H. D. DENNIS, S. J. EVANS & W. MURDOCK.

FOLDING POULTRY CRATE.

APPLICATION FILED JUNE 22, 1908.

**928,504.** **Patented July 20, 1909.**

2 SHEETS—SHEET 1.

*Fig. 1.*

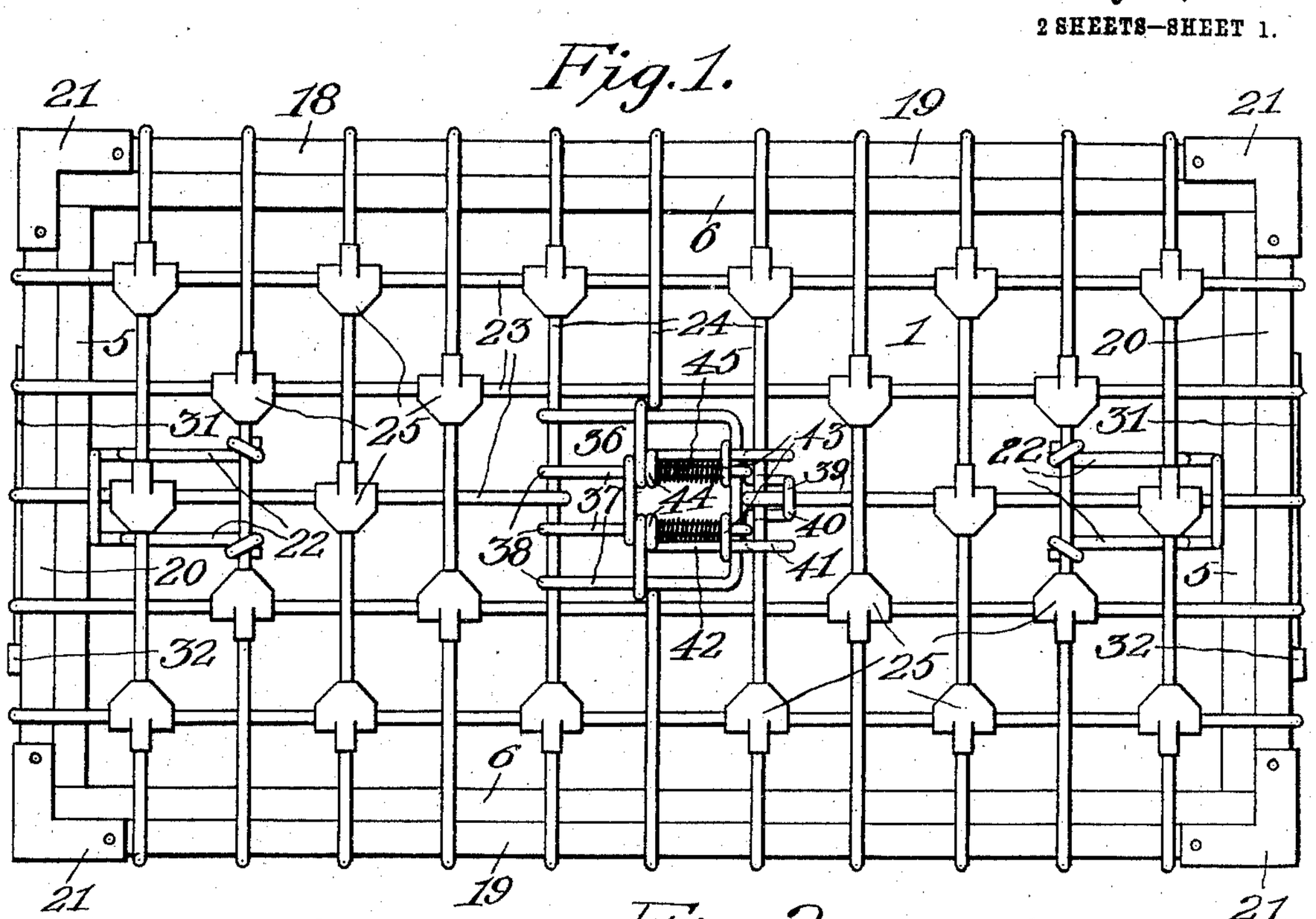



*Fig. 2.*

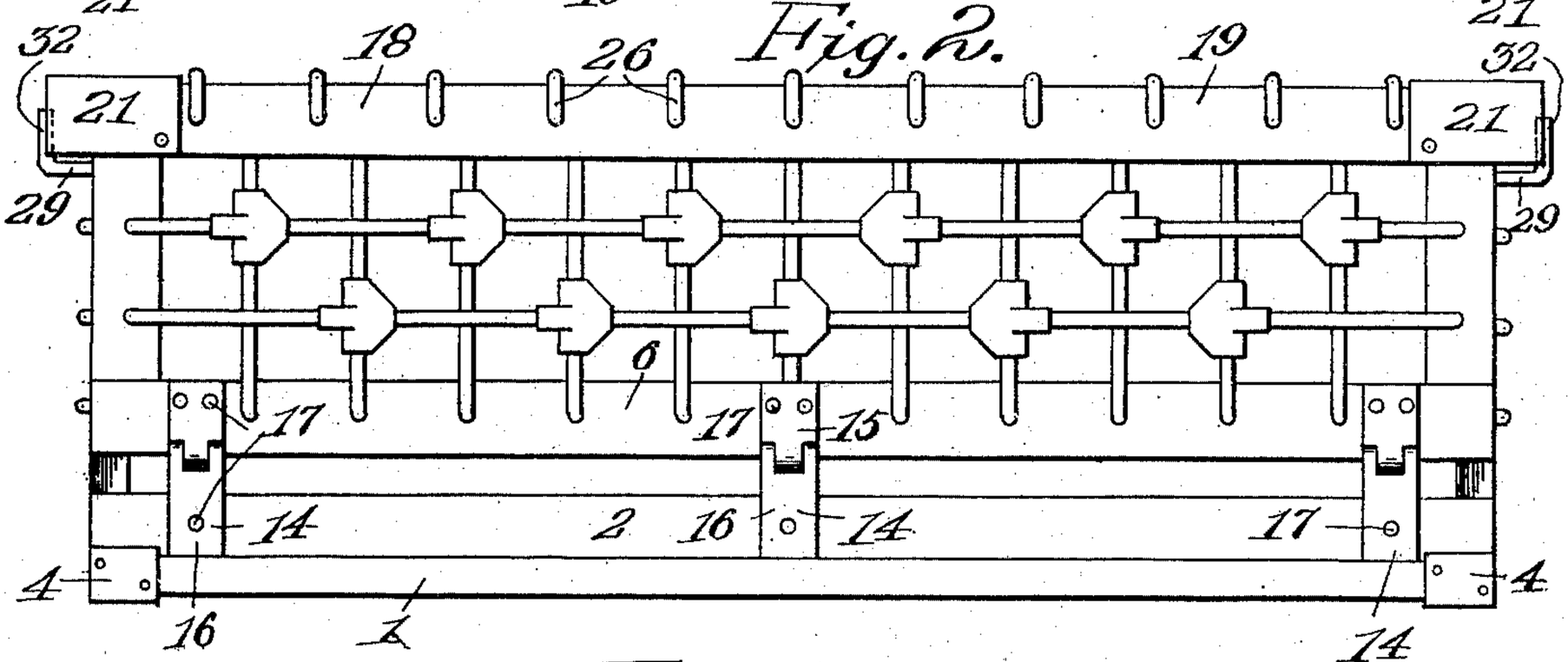
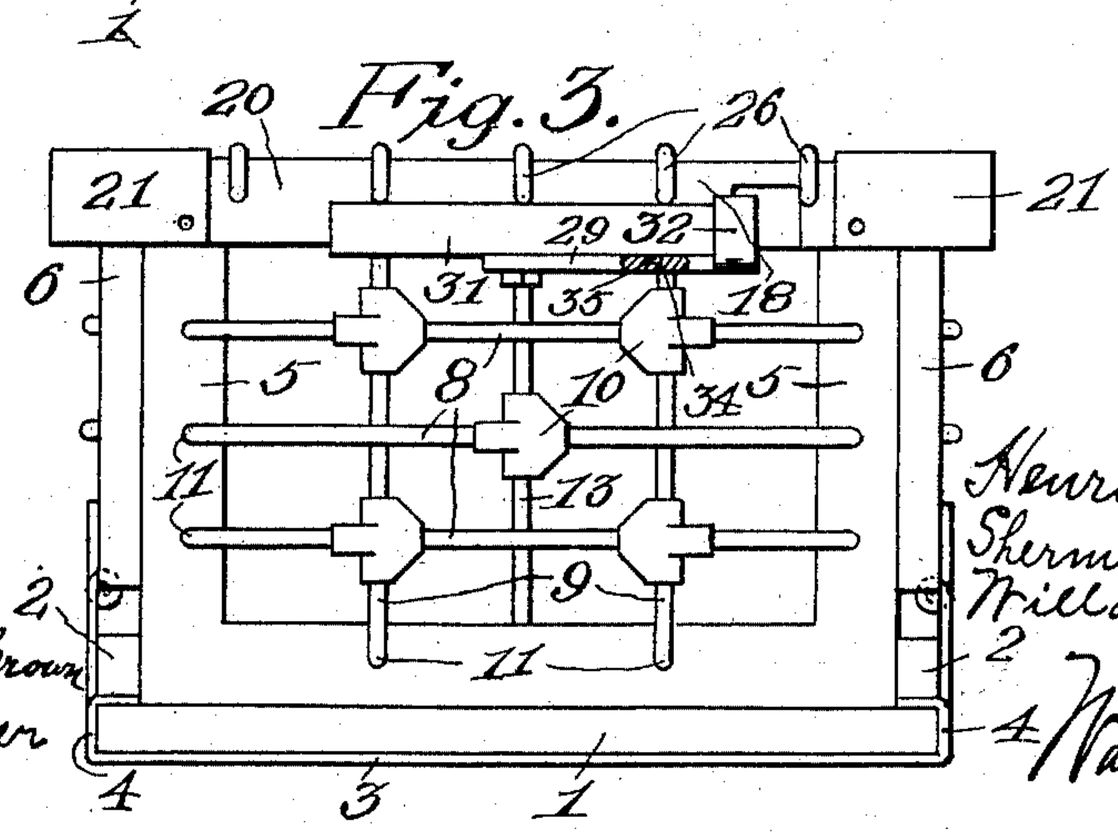



*Fig. 3.*

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2 SHEETS—SHEET 2.

Fig. 4.

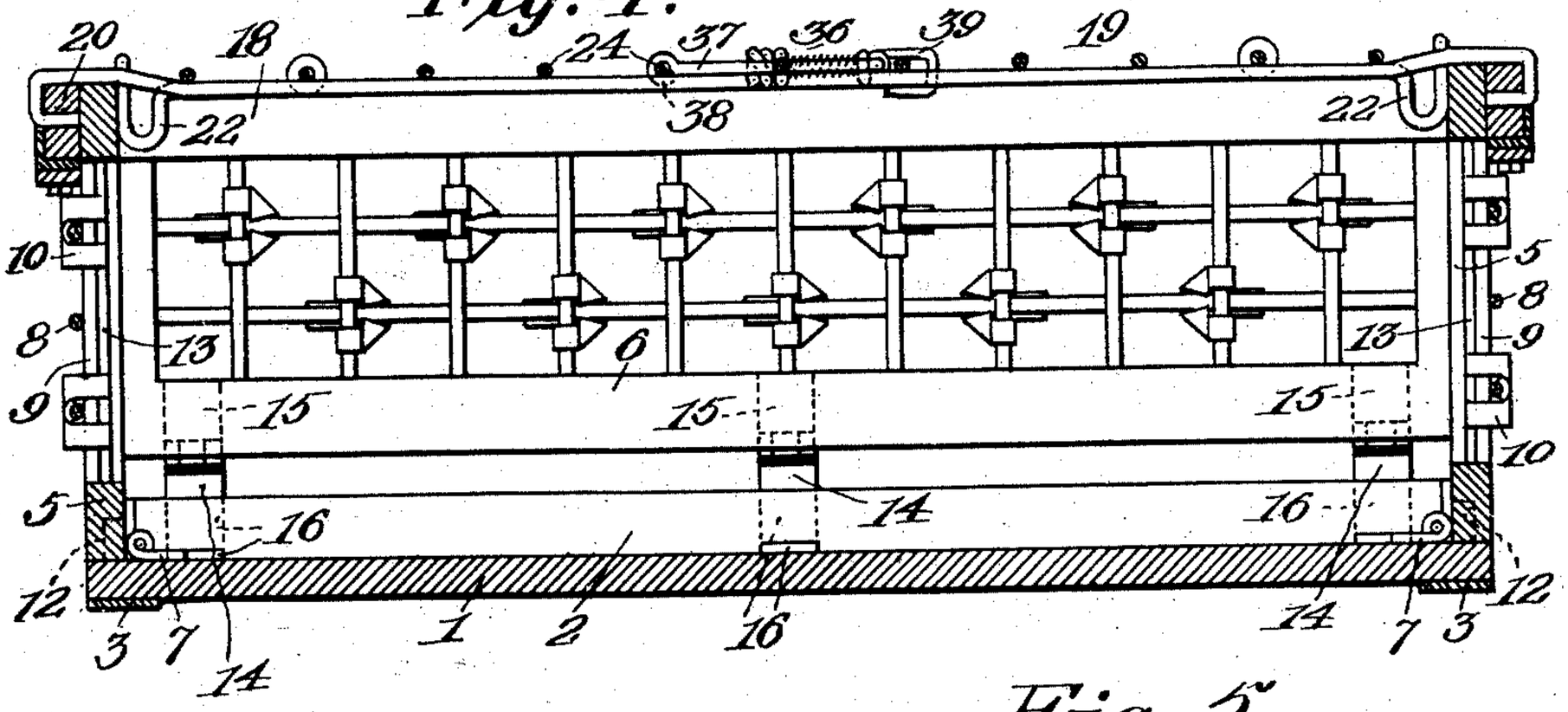



Fig. 5.

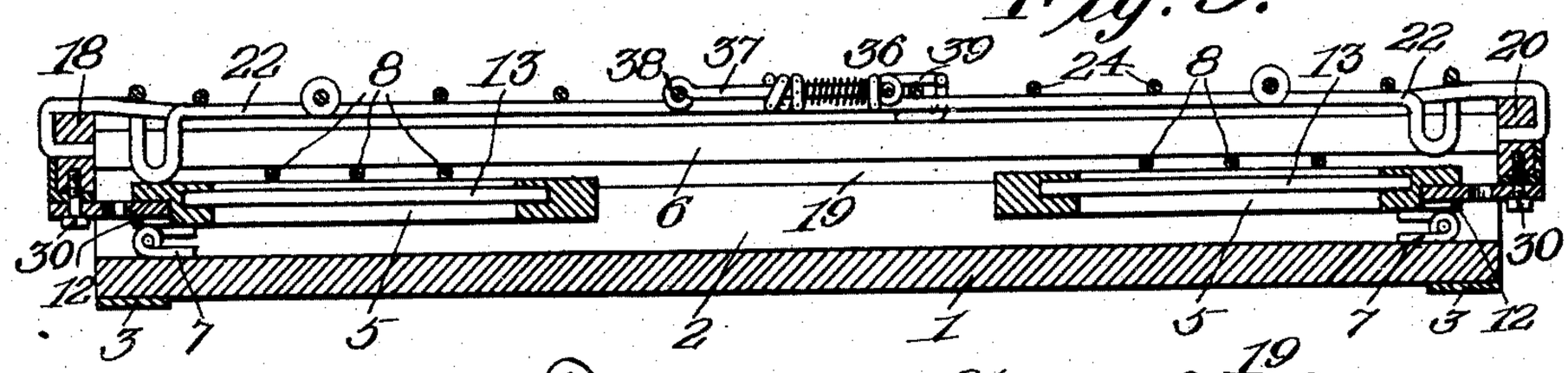



Fig. 6.

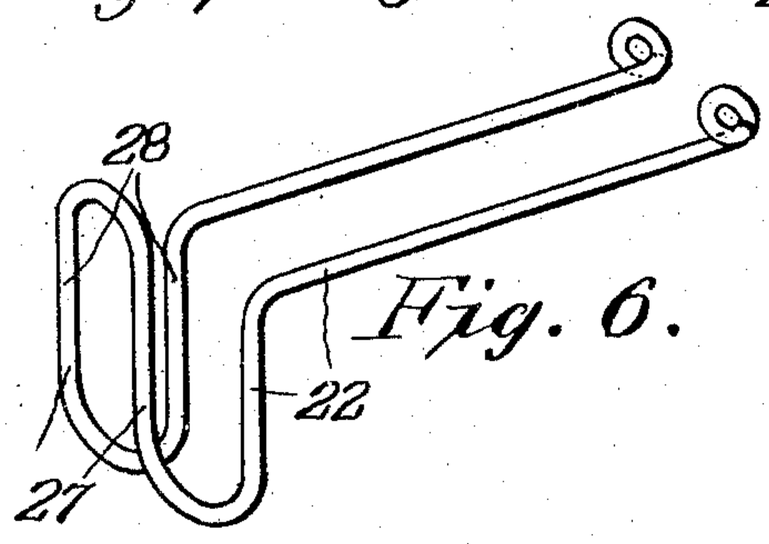



Fig. 8.

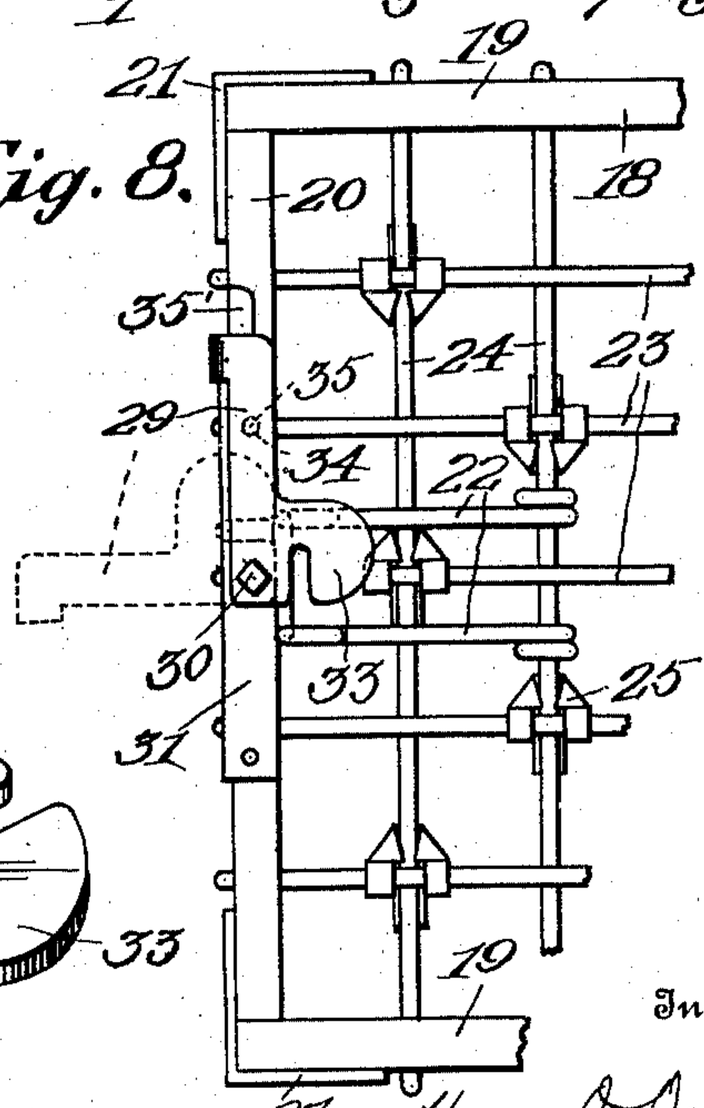
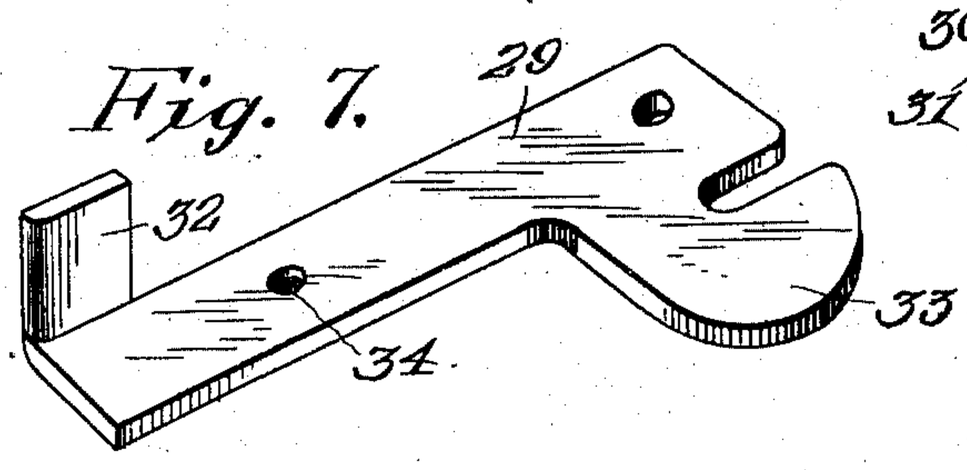



Fig. 7.

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# UNITED STATES PATENT OFFICE.

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## FOLDING POULTRY-CRATE.

No. 928,504. Specification of Letters Patent. Patented July 20, 1909.

Application filed June 22, 1908. Serial No. 439,801.

*To all whom it may concern:*

Be it known that we, HENRY D. DENNIS, SHERMAN J. EVANS, and WILLARD MURDOCK, citizens of the United States, residing at Cashion, in the county of Kingfisher and State of Oklahoma, have invented certain new and useful Improvements in Folding Poultry-Crates, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to improvements in folding or knock down poultry crates, and consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed.

The object of the invention is to provide a crate of this character which will be simple and comparatively inexpensive in construction, easy to set up and knock down, compact in its folded or knocked down condition and strong and durable in its set up or open condition.

The above and other objects of the invention, as will hereinafter more fully appear, are attained in the embodiment of the invention illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of our improved crate in its open position; Figs. 2 and 3 are side and end views of the same; Figs. 4 and 5 are longitudinal sections through the crate in its open and closed or folded positions; Fig. 6 is a detail perspective of one of the stop members; Fig. 7 is a similar view of one of the catch levers; and Fig. 8 is an inverted plan view of one end of the cover.

In the drawings 1 denotes the bottom of the crate body upon the upper faces of which along its longitudinal sides are secured longitudinal spacing strips 2. Said bottom 1 which is preferably solid and constructed of wood has its ends reinforced by metal straps 3 arranged transversely upon its under face and having their ends bent up around the ends of the side edges of the bottom, as shown at 4.

Hingedly connected to the bottom to swing inwardly and downwardly are two similar ends 5 and two similar sides 6. Said ends 5 are arranged between the spacing strips 3 and are united to the bottom by strap hinges 7 so that they fold downwardly against the bottom and when engaged with the latter lie beneath the upper faces of the strips 2. Each of the ends 5 is preferably in the form of an open rectangular frame consisting of horizontal and vertical wooden strips having their ends mortised and suitably connected together and the space between them covered by a grating composed of one or more longitudinal wires 8 intersected by one or more vertical wires 9, said intersecting wires being united by metal fastenings 10 at their points of intersection. Each of these fastenings 10 is in the form of a rectangular metal plate having two of its adjacent corners bent inwardly to engage one of the wires and its side opposite said corners formed with two slits to provide a central tongue which is curved or shaped to engage the last mentioned wire and two end tongues which are bent around the other intersecting wire. The ends of the wires 8, 9 which are comparatively heavy are bent at right angles, as shown at 11, and driven into the wooden strips which compose the frame of the end so as to effectively secure the grating to said frame. At the center of the bottom and inner faces of the lower horizontal strip of each of the end frames 5 is formed a notch or recess 12 the purpose of which will hereinafter appear; and arranged centrally between the upper and lower horizontal strips of each of said ends or frames 5 is a heavy vertical wire or rod 13 adapted to serve both as a brace and as a locking member, as presently explained.

The sides 6 are similar in construction to the ends 5, that is, they are composed of open rectangular frames covered by wire grating. Said sides 6 are united to the bottom by strap hinges 14 which space them above strips 3 so that they can fold inwardly upon the top of the latter and upon the ends 5, as shown in Fig. 5. The hinges 14 are arranged upon the outer faces of the sides and each has one of its leaves 15 secured to said side and its other leaf 16 engaged with and secured to the outer face of one of the strips 2, then bent inwardly at right angles and arranged between the bottom of said strip and the top of the bottom 1, to which latter said bent extremity is also secured. The hinges 14 as well as the hinges 7 are preferably secured by rivets 17 so that they will be securely fastened and there will be no danger of them working loose as would be the case if screws or nails were substituted.

18 denotes the cover of the crate which consists of an open frame covered by a wire

grating and composed of longitudinal side bars 19 united by transverse end bars 20, which bars form a depending surrounding flange upon the cover to receive the sides 5 and ends 6 of the crate body between them in both the open and folded positions of the crate. The bars 19, 20 have their ends mortised and suitably secured and they are reinforced by angle metal corner pieces 21 arranged upon their outer faces and having right angularly disposed arms of right angular shape in cross section secured by nails or other suitable fastenings. When the crate is in its open position the sides 3 engage the vertical edges of the ends 5 and are held against the same by the side bars or flanges 19 of the cover so that said side 6 can swing neither inwardly nor outwardly. The ends 5 of the crate, when the latter is in its open position, are prevented from swinging outwardly by the arrangement of the hinges 7 and the engagement of their bottom edges with the bottom 1 and also by the end bars or flanges 20 of the cover. Said ends 5 are prevented from swinging inwardly by stop members 22 arranged upon the wire grating top of the cover. This grating is similar to the wire grating which covers the sides and ends in that it is composed of longitudinal wires 23 intersected by transverse wires 24 and united to them by metal fastenings 25. The ends of said wires 23, 24 are bent downwardly at right angles to engage the outer side faces of the bars 19, 20 and are then bent inwardly, as shown at 26, and driven into or through said bars 19, 20 to effectively fasten them. The stop member 22 is preferably constructed of a piece of heavy resilient wire by bending the same upon its center to provide a U-shaped presser foot 27 which is disposed transversely over the centrally arranged wire 23 so as to press the end 5 outwardly against the adjacent end bar 20 of the cover when the latter is in position upon the open crate. The ends of the wire which forms the stop 22 are then bent inwardly and upwardly and then again inwardly to provide substantially parallel right angular shaped arms 28 which lie upon the opposite sides of the central longitudinal wire 3 and engage the bottom face of one of the transverse wires 24, the ends of said arms 28 being secured to another of the wires 24 by being bent around the latter, as clearly shown in Figs. 1 and 6 of the drawings. By making the stop 22 of resilient wire and shaping it so as to provide the presser foot or loop 27, it will be seen that the end 5 will be effectively prevented from swinging inwardly and will be pressed against the end bar or flange 20 of the cover to render the body rigid.

In the grating on the top of the crate we preferably provide a door which may be opened to permit a fowl to be inserted in or removed from the crate. This door is composed of wires bent and shaped to form an open rectangular frame and is arranged to cover an opening in the grating formed by omitting one or more of the longitudinal and transverse wires 23, 24. Said door 36 is hinged upon one of the wires 24 by bending the ends of the longitudinal wires 37 of the door around said wire 24 to provide the pivot eyes 38. The door 36 is retained in its closed position by a spring catch 39 which is formed of a single piece of wire bent at its center to provide a finger piece 40, then bent to provide two hook-shaped jaws 41 to spring under one of the wires 24, then bent to provide parallel arms 42 which pass through guides 43 and have their ends 44 bent around two of the longitudinal wires 37 of the door to guide the latch in its sliding movement. Coil springs 45 are arranged upon said longitudinal wires 37 and engaged with the eyes or ends 44 so as to actuate the catch inwardly. It will be seen that by engaging the finger piece 40 and pressing the same longitudinally against the tension of the coil springs, the jaws 41 may be disengaged from the adjacent wire 24 to unlock the door.

In order to securely fasten the cover in position upon the crate body both in its open and folded or knocked down position, we provide at the ends of the cover catch levers 29. Each of the latter has one end pivoted by a vertical bolt 30 to an angle metal plate 31 secured upon the bottom and outer face of one of the bars 20 and at the other or outer end of said lever is provided a laterally or upwardly projecting finger piece 32. Upon the inner portion of the lever 29 is a laterally projecting hook 33 formed by providing an enlargement on said lever and making a notch in said enlargement. When the cover is in position upon the crate body and the lever 29 is swung inwardly to bring its finger piece 32 against the end of the cover the hook 33 is adapted to engage the centrally disposed vertical locking rod 13 upon the end 5 and thereby securely fasten the cover in position. In order to retain the lever in its locked position we form in the upper face of the lever, adjacent to its outer end, a depression or seat 34 adapted to receive a downwardly projecting pin or detent 35 upon the bottom face of the angle metal plate 31. When said lever is swung inwardly into locking position it springs under said detent and the latter then enters the seat 34 to frictionally retain the lever in position. In order to permit the finger piece 32 to be readily engaged and swung outwardly to unlock the cover we form in the outer face of the end bar 20 of the cover a recess or depression 35′ which is disposed beneath the end of said finger piece so that

the thumb or finger may be inserted in the same and readily engaged with said finger piece. When the body of the crate is folded and the cover is placed in position upon the same, as shown in Fig. 5, it may be locked by swinging the catch levers 29 inwardly so that their hooks or laterally projecting enlargements 33 will swing into the recesses 12 formed in the bottom edges of the ends 5, as clearly shown in said figure of the drawings.

From the foregoing it will be seen that our invention provides an exceedingly simple, strong and durable knock down crate for shipping poultry or the like. The peculiar construction of its sides, end and top and the manner in which they are connected renders the crate exceedingly strong and durable and easy to set up and knock down.

It will be noted that there are no screws, rods, or other loose fastenings that need to be adjusted or manipulated in setting up or knocking down the crate. It will be further noted that when the crate is set up it will be excedingly rigid and when knocked down will be very compact, four folded crates occupying the space one occupies when set up for use.

Having thus described our invention what we claim is:

1. A folding crate comprising a bottom, longitudinal strips secured upon the upper face of the same at its side edges, ends hinged to said bottom to fold inwardly and downwardly upon the upper face of the same, sides arranged above said strips and hingedly mounted to fold inwardly and downwardly upon said ends, said sides being adapted to receive the ends between them when the crate is set up, a cover having a surrounding depending flange or rim to receive the upper edges of the sides and ends, said cover, sides, and ends being in the form of open frames covered with wire grating, bracing and locking rods centrally arranged in said ends, the latter being also provided with recesses in their bottom edges, stops constructed of resilient wire and arranged upon the grating of the top and adapted to engage the inner faces of the ends to prevent the latter from swinging inwardly when the cover is in position, pivoted catch levers upon the cover and having laterally offset portions or hooks to engage said locking rods and ends when the crate is open and to engage said recesses in the ends when the crate is folded, and means for retaining said levers in their operative position.

2. A folding crate comprising a bottom, sides, inwardly folding ends, a flanged cover composed of a frame covered with a grating having longitudinal and transverse wires, and the spring stops 22 upon the grating of the cover and adapted to engage the ends to hold them open, each of said stops 22 being constructed from a single piece of resilient wire bent at its center to provide the U-shaped presser foot 27 to take over one of the longitudinal wires of the grating and also bent to provide the angular portions 28 to bear against the under faces of the transverse wires of the grating and to lie between the longitudinal wires of the same, the extremities of said angular portions 28 being fastened to one of the transverse wires of the grating by bending them around the same, substantially as set forth.

3. A folding crate comprising a bottom, sides, inwardly folding ends hinged to the bottom and formed in their lower portions with centrally arranged recesses, each of said ends consisting of an open frame covered with a grating, a centrally arranged vertically disposed bracing and locking rod arranged between the upper and lower portions of the frame of each of the ends, a flanged cover and catch levers pivoted intermediate their ends to the end flanges of the cover and formed with notched portions or ends to engage the recesses in the ends of the crate when the crate is folded, the notches in said notched portions or ends of the catch levers being adapted to engage said bracing and locking rods in the ends of the crate when the latter is set up for use.

4. In a crate, the combination with a wire grating covering one face of the same and composed of longitudinal and transverse wires and having a door opening, of a door composed of wires bent to form a rectangular frame and having their ends bent around one of the transverse wires of the grating to provide a hinge for the door frame, a slidably mounted fastener for the door constructed from a single piece of wire bent at its center to provide the finger piece 40 and also bent to provide the spaced hooks 41 to engage one of the transverse wires of the grating, the wire forming the fastener also having the straight portions 42 with the bent extremities or eyes 44 to slide on the wires of the door frame, guides on the door frame for said portions 42 of the fastener and coil springs arranged on the wires of the door frame and confined between said guides and said eyes 44.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

HENRY D. DENNIS.
SHERMAN J. EVANS.
WILLARD MURDOCK.

Witnesses:
JOHN F. KLINGMAN,
JAMES E. CALHOUN.