July 3, 1951 T. W. ROBERG 2,559,464

DOWEL CLASPING ASSEMBLY FOR POULTRY CRATES

Filed June 29, 1948

Fig. 1.

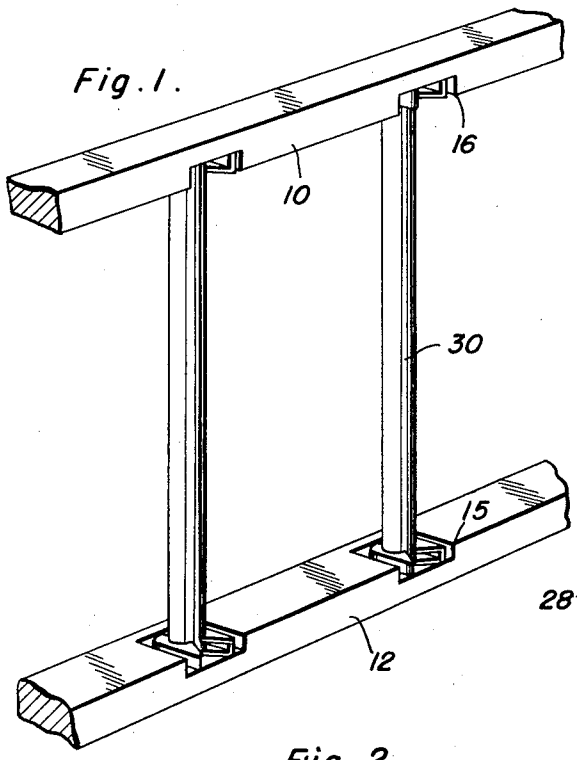


Fig. 7.

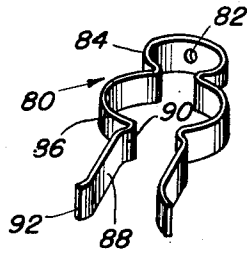


Fig. 3.

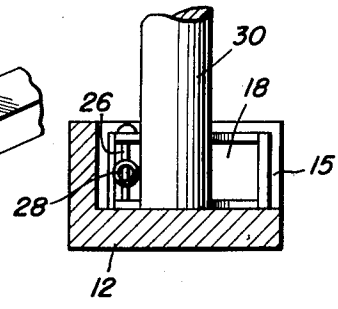


Fig. 2.

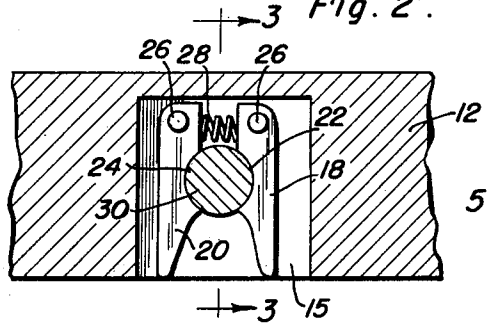


Fig. 4.

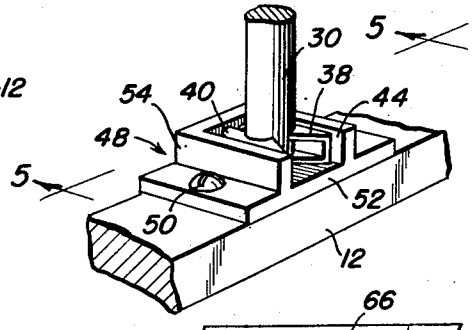


Fig. 5.

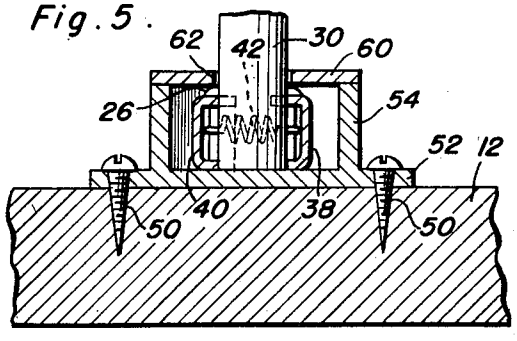
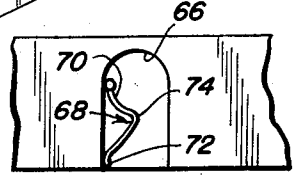


Fig. 6.



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DOWEL CLASPING ASSEMBLY FOR POULTRY CRATES

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8 Claims. (Cl. 217—56)

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This invention appertains to novel and useful improvements in crates which are adapted particularly to maintain poultry.

An object of this invention is to detachably secure a plurality of bars between the top and bottom rails of the sides of a crate.

Another object of this invention is to provide improved means for performing this attaching function.

Another object of this invention is to provide spring members which are recessed in the top and bottom rails, which detachably clasp or clamp the bars between the top and bottom rails, thereby forming a closure for a crate.

Another object of this invention is to provide various forms of spring clips which may be utilized for this purpose.

Another object of this invention is to provide an extremely simplified device of the character to be described which includes detachably secured bars between the top and bottom rails of a crate, whereby an entrance may be effected easily and conveniently.

Ancillary objects and features of novelty will become apparent to those skilled in the art, following the description of the preferred forms of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a fragmentary portion of a crate having the invention associated therewith;

Figure 2 is a sectional view of the device shown in Figure 1;

Figure 3 is a sectional view taken substantially on a line 3—3 of Figure 2 and in the direction of the arrows, portions being shown in elevation for clarity;

Figure 4 is a perspective view of a second form of clamping apparatus;

Figure 5 is a sectional view taken substantially on a line 5—5 of Figure 4 and in the direction of the arrows;

Figure 6 is a fragmentary plan view illustrating a third form of the invention, and

Figure 7 is a perspective view of another resilient clip which may be utilized in association with and forming a part of the invention.

This invention has been developed in order to provide a device which will more effectively provide a closure or opening for a crate which is adapted to maintain poultry.

As is well known there are various ways and means of providing closures in poultry crates. However, it is within the purview of the present invention to provide such a means which involves the removal of only certain few of the bars normally present in the side or top walls of a crate. By this expedient a closure of any desired size (depending upon the number of bars which are removed) may be effected.

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The main feature of the present invention evolves about the detachability of the bars between the top and bottom rails of the conventional sides or top of a crate. Through this expedient only a few or great number of such bars may be removed depending on whether pigeons, chickens or the like are maintained within the poultry crate.

There are various forms of the present invention contemplated herein. The first may be seen best in Figures 1–3, where there is illustrated a top rail 10 and a bottom rail 12. These top and bottom rails 10 and 12 respectively are purely conventional in their function in that they form a portion of the crate. However, provided in the top and bottom rail is a plurality of sockets or recesses. For illustrative purposes the sockets or recesses 15 and 16 will be referred to in detail. It is noted that the recess 15 is in the bottom rail 12 while the recess 16 is in the top rail 10 and they are vertically opposed.

A pair of metallic jaws 18 and 20 respectively having annular recesses 22 and 24 respectively formed substantially medially thereof are pivotally mounted in each recess 15 and 16. Conventional pivot pins 26 may be used for this purpose.

A spring which is normally in tension 28 is attached to each opposed jaw 18 and 20 thereby constantly urging the jaws 18 and 20 to the closing or closed position. However, as is seen in Figure 1 a bar 30 is placed in the arcuate portions 22 and 24 of each jaw thereby limiting the travel of the jaws relative to each other and also clampingly engaging the bar 30 in place. Thus, the bar is detachably supported by the resilient means described above and may be readily removed by simply urging the same toward the open end of the recess 16 and consequently urging the opposite end of the bar 30 towards the open end of the opposed recess 16.

Attention is now directed to Figure 4 and to Figure 5 wherein a second form of the invention is illustrated. This second form of the invention includes of course, the bottom rail 12 and also the top rail 10 (undisclosed) and also includes the jaws 38 and 40 respectively which are identical to the said jaws 18 and 20. The described spring 28 has its counterpart at 42 and is attached to the jaws 38 and 40 in a manner similar

to that manner of attaching the spring **28** to the jaws **18** and **20** respectively.

The distinguishing feature of this form of the invention is in the recess **44** which is spaced above the upper plane of the lower rail **12** and spaced below the lower plane of the top rail **10**. This is done through the expedient of a boss generally indicated at **48** which is attached to the respective rails by means of screws **50** or other suitable, equivalent securing means. The said boss includes a bottom plate **52** and a substantially U-shaped member **54** rigidly attached or if desired, formed integral with the upper surface of the said plate. In this form of the invention a top or closure member **60** may be supplied on the substantially U-shaped member **54** and of course has a suitable slot **62** therein in order to accommodate the bar **30**.

Attention now is directed to Figure 6 wherein a third form of the invention is shown. This third form of the invention includes a recess **66** which is slightly larger than the diameter of one of the bars **30**. A spring clip generally indicated at **68** is attached within the recess **66** (which is of course formed in both the upper rails and the lower rails). This spring clip **68** includes a circular portion or bight **70** which axially clampingly engages the bar **30**. The opposite end of the spring clip is bent up slightly in order to form a cam **72**, which rides on one inner wall of the said recess **66**.

The bent spring clip **68** is thus arranged in the recess **66** and is flexed by insertion of one of the bars **30** in the said recess. This flexing permits the bar to pass the highest or peak portion **74** of the spring clip and snap the bar against the curved back portion of the recess **66** and the bight **70** of the said spring clip **68**.

Attention is now directed finally to Figure 7 where the fourth and final form of the invention is illustrated. This form of the invention includes the utility of the spring clip generally indicated at **80**. This spring clip has a pair of identical members joined integrally together at a mid-point. This mid-point has an aperture **82** therein in order to accommodate a screw or other suitable fastening means.

This form of the invention is of course utilized in association with a recess and the screw for other fastening element positioned in the aperture **82** attaches to the material of either the top or bottom rails within the recesses provided therein for this purpose.

It is seen by inspection of Figure 7 that the said spring clip **80** is symmetrical, each side or half including a raised portion **84** for resiliency, a bight **86** in order to clamp the bar **30** and a relatively straight shank **88** connected to the bight through the medium of a small peak **90**. The ends of the said shanks **88** are tapered outwardly as at **92** in order to provide easy ingress of the bars **30**. Through the utility of this structure the bars may be easily attached and detached from the rails.

While there has been described and illustrated but preferred forms of the invention, it is apparent that variations may be made without departing from the spirit thereof. Therefore, limitation is sought only in accordance with the scope of the following claims.

Having described the invention, what is claimed as new is:

1. In a crate which includes a top and bottom rail with bars between said rails, the improvement which comprises; sockets opening laterally of said rails, resilient means cooperating with said sockets and disposed therein detachably securing said bars to said rails, and said sockets being formed in the material of said rails.

2. In a crate which includes a top and bottom rail with bars between said rails, said rails having sockets opening laterally of said rails, means carried by the top and bottom rail and disposed in said sockets engaging said bars for detachably securing said bars within said sockets, and said means including resilient members having a curved portion adjacent to the outer ends of said sockets to guide the bars into said sockets.

3. A crate including sides, each side having top and bottom rails, at least two of said rails having laterally opening recesses therein which also open toward each other, a plurality of bars, resilient means seated in said recesses clampingly engaging said bars and releasably holding the ends of said bars.

4. A crate including a top and bottom rail, said rails having opposed recesses therein, pairs of jaws pivotally mounted in said recesses, and bars detachably secured in said jaws.

5. A crate including a top and bottom rail, said rails having opposed recesses therein, pairs of jaws pivotally mounted in said recesses, bars detachably secured in said jaws, and resilient means constantly urging said jaws in the bar engaging position, said resilient means being seated between said jaws.

6. In a crate including a top and bottom rail, opposed recesses associated with said top and bottom rails, a plurality of bars, and resiliently biased means attached in said recesses detachably and lockingly engaging said bars.

7. In a crate including a top and bottom rail, recesses in said top and bottom rails and opening toward each other, a plurality of bars, resiliently biased means attached to said rails and disposed in said recesses detachably and lockingly engaging the ends of said bars, said resiliently biased means including a spring member having a bight therein with said bights being disposed in said recesses so that the ends of said bars are disposed between the sides of said rails.

8. In a crate including a top and bottom rail, opposed recesses associated with said top and bottom rails, a plurality of bars, resiliently biased means attached in said recesses detachably and lockingly engaging said bars, said resilient means including a pair of jaws seated in each recess and a spring urging said jaws to the closed position, and said spring being attached to the jaw members of each pair of jaws.

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