June 23, 1953 R. E. SPRING 2,643,081

LOADING BASE

Filed July 11, 1950

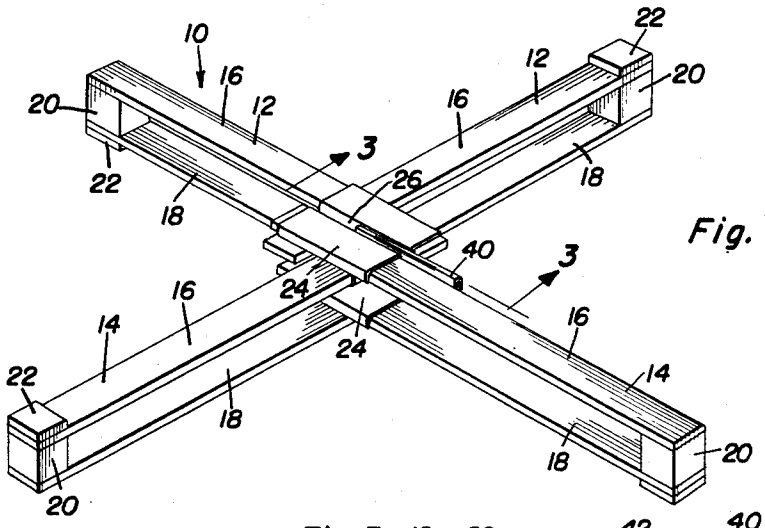


Fig. 1

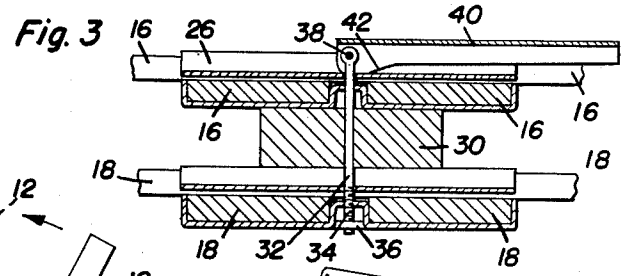


Fig. 3

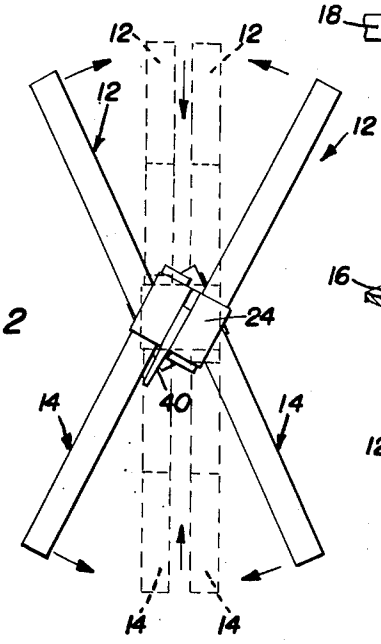


Fig. 2

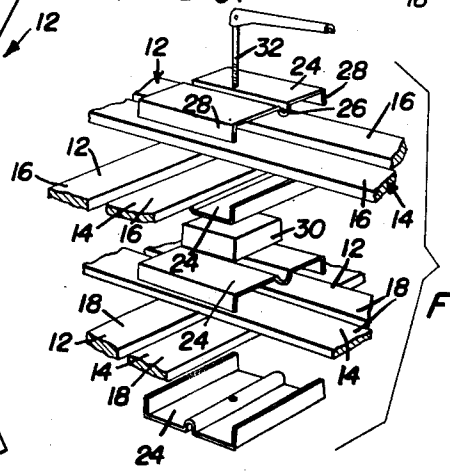


Fig. 4

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Patented June 23, 1953

2,643,081

UNITED STATES PATENT OFFICE

2,643,081

LOADING BASE

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Application July 11, 1950, Serial No. 173,041

4 Claims. (Cl. 248—120)

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This invention comprises novel and useful improvements in an improved loading base and more specifically pertains to an adjustable and collapsible loading base or pallet adapted for the efficient handling, storing and shipping of various articles.

The primary object of this invention is to provide a loading platform or pallet which may be readily adjusted to any desired and selected size and shape for use, and which may be easily collapsed into a compact bundle for storage or transportation.

A further object of the invention is to provide an improved adjustable and collapsible loading base in conformity with the preceding object in which the base is readily reversible to permit using either surface of the same as a supporting surface and the other surface as a loading surface.

Yet another important object of the invention is to provide an improved collapsible base as set forth in the preceding objects in which the base may be formed from an inexpensive and lightweight material, yet will be exceptionally sturdy and rigid for the purposes intended.

A still further important object of the invention is to provide an improved loading base in accordance with the foregoing objects and in which the folding portions of the base may be pivotally secured together in an improved manner; in which the pivoting means may serve to reinforce and strengthen the adjacent ends of the folding members and enhance the life or wear of the same; together with improved means for locking the base in adjusted position.

These, together with various ancillary features and objects of the invention, which will later become apparent, are attained by the present invention, a preferred embodiment of which has been illustrated, by way of example only, in the accompanying drawings, wherein:

Figure 1 is a perspective view showing by way of exemplification of the principles of this invention a suitable embodiment of supporting base in accordance with this invention;

Figure 2 is a top plan view of the base of Figure 1, the same being shown in an alternative adjusted position in full lines and being shown in its collapsed position in dotted lines;

Figure 3 is a vertical longitudinal sectional view through the folding base of Figure 1, being taken substantially upon the plane indicated by the section line 3—3 of Figure 1 and illustrating in particular the lock means for securing the base in adjusted position; and

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Figure 4 is a group perspective view, parts being broken away, showing the manner in which the various legs of the base are secured to their hinge members and in pivoted relation with respect to each other.

Referring now more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, it will be seen that the base indicated generally by the numeral 10 and which incorporates the principles of this invention comprises a plurality of leg members, which are preferably disposed in rigid, oppositely extending pairs, any desired number of pairs of legs being employed, two such pairs being indicated in the drawings.

The legs of each pair are indicated respectively by the numerals 12 and 14, it being apparent that the legs 12 extend on opposite sides of the central pivot point of the base and are disposed in side by side or parallel relationship with respect to each other with their adjacent ends overlapping.

Each of the legs is composed of a pair of parallel, vertically spaced and coextensive strips of any suitable material, comprising an upper strip 16 for each of the legs and a lower strip 18.

As will be apparent, the strip 16 of the legs 12 and 14 are disposed in parallel relation with their adjacent ends overlapping, the strips 18 are similarly arranged. The outer ends of the strips 16 and 18 of each leg member are connected to each other in fixed and spaced relation as by a spacer block 20 interposed therebetween. Suitable support pads 22 may be applied to the appropriate surfaces of the outer ends of the leg members in order that the bottom surfaces of the device may rest firmly upon a horizontal supporting surface as a floor or the like, while the upper surface of the same which constitutes the supporting surface or load bearing surface of the device shall be disposed in a plane which is parallel to the plane upon which the device rests.

In order to pivotally secure the legs together, to reinforce and strengthen the pivotal connection, to rigidly attach the oppositely disposed legs of each pair and their corresponding strips, a plurality of hinge plates are provided. As will be best apparent from Figure 4, each of these hinge plates comprises a flat sheet or plate of metal or any suitable material as indicated at 24, this plate having a longitudinally extending medial rib or depression 26 which is adapted to be received between the adjacent sides of overlapping strips 16 or 18 of the overlapping legs 12 and 14 of each pair. The plate further includes depending side flanges 28, each of which

in conjunction with the depending rib **26** constitutes a channel receiving one of the strips **16** or **18**.

As will be apparent from Figure 4, four such plates are provided for the four legs, the topmost plate being engaged with the strips **16** and **16** of the legs **12** and **14** of one pair of legs; the adjacent plate being inverted with respect to the first plate and engaging the strips **16** and **16** of the next pair of legs **12** and **14** which are disposed at right angles or any selected angle with respect to the first pair of legs. The third and fourth plates are similarly arranged for engaging the strips **18** of the other four legs.

The upper pair of plates are spaced from the lower pair of plates as by a spacer block **30** interposed therebetween, and all of the plates are rotatably mounted upon a pivot pin **32** which extends through suitable aligned apertures in the plates and which is threaded at its lower extremity as at **34** for the reception of a fastening and adjusting nut **36**. As shown in Figure 3, this nut **36** may be conveniently accommodated in the recess formed on the bottom plate by the depressed central rib of the same.

At its upper end, the pivot pin or bolt **32** extends above the uppermost plate **24** and into the depression on the upper surface of the same formed by the depressed central rib **26**, and is provided with an eye portion **38** to which is pivoted one end of a lever **40**. This lever **40** is provided with a cam portion **42** adjacent its connection with the eye, so that when the lever is positioned as shown in Figures 1 and 3, this cam portion in conjunction with the nut **36** at the bottom of the pivot will serve to compress the collection of plates and strips therebetween and securely frictionally lock the same in selected adjusted or collapsed position. Obviously, by raising the lever **40** in a counterclockwise direction with respect to the showing of Figure 3, the cam surface **42** will be retracted and thus release the frictional clamping action of the lever upon the plates whereby the various legs together with their attached hinge plates may be rotated about the pivot **42** into the desired adjusted position or positions.

From the foregoing, it is thought the construction and operation of the invention will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not desired to limit the invention to the exact construction and materials shown and described, but all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

Having thus disclosed and described the invention, what is claimed as new is as follows:

1. An adjustable, collapsible loading base comprising a plurality of legs, a pivot, means securing said legs for horizontal movement about said pivot, means for releasably locking said legs in selected adjusted position about said pivot to vary the shape and area of said base, said legs being rigidly secured to each other in pairs on opposite sides of said pivot, legs of each pair being in parallel relation with their adjacent ends overlapping each other, said first means comprising a hinge plate for each pair of legs, said plate having channels slidably receiving said adjacent ends, said plate being rotatably mounted on said pivot.

2. An adjustable, collapsible loading base comprising a plurality of legs, a pivot, means securing said legs for horizontal movement about said pivot, means for releasably locking said legs in selected adjusted position about said pivot to vary the shape and area of said base, said legs being rigidly secured to each other in pairs on opposite sides of said pivot and being in parallel relation with their adjacent ends overlapping each other, said first means comprising a hinge plate for each pair of legs, said plate having channels receiving said adjacent ends, said plate being rotatably mounted on said pivot, a medial rib on said plate lying between and separating said adjacent ends.

3. An adjustable, collapsible loading base comprising a plurality of legs, a pivot, means securing said legs for horizontal movement about said pivot, means for releasably locking said legs in selected adjusted position about said pivot to vary the shape and area of said base, said legs being rigidly secured to each other in pairs on opposite sides of said pivot, and being in parallel relation with their adjacent ends overlapping each other, each leg comprising a pair of parallel upper and lower strips having their ends connected together in fixed, spaced relation, said first means comprising hinge plates journaled on said pivot and each having parallel channels receiving a pair of strips therein.

4. The loading base of claim 1 in which said second means includes a lever pivoted upon said pivot and has a cam engaging an adjacent plate for compressing together said legs and plates.

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