

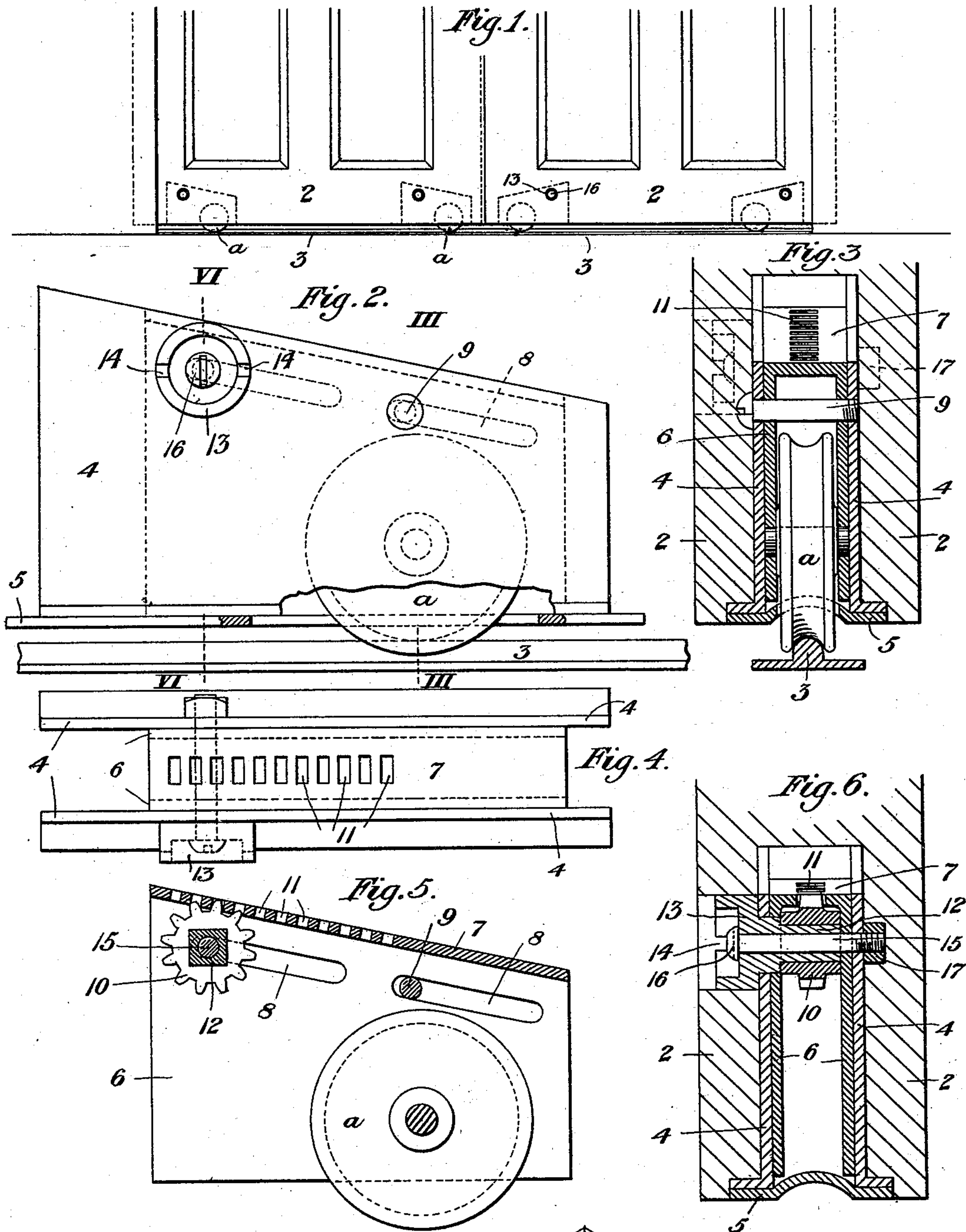
No. 637,677.

Patented Nov. 21, 1899.

C. SHIVELY.
ADJUSTABLE DOOR SHEAVE.

(Application filed Apr. 7, 1899.)

(No Model.)

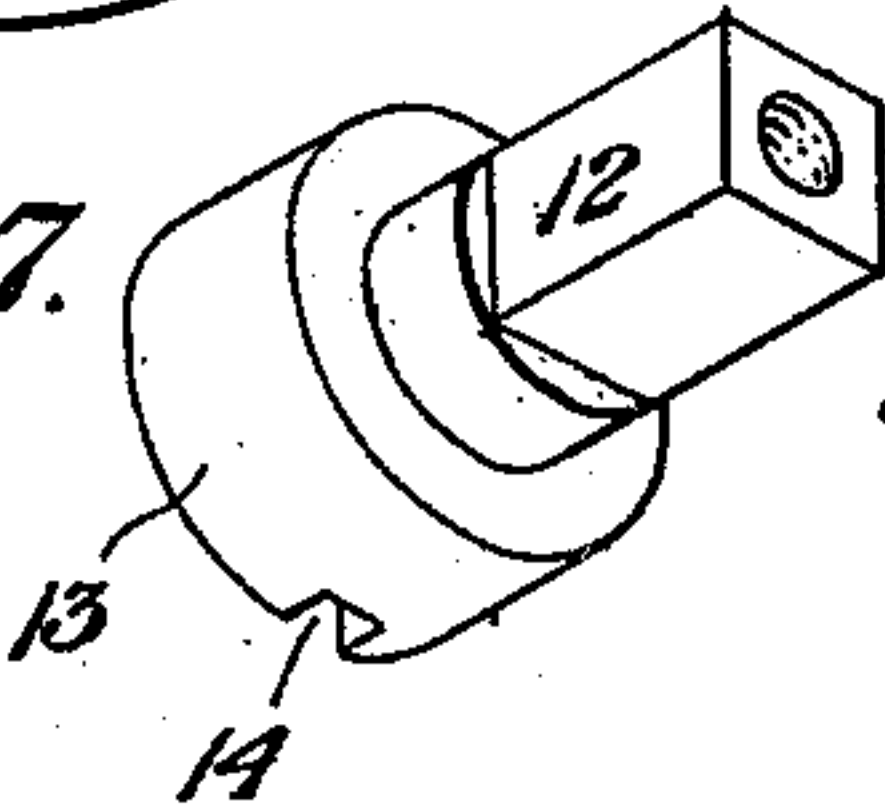


Witnesses:

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J. Edwards

Fig. 7.



Inventor:

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE DOOR-SHEAVE.

SPECIFICATION forming part of Letters Patent No. 637,677, dated November 21, 1899.

Application filed April 7, 1899. Serial No. 712,096. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN SHIVELY, a citizen of the United States, residing at Carnegie, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Adjustable Door-Sheaves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a partial view in elevation of a pair of sliding doors equipped with my invention. Fig. 2 is a view in side elevation, on an enlarged scale, of one of the complete adjustable sheaves. Fig. 3 is a vertical cross-sectional view on the line III III of Fig. 2. Fig. 4 is a top edge view of Fig. 2. Fig. 5 is a sectional detail view of the adjustable sheave-carrier. Fig. 6 is a vertical cross-sectional view on the line VI VI of Fig. 2. Fig. 7 is a detail view in perspective of the bushing on which the adjusting-pinion is mounted.

My invention relates to improvements in adjustable sheaves for sliding doors; and it consists in mechanism incorporated with the door, within which the sheave or supporting wheel is adjustably mounted, so that variations in the level of the door may be corrected by changing the relation of the sheave so as to raise or lower the door with relation to the floor-rail without removal of the sheave. These results are secured by means of the following-described mechanism:

Referring now to the drawings, 2 represents the door or doors, which, it will be understood, may be single or double, as desired, mounted within suitable wall-spaces and supported upon sheave-wheels adapted to run upon the floor-rail 3. At the bottom of the door, within a suitable cavity, is located the frame for the sheave-carrier, consisting of vertical plates 4 4, which may be of light cast or wrought metal and are connected at the bottom by a cross-plate 5, which preferably extends outwardly at each side and provides a convenient means for securing the housing to the door by screws. It will be understood, however, that the frame may be otherwise constructed in any convenient manner to provide a rigid support for the sheave-wheel carrier, as shall be hereinafter described, a longitudinal opening being provided in the bottom of sufficient length to

permit of the passage and adjustment of the sheave.

Within the housing is mounted the sheave-wheel carrier, consisting of downwardly-projecting side extensions 6 6 and a connecting cross-top 7, in which carrier, between the sides, is pivotally mounted the sheave *a*. This carrier is provided with one or more slots 8, set at an inclination from the horizontal and parallel with the top 7, and through the slots pass pins or screws 9, secured to the housing and supporting the carrier. The top purposely conforms to the same angle as the slots, so that as the carrier is adjusted forward or back the relation will be maintained. At any convenient position is located a pinion-wheel 10, the teeth of which intermesh with a series of perforations 11 in the top 7 in the manner of a rack, the pinion being mounted on a bushing 12, made rectangular or having a spline engagement with the hub of the pinion. This bushing is provided at its outer end with a head 13, recessed at 14 for insertion of a screw-driver or suitable key, by which the bushing and with it the pinion may be turned. Through the bushing passes a screw-bolt 15, having a head 16 also slotted for insertion of a screw-driver and tapped into a nut 17 at the other side of the housing. This nut should be securely attached to the frame to prevent turning, or, if preferred, the bolt may be tapped directly into the frame, which may be suitably reinforced, if desired, to give sufficient stock for the threads. This bolt also has a bearing in the slot 8 at one side, the slot at the other side being enlarged for passage of the bushing 12. After the entire device is assembled and located in proper position as to the door-level the bolt 15 is screwed tightly into the nut 17, and the parts are thus rigidly connected together and any movement of the sheave or carrier is prevented. When for any reason it is desirable to set the sheave up or down to correct inaccuracies in the level of the door, the bolt 15 is loosened, permitting the bushing and pinion to be turned, which operation, by reason of the engagement of the pinion with the teeth in the upper face of the carrier, will move the carrier and the sheave-wheel. The sloping slots will ride upon the bolts 9 and depress or raise the carrier to the

desired point, when the pinion may be again locked by tightening the screw 15. The entire operation of setting the device may be very easily and quickly accomplished by any one familiar with the use of a screw-driver, and these advantages of simplicity of construction and operation will be appreciated by all users of sliding doors.

As will be seen by Figs. 1 and 3, the head 13 of the bushing is visible and operated through a small circular opening in the face of the door, which, if desired, may be covered by a plug.

Changes and variations may be made in the construction or design of the parts by the skilled mechanic without departing from my invention, since I do not desire to be confined to the exact form shown and described, but to include within its scope all such changes as embodied in the following claims.

What I claim is—

1. An adjustable door-sheave consisting of a frame adapted to be set in the door, a carrier mounted therein provided with slanting slotted bearing, a sheave-wheel mounted on a pin in such carrier, a series of rack-teeth in the top of the carrier, and a pinion in engagement therewith and revolubly mounted on a bearing secured in the frame, substantially as set forth.

2. An adjustable door-sheave consisting of

a frame adapted to be set in the door, a carrier mounted therein provided with slots arranged at an angle to the horizontal, bearing-bolts secured in the frame and passing through the slots, a sheave-wheel mounted in the carrier, a series of rack-teeth in the top of the carrier, a pinion-wheel in engagement with such rack-teeth, a bushing passing through the pinion and in engagement therewith, and means for turning the bushing and pinion, substantially as set forth.

3. An adjustable door-sheave consisting of a frame adapted to be set in the door, a carrier mounted therein provided with slots arranged at an angle to the horizontal, bearing-bolts secured in the frame and passing through the slots, a sheave-wheel mounted in the carrier, a series of rack-teeth in the top of the carrier, a pinion-wheel in engagement with such rack-teeth, a bushing passing through the pinion and in engagement therewith, means for turning the bushing and pinion, and means for locking the pinion against movement, substantially as set forth.

In testimony whereof I have hereunto set my hand.

CHRISTIAN SHIVELY.

Witnesses:

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C. M. CLARKE.