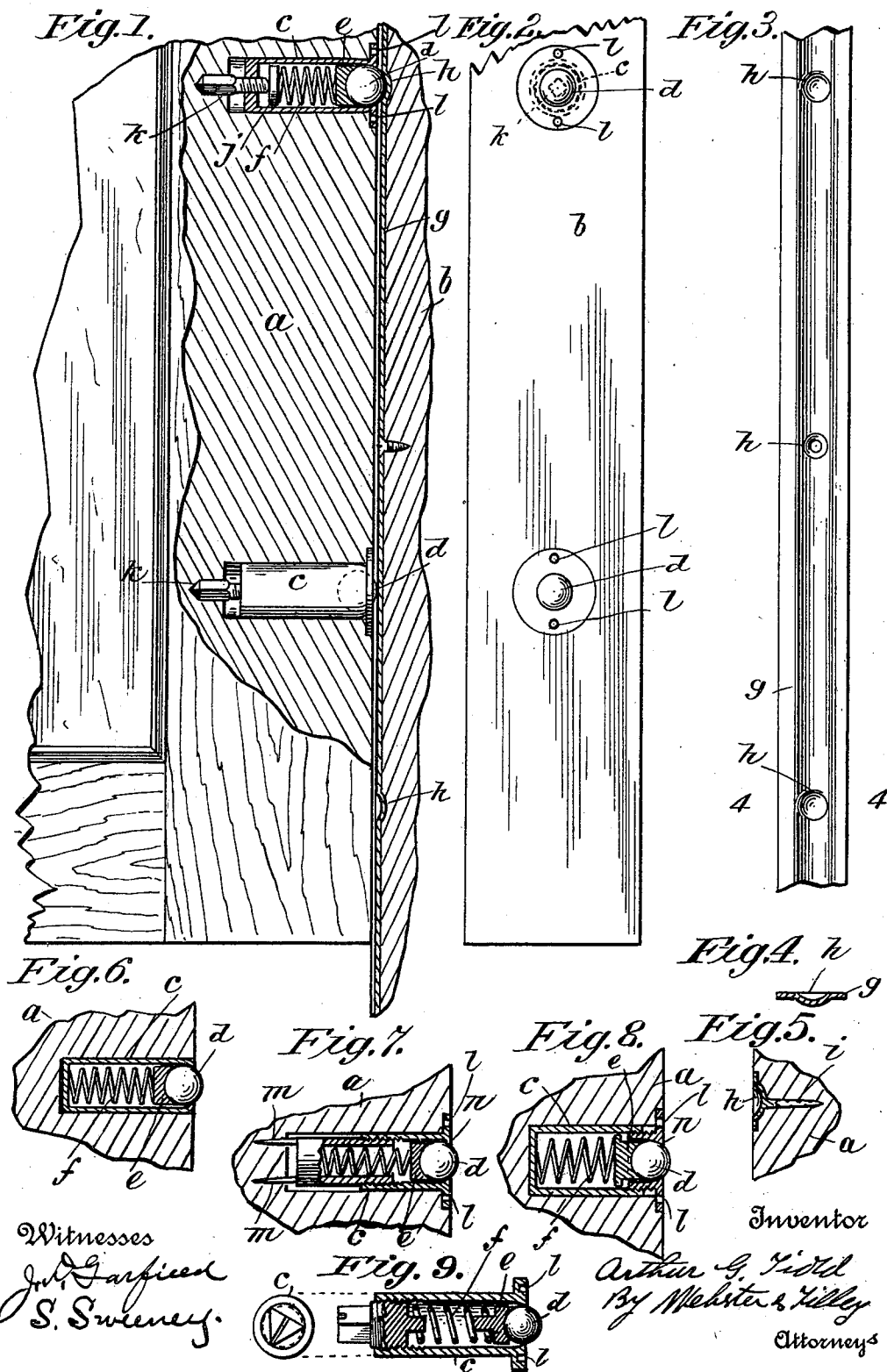


A. G. TIDD.
SASH HOLDING DEVICE.
(Application filed Mar. 22, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

ARTHUR G. TIDD, OF NORTHAMPTON, MASSACHUSETTS.

SASH-HOLDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 681,379, dated August 27, 1901.

Application filed March 22, 1900. Serial No. 9,647. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR G. TIDD, a citizen of the United States of America, residing in Northampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Sash-Holding Devices, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon.

My invention relates to an antifriction device adapted to automatically hold a window-sash in the desired position, which device also operates as an antirattler.

The object of my invention is to produce a device which shall be simple, inexpensive, readily adjusted, and effective in operation; and my invention consists in the construction herein shown.

In the accompanying drawings, in which like letters of reference indicate like parts, Figure 1 is an elevation, partly in section, showing a portion of a window-sash and a portion of a window-frame and showing one sash-holding device mounted in the sash-rail in section and one mounted therein in full lines. Fig. 2 is an edge view of a portion of a window-sash, showing two of said holding devices mounted therein. Fig. 3 is a view of a metal strip provided with a shallow longitudinal recess forming a runway and depressions in the runway for the balls to set into. Fig. 4 is a sectional view of the same, taken on line 4 4 of Fig. 3. Fig. 5 is a sectional view of a portion of a sash rail or frame with a tack having a concave head mounted therein, this being designed as a modification of the continuous metal strip illustrated in Figs. 3 and 4. Fig. 6 is a view in section of the simplest form of construction of my device, no means being therein illustrated for altering the tension of the spring. Fig. 7 is a view in section of a cup or shell made in two parts, having threaded connection between the two, whereby the spring may be compressed and the tension varied by turning one of the tubular parts, thus bringing the lower or inner portion toward the outer portion and compressing the spring. Fig. 8 is a sectional view illustrating a modification wherein the compression of the spring is produced by similar means, the outer tubular part having

threaded connection with the lower or inner portion, in this case the thread being upon the exterior of the outer end portion and the interior of the lower or inner end portion; and Fig. 9 shows in side elevation in section the preferred form of construction, the shell being interiorly threaded at its lower or inner end and the bottom being exteriorly threaded and provided with a triangularly-shaped head or extension in cross-section, as shown at the left of said sectional figure.

Generally *a* indicates one of the vertical rails of a window-sash; *b*, a window-casing; *c*, a cup or shell, preferably cylindrical; *d*, a ball; *e*, a follower; *f*, a spring, and *g* a metallic strip.

The construction and operation of my device will be readily understood on reference to the drawings.

The simplest form of contrivance designed to accomplish the desired result and adapted for use in many places where considerable weight is illustrated in Fig. 6, comprising a tubular part *c*, having its outer end swaged or turned inwardly, thus forming an annular inwardly-overhanging edge and preventing escape of the ball and having the follower *e* and ball *d* and a spiral spring *f*, mounted in said shell. In some instances where the weight to be sustained is considerable or where the sash is subjected to considerable jar, as in the case of railway-cars, I prefer to form recesses for the ball to rest in at regular intervals, and where the wear is liable to be considerable, and especially where the material against which the ball bears is of soft metal, I provide a strip *g*, mounted in the line of the traverse of the ball, and I prefer to provide this metal strip with a shallow channel or recess and shallow depressions at intervals, in which the ball is forced as it is brought opposite the same, and thus danger of accidental moving of the sash will be avoided, and as a modification I in some instances prefer to employ the concave-headed tack *i* illustrated in Fig. 5.

It will be observed that the result is the same whether the holding device be mounted in the sash and the balls bear toward the casing or whether the holding device be mounted in the frame or casing and the balls bear to-

ward the sash. I prefer, however, to mount the device in the sash. In order to adapt the device to various uses, I prefer in some cases to provide a means whereby the pressure of the spring against the follower, and hence the pressure of the ball outwardly, may be regulated, so that while a device is employed upon a light sash, where there is no jar, might require but slight pressure of the spring, if the same device be employed upon a heavy window or a window, for illustration, of a railway-car, where the jar is considerable, then the spring would require to be of greater strength or under greater tension to prevent accidental movement of the sash, and to accomplish this result I provide means for compressing the spring, and one of the simplest means to accomplish this result is illustrated in Fig. 9, wherein a threaded plug or bottom enters the inner end of the shell and bears against the spring. Thus by turning the plug while the shell is at rest or turning the shell while the plug is at rest the plug may be carried in or out of the shell, thus varying the tension of the spring. A similar construction in modified form is shown in Fig. 1, wherein a follower *j* is provided at the base portion of the shell *c* and a screw arranged to pass through the base of the shell and bear against said follower, so that by turning the set-screw in either direction the tension of the spring may be varied, and to avoid necessity of removing the holding device from the sash or window-frame for the purpose of producing this adjustment I prefer to make the head of the adjusting-screw *k* rectangular or triangular in cross-section and of considerable length, and this being forced tightly into a recess which is adapted to receive it under sufficient pressure will restrain it from turning, and by the employment of a spanner entering the opening *l* in the outer face of the cup or shell it may be turned in either direction, and as at this time the adjusting screw or plug is prevented from rotating the follower or plug will of course be carried toward or from the base of the shell, and thus vary the tension upon the spring. As a modification and to accomplish the same result I in some instances prefer to make the shell in two parts, as illustrated in Fig. 7, the outer portion being interiorly threaded and the inner portion being exteriorly threaded, and to prevent rotation of the inner portion I provide one or more spurs or tacks *m*, projecting from the bottom, and it will be observed that a rotation of the

outer portion of the shell will operate to move the lower portion toward or from the outer portion, and thus vary the tension upon the spring. A similar construction is also illustrated in Fig. 8, wherein the outer portion is exteriorly threaded and the inner portion interiorly threaded, and of course a rotation of either of the parts, the other being at rest, will operate to vary the tension of the spring.

In each instance the ball is held from being carried too far outwardly by the inturned annular overhanging flange or ring portion *n*.

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

1. The combination in a sash-holding device of a cylindrical outer shell adapted to set into a cylindrical recess in a sash or casing and threaded at its inner portion, a threaded part adapted to engage said thread on the outer shell, means projecting from said second threaded part to engage the material into which the device sets and prevent rotation of said second threaded part, a spring and ball arranged within the device and means to rotate the outer threaded part whereby the inner threaded part may thus be forced outwardly or inwardly by reason of the rotation of said outer part, substantially as shown.

2. The combination of a cylindrical shell, a threaded plug in the inner end thereof, the head of the plug being other than round and projecting beyond the end of the shell, whereby the shell may be turned while in place and the plug remain at rest, a ball in the open end and a spring, bearing against the plug and arranged to force the ball outwardly.

3. In combination with a spur-provided recessed part or concave-headed tack adapted to be affixed to a sash or casing, a cylindrical outer shell capable of being turned, threaded to an inner member fixed in a casing or sash, the outer end of said shell being turned inwardly, a ball in said shell protruding from said inwardly-turned end, adapted to enter said recessed part, and a spring to thrust said ball outward, the tension of said spring and the consequent force of contact between said ball and recessed part being regulated by said threaded members, substantially as described.

ARTHUR G. TIDD.

Witnesses:

DEETER E. TILLEY,
THOMAS E. IRWIN.