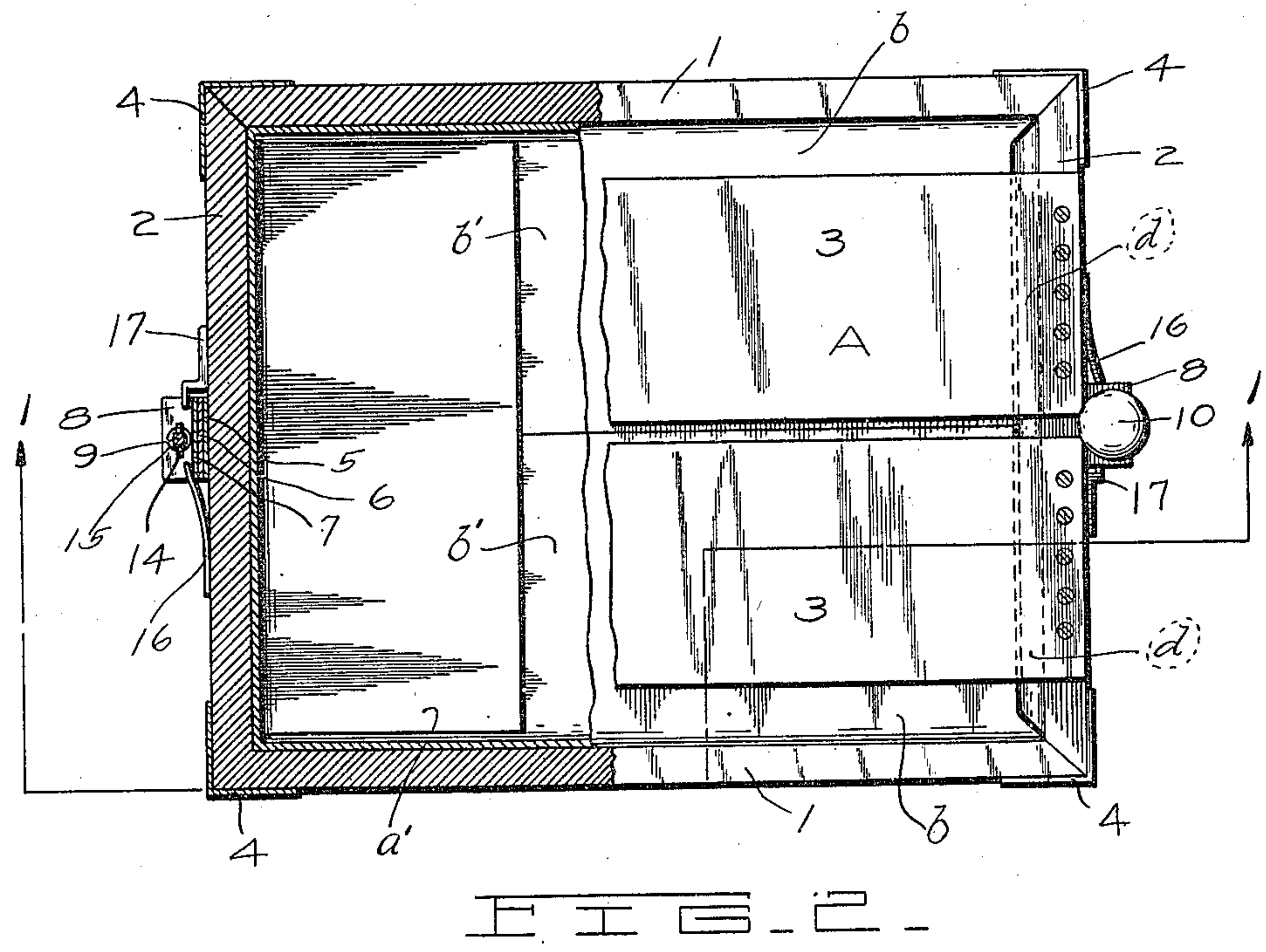
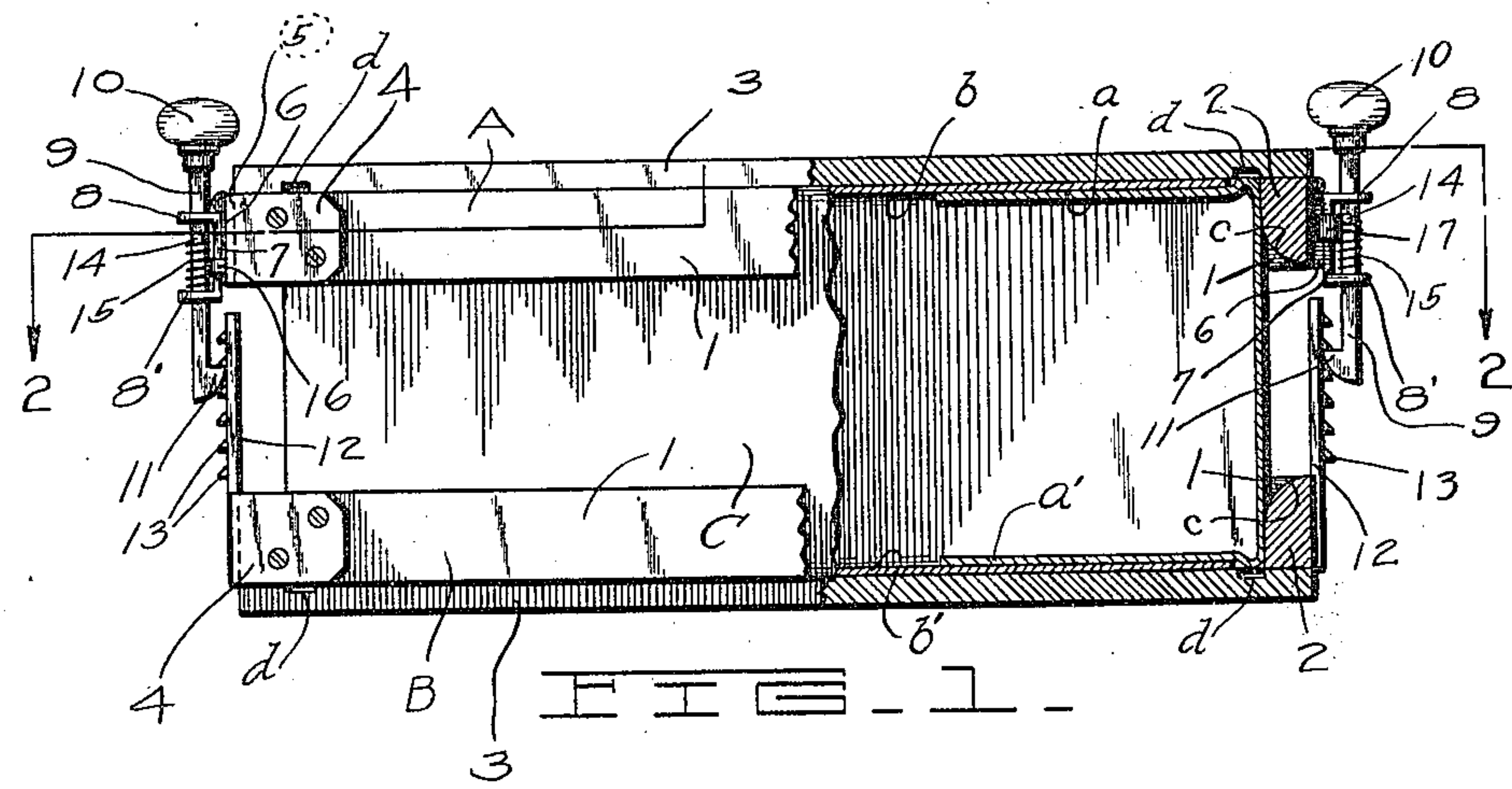


J. C. JOHNSON.
 MEANS FOR USE IN SEALING FIBER BOXES, CARTONS, AND THE LIKE.
 APPLICATION FILED MAR. 1, 1915.

1,154,639.

Patented Sept. 28, 1915.
 2 SHEETS—SHEET 1.



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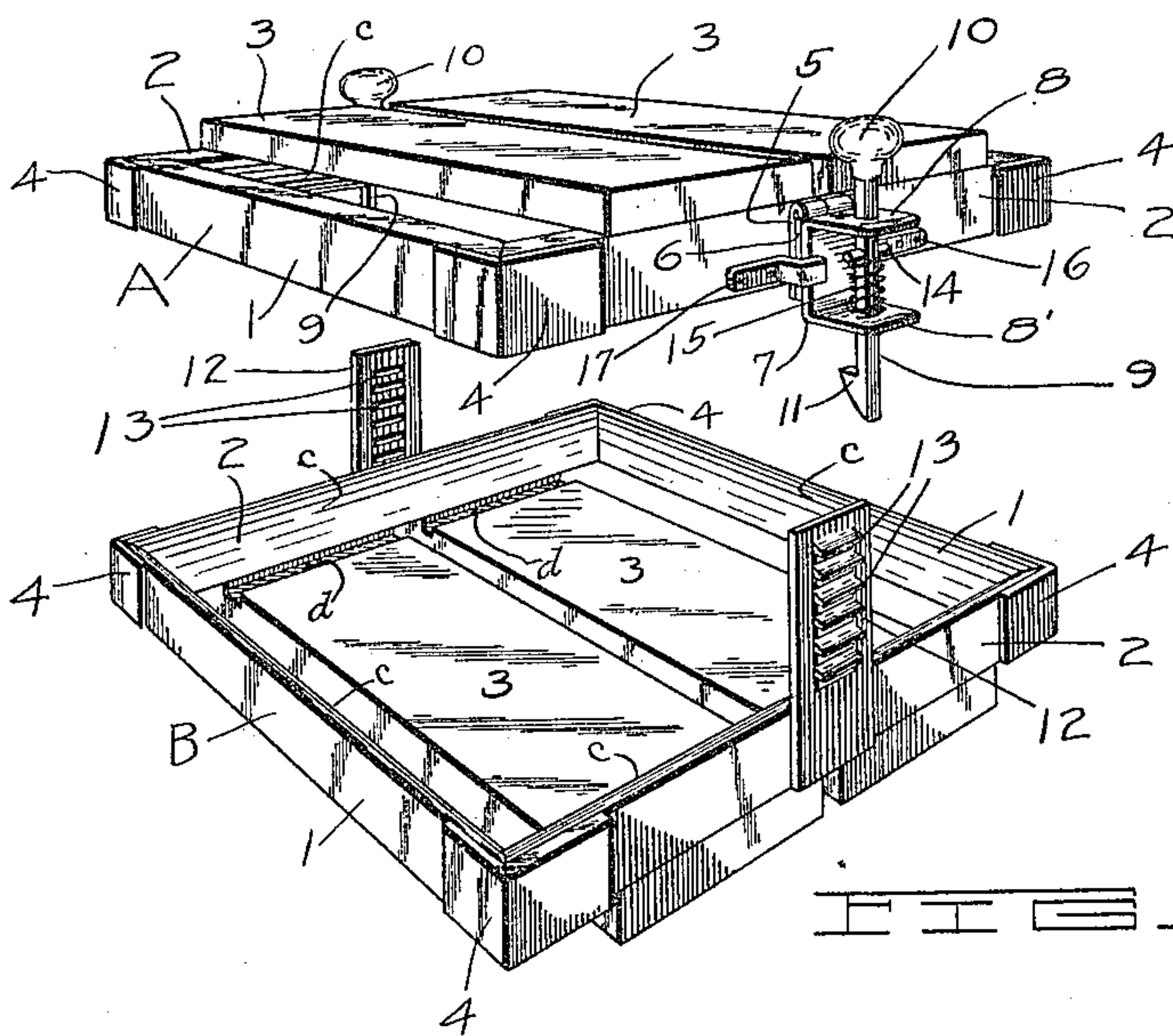
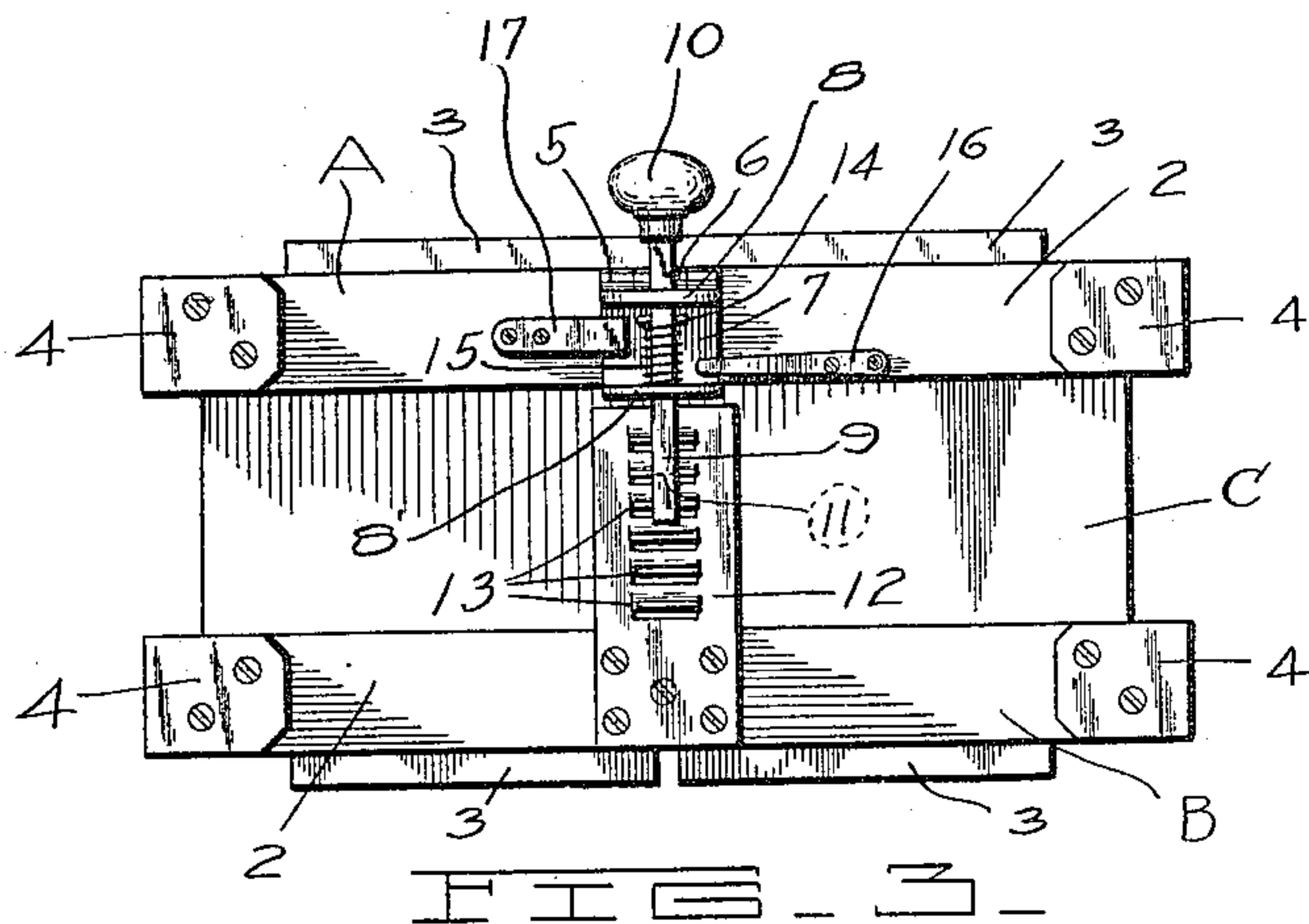
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MEANS FOR USE IN SEALING FIBER BOXES, CARTONS, AND THE LIKE.

1,154,639.

Specification of Letters Patent.

Patented Sept. 28, 1915.

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To all whom it may concern:

Be it known that I, JOHN C. JOHNSON, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have in-

5 v-ented certain new and useful Means for Use in Sealing Fiber Boxes, Cartons, and the like, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 This invention relates to certain new and useful means especially adapted for use in sealing boxes, cartons, and the like of fiber-board, heavy card or paste-board, corrugated board, and analogous material.

15 As is well known, boxes and cartons of the kind stated, and particularly such boxes or cartons of the larger sizes designed specially to contain, and as shipping receptacles or containers for, heavy goods, such, for in-

20 stance, as bars of soap, canned goods, and similar merchandise, are generally supplied and furnished by the manufacturer to the consumer in a knocked-down, folded, flat condition. When the box or carton is to be

25 used, the same is opened up or unfolded and assumes usually a rectangular form, the loose flaps on each of the opposite sides of the box being folded in upon one another ready to be sealed or secured together, which

30 is largely accomplished by means of glue or other adhesive material applied to the matching or contacting faces of the several flaps. In so sealing the flaps of the box or carton, the practice has heretofore generally

35 been, so far as I am aware, to first apply the glue or other adhesive material to the flaps on one side of the box and then allow the box or carton to stand or rest, with its said side undermost, on a conveyer or other place

40 of support a sufficient length or period of time to permit the glue or other adhesive material to set and harden, the contents of the box or carton serving in this operation as a weight or pressure to hold or maintain

45 the flaps in proper sealing position. Afterward glue or other adhesive material is applied to the flaps on the other or opposite side of the box, the box overturned, and the box then again allowed to stand or rest, but

50 with its said other side now undermost, on the place of support a sufficient and approximately equal length or period of time to permit the glue or other adhesive material applied to said second set of flaps to set and

55 harden, the contents of the box again in this second operation serving as a weight or

pressure to hold or maintain said last-mentioned flaps in sealing position. Such repeated operations, it will be evident, consume considerable time. Hence the principal object of my present invention is to provide means whereby the sets of flaps on both opposite sides of the box or carton may be simultaneously firmly and closely held and maintained in sealing position during the setting and hardening of the glue or other adhesive material, with the result that the two sets of flaps of the box or carton may be completely sealed in practically one operation and in far less time than has heretofore been generally required for such purpose.

With the above and other objects in view, my present invention resides in the provision of a pair of easily and conveniently handled cooperating tray-like members adapted to neatly fit and engage the box or carton at both of its opposite sides, the box or carton being in unfolded condition with its flaps intumed ready for sealing and glue or other adhesive material being applied thereto, and means including a yielding member adapted to releasably lock or clamp said members together with the box or carton firmly held therebetween with its said sets of flaps in sealing position, the said members not only holding or maintaining the flaps on both opposite sides of the box or carton in proper sealing position during the setting and hardening of the glue or other adhesive material, but also neatly and accurately squaring the box or carton, and in certain novel features of form, construction, arrangement, and combination of parts, all as will hereinafter be described and afterward pointed out in the claims.

In the accompanying drawings, which show my invention in preferred form, Figure 1 is a side elevational view, partly in section on approximately line 1—1, Fig. 2, of box-sealing means embodying my invention, the same being shown in operative position in connection with a fiber-board box being sealed; Fig. 2 is a plan view, partly in section on approximately line 2—2, Fig. 1, of the same; Fig. 3 is an end view of the same; and Fig. 4 is a perspective view of my new box-sealing means, the several members thereof being shown detached from each other ready to receive a box or carton to be sealed.

Referring to the said drawings, in which like reference characters refer to like parts

throughout the several views, A and B indicate the cooperating box-engaging members of my new box-sealing means, each of these members, as will be seen, having the form substantially of a preferably rectangular shallow tray. Members A and B are substantially alike in construction and are each of suitable size to correspond with and tightly fit exteriorly the particular size of box or carton to be sealed, each of said members including a rigid preferably rectangular frame made up of or comprising longitudinal bars 1 and cross or transverse bars 2 suitably fixed together at their meeting ends, and flat bottom sections 3 fixed at or adjacent their ends to, and upon the outer side face of, preferably cross-bars 2. Preferably bars 1 and 2 are curved or rounded on their inner faces, as at *c*, so that, when members A and B are being operatively placed upon or in engagement with a box or carton to be sealed, the same will direct and force the flaps of the box or carton inwardly into sealing position. At their several corners, each of the members A and B is preferably strengthened by suitable metallic angle members or brackets 4.

Fixed to, and upon the outer face of, each cross bar 2 of upper frame A, is a small plate 5, hinged to which is a second small plate 6. Rigidly flatwise fixed to, and upon the outer face of, plate 6 is a third small preferably rectangular plate or strip 7 bent at its opposite ends to provide outwardly projecting parallel extensions 8—8'. Projecting through, and slidably movable vertically relatively to frame A in, suitable preferably squared alining perforations in extensions 8—8', is a correspondingly preferably squared bar 9 provided at its upper end with a suitable knob or operating handle 10 and at its lower end, for purposes hereinafter appearing, with a suitable inwardly presented catch or hook 11.

Fixed to, and upon the outer face of, each cross bar 2 of lower frame B in cooperative position relatively to said members or bars 9, is an upwardly disposed metallic strip or elongated plate 12 provided longitudinally with a row or series of teeth 13, with which teeth said bar 9 at its hook or catch 11 is adapted to releasably engage when said members A and B are in operative position with a box therebetween to detachably fasten said members together.

Interposed on bar 9 between lower plate-extension 8' and a suitable pin or follower 14 fixed in bar 9, as clearly seen in Fig. 4, is a coiled spring 15 adapted normally to yieldingly maintain bar 9 in uppermost position with said pin 14 engaging upon the under face of upper plate-extension 8.

In use or operation, a box C in unfolded condition with its flaps *a—a'* and *b—b'* in turned for sealing and with glue or other

suitable adhesive material applied thereto, is set within box-engaging member B. Box-engaging member A is then placed upon the opposite side or end of the box, all as shown especially in Fig. 1, when, proper force or pressure being applied, bars 9 will be forced into engagement at their hooks 11 with said teeth 13 against the tension of said springs 15, each of the plates 7 with its extensions 8—8' and carried bar 9 being yieldingly held against outward hinged or pivoted movement relatively to box-engaging members A and B by means of a suitable flat spring 16 fixed at one end to the bar 2 of the frame A and engaging at its free end with the plate 7, as seen particularly in Fig. 3. Box-engaging members A and B being so locked or clamped together with box C therebetween and springs 15 compressed, it will be evident that springs 15 now exert their tension to pull members A and B yieldingly together, the members A and B thus exerting an exterior pressure and the contents of the box or carton exerting an interior pressure upon the flaps of the box or carton being sealed; hence, it will be seen, the two sets of flaps of the box or carton are firmly and closely held together in proper, accurate sealing position, the said flaps being prevented from slipping or otherwise projecting over the sides or ends of the box or carton. To accommodate the usually beaded edges and corners of the box or carton being sealed, bottom sections 3 of members A and B are preferably at their outer side edges spaced inwardly away from frame-bars 1, as seen particularly in Figs. 1 and 4, and transversely undercut, as at *d*, adjacent frame-bars 2.

The box C, with members A and B locked or clamped thereupon, as described, is now permitted to rest on a suitable place of support to allow the glue or other adhesive material applied to said sets of flaps to set and harden, and it will be obvious that, the sets of flaps on both opposite sides of the box or carton being simultaneously held in proper sealing position, the complete sealing of the box is greatly facilitated and expedited, approximately just half the length or period of time for sealing being consumed through the use of my new sealing-means than that which has heretofore been required for such purpose, so far as I am aware. Furthermore, through the use of the rigid members A and B, the box or carton C being sealed is accurately squared, whereby the several boxes or cartons C, when fully sealed and ready for handling, are uniform in size and shape, which is also very desirable.

The box or carton C having been permitted to stand the required length of time, members A and B are further slightly yieldingly forced together to detach bar-hooks 11

from their engaged teeth 13, bars 9 hingedly moved outwardly against the tension of flat springs 16, and members A and B then easily and conveniently removed from around the box or carton, when the box or carton, with its contents completely sealed therein, is ready for storage, shipment, or other desired purpose. As merely a slight hinged movement of plate 7 and its carried bar 9 is desirable in detaching the members A and B from around the box or carton C, a limiting preferably angular stop 17 engaging with the plate 7 is fixed to the cross-bar 2 of the member A, as seen clearly in Figs. 2, 3, and 4.

I am aware that changes in the form, construction, arrangement, and combination of the several parts of my new box-sealing means may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, and means carried by said members for detachably fastening the same together in operative position with a box therebetween, said means including a yielding engaging-member slidably mounted on one of said members.

2. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, said members each comprising a frame having a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, and means carried by said members for detachably fastening the same together in operative position with a box therebetween, said means including a yielding engaging-member slidably mounted on one of said frames.

3. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, said members each comprising a frame having a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, and means for detachably fastening said members together in operative position with a box therebetween, said means including a toothed plate on one of said frames and a yielding hooked-bar slidably mounted on the other of said frames and adapted to engage with the teeth of said plate.

4. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, said members each comprising a frame having a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, and means for detachably fastening said

members together in operative position with a box therebetween, said means including a toothed plate on one of said frames, a bar-supporting plate on the other of said frames, a hooked-bar slidably carried by said second plate, a fixed transverse pin on said bar, and a spring coiled on said bar between said second plate and said pin, said bar being adapted to yieldingly engage with the teeth of said first plate.

5. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, said members each comprising a frame having a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, and means for detachably fastening said members together in operative position with a box therebetween, said means including a toothed plate fixed on one of said frames, a bar-supporting plate hinged on the other of said frames, a yielding hooked-bar slidably carried by said second plate, and means for yieldingly holding said second plate and its carried bar against hinged movement relatively to said last-mentioned frame.

6. In a box-sealing device, a pair of co-operating members adapted to engage a box on opposite sides thereof, said members each comprising a frame having a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, and means for detachably fastening said members together in operative position with a box therebetween, said means including a toothed plate fixed on one of said frames, a pair of superposed spaced-apart bar-supporting plates hinged on the other of said frames, a hooked-bar slidably carried by said plates, a fixed transverse pin on said bar intermediate said supporting-plates, a spring coiled on said bar between said pin and the lower one of said supporting-plates, said bar being adapted to yieldingly engage with the teeth of said first plate, and means for yieldingly holding said supporting-plates and their carried bar against hinged movement relatively to said last-mentioned frame.

7. Box-sealing means comprising a pair of tray-like members each including a rigid frame and a fixed bottom section and when engaging a box being oppositely disposed relatively to each other, said frames being adapted to fit and encircle the box to be sealed at its opposite side edges and corners and said bottom sections being adapted to flatwise engage the flaps of the box to be sealed, and means adapted to detachably fasten said members together in operative position with the box to be sealed therebetween.

8. In a box-sealing device, a pair of rigid members adapted to engage a box on opposite sides thereof, and means for detachably

fastening said members together in operative position with the box to be sealed therebetween, said means including a spring under compression when said members are operatively fastened together, said spring when under compression being adapted to exert its tension to force said members together upon the box therebetween.

In testimony whereof, I have signed my name to this specification, in the presence of 10 two subscribing witnesses.

JOHN C. JOHNSON.

Witnesses:

IRENE M. BOHANNON,
J. W. NAYLOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."