is a vertical sectional view through the upright of a modification. Fig. 5 is a horizontal sectional view of a modification. Fig. 6 shows in detail a part of the end of one shelf.

Referring to the drawings, A represents the base or frame of a sheet-metal book-stack, and B represents the upright ends thereof.

C represents one of the intermediate uprights, of which there may be any desired number, according to the size and construction of the stack. The sides and ends are formed of sheet metal and are provided with means for holding the shelves D in position.

In Figs. 1 and 2 the supports for the shelves consist of integral parts of the uprights pressed out beyond the plane of the body of the uprights. In order to form these supports, the uprights are slitted so that the slits are horizontal when the uprights are in position. The metal immediately adjacent the slits is then forced outward beyond the plane of the sheet. In Figs. 1, 2, and 3 the metal is slit at E and the portions F are forced outward to form the supports for the shelves D. As shown, the shelves are provided with hooked ends adapted to cooperate with the supports F and lock therein. The portions F, as shown, form pockets or loops cooperating with the hooks on the shelves. In forming the pockets F the metal of the pocket is somewhat stretched or drawn in order to make the loop projecting beyond the plane of the original sheet of the upright. Preferably the sheets of metal H, forming the uprights, are provided with flanges I, secured to the central pillars J.

In Fig. 4 a stiffening bar or frame K is provided between the metal sheets H, and the metal is slit in parallel lines to form the pockets, the slit portions of metal being pressed outwardly at L, as shown in Fig. 4, in the form of loops.

In Fig. 5 a plurality of pockets or supports F are provided for each shelf instead of continuous pockets, as shown in Fig. 1. In Fig. 5 the stiffening bar or frame K is also shown. One of the advantages of the construction shown in Fig. 4 resides in the fact that no opportunity is offered for dirt and dust to gather in the support.

According to this invention the shelves, as will be seen, lock into the uprights, so that the uprights will not spring either toward or away from each other and the shelves will not slide forward or come out until lifted slightly. By reason of this construction great strength is added to the stack and the whole structure is stiffened, because the shelf-holder and shelf act to bind two or more uprights together. Furthermore, the shelf holders or supports F on the uprights act as stiffening-corrugations in addition to their function of holding the shelves. The fact that the shelves

hook into the pockets on the uprights prevents sagging of the shelves and also prevents them from drawing away from the upright under the action of a heavy load—that is to say, the shelves are prevented from sagging down far enough to draw away from the supports, which is a very common difficulty in sheet-metal book-stacks.

Obviously some features of this invention may be used without others, and the invention may be embodied in widely-varying forms.

Therefore, without limiting the invention to the constructions shown and described nor enumerating equivalents, I claim, and desire to obtain by Letters Patent, the following:

1. A sheet-metal book-stack having uprights provided with portions pressed outwardly beyond the plane of the body of the uprights, and shelves supported by said outwardly-pressed portions.

2. A sheet-metal book-stack having horizontally-slitted uprights, the metal immediately adjacent the slits being forced outwardly beyond the plane of the uprights, and shelves adapted to cooperate with the supports.

3. A sheet-metal book-stack having up-

rights provided with horizontal slits in pairs, the metal between the pairs of slits being forced outward beyond the plane of the sheet to form supports for the shelves, and shelves adapted to cooperate with said supports.

4. A sheet-metal book-stack having uprights provided with portions integral therewith and forced outwardly beyond the plane of the sheet to form supports for the shelves, and shelves provided with hooks adapted to cooperate with said supports.

5. A sheet-metal book-stack having uprights provided with projections, and shelves provided with hooks adapted to cooperate with said projections and bind the uprights together.

6. A sheet-metal book-stack having uprights and shelves, constructed to lock together and bind the uprights to each other.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PETER M. WEGE

Witnesses:

A. L. O'BRIEN,

CHARLES PHILLOM.