A. J. KUGLER & J. F. GODEFROY.

HINGE.

APPLICATION FILED MAR. 25, 1913.

1,077,084. Patented Oct. 28, 1913.

Fig. 1.

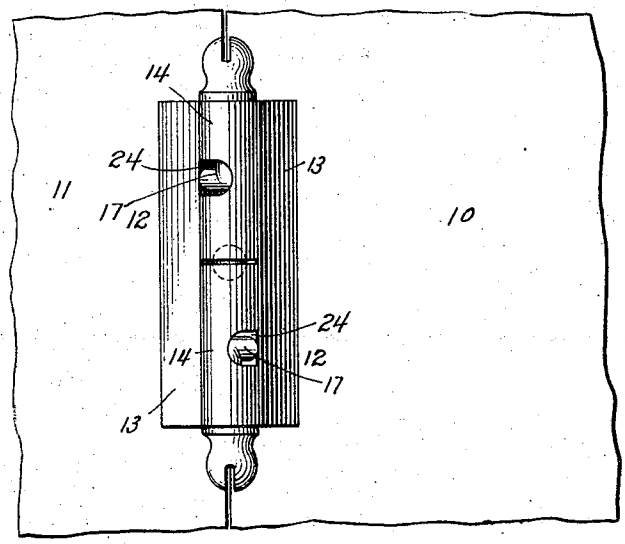



Fig. 2.

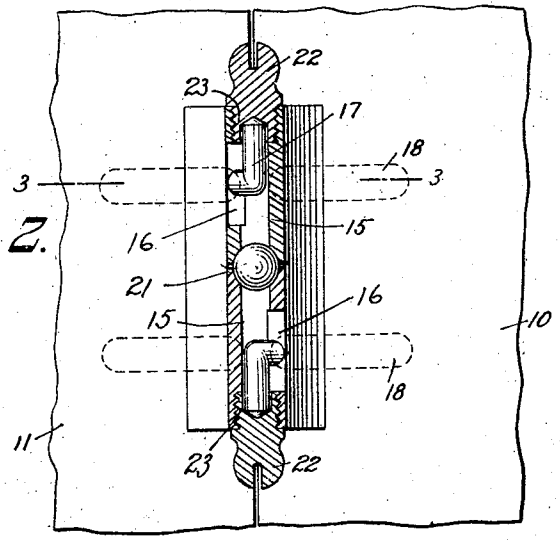



Fig. 4.

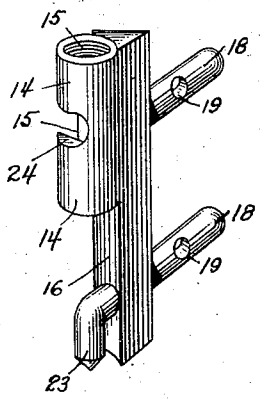
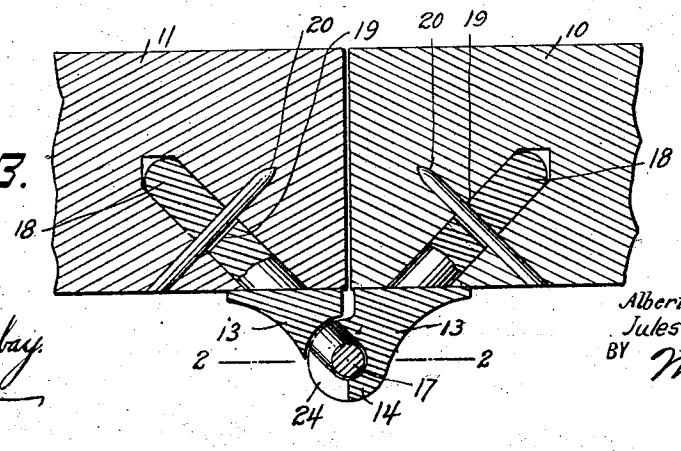



Fig. 3.




WITNESSES

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# UNITED STATES PATENT OFFICE.

ALBERT J. KUGLER AND JULES F. GODEFROY, OF NEW YORK, N. Y.

## HINGE.

1,077,084. Specification of Letters Patent. Patented Oct. 28, 1913.

Application filed March 25, 1913. Serial No. 756,645.

*To all whom it may concern:*

Be it known that we, ALBERT J. KUGLER, a citizen of the Republic of France, and JULES F. GODEFROY, a citizen of the United States, and residents of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Hinge, of which the following is a full, clear, and exact description.

In most of the hinges as used at present for doors, covers, or other similar objects, the same are attached to the object by means of screws or bolts engaging a projecting portion of the hinge resting on the surface of the object near the hinged edge. According to the weight of the object hinged, a number of screws or bolts is used, and in consequence of the proximity of these bolts or screws to the edge of the object hinged the same is weakened to a great extent. The time of placing a hinge, which at the minimum has eight apertures for screws to support it, is great; and its appearance on the object with the screws or bolts is unsightly.

To obviate the above defects, we have invented a simple, inexpensive hinge which can be quickly and easily placed, which is neat in appearance on the object, and will not noticeably weaken the edge of the object near the hinge.

The above outlined objects we carry out by means of a hinge having projecting arms received within the material of the object and maintained in the desired position by means of a member engaging the arm and the material of the object to be hinged.

The invention consists of the construction and combination of parts to be more fully described hereinafter and fully set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which like characters indicate corresponding parts in all the views and in which:

Figure 1 is an elevation of a closed door and part of the door frame provided with an embodiment of our invention; Fig. 2 is a section on line 2—2, Fig. 3; Fig. 3 is a horizontal section on line 3—3, Fig. 2; and Fig. 4 is a perspective view of one of the hinge members.

Referring to the drawings, a door 10 is hinged to the door-frame post 11 by means of a hinge formed of two equal superposed parts 12. The part or member 12 is provided with a body portion 13 adapted to contact with the face of the object to be hinged. Integrally formed therewith and extending from one end to substantially its middle is a cylindrical portion 14 having a central bore 15 threaded at its outer end. The cylindrical portion 14 is provided with a lateral slot 16 having the width of the bore 15. The body 13 is also provided with a hook 17 positioned midway between the end of the body and the inner end of the cylindrical portion 14 and in axial alinement with the said cylindrical portion, that is, the axis of the bore 15 and the hook portion in alinement with it is the same. The hook portion is directed away from the cylindrical portion 14. The length of this hook portion is substantially equal to the slot 16. The reason for this will appear hereinafter.

The body portion 13, on the side adapted to contact with the face of the object to be hinged, is provided with fingers or arms 18 lying in the plane passing through the axis of the cylindrical portion and the hook member and making an angle of about 45 degrees with the face of the object to be hinged. The arms 18 are provided with transverse apertures 19 so that when the member 12 is fitted against the face of an object to be hinged the abutting side of the body 13 is drawn against the face by means of a pin 20 forced perpendicularly to the arm 18 and through the opening 19 so that it draws the arm 18 into the body of the object to be hinged. The pin 20 prevents the pulling out of the members 12 when secured.

As shown in Figs. 1 and 2, the door post 11 carries one member 12 so disposed that the cylindrical portion 14 is at the lower end of the body portion 13 and the hook portion 17 is near the upper end of same. The door 10, similarly, carries a member 12, but disposed oppositely to the one on the post. The member 12 of the door is engaged with the member 12 of the post by facing the hook portions of both members with the slots 16 of the two members, and, as before stated, the length of the slots being equal to the length of the hook portion 17 the same will pass through and register with the doors 15

of the portions 14, and when registering, the door with its member can move downwardly so that the cylindrical portion 14 of the door member can move toward the cylindrical portion of the post member.

The bores 15 of the opposite faces of the cylindrical portions 14 receive a ball 21 the center of which necessarily lies in the axis of the hooks and the bores of the members 12. When the two members 12 are in position, as shown in Figs. 1 and 2, the hook of each of the members projects into the threaded portion of the bores 15; and to prevent tilting on the ball when the door is opened or closed, caps 22 are inserted into the threaded end of bores 15 and are provided with a recess portion 23 forming a bearing for the end of the hook 17, so that when the door is opened or closed, while it pivots on the balls 21, it is prevented from tilting on same by the recesses 23 formed in the caps and guiding end of the hooks 17. To allow the door to open, the cylindrical portions 14 are provided with horizontally disposed notches 24 in alinement with the horizontal portions of the hook 17 when in position shown in Figs. 1 and 2.

It can be easily seen that with our hinge the entire weight is supported by the two arms engaged in the material of the object to be hinged; and due to the angularity of the arms with the hinged portion the same engages the object not near its surface but diverging from the surface, so that the amount of material between the two parallel arms and above and below constitutes a support for the object attached, and, also, being away from the surface, there will be enough material to resist the tendency of breaking when the hinged object is moved about the hinge. The inclination can be made such as to be sufficient to withstand such a tendency; and it must also be remarked that the body portion, coming in contact with the surface of the object, will prevent any such tendency, as it will form an abutment, and the arms fitted snugly into the apertures formed in the object and the pin engaging said arms, and the object will prevent any displacement of the hinged member from the object.

To make the holes for the arms at the proper angle so that the body portion abuts properly against the face of the object to be hinged, we provide a tool by means of which the holes for the arms and the pins can be simultaneously bored at proper angles; and this forms a separate application, which is filed in the Patent Office.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a hinge, a pair of members, each comprising a body portion, a cylindrical portion, a hook, and a pair of arms, said cylindrical portion having means whereby the hooks of the other member are adapted to engage said cylindrical portion and move therein, thereby forming a pivotal connection between said members.

2. In a hinge, a pair of members, each having a body portion, a cylindrical portion, a hook, and a pair of arms, said cylindrical portion having an axial bore, a slot from the lateral surface to said bore, and through said slot the hook of the other member is adapted to enter the bore and move in same; and a cap in said bore forming a bearing for the hook in said bore.

3. In a hinge, a pair of members, each having a body portion, a cylindrical portion, a hook, a pair of arms, said cylindrical portion having an axial bore, a slot from the lateral surface to said bore, and through said slot the hook of the other member is adapted to enter the bore and move in same; a cap in said bore forming a bearing for the hook in said bore; and a ball intermediate said cylindrical portions constituting a bearing for said members.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALBERT J. KUGLER.
JULES F. GODEFROY.

Witnesses:
BENEDICT GOFFE,
PHILIP D. ROLLHAUS.

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