

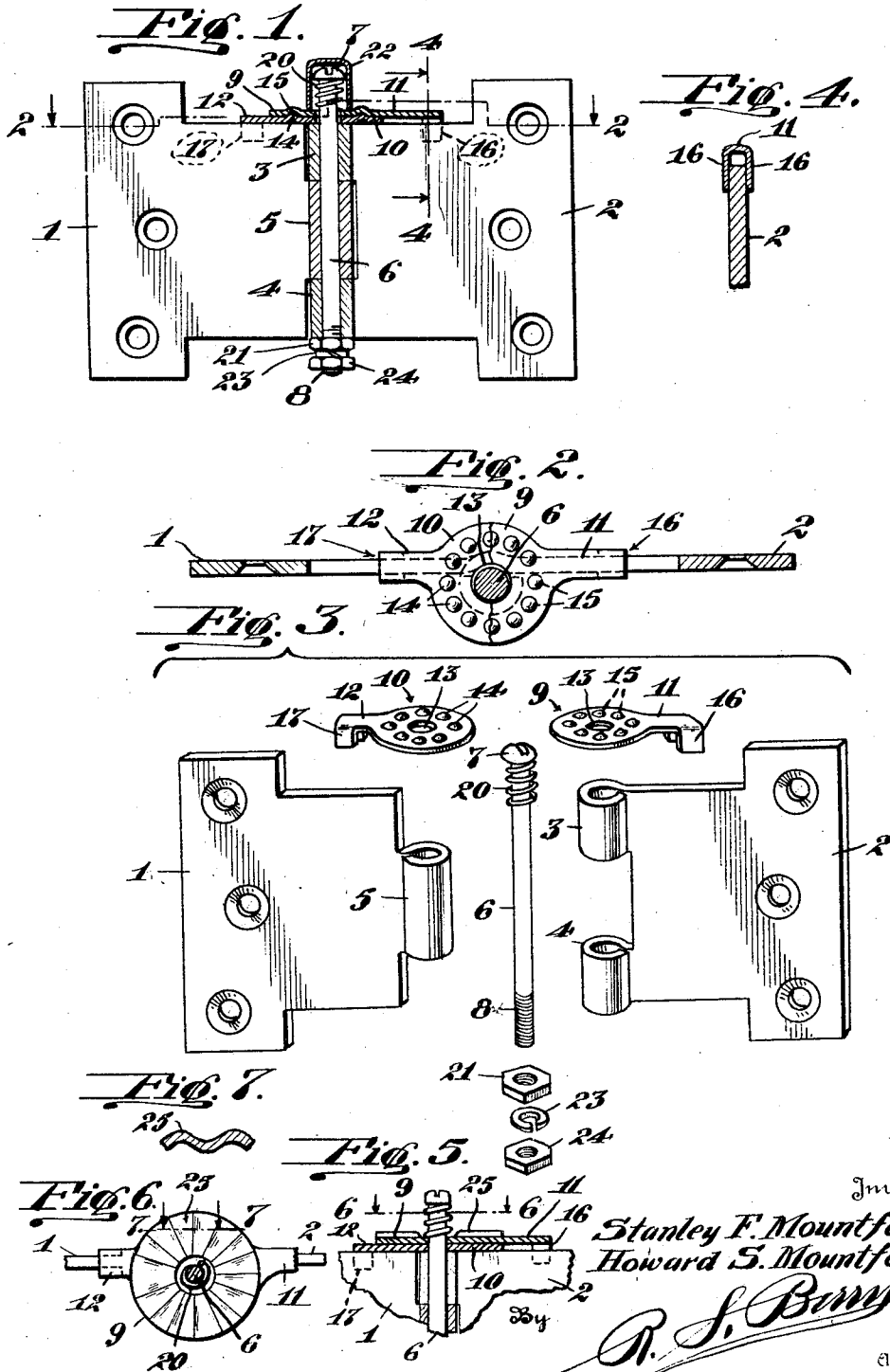
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HINGE

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HINGE.

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This invention relates to hinge control attachment for hinge butts particularly of the parliament type adapted for use with swinging closures, such as doors, windows and the like, and one of the objects of the invention is to provide an improved device of this character by the use of which the closure will be maintained in any of its adjusted positions under tension and thereby prevented from rattling.

Another object of the invention is to provide a device applicable to any size of parliament butt, which will enable a closure to be adjusted to any position and to be held at its angle of adjustment and then released.

Another object of the invention is to provide a tension attachment for hinges having means for readily adjusting the tension of the same.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing illustrating the invention and in which:—

Fig. 1 is an inside elevation of a hinge partly in vertical section and illustrating the application of the invention thereto;

Fig. 2 is a longitudinal sectional detail on line 2—2 of Fig. 1 and looking downwardly;

Fig. 3 is a disassembled view of the hinge and control attachment;

Fig. 4 is a vertical section on line 4—4 of Fig. 1;

Fig. 5 is a view in section showing a modified form of the attachment;

Fig. 6 is a detail in horizontal and plan as seen on the line 6—6 of Fig. 5;

Fig. 7 is a detail section as seen on line 7—7 of Fig. 6.

Referring more particularly to the drawing, the hinge leaves 1 and 2 have bearings 3, 4 and 5, the bearing 5 being between the bearings 3 and 4 and a hinge pin 6 extends through the bearings 3, 4 and 5 having a head 7 and a screw threaded end 8.

This type of hinge is known as a parliament butt and is adapted more particularly for connection to French and casement windows and it is for the purpose of holding the window in different adjusted positions.

In the accomplishment of this object we

provide a pair of circular disks 9 and 10, preferably struck out of a relatively thin sheet of resilient metal, the said disks being formed with peripherally disposed arms 11 and 12 extending in opposed directions, the longitudinal axes of which are at one side of the axes of the respective disks 9 and 10 and at opposite sides thereof.

During the stamping operation, to form the disks and arms, central openings 13 are formed. Likewise, the disk 10 is pressed outwardly to form a series of spaced apart concentrically arranged circular beads 14 on its upper surface adjacent the outer peripheral edge thereof. Likewise, disk 9 resultant of a similar stamping operation is formed with a series of concentrically arranged spaced circular sockets 15.

Arms 11 and 12 are of different lengths, the arm 11 on the disk 9 being relatively longer and the arm 12 of disk 10 and said arms adjacent their outer ends are formed with pairs of vertically depending flanges 16 and 17 constituting yokes adapted to set astride the hinge leaves to cause the washers and hinge leaves to rotate together. Owing to the arm 11 of disk 9 being longer than arm 12 of disk 10, the flanges of arm 11 extend beyond the flanges of the other arm permitting the hinge leaves to fold more closely together.

The disks are adapted for connection to the butt, by first assembling the two in superimposed relation, the disk 9 carrying the sockets 15 being disposed above the disk 10 carrying the beads 14, so that the beads will seat within the said sockets. The hinge pin 6 is inserted through the central openings 13 of the disks and through the knuckles 3, 4 and 5 of the hinge leaves.

The flanges 16 and 17 are pressed downwardly upon the upper edges of the hinge leaves and by reason of their resiliency will closely clutch the leaves as before mentioned. A coil spring 20 encircles the upper part of hinge pin 6 between the head 7 and the upper disk 9 and a nut 21 when adjusted on the lower threaded end 8 of the hinge pin serves to compress the spring 20 to vary the degree of tension exerted thereby upon the upper disk 9. The degree of tension upon the disks is controlled by the adjustment of the nut 21 and when the proper friction is obtained it will be manifest that when the window is moved about its pivot, exemplified

by the hinge butts with respect to a casing, the knuckles 3 and 4 will be rotated about the hinge pin 6 and the spring will tension the upper disk 9 into association with the lower disk 10, so that the beads will be held in the recess sockets thereabove.

The arm 11 of disk 9 as heretofore stated, is relatively longer than the arm 12 of disk 10 to provide for clearance when the window is swung on the hinge butts and permit the flanges 16 to project beyond the flanges 17 when the hinge leaves are closed upon each other.

With this construction it will be manifest that when the closure or window is opened, the tension between the parts will maintain the same in adjusted position by reason of the beads seating in the sockets in which position they are yieldably maintained by the spring 20.

The spring 20 is put under different degrees of tension dependent upon the weight of the closure or window to be supported in adjusted positions.

If desired, a shallow cap 22 as illustrated in Fig. 1, may be slipped over the hinge pin head 7, to completely cover the spring and upper end of the pintle for improving the appearance of the butt.

Likewise, we may provide a spring washer 23, which is disposed upon the lower threaded end of the hinge pin 6 and a lock nut 24 is then screwed thereagainst for locking nut 21 in adjusted position.

A shallow cap similar to cap 22 may be inserted upon the lower end of the hinge pin 6 to cover the nuts 21 and 24.

It is to be understood that the manner of carrying the invention into effect is herein specifically set forth to enable those skilled in the art to make and use the same and is to be considered as illustrative and not in a limiting sense; and that various changes may be made in the parts and in their construction and arrangement within the meaning of the terms and scope of the appended claims without departing from the spirit of the invention, for example, the disks 9 and 10 may be formed with interengaging radial serrations 25 shown in Figs. 5, 6 and 7, in-

stead of the sockets and beads as shown in Fig. 3.

Likewise, the use of the spring as a tension means may be dispensed with and in this instance, the disk is formed with a centrally disposed boss 25 apertured for the reception of the hinge pin 26. A nut 27 threaded upon the lower end of pin 26, serves when tightened to hold the head 28 of the hinge pin against the uppermost disk so that the said disks are tensioned together. Resultantly, the corrugations 29 seat within the recesses 30 on the surface of the opposing disk.

It is obvious that we may utilize projections of any configuration on the disks without departing from the spirit of the invention.

What we claim is:—

1. A control attachment for hinges comprising superimposed disks having a pair of peripherally disposed arms which normally extend in opposite directions; said arms having pairs of opposed flanges adapted to straddle the hinge leaves, beads formed on one of said disks, sockets provided on the other of said disks and adapted for the reception of said beads, and resilient means to press said disks toward each other to cause said beads and sockets to yieldingly resist relative rotation of said disks.

2. In a hinge, a pivot element, hinge leaves to swing on said pivot element, a pair of superimposed washers rotatable on said pivot element, each of said washers having a flat radial arm which is provided with a pair of opposed flanges adapted to straddle an edge portion of one of the leaves of the hinge to cause such washer to rotate therewith, one of said radial arms being longer than the other so that its flanges extend beyond the flanges of the other arm to permit the hinge leaves to fold more closely together, means for producing friction between said washers, and resilient means for pressing said washers toward each other.

In testimony whereof, we hereunto affix our signatures.

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