

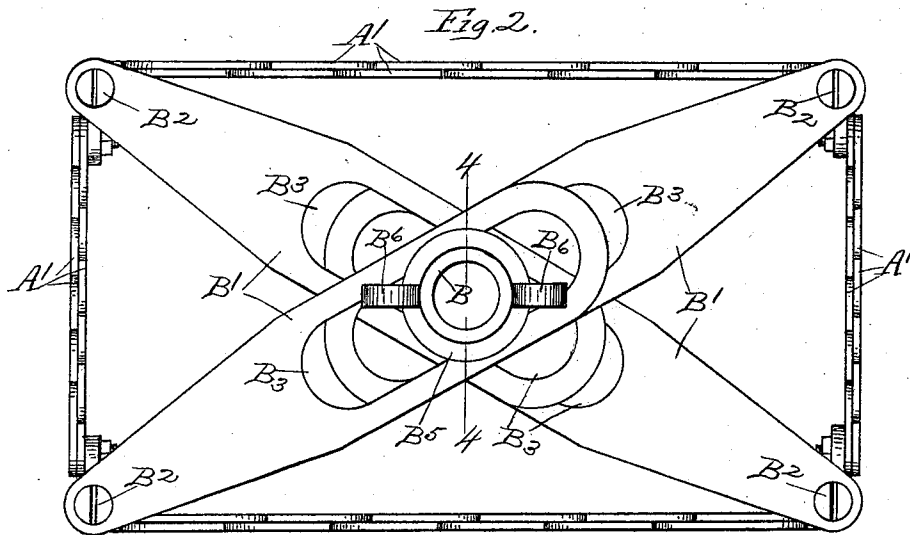
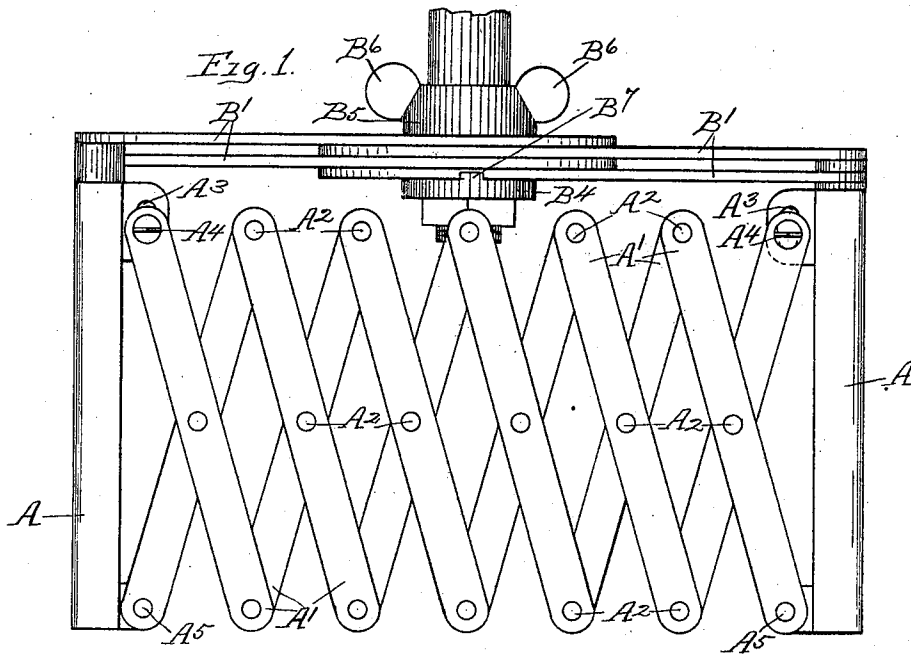
(No Model.)

C. J. PRANKARD, Jr.
BOX FORM.

2 Sheets—Sheet 1.

No. 581,303.

Patented Apr. 27, 1897.



Witnesses:
C. H. Curtis
G. H. Curtis

Inventor:
Charles J. Prankard, Jr.
By Mosher Curtis
Atty.

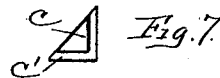
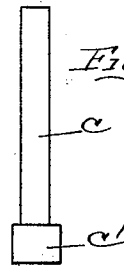
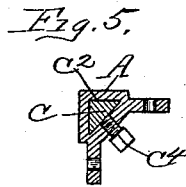
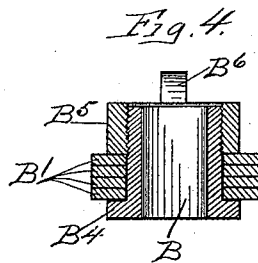
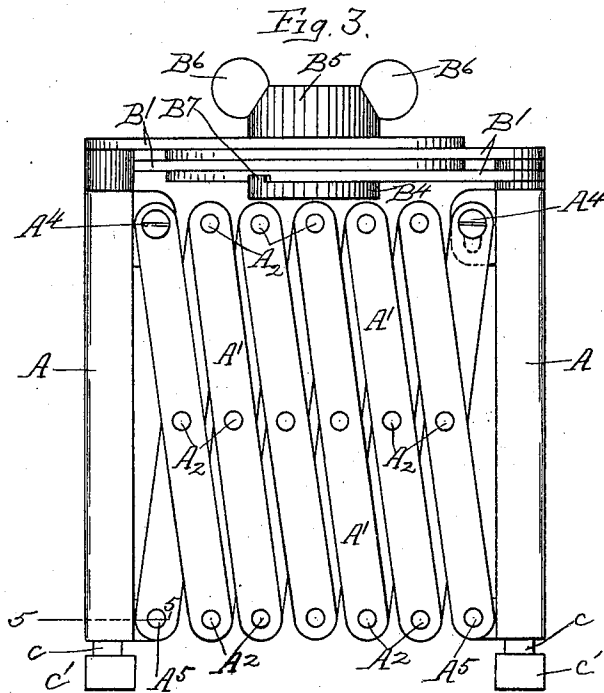
(No Model.)

2 Sheets—Sheet 2.

C. J. PRANKARD, Jr.
BOX FORM.

No. 581,303.

Patented Apr. 27, 1897.



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Charles J. Prankard Jr.
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UNITED STATES PATENT OFFICE.

CHARLES J. PRANKARD, JR., OF TROY, NEW YORK.

BOX-FORM.

SPECIFICATION forming part of Letters Patent No. 581,303, dated April 27, 1897.

Application filed October 1, 1895. Serial No. 564,258. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. PRANKARD, Jr., a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Box-Forms, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a side elevation of my improved form attached to a rotary supporting-spindle in position for use. Fig. 2 is an end view of the same detached from the spindle. Fig. 3 is a view in elevation of one of the short sides of the form detached, similar to the view in Fig. 1. Fig. 4 is a vertical section taken on the broken line 4 4 in Fig. 2. Fig. 5 is a horizontal section of one of the corner-posts, taken on the broken line 5 5 in Fig. 3. Fig. 6 is a view in side elevation of a corner extension detached. Fig. 7 is an end view of the same.

In finishing rectangular pasteboard boxes the manufacturer places the box upon a rotary form adapted to fit the interior of the box and applies a pasted strip of paper fed from a roll to the four sides of the box successively by rotating the box and its supporting-form and at the same time pressing with the hand the paper upon the pasteboard. As the boxes required by the trade vary in size and in the proportionate dimensions of the four sides, it is important that the box-supporting form should be adjustable not only in general size but in the proportionate length of its sides.

My invention comprises a form having the four corner-posts A, which are laterally connected by the slats A', interconnected by pivots A² at their ends and middle portions in the form of lazy-tongs, as shown. Each corner-post is provided at one end with longitudinal slots or slideways A³, adapted to receive the pivots A⁴, by which the lazy-tongs connection is united with that end of the post,

the union with the other end of each post being effected by a stationary pivot A⁵. Such a connection between the posts permits of their movement laterally toward and from each other.

In Fig. 1 the lazy-tongs connection is shown expanded, with the pivots A⁴ at the inner ends of the respective slots A³, and in Fig. 3 the lazy-tongs connection is shown contracted, with the pivots A⁴ at the outer ends of the slots. The corner-posts are also connected at one end with a central hub-sleeve B by the radial supporting-arms B', the outer ends of which are connected with the posts by pivots B², and the inner ends of which are provided with the slots or slideways B³, adapted to receive the hub-sleeve and permit the sleeve to move from one end of the slot to the other. The hub-sleeve is provided at one end with an annular flange B⁴ and at the other end is exteriorly screw-threaded to receive the clamping-nut B⁵, provided with operating thumb and finger lugs B⁶. By means of the clamping nut and flange the four supporting-arms can be clamped together and thereby locked against any movement relatively to each other.

The operation of the device in changing the form from one size to another is as follows: The clamping-nut is first loosened. Then the lazy-tongs connections are contracted or expanded until the form assumes the required shape, the supporting-arms also being moved relatively to each other and their supporting-hub in response to the movements of the corner-posts, after which the arms are clamped in the new position by means of the clamping-nut, which locks all the parts in the desired position to maintain the desired shape of the box-form.

As a means for preventing the hub-sleeve from rotating while the clamping-nut is being operated I provide a lug B⁷ on one edge of the hub, which engages with one edge of the contiguous supporting-arm B' and locks the sleeve against rotary movement.

As a means for adapting the form to boxes of varying depth I provide a detachable extension-piece consisting of the attaching-stem C and the angle-head C'.

The corner-posts are each provided with an end aperture C², extending longitudinally of

the post to a depth about equal to the length of the stem and adapted to receive the stem, so that the head can be made to occupy the position shown in Fig. 3, with the angular faces of the head in the same plane with the similar faces of the corner-posts, forming extensions thereof to fit into the corners of a box the depth of which exceeds the length of the corner-posts. The posts are severally provided with a set-screw C⁴, adapted to engage the stem C and maintain the extension in any desired position.

The principal use of a box-form is to support the body or shell of a pasteboard box while an ornamental covering of paper is pasted on the outside thereof. In applying the pasted paper more or less pressure must be exerted to insure the adhesion of the paper and to smooth the same, and for this reason the thin pasteboard walls of the box should be supported at frequent intervals to enable them to resist such pressure without injury. Corner-supports alone are not sufficient. In order to afford proper support, the sides of the form should be continuous, or approximately so.

Box-forms with approximately continuous sectional sides have been heretofore employed wherein one section was made to telescope within or slide upon another. Such constructions are necessarily quite heavy, and the expansible and contractible adjustment of such a form is limited by the length of the telescoping sections, and the side of the form can never be made shorter than the length of the longest of such sections. This limitation is particularly noticeable in the smaller sizes, a side measuring three inches when closed being expansible to only four and one-half inches. To equip a box-factory with forms of such limited adjustment would require a large number.

By the use of the lazy-tongs connection between the posts I am able to afford an approximately continuous support for the box-wall and at the same time secure a very light and easily-operated construction capable of adjustment to a maximum degree.

By this improved construction a side measuring three inches when closed is expansible to ten inches, and a set of three or four sizes of such forms can be adjusted to meet all the requirements of different-sized boxes produced in the ordinary factory.

It some cases it is desirable to both narrow and lengthen the box-form. This can be easily effected in my construction by suitable manipulation of the lazy-tongs connections, the supporting-arms, and the clamping device comprising the single nut. The parts are so

pivoted and rotated that the rectangular shape of the box-form is automatically maintained during every adjustment of its sides and arms, no separate adjustment and clamping of the corner-posts being required.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a box-form, the combination with a plurality of corner-posts, lateral lazy-tongs connections between the posts adapted to form with said posts an approximately continuous support for the side of a box, of a central hub, a plurality of arms secured to and radially adjustable upon the hub, and pivotal connections between the outer ends of the arms and the corner-posts respectively, substantially as described.

2. In a box-form, the combination with four corner-posts, each having a longitudinal slide-way near one end, lazy-tongs connections between the posts adapted to form with said posts approximately continuous supports for the sides of a box, pivots severally uniting the ends of the lazy-tongs connections with the posts and movable longitudinally in the respective post-slideways, of a central hub, four supporting-arms secured to and adjustable upon the hub, and pivotal connections between the outer ends of the supporting-arms and the corner-posts respectively, substantially as described.

3. In a box-form, the combination with a plurality of corner-posts severally provided with end apertures, and expansible connections between the posts; of a plurality of corner extensions inserted in the respective post-apertures; and means for securing the several end extensions in their apertures, substantially as described.

4. In a box-form having a plurality of corner-posts united laterally by expansible connections, the combination with a central hub-sleeve flanged at one end and screw-threaded at the other end; of a plurality of supporting-arms severally pivoted at one end to one end of the posts and at the other end provided with a longitudinal slot adapted to receive the hub-sleeve; a nut adapted to be screwed onto the threaded end of the sleeve, whereby the arms are all clamped between the nut and sleeve; and a locking connection between the sleeve and one of the supporting-arms, whereby the sleeve is locked against rotary movement, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of September, 1895.

CHARLES J. PRANKARD, JR.

Witnesses:

FRANK C. CURTIS,

EDWARD A. COYNE.