

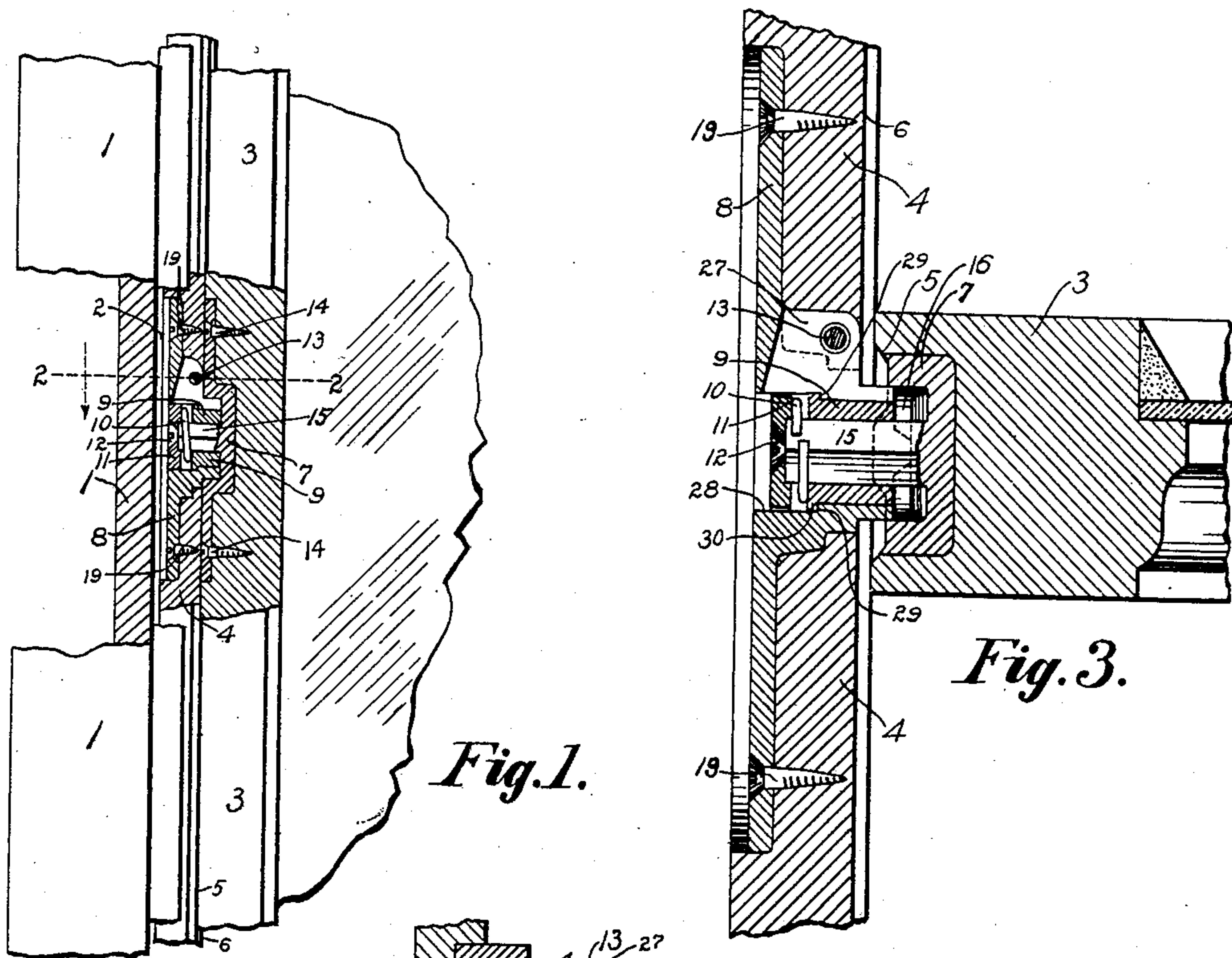
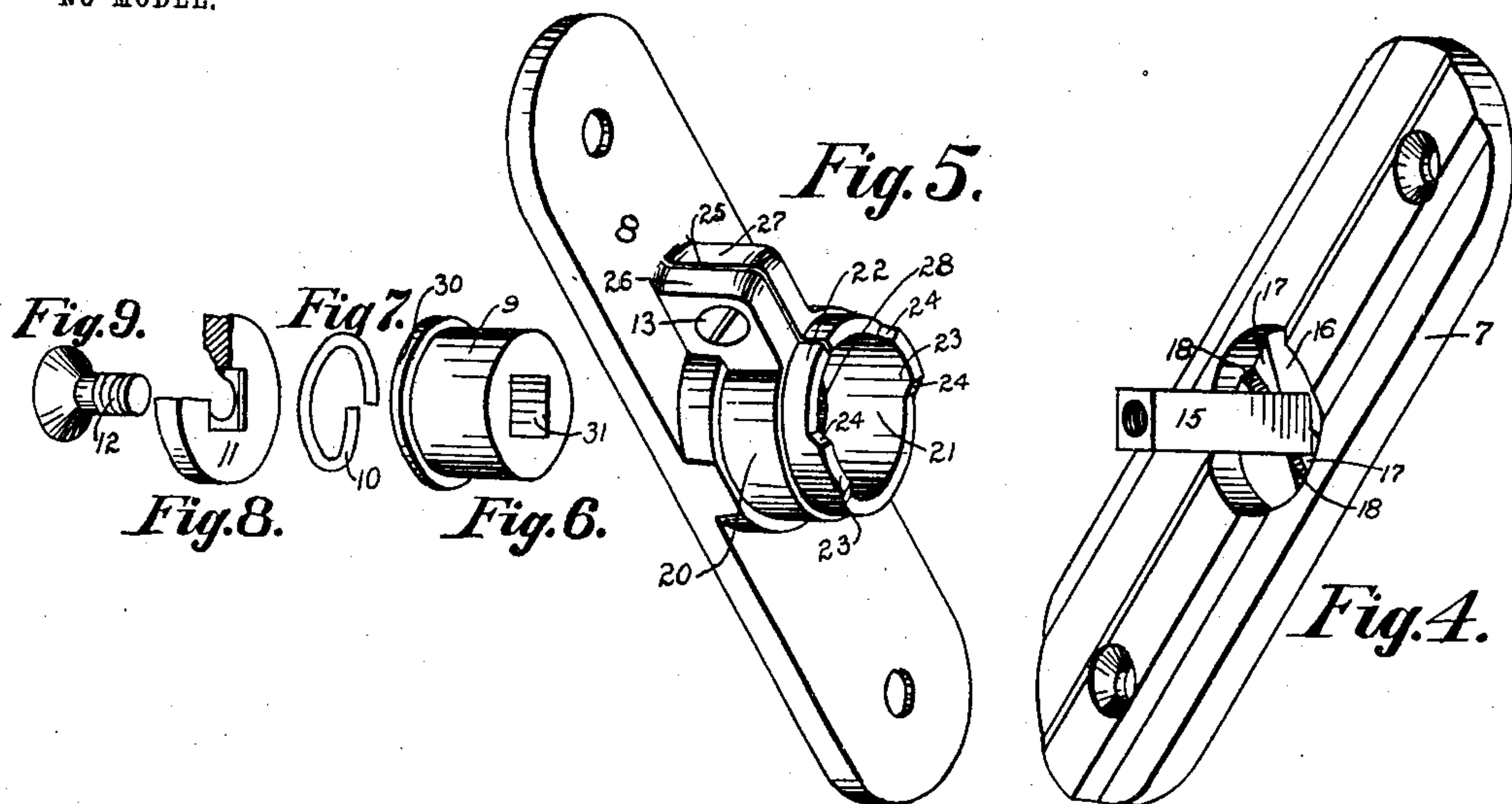
No. 762,634.

PATENTED JUNE 14, 1904.

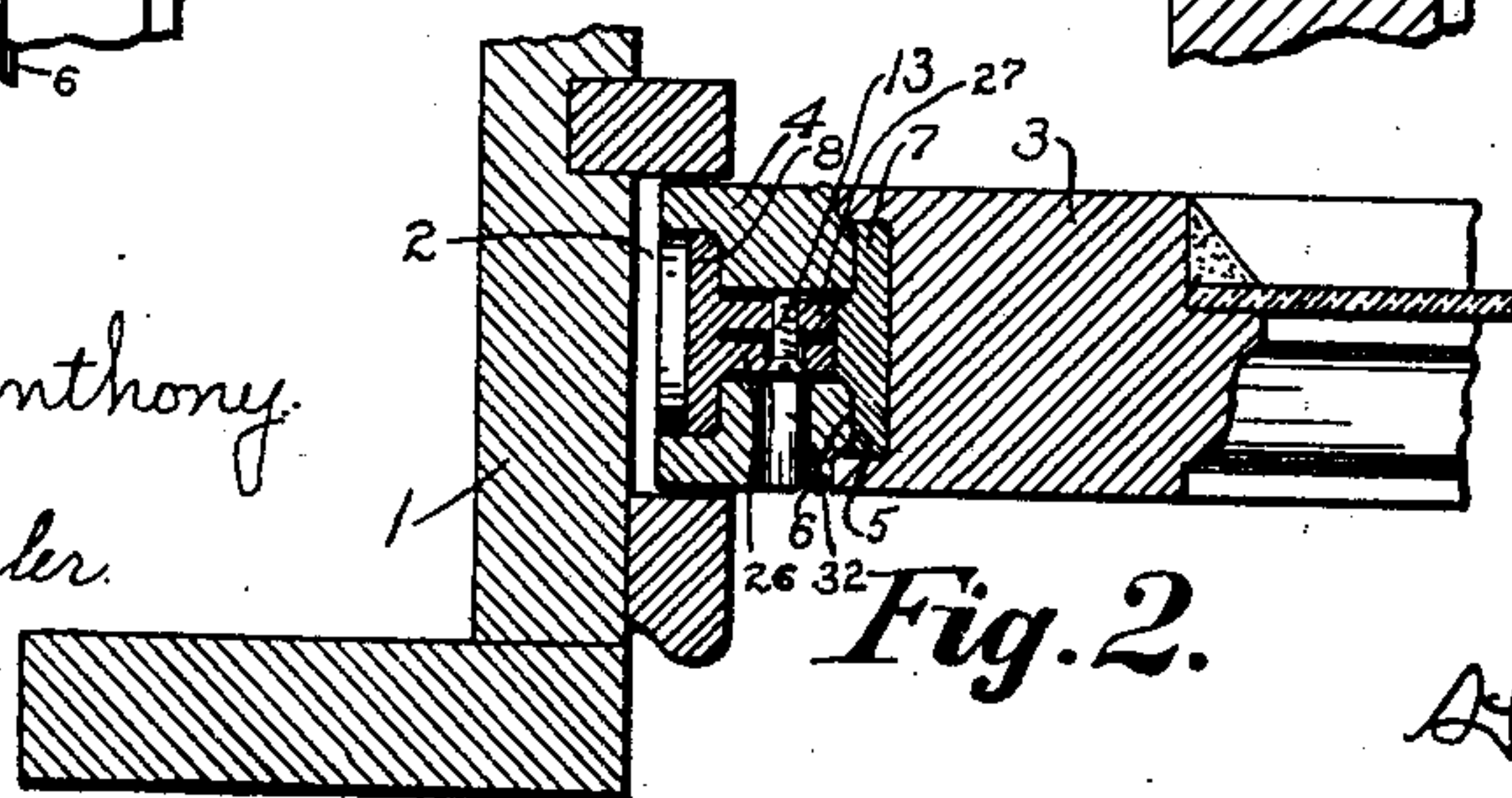
H. B. HITESHEW.
HORIZONTALLY PIVOTED WINDOW.

APPLICATION FILED MAR. 9, 1904.

NO MODEL.



WITNESSES
Minnie F. Anthony.
Joseph J. Hosler.



INVENTOR
Harvey B.
Hiteshew,
BY
Harry Freese,
ATTORNEY

UNITED STATES PATENT OFFICE.

HARVEY B. HITESHEW, OF PITTSBURG, PENNSYLVANIA.

HORIZONTALLY-PIVOTED WINDOW.

SPECIFICATION forming part of Letters Patent No. 762,634, dated June 14, 1904.

Application filed March 9, 1904. Serial No. 197,235. (No model.)

To all whom it may concern:

Be it known that I, HARVEY B. HITESHEW, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Horizontally-Pivoted Windows, of which the following is a specification.

The invention relates to windows having the sash horizontally pivoted to strips on each side, which strips are adapted to be separated laterally from the sash and to travel longitudinally in the grooves of the window-frame; and the object of the improvement is to provide a friction-grip bearing for the pivot which can be tightened to retard the rotation of the sash, but which will not interfere with the free lateral movement of the strips, by means of which grip the sash can be held in any position of rotation. This object is attained by the construction, mechanism, and arrangement illustrated in the accompanying drawings, in which—

Figure 1 is a fragmentary side view of a window frame and sash, showing the pivotal connection in longitudinal section; Fig. 2, an enlarged cross-section of the frame and sash on line 2 2, Fig. 1; Fig. 3, an enlarged longitudinal section of the pivot parts in the strip with the sash rotated to show a cross-section of the pivot parts therein; Fig. 4, a detached perspective view of the sash-plate; Fig. 5, a detached perspective view of the strip-plate; Fig. 6, a detached perspective view of the thimble-pivot; Fig. 7, a detached perspective view of the spiral spring; Fig. 8, a detached perspective view of the post-head; Fig. 9, a detached perspective view of the head-screw.

Similar numerals refer to similar parts throughout the drawings.

The window-frame 1 is made in the usual manner with a groove 2 on each side for receiving the respective sash-strips. The sash 3 is made less in width than the inside clear width of the frame, and the usual strips, as 4, are pivoted on the side edges of the sash and are adapted to operate in the respective frame-

grooves. The adjoining faces 5 and 6 of the sash edge and side strip are provided with grooves and ridges having inclined sides, so that when the sash and strip are alined and brought together the respective ridges enter and fit into the corresponding grooves, as shown particularly in Fig. 2, and when the sash is rotated on the strips the ridges are forced out of the grooves and bear against the crests of the opposing ridges, thus separating the strips from the sash according to the depth of the grooves, as shown in Fig. 3. To meet these conditions, the pivotal connection must provide for the lateral movement of the strips as well as for the rotation of the sash. Each pivotal connection is composed of the sash-plate 7, the strip-plate 8, the thimble-pivot 9, the spiral spring 10, the post-head 11, the head-screw 12, and the grip-screw 13 and is preferably located in the transverse axis of the sash. The sash-plate 7 is countersunk in the side edge of the sash, where it is attached, as by the screws 14. The face of the sash-plate is grooved and ridged like the edge of the sash, and from the middle of the plate projects the axial post 15, which post is preferably angular in cross-section. The annular depression 16 is preferably provided in this plate around the base of the post, and in the bottom of the depression are provided the radial recesses 17, having the inclined sides 18.

The strip-plate 8 is countersunk in the frame side of the strip, where it is attached, as by the screws 19, and on the strip-plate is provided the hub 20, which extends through the strip and in which hub is formed the pivot-bearing 21. The end 22 of the hub extends beyond the face of the strip and is adapted to operate in the depression around the hub-base of the post in the sash-plate, and the lugs 23, having the inclined sides 24, are provided on the end edge of the hub, which lugs are adapted to enter into the radial recesses in the sash-plate depression when the sash and the strip are alined. The longitudinal slit 25 is provided in one side of the hub, and the adjacent

ears 26 and 27 are formed on the edges of the slit, which ears are adapted to be drawn together by means of the grip-screw 13, by means of which the size of the bearing can be contracted. The spring-socket 28 is provided in the rear part of the hub and is formed somewhat larger than the pivot-bearing, thus forming the annular shoulder 29.

The thimble-pivot 9 is adapted to be entered and to rotate in the pivot-bearing and is provided with the external annular rim-flange 30 on its rear end, which flange is adapted to bear against the annular shoulder in the strip-plate hub. The thimble-pivot is also provided with the axial aperture 31, similar in size and angular section to the sash-plate post, in which aperture the post is adapted to be entered and to operate endwise. When the parts are assembled, the spiral spring is placed in the socket around the post and against the thimble-pivot flange, after which the head 11 is attached on the end of the post and against the spiral spring by the screw 12 or other suitable means, the spring being so compressed that its energy acts to draw the sash and their strip together at all times.

With the parts of the pivotal connection thus assembled and the respective plates attached to the sash and the strip, one on each side of the window, and with the strips entered in the window-frame grooves the sash is adapted to be rotated on its pivot-bearings by merely pulling or pushing the lower end of the sash. In such rotation each thimble-pivot turns in its pivot-bearing and at the same time is adapted to move endwise on its axial post to accommodate the lateral movement of the strip, and in this lateral movement the spiral spring is compressed between the thimble-flange and the post-head. When the sash is rotated out of line with the strips, the strips are of course separated from the sash in the usual manner by the action of the inclined sides of the ridges on the one against the similar inclined sides on the other until the crests of the ridges of the one ride on those of the other, as shown in Fig. 3; but to relieve the wooden ridges of this rubbing, especially in the middle part of the sash and strips, where the wear is the greatest and the energy of the springs the strongest, I prefer to use the lugs on the end of the bearing-hubs, the inclined sides of which operate against the sides of the radial recesses in the sash-plate depression to separate the strips from the sash, after which the ends of the lugs bear against the bottom of the sash-plate depression instead of depending upon the wooden ridges to do this work. It will be understood, however, that the bearing-hub extensions and the lugs thereon operating in the sash-plate depressions and the radial recesses therein are not essential to the proper operation of the other parts of the

pivotal connection, but are preferably used to give greater stiffness and strength to the joint and to relieve the wooden ridges of excessive wear.

When a sash is exactly balanced on its pivots or in cases where it is not desired to hold the sash in any given position of rotation, the grip-screw can be turned out, so as to relieve the thimble-pivot from any pressure or friction of the bearing; but when a window is not exactly balanced or it is desired to have the sash remain in a given position the grip-screw is tightened, so as to contract the bearing around the thimble-pivot to any degree necessary to accomplish the purpose. The grip of the bearing on the thimble-pivot only acts to retard the rotation of the sash, but does not affect the freedom of the endwise movement of the thimble on the axial post. The grip-screw is preferably adjusted by means of an ordinary screw-driver entered through an aperture, as 32, in the side of the strip.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A window-sash and a separable strip on its side edge, there being corresponding grooves and ridges on the adjoining faces, and a pivotal connection between the sash and the strip comprising an axial post on the one having a depression with radial recesses around its base, a relatively non-rotatable endwise-movable thimble on the post, a contractible bearing on the other in which the thimble is adapted to rotate, there being an extension on the bearing with lugs having inclined sides adapted to operate in the depression and recesses, and a spring acting to draw the sash and the strip together.

2. A window-sash and a separable strip on its side edge, there being corresponding grooves and ridges on the adjoining faces, and a pivotal connection between the sash and the strip comprising an axial post on the one, a relatively non-rotatable endwise-movable thimble on the post, a contractible bearing on the other in which the thimble is adapted to rotate, and a spring acting to draw the sash and the strip together.

3. A pivotal connection for a window-sash and a separable strip comprising an axial post on the one, a relatively non-rotatable endwise-movable thimble on the post, a contractible bearing on the other in which the thimble is adapted to rotate, and a spring acting to draw the sash and the strip together.

4. In a pivotal connection for a window-sash and a separable strip, an axial post on the one, a relatively non-rotatable endwise-movable thimble on the post, and a contractible bearing on the other in which the thimble is adapted to rotate.

5. A window-sash, a separable strip on its

edge, a pivot connecting the sash and the strip,
and a spring acting to hold the two together,
there being radial recesses around the pivot
in the one and projecting lugs having inclined
5 sides on the other adapted to enter the recesses
when the two are closed together.

In testimony whereof I have signed my name

to this specification in the presence of two sub-
scribing witnesses.

HARVEY B. HITESHEW.

Witnesses:

J. W. FINK,
JOHN FINK.