Jan. 24, 1939. A. G. ANDERSON 2,145,106

BOX OR THE LIKE WITH COLLAPSIBLE PARTITIONS

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Fig. 7

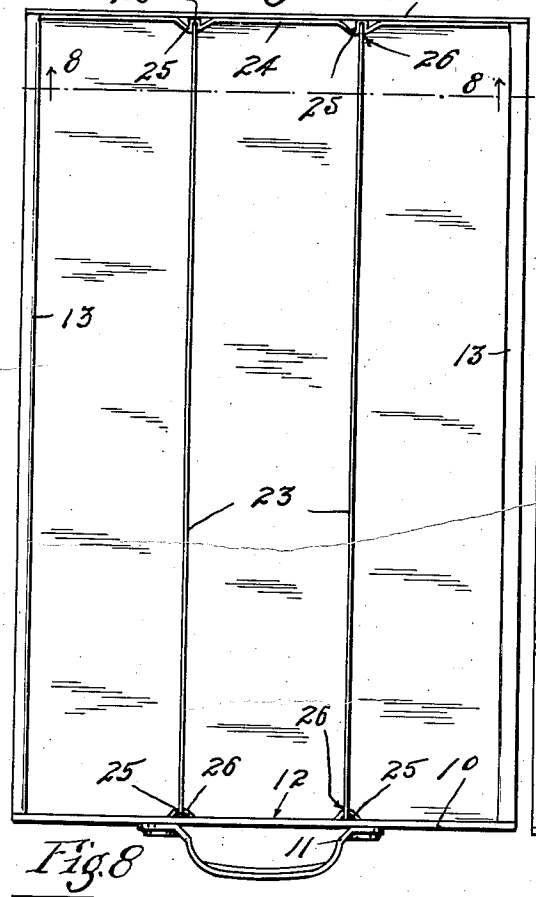


Fig. 1

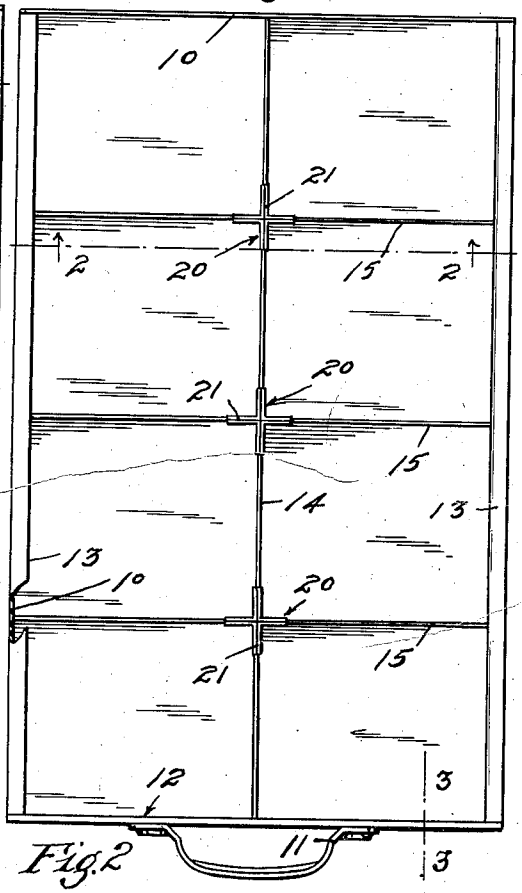


Fig. 8

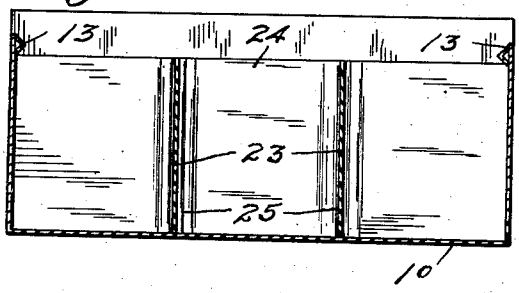


Fig. 2

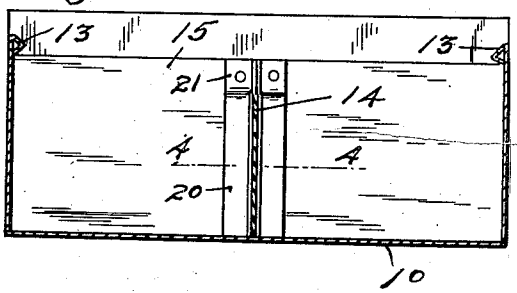
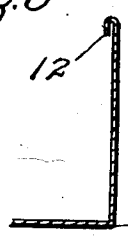


Fig. 3



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Fig. 5

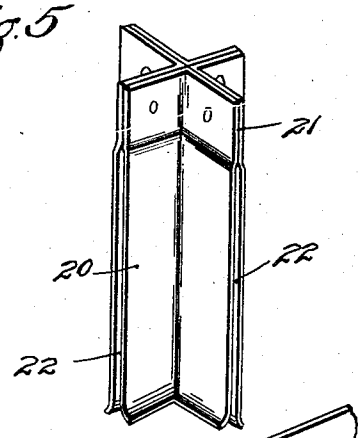
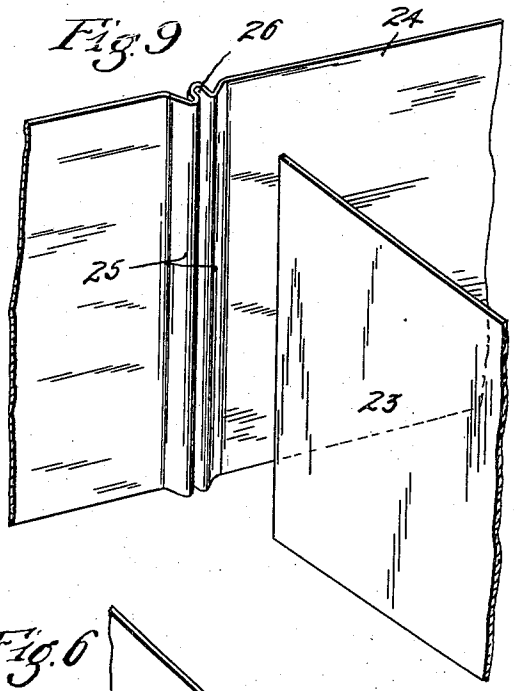


Fig. 9



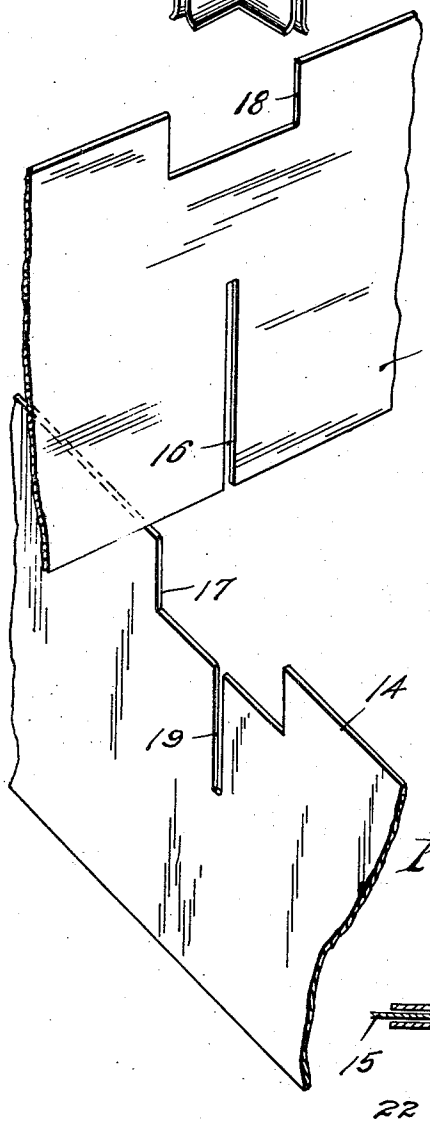


Fig. 6

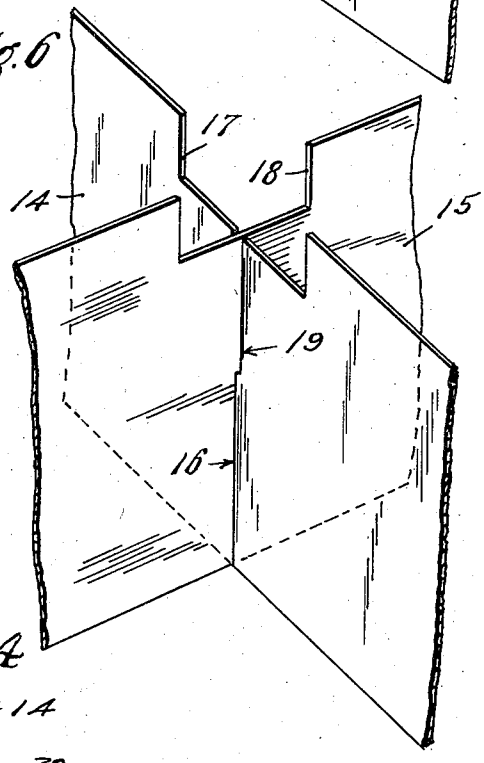
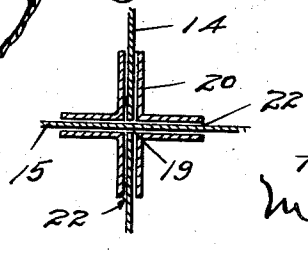


Fig. 4



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UNITED STATES PATENT OFFICE

2,145,106

BOX OR THE LIKE WITH COLLAPSIBLE PARTITIONS

Axel G. Anderson, Minneapolis, Minn.

Application March 13, 1937, Serial No. 130,701

2 Claims. (Cl. 220—22)

My invention relates to partition-equipped box-like structures such as drawers and the like and, generally stated, consists of the novel devices, combinations of devices, and arrangement of parts hereinafter described and defined in the claims.

The invention is directed particularly to an improvement in the partition structures of these boxes or box-like containers, whereby the partitions are capable of being collapsed, disassembled and different arrangements of partitions incorporated in the same box or shell. While the elements of the device may be made of various different metals they will advisably be made of thin sheet steel. The partitions are flat plates capable of being applied in different arrangements. In most instances there will be at least one longitudinal partition plate and one or more intersecting transverse partition plates and in such instances the longitudinal and transverse plates, at intersecting points, are formed with intersecting slots and the intersecting joints are reinforced and the intersecting plates are held in rectangular arrangement by coupling heads of novel construction applied in a novel manner, as will hereinafter more fully appear.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a plan view, with some parts broken away, showing a rectangular box in the form of a drawer provided with longitudinal and transverse partitions;

Fig. 2 is a section taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary vertical section taken on the line 3—3 of Fig. 1;

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2;

Fig. 5 is a perspective, with parts broken away, showing a longitudinal partition, a transverse partition, and a coupling head, the said parts being segregated and being drawn vertically apart;

Fig. 6 is a perspective, with parts broken away, showing a longitudinal and transverse partition interlapped but with the coupling head removed;

Fig. 7 is a plan view showing the same box or drawer as illustrated in Fig. 1, but with only the longitudinal partition plates applied therein;

Fig. 8 is a transverse section taken on the line 8—8 of Fig. 7; and

Fig. 9 is a perspective, with parts broken away, showing one of the spacing plates and one of the longitudinal partitions of the structure illustrated in Figs. 7 and 8, the said elements being drawn apart.

Referring first to the construction illustrated in Figs. 1 to 6, inclusive, the numeral 10 indicates the shell or body of a rectangular sheet metal box which, being illustrated as a drawer, is provided on its front plate with a handle or pull 11. The front plate of this box, at its upper edge, is formed with an inwardly and downwardly turned fold 12, while the rear end plate of the box is shown as extended slightly upward of the sides of the box and is formed smooth or without fold. This structure, however, is not an important feature. The sides of the box, at their upper edges, are formed with inturned folds that form longitudinal ribs 13.

In the structure now considered, the box is provided with but one longitudinal partition plate 14 and with a plurality of transverse partition plates 15 but, as before stated, the number of these partitions may vary. The partition plates 14 and 15 are preferably of the same or approximately the same height and the transverse partition plates are of such height that their ends will go under the side ribs 13. The transverse partition plates 15 are formed with slits 16 that are wide enough to embrace the longitudinal partition 14 and extend upward from their lower edges. In their upper edges the partition plates 14 and 15, respectively, are formed with wide notches 17 and 18. The partition plates 14 are provided with slits 19 that extend downward from the bottoms of the notches 17 and are wide enough to embrace the transverse partitions 15. The slits 16 and 19 are of such depth or vertical extent that when the longitudinal and transverse partitions are assembled with the slits 19 embracing the partitions 15, and the slits 16 embracing the partitions 14, the bottoms of the intersecting partitions will be at the same level and the upper edges of said partitions will be at the common level.

To hold the intersected partitions at rectangular arrangement, a coupling head of novel construction is provided. The preferred form of this coupling head is shown in detail in the perspective view, Fig. 5. In its preferred form this coupling head involves four right-angle pieces 20 riveted or otherwise rigidly connected at their upper ends, as shown at 21, but with their depending body portions spaced to form channels 22 that intersect at right-angles. The connected portions 21 are of no greater and preferably of little less vertical extent than the depth of the

notches 17 and 18. When the partition plates 14 and 15 are connected, as shown in Fig. 6, the coupling head may be slid over the joint between the plates and into close fitting contact with the two plates, thereby very positively holding the intersecting partition plates in rectangular arrangement. The connected portion 21 of the head, in this preferred arrangement, is made up of a cross-formed structure that is not much thicker than the connected plates so that the compartments formed by the partitions are left in true rectangular arrangement. However, as far as the broad idea is concerned, the coupling head may vary in form and might be a little more bulky or solid structure but much less desirable in the structure illustrated.

When the partitions are applied in the box, as shown in Figs. 1 and 2, the ends of the transverse partitions 15 will go under the side flanges 13 and will be held down by the said flanges with the lower edges of the partition plates on the bottom of the box; and inasmuch as the transverse partition plates are interlocked with the longitudinal partition by a downward movement, it follows that the longitudinal partition plate will also be locked down with its lower edge on the bottom of the box.

In assembling the partitions within the box, the longitudinal partition will preferably first be positioned and then the transverse partitions, while turned at an oblique angle to the partition plate, will be forced downward thereon and then turned at a right-angle thereto with its ends under the flanges 13. When the transverse partition plates have thus been applied at right-agles to the longitudinal partition, the coupling heads will be forced downward and applied as described.

The box illustrated in Figs. 7 and 8 is the same box as illustrated in Figs. 1 and 2 and is identically the same structure, but in this arrangement several longitudinal partitions but no transverse partitions are shown. The longitudinal partition plates 23, at their ends, are seated in transverse spacing plates 24 that fit against the inner faces of the front and rear plates of the box. These spacing plates 24 are folded or creased to form inwardly projecting ribs 25 and intervening channels 26 into the latter of which the ends of the partition plates 23 are inserted and by which the said partition plates are held properly spaced. The rear spacing plate 24 is shown in full in Fig. 7, but the front spacing plate 24, except at its ribs 25, is hidden under the inturned upper edges 12 of the front plate of the box.

In respect to the structure illustrated in Figs. 1 and 2, it may be stated that where a plurality of quite closely spaced transverse partitions are employed, spacing plates for the ends of the longitudinal partition are not necessary. Where, for example, a single centrally located transverse partition plate was applied to a single longitudinal partition, then it will be desirable that spacing plates, such as illustrated in Figs. 7 and 8, be employed to space and hold the ends of the longitudinal partition plate.

The utility of a device such as illustrated is thought to be obvious. It provides means for quickly rearranging partitions and the compartments of a drawer or box-like structure and affords a strong and durable arrangement that may be made at small cost and quickly assembled. While the possible uses of a box-like structure or drawer with partitions such as illustrated or disclosed are too numerous to be enumerated, it may be stated that metallic boxes of this kind have been primarily designed for use by mechanics for containing various different kinds of tools, various different kinds of equipment, and such small things as are used by mechanics or others. It will also be understood that while several embodiments of the invention have been illustrated in the drawings, that the same is capable of modification within the scope of the invention herein disclosed and claimed.

What I claim is:

1. The combination with a box, of transversely intersecting partition plates therefore having mutually engaging slits at the place of intersection, and a forked coupling head having slits embracing the intersecting partition plates and having between the slits portions that engage in the angles formed by the intersecting partition plates and holding said partition plates in definite angular relation, said coupling head being made up of four angle pieces coupled together at their upper ends and applied with the depending angular portions closely following the walls of the said intersecting partition plates.

2. The combination with a rectangular box, of transversely intersecting partition plates therefore having mutually engaging slits at the place of intersection, and a forked coupling head having slits embracing the intersecting partition plates and having between the slits portions that engage in the angles formed by the intersecting partition plates and holding said partition plates in definite angular relation, said intersecting partition plates having relatively wide notches above their slits and said coupling head having a united upper end portion engaged in the said notches, said coupling head being made up of four angle pieces united at their upper ends to form a solid upper end that is engaged in the said notches of the intersecting partition plates.

AXEL G. ANDERSON.