

N. O. KENNIKER.
HINGE.

APPLICATION FILED APR. 5, 1916.

1,243,950.

Patented Oct. 23, 1917.

3 SHEETS—SHEET 1.

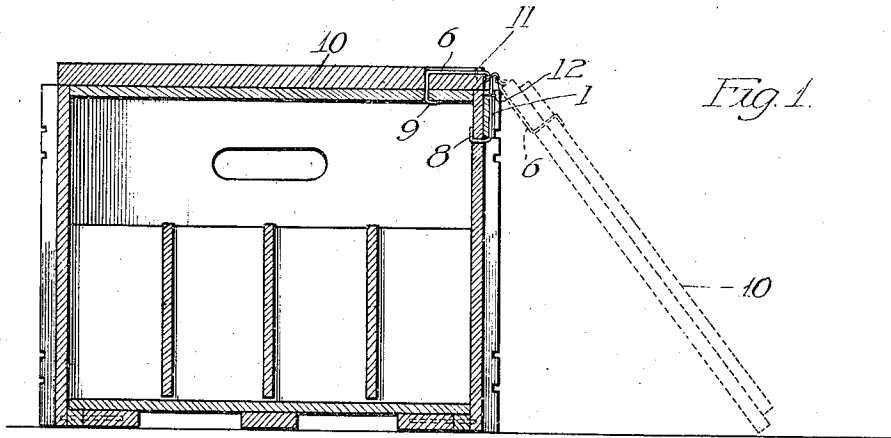


Fig. 2.

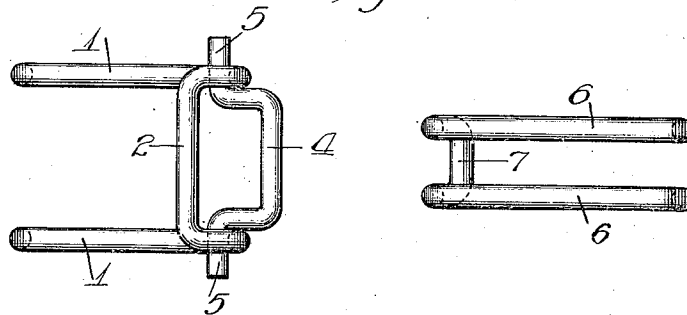
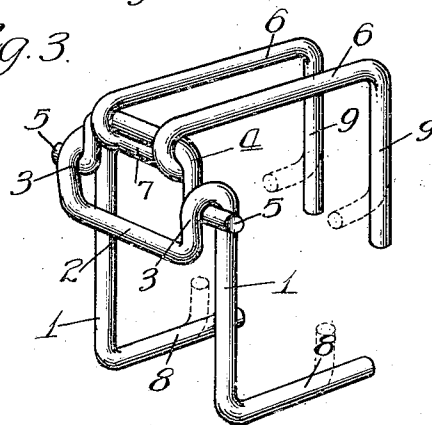


Fig. 3.



Witnesses:

Arthur H. Carlson
Robert H. Fawcett

Inventor.

Nicholas O. Kenniker
By F. C. Hill
att'y.

N. O. KENNIKER.

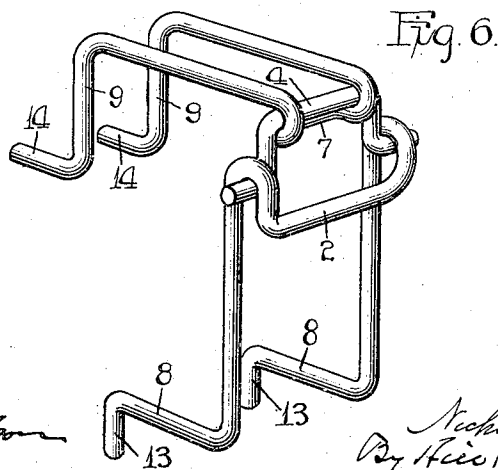
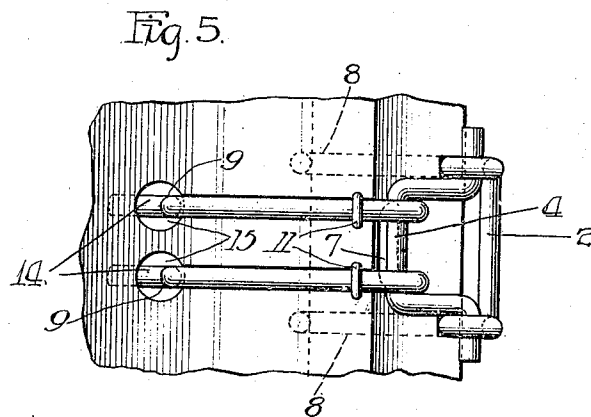
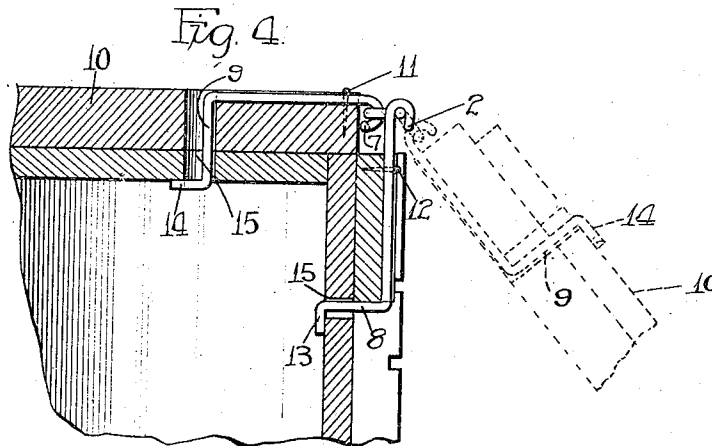
HINGE.

APPLICATION FILED APR. 5, 1916.

1,243,950.

Patented Oct. 23, 1917.

3 SHEETS—SHEET 2.



Witnesses:

Arthur W. Carlson
Robert H. Kewer

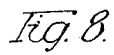
Inventor:

Nicholas Kenniker
By His Attys.

HINGE.

1,243,950.

3 SHEETS—SHEET 3.



Inventor
Nicholas Okemiller
By: W. C. Hill attys:

UNITED STATES PATENT OFFICE.

NICHOLAS O. KENNIKER, OF CHICAGO, ILLINOIS, ASSIGNOR TO DURABLE BOX CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

HINGE.

1,243,950.

Specification of Letters Patent.

Patented Oct. 23, 1917.

Application filed April 5, 1916. Serial No. 89,227.

To all whom it may concern:

Be it known that I, NICHOLAS O. KENNIKER, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hinges, of which the following is a description.

My invention belongs to that general class of hinges designed and intended to pivotally attach one part to another, and more particularly to devices of that character intended to pivotally connect a cover or lid to a box or the like. It is, however, adapted for many other uses where pivotal connection is desired. It has for its object the construction of a hinge which shall be very strong and durable in its operation, easily assembled and attached to the connecting parts, attractive in appearance and very economical in construction.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts,

Figure 1 is a sectional view through a box, showing my improved hinge connecting the cover to the body of the box, the free ends of the hinge extending into the interior of the box, and clenched therein;

Fig. 2 is a plan view, showing several parts of the hinge, with one element thereof being disconnected or separated from the others to more clearly show the construction,

Fig. 3 is a perspective view of my invention, showing three elements of the hinge properly engaged with one another.

Fig. 4 is a sectional view of a slightly modified form of my improved connecting device;

Fig. 5 is a plan view of the same,

Fig. 6 is a perspective view thereof.

Fig. 7 is a sectional view showing a modified construction;

Fig. 8 is a rear elevation of the box showing the hinge, and

Fig. 9 is a perspective view showing the detail construction of the modification.

In the drawings, 1—1 represent the free ends or legs of a wire or rod bent upon itself, so that the said legs lie substantially parallel with one another, with the connecting part 2 bent backward upon said legs to form loops 3 for the reception of the free ends of the transverse connecting member 4. These free ends are indicated by the numerals 5—5. The bend of the part 4 is preferably such that the transverse part 4 may be sprung into the position indicated in Fig. 3 with slight effort, sufficient, however, to prevent accidental disengagement of the parts. The wire rod possesses sufficient resiliency to secure this effect.

In the preferred construction also the central portion of the connecting member 4 is bent out of alinement with its ends 5—5, as indicated, for the purpose which will be hereinafter mentioned.

6—6 are the free ends of legs of another rod or wire, said legs lying substantially parallel with one another, as indicated, with the connecting portion 7 bent to engage the transversely connecting member 4, as clearly shown in the drawing.

In the preferred construction the hook on the bent member is preferably such as to detachably connect the parts, although the hook is of a sufficient length as to obviate any tendency to accidental disengagement thereof.

By this construction a considerable degree of flexibility is secured in the hinge permitting the cover of the box to be opened backward and lie upon the supporting surface, as indicated in dotted lines in Fig. 1.

When the hinge is connected to a device like a box, as indicated, the free ends or legs of the wire loops, as 8—8, 9—9 are preferably bent substantially at a right angle, as indicated, still lying substantially parallel to one another in each member, and as thus constructed the parts may readily be assembled upon a box by passing said extended ends through holes formed in the box and lid, as shown in Fig. 1. These free ends may then be clenched upon the supporting wall, making a very firm and rigid connection of the hinge with those parts.

As clearly illustrated, the cover of the box may be purposely disconnected from the body thereof by disconnecting the bent

hook 7 in the transverse member 4, the cover of the box being raised to a proper angle to the body of the box for that purpose.

In the preferred construction also the parallel legs of the members are embedded in grooves formed in the cleats 10, extending transverse to the grain of the wood on the top and back wall of the box. This gives great strength in the connection, the grain of the wood being veneered or crossed by the cleats for that purpose.

This form of hinge also permits the cover 11 to close snugly into the top of the box, and below the top edges of the walls thereof, as indicated.

In the form shown in Figs. 4, 5 and 6, the hinge construction is substantially the same with the exception of the free end of the extending legs heretofore indicated by the numerals 8 and 9. As here indicated the extreme ends of those legs which I have marked 13 and 14, are outwardly bent at an angle from the said parts as constructed. The apertures or holes 15 through the cover and walls of the box or equivalent members are made of sufficient size to permit the passing of the free ends of the legs therethrough, so that the parts 13 and 14 will snugly lie upon the inside of the walls, with the upper portions lying upon and embedded in the walls or cleats thereon, as clearly indicated in Fig. 4. Here, as before, I prefer to employ staples 11 and 12 to bind the proximate ends of the parts of the hinge firmly to the structure, and prevent its lifting out of its groove when the cover is thrown back.

By this method it is not necessary to provide any mechanism or means for clenching the inner ends of the legs on the interior of the box, as indicated in Fig. 1, but the hinge structure is completed as a whole and the hinge may be assembled in proper relation in the parts without the use of any special tools or any means for engaging to the supporting walls.

The mode of assembling is, of course, apparent in each case. The assembled parts of the hinge are first each connected to its proper part, when the cover 10 bent backward as indicated in Figs. 1 and 4, may engage the transverse member 4, thus engaging the parts of the hinge in operative manner.

In the form shown in Figs. 7, 8 and 9, the construction is modified so as to position the legs of the hinge within the box structure instead of outside the same. Thus, for illustration, the legs 16 of the member secured to the wall of the box inside of the wall 17 with its bent end 18 positioned in an aperture in the wall of the box for that purpose. The angular extension 19 lies within a slot formed in the wall 17 for that purpose. This positions the bend 20 outside

the box, as indicated. In this form also the leg 21 of the cooperating member is positioned on the under side of the cover 22, with its free end 23 positioned within an aperture formed in the cover for the purpose. The bend 24 extends to the exterior of the box, the two bends 20 and 24 being connected by the link member 25, as before described.

In a construction thus formed, I prefer to secure the legs 16 and 21 to the proximate members of the box, which may readily be done by means of staples 26, or equivalent means. Obviously, the apertures formed in the wall 17, and cover 22 may be extended therethrough, and the free ends of the legs 16 and 21 also extended therethrough and clenched on the outside thereof, as indicated in the dotted lines at 27.

The operation of the hinge is of course as before described.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact construction, arrangement and combination of parts herein shown and described and uses mentioned.

What I claim as new and desire to secure by Letters Patent is:—

1. A hinge comprising a rod bent upon itself, with the free ends or legs extended in the same general direction, the connecting portion being bent back upon said legs to form a hook, and a transverse connecting member positioned in said hook, in combination with a rod bent upon itself, with the free ends extended in the same general direction, the connecting section thereof being bent to form a hook adapted to engage said transverse connecting member.

2. A hinge comprising a rod bent upon itself with the free ends extended in the same general direction and offset adjacent the ends, the connecting portion being bent back upon said ends to form a partially open hook, and a transverse connecting member adapted to be sprung into position in said hook and be detachably engaged thereby, in combination with a rod bent upon itself, with the free ends extended in the same general direction similarly offset adjacent the ends, the connecting section thereof being bent in the direction of said offset-ends to form a hook adapted to engage the transverse connecting member.

3. A hinge comprising a rod bent upon itself, with the free ends extended in the same general direction, the connecting portion thereof being bent back upon said ends to form a hook, a transverse connecting member adapted to have its ends positioned in said hook with a central portion thereof bent out of alignment therewith, in combi-

nation with a rod bent upon itself, with the free ends extended in the same general direction, the connecting section thereof being bent to form a hook arranged to connect
5 said transverse connecting member.

4. In a structure in which two parts are hinged together, a hinge comprising a rod bent upon itself with the free ends or legs extended in the same general direction, an
10 offset adjacent the ends, the connecting portion being bent back upon said legs to form a hook, a portion of said legs between the hook and offsets being embedded in the structure, and a transverse connecting
15 member positioned in said hook, in combination with a rod bent upon itself with the free ends extending in the same general direction and offset adjacent the ends, the connecting section thereof being bent to
20 form a hook adapted to embrace said transverse connecting member, a portion of said legs between the hook and offset ends being also embedded in the supporting structure, substantially as described.

25 5. A hinge comprising a rod bent upon itself, with the free ends or legs extended in the same general direction, said legs be-

ing bent at substantially a right angle, and near the free ends thereof again bent at substantially a right angle, and extending
30 in the same general direction, as set forth, the connecting portion of the legs being bent back upon the legs to form a hook, and a transverse connecting member positioned in said hook, in combination with a
35 rod bent upon itself with the free ends extended in the same general direction, and bent at substantially right angles as in the first mentioned member, the connecting section being bent to form a hook adapted to
40 engage said transverse connecting member, whereby the free ends of the legs may pass through the walls of a box or similar body and lie upon the interior surface thereof with the intermediate body of the hinge
45 lying upon the outer surface of said walls, substantially as described.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

NICHOLAS O. KENNIKER.

Witnesses:

JOHN W. HILL,
CHARLES I. COBB.

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