April 3, 1934. H. W. BENTLEY 1,953,527

PORTABLE SUPPORTING DEVICE

Original Filed Dec. 31, 1930 3 Sheets-Sheet 1

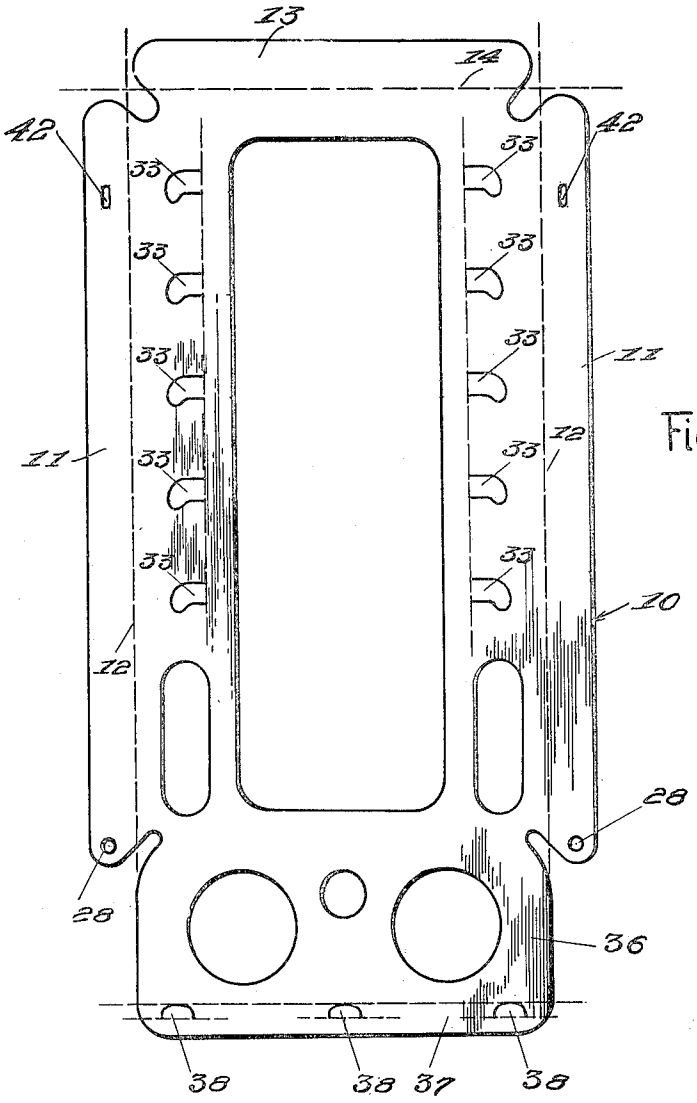


Fig. 1.

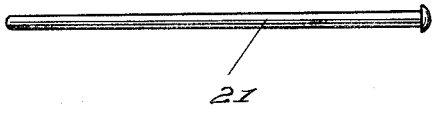


Fig. 2.

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Original Filed Dec. 31, 1930 3 Sheets-Sheet 2

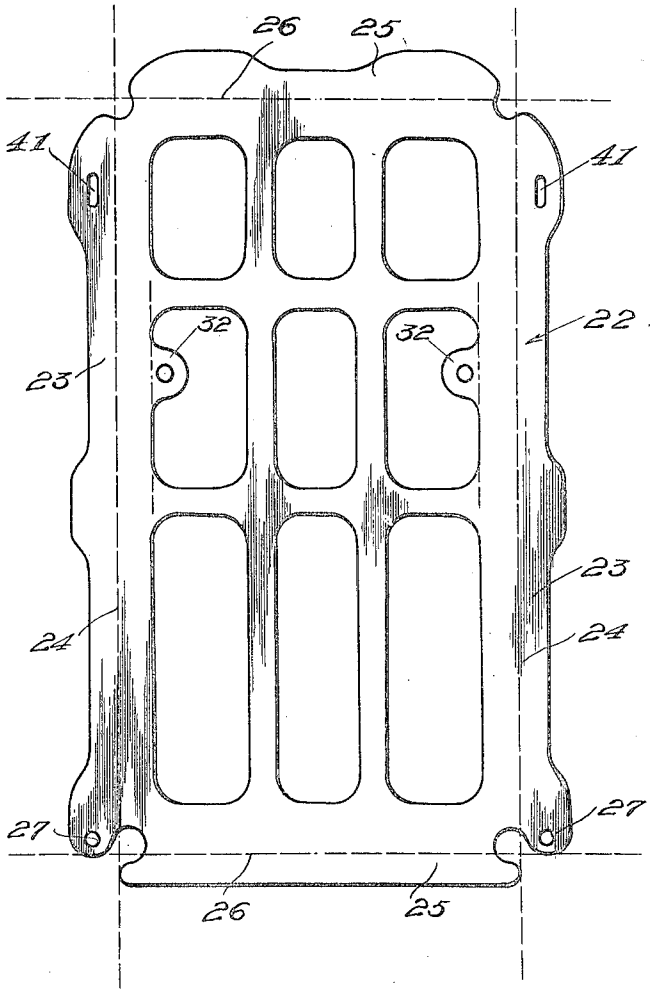


Fig.3.

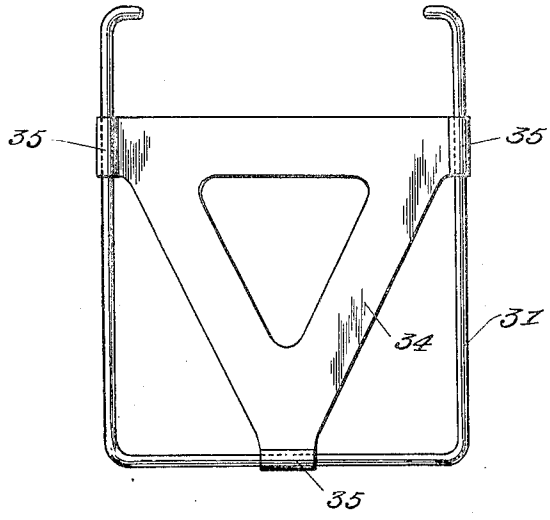


Fig.4.

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PORTABLE SUPPORTING DEVICE

Original Filed Dec. 31, 1930 3 Sheets-Sheet 3

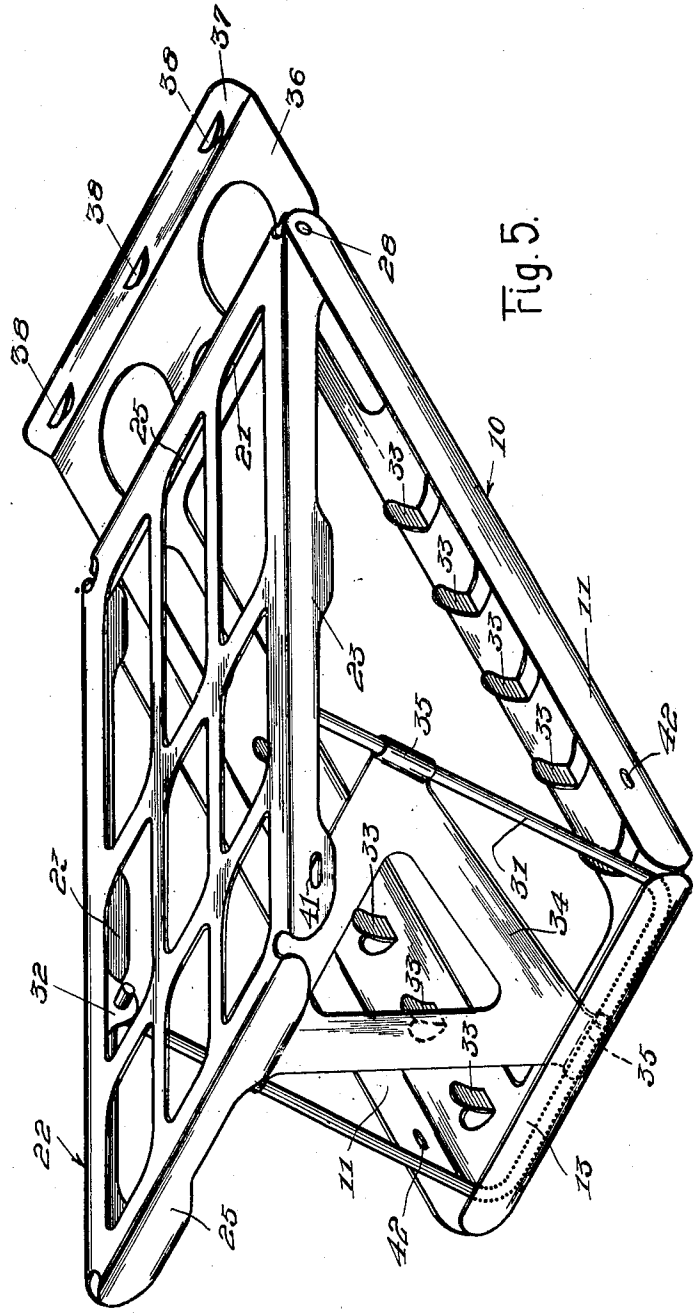


Fig. 5.

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Patented Apr. 3, 1934

1,953,527

UNITED STATES PATENT OFFICE

1,953,527

PORTABLE SUPPORTING DEVICE

Harold W. Bentley, New York, N. Y.

Application December 31, 1930, Serial No. 505,914
Renewed September 1, 1933

2 Claims. (Cl. 45—80)

My invention relates to a portable supporting device for supporting flat articles such as books, pictures, cards, etc.

The principal object of my invention is to provide a portable supporting device which is adapted to support flat objects much larger than itself for display or other purposes, but which, because of the novel features of its construction, may be folded up into a compact form and carried about in a person's pocket or brief case.

A more particular object of my invention is to provide a portable supporting device which is adapted to support an open book in an inclined position so that it may be conveniently read.

A further object of my invention is to provide a portable display device which can be folded up quickly into a compact form so as to occupy a minimum of space thereby facilitating the packing of the devices for shipment and the carrying of same in a person's pocket or brief case.

Other objects of my invention are to provide a portable supporting device which shall be simple of construction, cheap to manufacture and of considerable strength though light in weight.

The various features and objects of the invention will be more fully understood upon reference to the following detailed description, taken in connection with the accompanying drawings, while the scope of the invention will be particularly pointed out in the appended claims.

In the drawings:—

Figure 1 is a plan view of the blank from which the base is formed.

Figure 2 is a detail view showing the pintle.

Figure 3 is a plan view of the blank from which the resting piece is formed.

Figure 4 is a plan view of the supporting bracket.

Figure 5 is a perspective view of a device embodying my invention, the device being shown in one position in which it may be used.

Similar reference characters refer to similar parts throughout the several views.

In the drawings, 10 represents a base which may be formed from a sheet metal blank such as that illustrated in Figure 1. The base comprises a flat body portion having perpendicular side walls 11, formed by bending the blank along the lines 12, and a perpendicular end wall 13, formed by bending the blank along the line 14.

Hingedly connected to the base by means of a pintle 21 is a resting piece 22 which may be formed from a sheet metal blank such as that illustrated in Figure 3. The resting piece comprises a body portion having perpendicular side walls 23, formed by bending the blank along the lines 24, and perpendicular end walls 25, formed by bending the blank along the lines 26. Each side wall of the resting piece is provided with a hole 27 for the reception of the pintle 21, and each side wall of the base is provided with a corresponding hole 28.

The resting piece is adapted to be disposed in various inclined positions with respect to the base and supported in such positions by means of a supporting bracket 31 which is hinged in ears 32 formed on the resting piece and cooperates with stop lugs 33 formed by striking up the material of the base at spaced points. These lugs may be arranged in two longitudinal rows as shown.

The supporting bracket 31 may be made of heavy wire bent to form a U and preferably is reinforced by means of a triangular piece of sheet metal 34 provided with three lashes 35, which are bent and pressed around the wire forming the bracket.

The dimensions of the resting piece are such that it is adapted to fit within the base when these parts are folded together. The primary purpose of this case-like construction is to give rigidity to the device and to adapt it to be folded into a compact form so that it will occupy a minimum of space. When folded, the device is flat and may readily be slipped into a person's pocket or brief case. Also, in its folded position it lends itself readily to packing for shipment. It will be noted that when the device is folded up, the resting piece cooperates with the base to form a chamber within which are encased the supporting bracket 31 and its bearings, the pintle 21 and the stop lugs 33. These parts are thus protected from the results of pressure that may be applied to the device, accidently or otherwise, when it is in folded position.

An important feature of my invention is the provision of means whereby my supporting device, although small in size, can support large flat objects such as books, pictures or the like. Such means in my device comprises a stop formed of the same material as the base piece, namely, sheet metal, and preferably integral therewith. As shown in Figure 5, the base is provided with an extension 36 which has a portion 37 bent up at an obtuse angle with respect to the base to form a stop for the lower edge of the article being supported. To illustrate the utility of this feature of my invention I will assume that the supporting device is placed on a horizontal plane, for example on a table or a desk, and a book is placed on

the supporting device in reading position. It will be observed that the lower edge of each cover of the book will be supported by the table or desk. The extension 36 of the base, being made of sheet metal, is relatively thin, and consequently the lower edges of the book covers are not raised appreciably above the plane of the table or desk surface. The weight of the book is thus on a solid base and stability is thus provided for the book while in reading position. In other constructions with which applicant is familiar, the stop is provided on the resting piece and the book is maintained in stability only by making the stop so wide that it supports the whole width of the book along the lower edges of its covers. This requires a wide stop, otherwise large books cannot be held on it. However, a wide stop is a handicap in handling and transporting the device and also makes the entire device bulky and expensive. Such a supporting device cannot, for example, be carried in a man's coat pocket.

In order to further insure that the book or other article being supported will not slip from the supporting device I have provided the bent-up portion 37 with a plurality of stop lugs 38 formed by striking up the material as clearly illustrated in Figure 5. If the article being supported is a book the middle one of these lugs, being located on the longitudinal axis of the base, serves to engage the lower edge of the back of the book. By virtue of this middle lug even very thick books are perfectly secure on my device. The other lugs also aid in preventing the article being supported from slipping off the support. It should be understood that the lugs 38, while desirable in some instances, are not essential.

Another important feature of my invention resides in the manner in which the stop lugs 33 are struck up from the base. In prior constructions in which the base member has been provided with stop lugs punched out of the sheet metal to resist the horizontal component of the pressure exerted upon them when a book is being supported, the stop lugs have been bent in such a way that the bending edges are parallel to the hinge axis. In such constructions, when the lugs are bent but slightly out of their normal position, their reliability as stops for permitting adjustment of the inclination of the resting piece is more or less impaired. In my invention, I have overcome this difficulty by striking up the stop lugs so that the bending edges of the lugs are perpendicular to the hinge axis. Thus the strength of the stop lugs in the direction of the horizontal component of the force exerted by the book or other article being supported is greatly increased so that the thickness of the metal of which the device is made may be minimized. In this construction, even if the stop lugs happen to be bent out of position, they will nevertheless still be capable of performing their function.

The sheet metal of which the device is made may be covered and reinforced by a layer of celluloid, hard rubber or bakelite, or other artificial resins. Such materials materially deaden the tinkling or rattling sound when the device is handled. To further reduce the noise made in handling the device and to avoid its opening accidentally, the device may be provided with a means for holding the hinged parts together in their folded position. One such means may comprise elongated openings 41 in the resting piece adapted to cooperate with elongated knuckles 42 on the base. When the device is folded together, the knuckles 42 on each side of the base snap into the openings 41 on each side of the resting piece. The interengagement is such that little force is required to open the device into its operative position.

The bottom of the base 10 may be provided with rubber, felt or other anti-skid material to prevent the slipping of the device when resting on a smooth surface. Such rubber, felt or other material may cover the entire bottom of the base or may be in strips running longitudinally or cross wise. On the other hand, they may be in the form of domes or pegs placed at appropriate points such as in the four corners on the bottom side of the base.

The case-like base and resting piece may be pressed out of single sheets so that the walls are seamless, or the walls may be riveted or welded or soldered together. The closed edges materially increase resistance against torsion. The weight of the device may be reduced by stamping out portions of the material forming the base and resting piece as illustrated.

Although I have, in the above description, exemplified the use of my invention in connection with the supporting of a book, I wish it to be understood that I do not limit myself to such use. My improved supporting device may be used to support not only books but pictures, cards and other articles to be displayed.

From the foregoing description, it will be clear that the device consists of few and simple parts and can be cheaply manufactured and that various slight changes can be made without departing from the spirit of the invention, the scope of which is defined in the appended claims.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:—

1. A portable supporting device comprising a thin sheet metal base and a thin sheet metal resting piece hinged together, means for supporting said resting piece at an angle with respect to said base and an integral extension on said base bent to form a stop for an article supported by said resting piece, said bent up portion having a plurality of integral lugs bent up to form a secondary stop for said article said lugs extending substantially parallel to said base.

2. A portable supporting device comprising a base piece and a resting piece hinged together, each piece comprising a body portion having side flanges depending from opposed sides thereof, the two pieces being movable relatively about the hinge to bring them into nested relation and interengaging means associated with said pieces to interlock them when they are brought into nested relation, said interengaging means comprising openings formed in the side flanges of said resting piece and complemental protuberances formed on the side flanges of said base piece.

HAROLD W. BENTLEY.