No. 804,275. PATENTED NOV. 14, 1905.

R. C. TAYLOR.

CURTAIN FIXTURE.

APPLICATION FILED FEB. 9, 1905.

2 SHEETS—SHEET 1.

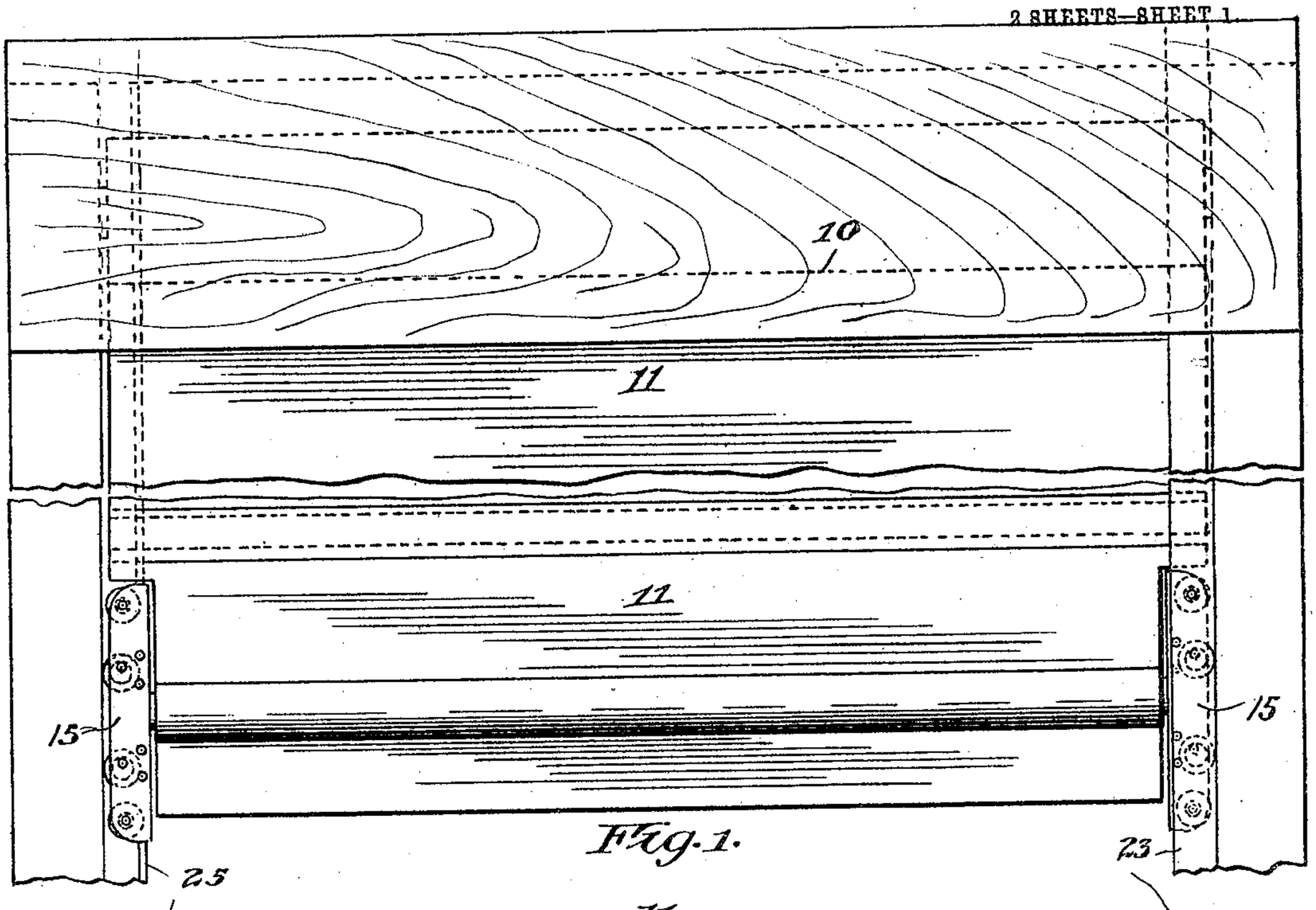


Fig. 1.

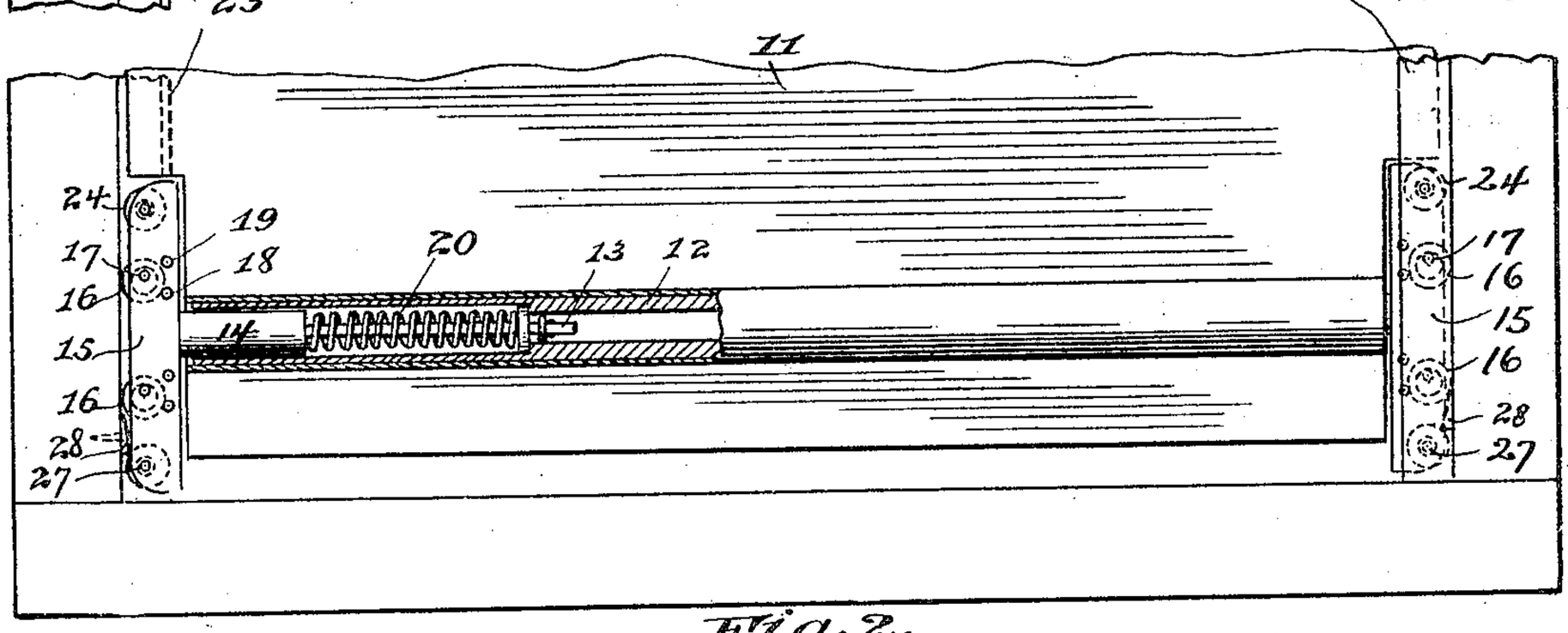


Fig. 2.

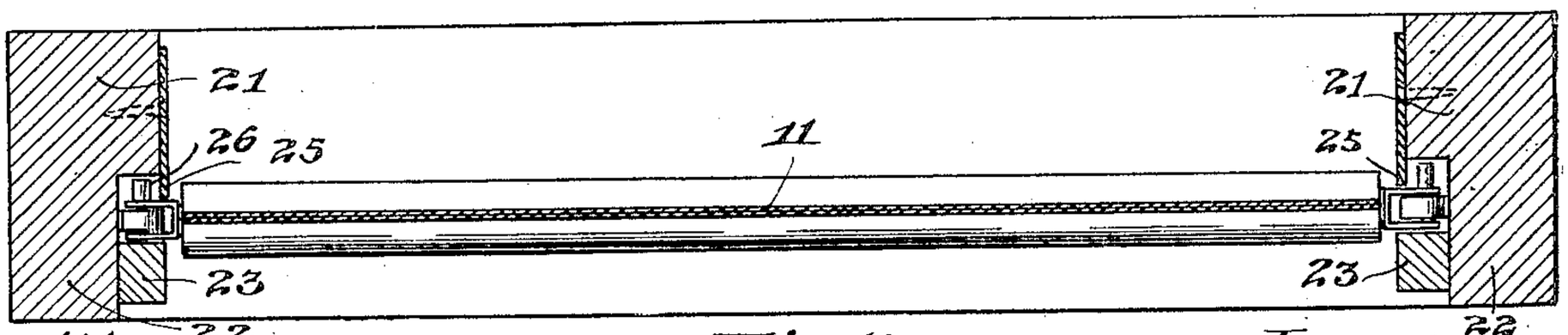


Fig. 3.

Witnesses,
F. D. Mann,
H. F. Litzenberg.

Inventor,
Robert C. Taylor
By Offield Towle & Linthicum
Attys.

No. 804,275. PATENTED NOV. 14, 1905.

R. C. TAYLOR.

CURTAIN FIXTURE.

APPLICATION FILED FEB. 9, 1905.

2 SHEETS—SHEET 2.

Fig. 4.

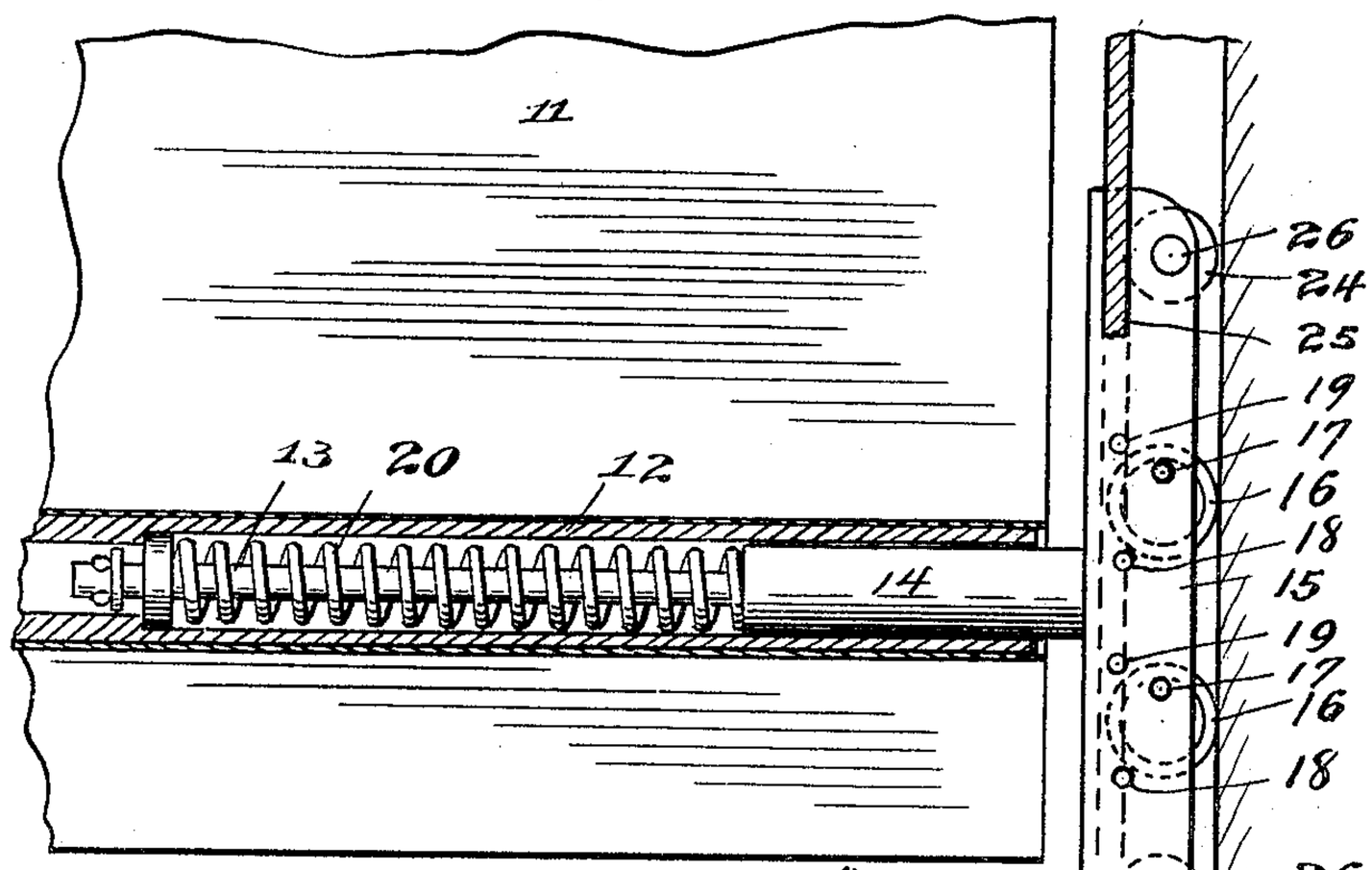


Fig. 6.

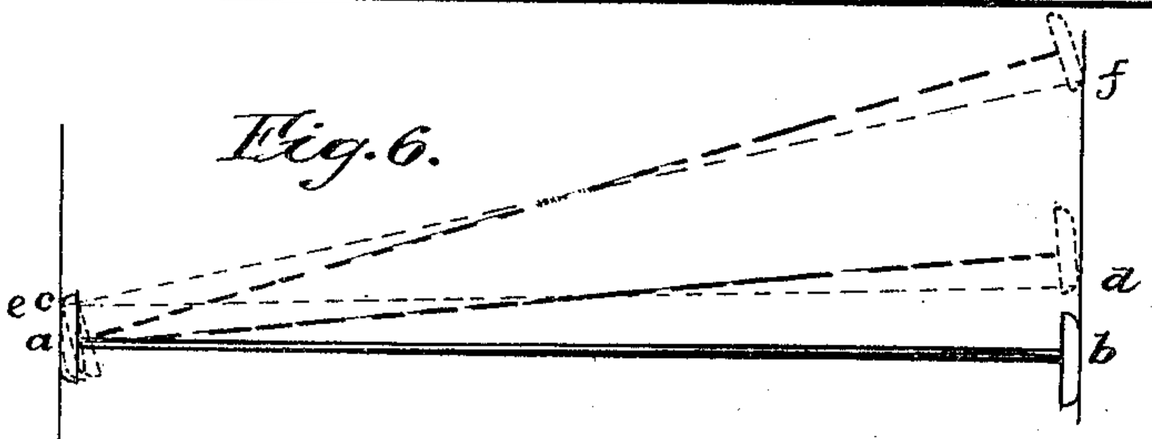
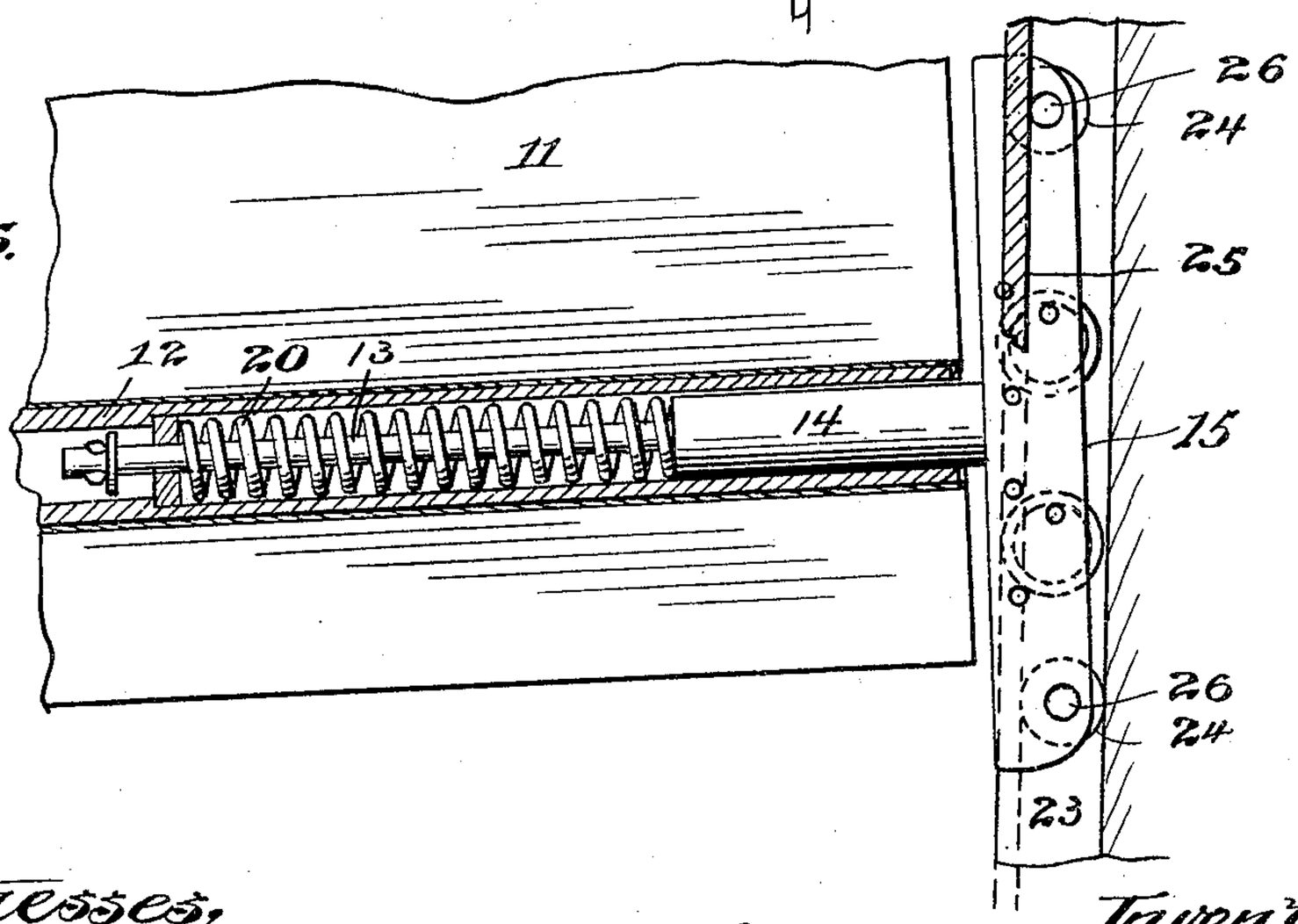


Fig. 5.



Witnesses,
S. Mann,
A. Litzenberg

Inventor,
Robert C. Taylor
By Offield, Towle & Linthicum.
Attys.

UNITED STATES PATENT OFFICE.

ROBERT C. TAYLOR, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CURTAIN-FIXTURE.

No. 804,275. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed February 9, 1905. Serial No. 244,915.

To all whom it may concern:

Be it known that I, ROBERT C. TAYLOR, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Curtain-Fixtures, of which the following is a specification.

This invention relates to an improvement in curtain-fixtures of the general class comprising a hollow curtain-stick having friction holding members which are held in contact with the window-frame by outwardly-forcing springs having a bearing interposed between the stick and the head. The particular form of curtain-fixture of this class most generally used comprises, in addition to the holding members, bearings arranged above and below the holding member and on which the fixture may rock when moved into an oblique position, as when grasped near one end, these provisions facilitating the return of the curtain-stick to its normal horizontal position under the pull of the shade-roller spring acting upon the taut edge of the curtain. This quality or characteristic has been denominated "self-righting." These self-righting fixtures have generally been used in closed cars, such as steam and street railway passenger-cars, while the type of fixture most generally employed at the present time upon open street-cars is of the cable or squaring-band type. A demand has arisen, however, for such a construction of fixture of the general class above mentioned as shall adapt it for use on wide and heavy curtains and upon open cars. These last-mentioned uses call for a considerable modification in the structure and capability of the fixture owing to the fact that the curtains are usually larger and are mounted upon shade-rollers having more powerful springs. The finish of the window frames or openings in this class of cars is usually not so good as in the closed cars, such as railway and street-railway cars, and frequently the openings covered by these curtains are used for passageways as a means of entrance and exit to and from the cars. Such use results inevitably in a more careless handling of the fixture, requiring that all of the parts shall be heavy and strong, and resulting also in rough usage due to the hurry of entrance and exit and the carelessness of the passengers. The self-righting fixture when handled with any degree of care properly performs its function; but it is possible to operate it in such a manner as to impair its efficiency and prevent the carrying out of its normal function. The principal cause of this impairment of the efficiency of the self-righting fixture in service is that when canted to an extreme position it is caused to bind or lock, and if this canting movement proceeds far enough the head can be forced entirely out of the grooves and the fixture separated from the guideways, when it will immediately be rolled up by the action of the spring in the shade-roller.

It is the purpose of my present invention to provide a fixture which shall avoid all of the objections above pointed out and which, while retaining to a degree the self-righting functions, is prevented from being operated in such manner as to impair such function or to be detached from its guide-grooves. This I accomplish in a very simple manner by a combination, with the fixture, of means for limiting the angular inclination or tilting of the head from its normal vertical position. This means may be of any desirable form provided it does not impair or destroy the principal object of the invention, which is to afford a curtain-fixture of the general class above mentioned having the necessary accommodation to meet improper usage without breaking or becoming damaged or getting out of the grooves.

In the accompanying drawings I have shown my invention in a preferred form and by way of premise to the description thereof state that I do not intend to confine myself to structural details except to the extent indicated by the claims.

In the drawings, Figure 1 is a broken elevation showing the ends of the curtain with a central section thereof removed and showing also the window-frame with the inner stops removed and the curtain-fixture in relation to the grooves. Fig. 2 is also a broken elevation showing the fixture in its lowermost position and engaging a lock secured in the lower end of the groove. Fig. 3 is a sectional plan view through the window-frame and curtain above the fixture. Figs. 4 and 5 are enlarged elevations showing fragmentary portions of the curtain and one end of the curtain-stick in longitudinal section with the head and its spring, the former view showing the normal

position of the head with reference to the bottom of the groove and the latter a canted position of the head; and Fig. 6 is a diagrammatic view showing in full lines the normal position of the fixture and by dotted lines two canted positions.

In the drawings, 10 is a spring-roller indicated in dotted lines, 11 the curtain wound thereon, and 12 the curtain-stick. In the ends of this stick are mounted the sliding rods 13 and the cylindrical shanks 14 of the heads 15. These heads are provided in the construction illustrated with holding members in the form of rings 16, loosely confined within the heads by the pins 17 and rocking onto and away from the fulcrum pins or points 18 19. These holding members are adapted to be drawn into action by the upward pull of the spring of the shade-roller, which will cause the ring to rock onto the fulcrum-pin or point 18, and thereby cause it to force the head inwardly against the thrust of the spring 20 and set the fixture in holding position. Downward pull upon the curtain causes the ring to rock away from the pin 18. These heads are adapted to travel in grooves formed by the frame members 21 22 and the inner stops 23.

The ends of the heads carry antifriction-rollers 24, on which the fixture may rock when canted into an oblique position. There is sufficient accommodation in the telescoping connection of the members of this class of fixture to permit the withdrawal of the heads from the grooves and the consequent detachment of the fixture from the frame of the window as they are ordinarily constructed and commonly used. Further, extreme tilting of the fixture may cause it to bind or lock instead of self-righting to the normal position. To avoid this, I provide means to limit the tilting movement, and in the embodiment shown in the drawings said means comprises a stop-plate or lip 25, overhanging one side of the groove, and limit-pins 26, carried by the head of the fixture. These pins may be provided by the elongation and enlargement of the journals 27 of the rollers 24.

The extent of tilting permitted will depend, of course, on the relative depth of the groove, the size of the rollers, and the location of the limiting means. As shown particularly in Fig. 3, when the fixture is in the normal position the limit-pin occupies a position midway between the overhanging lip and the bottom of the groove and the fixture may therefore be tilted substantially to the position indicated in Fig. 5. Its position may be varied within operative limits.

As shown in the embodiment illustrated, a limit-pin is provided at each end of the head in line with the journal of the antifriction-roller, and this has been found to be practicable and to confine the tilting of the fixture within the practicable limits of self-righting, while effectually preventing the escape of the heads from the grooves. This is indicated diagrammatically in Fig. 6, wherein the line *a b* indicates the distance between the contact-points of the fixture when it is in the normal position, the line *c d* representing the distance between the bearing-points when the fixture is canted approximately to the extent indicated in Fig. 5, and line *e f* representing an extreme canted position in which the fixture might become locked.

It may be stated that a tilting of the fixture from the normal position will increase the tension of the outwardly-thrusting springs up to a certain point, and beyond said point the further canting of the fixture will relieve said tension and permit the springs to elongate. In this latter and extreme position the fixture is likely to become locked; and the relieving of the tension of its springs will permit it to be thrown entirely out of the grooves. It is to overcome this objection that I provide the limiting means above described and at the same time permit such adjustment of the fixture to varying positions as the rough usage to which it is subjected will produce.

The proportions, form of the holding means, use of the antifriction-rollers, and the character and form of the limiting devices may be varied within wide limits without departing from the scope of my invention. I have shown a form of holding member which is not of my invention, and the same may be substituted by any other form of holding member. I have also shown a locking device comprising a beveled lug or locking-block 28, arranged in the bottom of the groove near the lower end of the frame and which is adapted to engage the lower antifriction-roller when the curtain is pulled down to the bottom of the frame. These locking means will be sufficient to prevent the rise of the curtain under the pull of the shade-roller springs and the usual vibrations due to the movement of the car; but it can be overcome and the curtain released by applying force to the lower edge of the curtain sufficient to overcome the outward thrust of the head due to the spring of the curtain-stick.

I claim—

1. A curtain-fixture comprising a curtain-stick, heads having holding members and bearings above and below the holding members, the heads being slidably mounted in the ends of the stick and also provided with pins adapted to engage the window-frame to limit the tilting movement of the fixture, substantially as described.

2. In a curtain-fixture, the combination with a curtain-stick, of heads loosely mounted in the ends of the stick and having outwardly-thrusting springs, said heads being provided with roller-bearings carrying lateral pins or studs adapted to engage an overhanging portion of the window-frame and limit the tilting of the fixture, substantially as described.

3. A curtain-fixture comprising in combination a curtain-stick, spring-pressed heads slidably mounted in the ends of the stick, roller-bearings for the heads, lateral studs carried by said roller-bearings and adapted to cooperate with the window-frame having a groove provided with an overhanging lip, substantially as described.

4. A curtain-fixture comprising in combination a curtain-stick, a head carried thereby, a holding member carried by the head adapted to frictionally engage a guideway in the window-frame, antifriction devices carried by the head, and a stop at the lower end of said guideway over which the lowermost antifriction device is adapted to ride and engage thereunder for holding the curtain in lowered position.

ROBERT C. TAYLOR.

Witnesses:
A. L. WHIPPLE,
MARTIN D. BRADLY.