O. M. STIEHL.

KNOCKDOWN RECEPTACLE.

APPLICATION FILED NOV. 9, 1911.

1,038,017.

Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

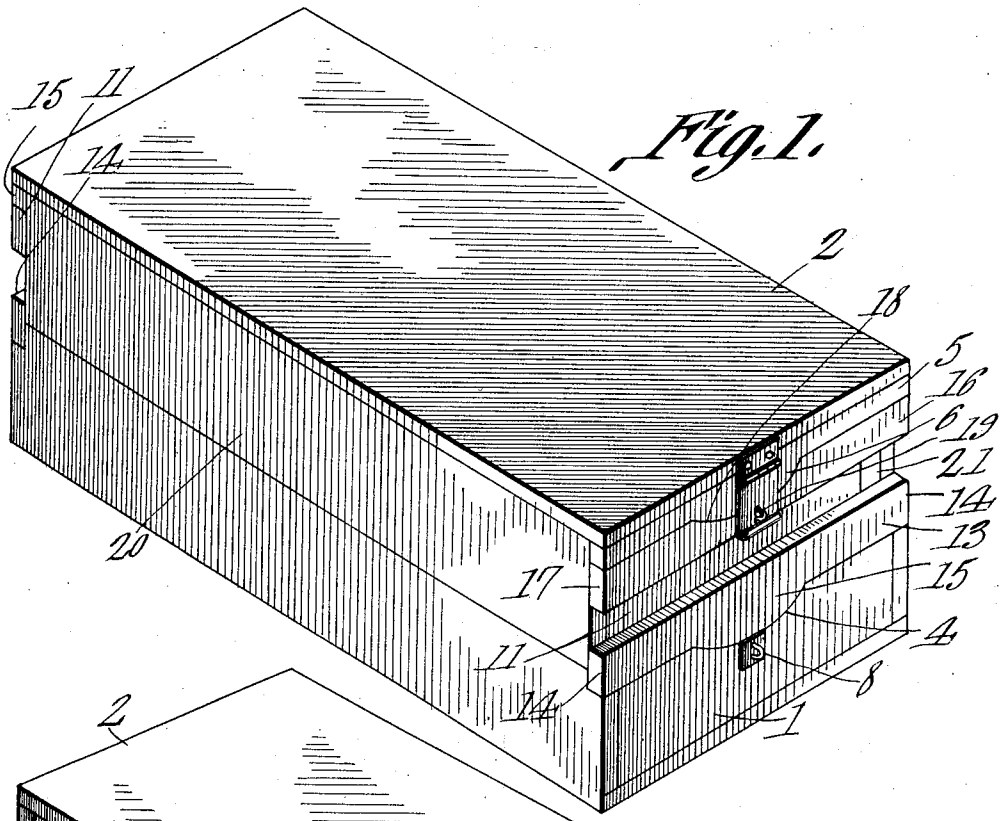
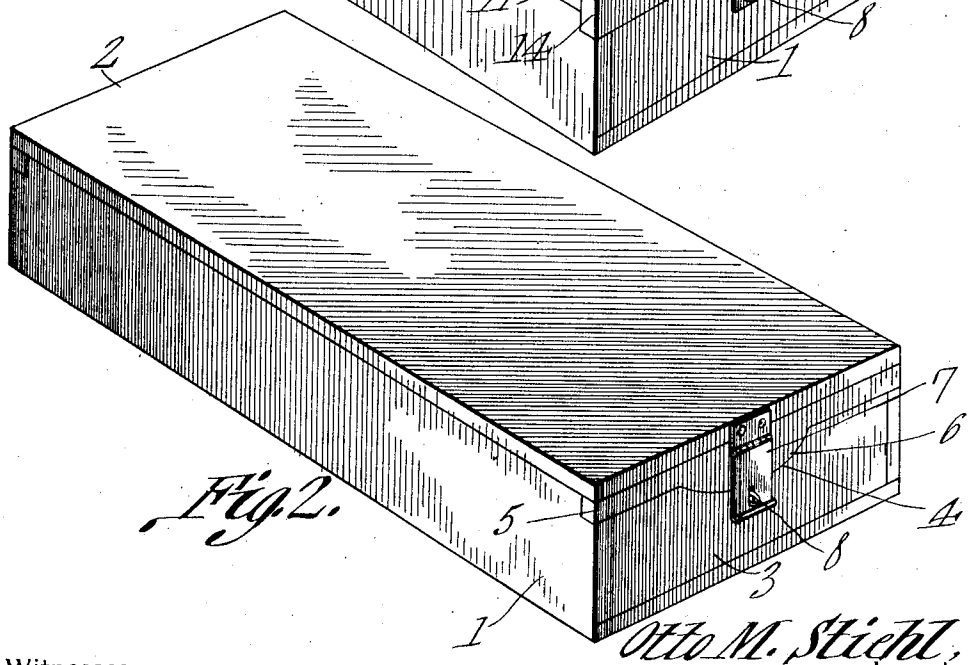


Fig. 2.



Witnesses

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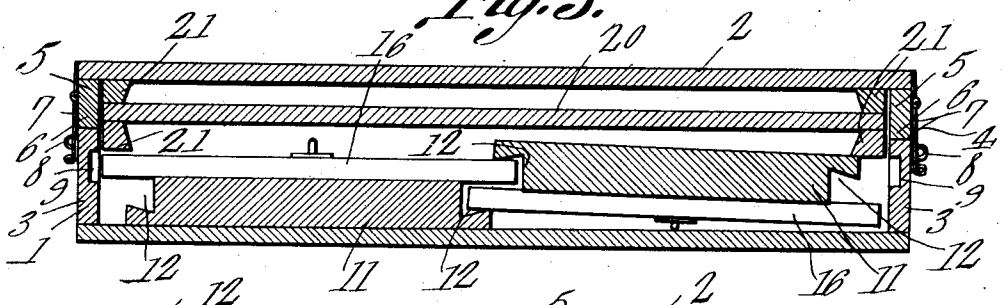
2 SHEETS—SHEET 2.

Fig. 3.



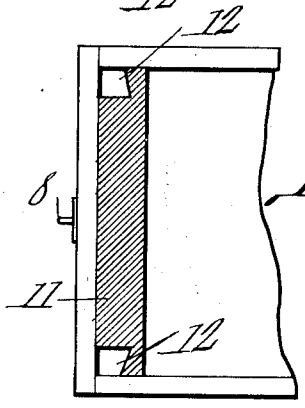


Fig. 4.

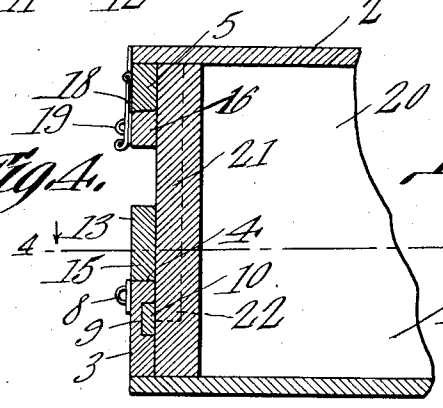


Fig. 5.

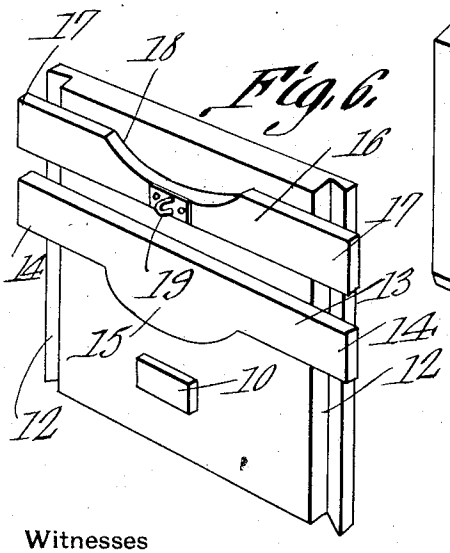
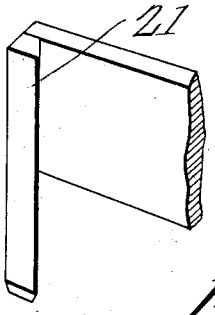


Fig. 6.



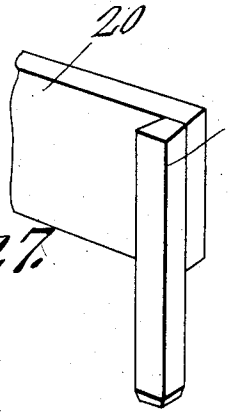


Fig. 7.

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KNOCKDOWN RECEPTACLE.

1,038,017. Specification of Letters Patent. Patented Sept. 10, 1912.

Application filed November 9, 1911. Serial No. 659,457.

To all whom it may concern:

Be it known that I, OTTO M. STIEHL, a citizen of the United States, residing at East St. Louis, in the county of St. Clair and State of Illinois, have invented a new and useful Knockdown Receptacle, of which the following is a specification.

The present invention relates to improvements in knock down receptacles, the same being especially adaptable for use in connection with egg crates, chicken coops, or any form of shipping crate or receptacle, whereby the item of freight charges in returning the empty packages is of consequence, the primary object of the present invention being the provision of a knock down or folding receptacle having a main lower portion provided with end walls having peculiar shaped receptacles which when the receptacle is collapsed, forms the base and body for containing the detachable portions of the receptacle, the cover for the same being a single board or series of boards with end strips adapted to co-act with the end strips of the lower base portion of the receptacle and be locked thereto to form a reduced in size receptacle for the removable ends and side walls of the same which form extensions for the receptacle and provide a ready means for increasing the dimensions thereof when it is desired to fill the receptacle, or diminishing the dimensions thereof when returning the empty crate or receptacle.

A further object of the present invention is the novel construction of interchangeable removable ends which provide extension means and coact with the rigid ends of a main base portion and with removable slidably mounted side portions or extensions to provide a rigid structure, the cover for the entire structure being interlockingly and properly connected to the end portions to lock the receptacle when in extended position, or to form a cover therefor adapted to be locked to the base thereof when the side extensions and end extensions are collapsed within the base of the receptacle.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a perspective view of the complete receptacle when in extended and filled position. Fig. 2 is a similar view of the receptacle collapsed and ready for returning. Fig. 3 is a longitudinal sectional view of the receptacle collapsed showing the extensions in the position they assume when placed within the base body of the receptacle. Fig. 4 is a section taken on line 4—4 of Fig. 5. Fig. 5 is a detail sectional view through the receptacle when extended. Fig. 6 is a perspective view of one of the end extensions removed. Fig. 7 is a perspective view of one of the side extensions, the same being broken away or fore shortened in the central portion thereof.

Referring to the drawings, the numeral 1 designates the base or body portion of the receptacle which is made rectangular in shape and may be made of solid strips or may be made in the form of a frame with netting thereon or with slats to provide a coop or properly ventilated receptacle, and adapted to fit thereon when in collapsed position as shown in Fig. 2, is a top 2, which as shown is a single strip or board, although it is to be understood that the same may be an open frame or made of a plurality of sections. The end sections 3 of the base 1 are provided with the centrally depressed portions 4 in the upper edge thereof so that when the end strips 5 carried by the cover 2 are in the position as shown in Figs. 2 and 3, the central enlargements 6 of the strip 5 will fit within the recessed portions 4 of the end pieces 3, so that the cover 2 and strips 5 will form a closure for the base 1. In order to lock the device in such closed position, the locking strap 7 carried by the cover 2 is disposed to engage the locking bail 8 carried by the end 3 of the base. By this means any form of padlock may be employed to lock the top upon the base 1 and thereby hold the same assembled for returning to the original shipper.

Formed upon the inner face centrally of the end strip 3 of the base 1, are depressions or recesses 9, one to each section in which is adapted to fit the knob or projection 10 carried upon the lower portions of the end extension sections 11, each one of which are exact duplicates, whereby the same may be interchanged and fit the respective end sec-

tions 3 of the base and be held in proper position as shown in Figs. 1 and 5, the said extensible end sections 11 being each provided upon their edges with the semi-dovetailed grooves 12, the purpose of which will presently appear.

Secured upon the outer face of each extensible end section 11 is a transverse strip 13 whose ends 14 extend beyond the reduced portion of the extensions 11 and beyond the outer edges of the said extensions, the same being provided with the enlarged centrally disposed portion 15 which corresponds to the recess 4 of the end sections 3 of the base 1, so that when the said extensible sections 11 are in proper position for extending the receptacle, said portions 15 will fit within the recesses 4 as clearly indicated in Fig. 1, the knobs or projections 10 fitting in the recesses 9 upon the inner face thereof, whereby the said extensible end sections 11 are properly held in the position as shown in Fig. 5. Secured above the strips 13 to the outer faces of the extended end sections 11 are the transverse strips 16, which are of the same length as the strips 13 and have their extended ends 17 above and in line with the extended ends 14 of the strip 13, the recessed portions 18 of the said strips 16 being so disposed as to receive the enlarged portion 6 of the strips 5 of the top 2, so that the device may assume the position as shown in Figs. 1 and 5 when the receptacle is extended. The strips 16 are provided with the locking bails 19 for connection with the locking straps 7 of the top 2, thus locking the lid 2 upon the upper end of the end extensions 11 and upon the upper edge of the side extensions 20, which as clearly shown are provided with the semi-dove-tail in cross section strips 21, whose lower ends extend below the lower edges of the said side extensions 20 so as to project below the upper edge of the side boards of the base 1 to assume the position as shown in dotted lines Fig. 5, the said strips 21 being fitted snugly within the grooves 12 of the end extensions 11 and held against outward movement by means of the extended ends 14 and 17 of the respective transverse strips 13 and 16.

By this construction it will be seen that when the lid 2 is placed in position as shown in Figs. 1 and 5, that the recess 9 and knob 10 will hold the extensible ends 11 in place against any upward displacement, while the strips 21 carried by the side extension 20 will hold the upper end of said extensible ends 11 in proper relative position so that when the lid 2 is placed thereon, the locking straps 7 will engage the bails 19 and be secured thereto by padlocks or other means so that the various parts will be held in a rigid extended position. When it is desired to collapse the receptacle, it is simply necessary to release the locking straps 7 from the bails 19 lifting the lid therefrom and slide the strips 21 upwardly from engagement with the end sections of the receptacle. The end extensions may now be moved inwardly to release the knob portions 10 from the recess 9 of the strip 3 of the base 1. The said extended end sections 11 are now placed as shown in Fig. 3 that is with the strips 13 and 16 lengthwise, of the base 1 and by reason of the fact that the projecting ends 14 and 17 may be overlapped as indicated in center of said figure, said extensible end sections 11 may be nested within the base 1, with the plates 20 thereabove so that the lid 2 may be assembled and locked in position as clearly shown in Figs. 2 and 3.

From the foregoing description taken in connection with the drawings, it is evident that by constructing a receptacle as herein set forth, that the same when in extended position is so constructed that the various removable elements thereof will assist collectively in holding the respective elements in extended position and that the final placing of the lid thereon with the locking device will hold the said elements so as to form an extended receptacle, without the use of nails or other fastening devices. It is also evident that when it is desired to collapse the box from the position as shown in Fig. 1 to that shown in Fig. 2, that the operation as before set forth may be carried into effect and the various removable elements of the receptacle placed within the base 1 thereof so as to be held therewithin against jostling or loose movement by means of the removable lid 2.

What is claimed is:

1. A knockdown box, comprising a rectangular base receptacle, the end walls of which terminate at a point below the side walls and are each provided with a central recess in the upper edge, a lid composed of a single plate to rest upon the upper edges of the side walls of the base and having two strips to fit upon the upper edges of the end walls of the base to fill the space above the end walls and side walls, each strip being provided with a projection to fit upon and register with the recess in the upper end walls, end wall extensions removably mounted within the base adjacent to the end walls of the base, two strips carried by each end wall extension to correspond with and fit upon the upper edge of the end wall and receive the strips of the lid, respectively, two side wall extensions to rest upon the upper edge of the side walls of the base receptacle, and a strip at each end thereof disposed to coact with the end wall extension to be held in position thereby.

2. A knockdown box, comprising a rectangular base receptacle, the end walls of

which terminate at a point below the side walls and are each provided with a central recess in the upper edge and with a socket formed in the inner face thereof, a lid composed of a single plate to rest upon the upper edges of the side walls of the base and having two strips to fit upon the upper edges of the end walls of the base to fill the space above the end walls and side walls, each strip being provided with a projection to fit upon and register with the recess in the end walls, end wall extensions removably mounted within the base adjacent to the end walls of the base, a projection carried upon each end wall extension disposed to register with the inner socket of the end walls of the base receptacle to hold the end wall extensions against upward movement, two strips carried by each end wall extension to correspond with and fit upon the upper edge of each end wall and receive the strip of the lid, respectively, two side wall extensions to fit upon the upper edges of the side walls of the base, and a strip at each end thereof disposed to coact with the respective ends of the end wall extensions to be held in position thereby and to retain the end wall extensions in locked engagement with the end walls of the base receptacle.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

OTTO M. STIEHL.

Witnesses:
L. A. GILLIGAN,
JOE STEVENS.