

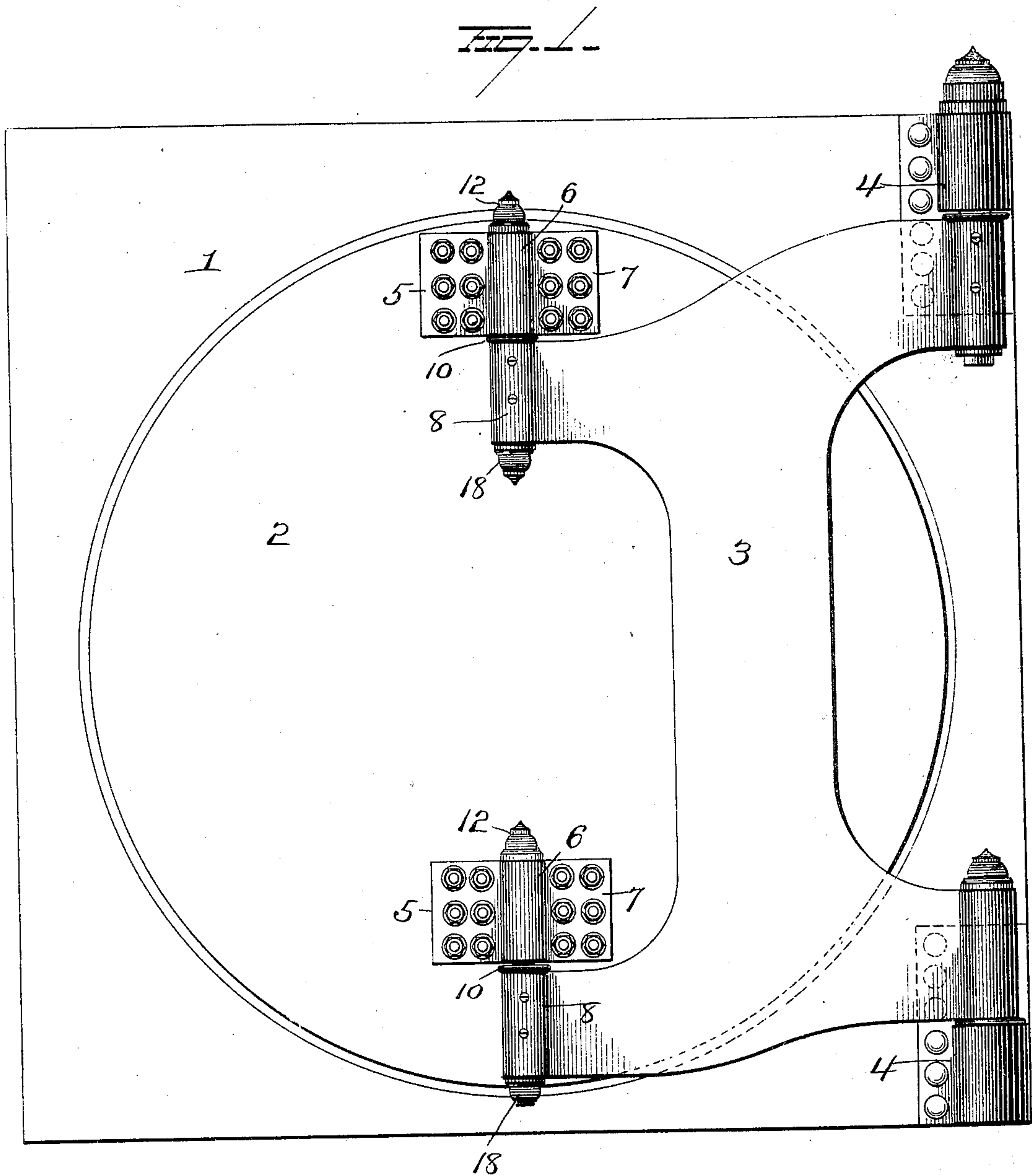
No. 793,704.

PATENTED JULY 4, 1905.

J. H. WILLIAMS.  
HINGE FOR SAFE OR VAULT DOORS.

APPLICATION FILED JUNE 18, 1904.

2 SHEETS—SHEET 1.



WITNESSES  
*E. Nottingham*  
*G. F. Downing*

INVENTOR  
*J. H. Williams*  
By *H. A. Seymour*  
Attorney

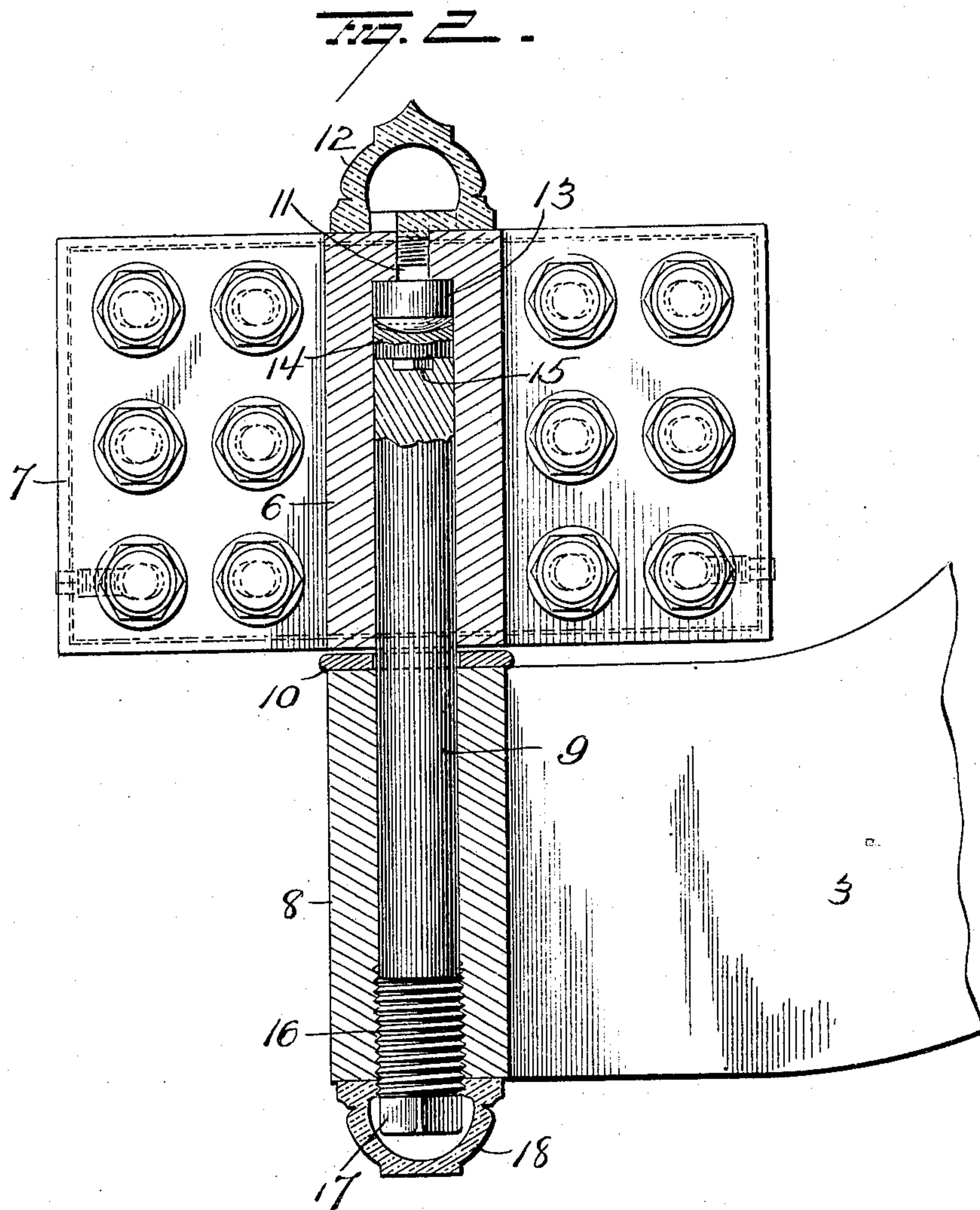
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# UNITED STATES PATENT OFFICE.

JAMES HENRY WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR  
TO REMINGTON AND SHERMAN COMPANY, OF PHILADELPHIA, PENN-  
SYLVANIA.

## HINGE FOR SAFE OR VAULT DOORS.

SPECIFICATION forming part of Letters Patent No. 793,704, dated July 4, 1905.

Application filed June 18, 1904. Serial No. 213,161.

*To all whom it may concern:*

Be it known that I, JAMES HENRY WILLIAMS, a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have  
5 invented certain new and useful Improvements in Hinges for Safe or Vault Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it  
10 appertains to make and use the same.

My invention relates to improvements in hinges for safe or vault doors, and more particularly to the construction of hinge connecting the door with the supporting-crane, the  
15 object of the invention being to provide an improved hinge in which the journals thereof are capable of longitudinal adjustment to compensate for wear and in which spacing and bearing washers are located and so formed as  
20 to retain lubricant and prevent binding and insure the minimum wear of the parts.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts,  
25 as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation, illustrating my improvements applied to a safe or vault door; and  
30 Fig. 2 is an enlarged view, in vertical section, of the hinge.

1 represents the safe or vault, 2 the door, and 3 the crane, connected by hinges 4 with the safe or vault and by my improved hinges  
35 5 with the door, as will be hereinafter described in detail. The crane 3 is provided with two arms, both connected by hinges with the door, and as both hinges are exactly alike the description of one will apply alike to both.  
40 The upper half of each hinge 5 comprises a sleeve 6, integral with a plate 7, secured by bolts or rivets to the door, and said sleeve 6 aligns with a sleeve 8 on the crane, below the same, and a journal 9 is located in said aligned  
45 sleeves 6 and 8 and has a spacing-washer 10 thereon between the sleeves. The upper end of sleeve 6 is closed save for a threaded lubricant-opening 11, normally closed by the threaded plug of an ornamental cover 12, and

two washers 13 and 14 are located in the up- 50  
per end of sleeve 6, between the same and journal 9. The upper end of journal 9 has an angular socket to receive an angular lug 15 on the lower washer 14 and compel the washer  
14 and journal 9 to turn together. The up- 55  
per face of washer 14 is dished or made concave to serve as a lubricant-pocket, and the lower face of washer 13 is made convex and curved in a different arc of a circle from  
washer 14 to provide but a small bearing or 60  
contacting surface and permit the lubricant in the cup formed in washer 14 to maintain at all times an easy turning lubricated contact. The lower end of lower sleeve 8 is screw-  
threaded to receive a threaded plug 16, bear- 65  
ing against the lower end of journal 9 and adapted to adjust the journal vertically, and said plug 16 has an angular enlargement 17 on its lower end to facilitate the use of a wrench  
to turn the same, and an ornamental cap 18 70  
is secured on the lower end of plug 16 and incloses the protruding end of said plug.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my  
75 invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention. 80

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hinge, the combination of two alining sleeves, a journal in said sleeves, and two 85  
washers interposed between one end of the journal and the end wall of one of said sleeves, the lower washer having a concave upper face to form a lubricant-chamber and the lower end of the upper washer made with a convex 90  
face having a bearing on the concave face of the lower washer.

2. In a hinge, the combination with two alining sleeves, one having a closed end having an opening therein, of a journal in said 95  
sleeves, washers interposed between the end of the journal and the closed end of said sleeve, the lower one of said washers having a dished

or concave depression forming a pocket for lubricant and the upper washer having a convex face adapted to seat in and bear upon the concave face of the lower washer.

5 3. In a hinge, the combination with two alining sleeves, one having a closed end, of a journal in said sleeves, washers interposed between the end of the journal and the closed  
10 end of said sleeve and having contacting bearing-surfaces between them, one of said washers having an angular lug located in an angular socket in the end of the journal compelling them to turn together, and a threaded plug  
15 screwed into the end of the other sleeve and against the journal end and adapted to adjust the same longitudinally.

4. The combination with a door, and a hinged crane for supporting the same, having

sleeves thereon, sleeves secured to the door and alining with those on the crane, journals 20 in each pair of alining sleeves, plugs screwed into the lower ends of the crane-sleeves and adapted to adjust the journals vertically, ornamental caps secured on the adjusting-plugs and inclosing the heads of said adjusting-plugs, 25 and ornamental plugs or caps closing lubricant-openings in the upper ends of the sleeves on the door.

In testimony whereof I have signed this specification in the presence of two subscribing 30 witnesses.

JAMES HENRY WILLIAMS.

Witnesses:

RUTHERFORD S. FOWLER,  
WILLIAM C. WEISBROD.