C. J. KAPKA.

AWNING.

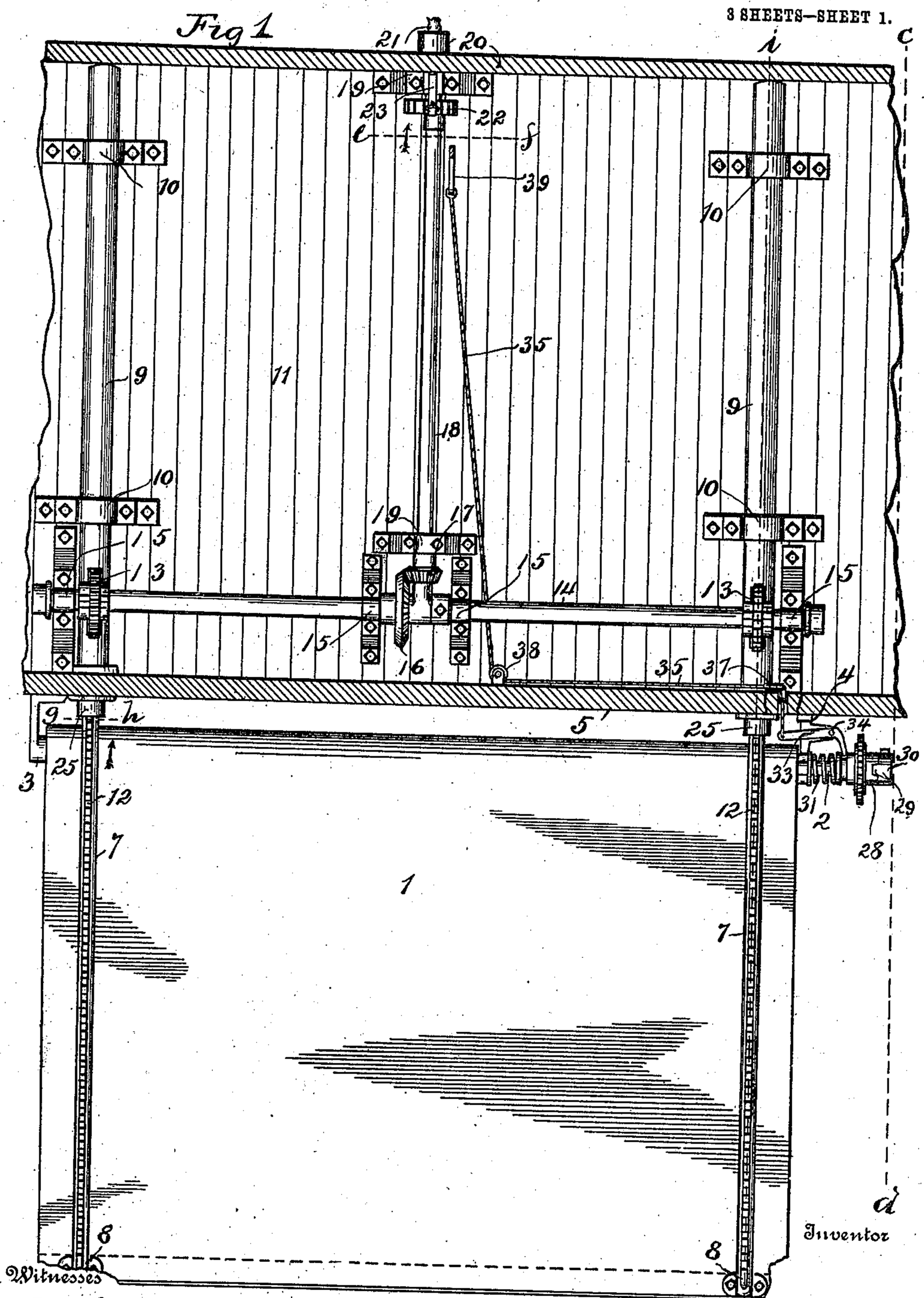
APPLICATION FILED OCT. 28, 1905.

963,713.

Patented July 5, 1910.

3 SHEETS—SHEET 1.

Fig 1



Witnesses

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3 SHEETS—SHEET 2.

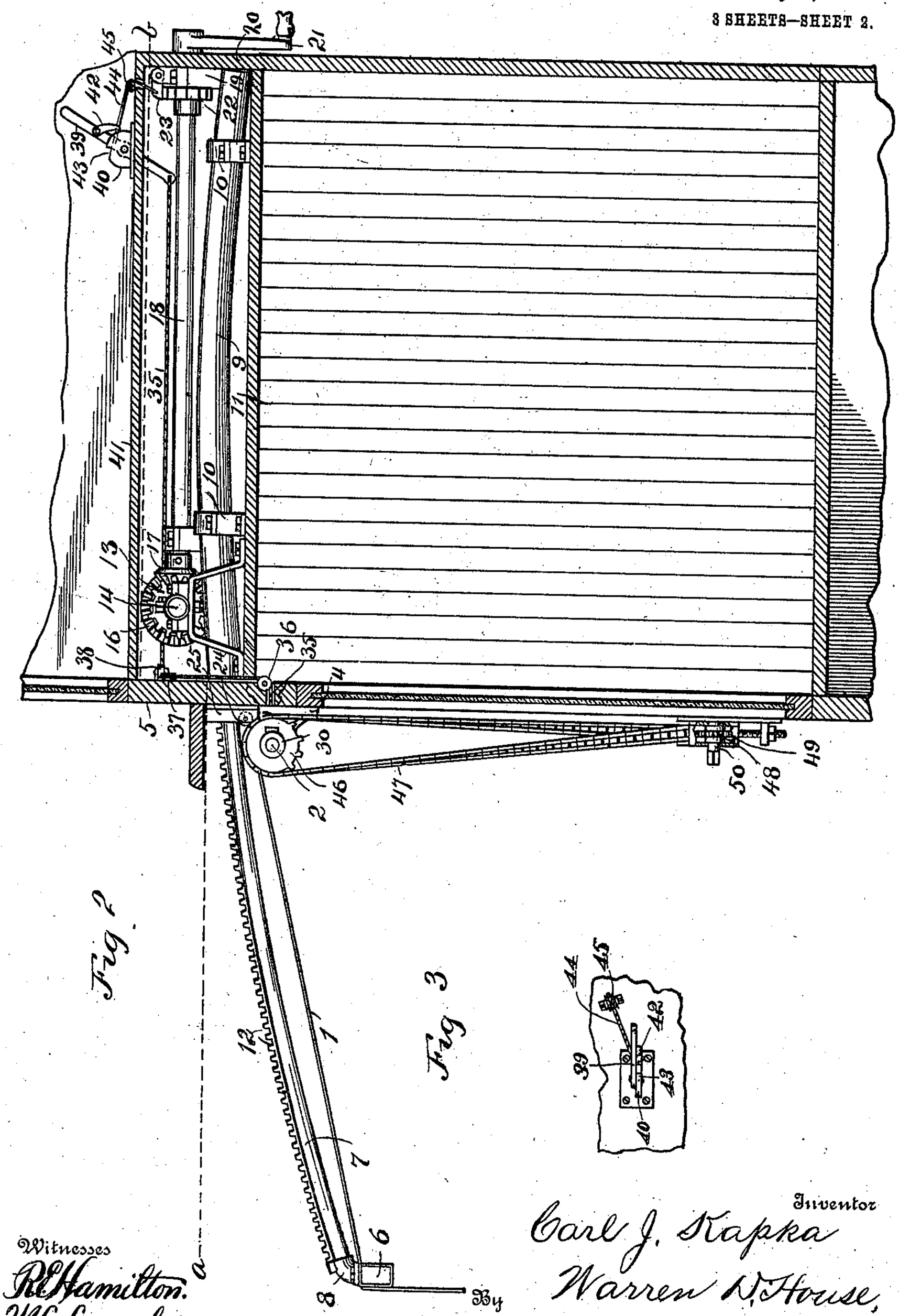

Fig. 2

Fig. 3

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3 SHEETS—SHEET 3.

Fig 4

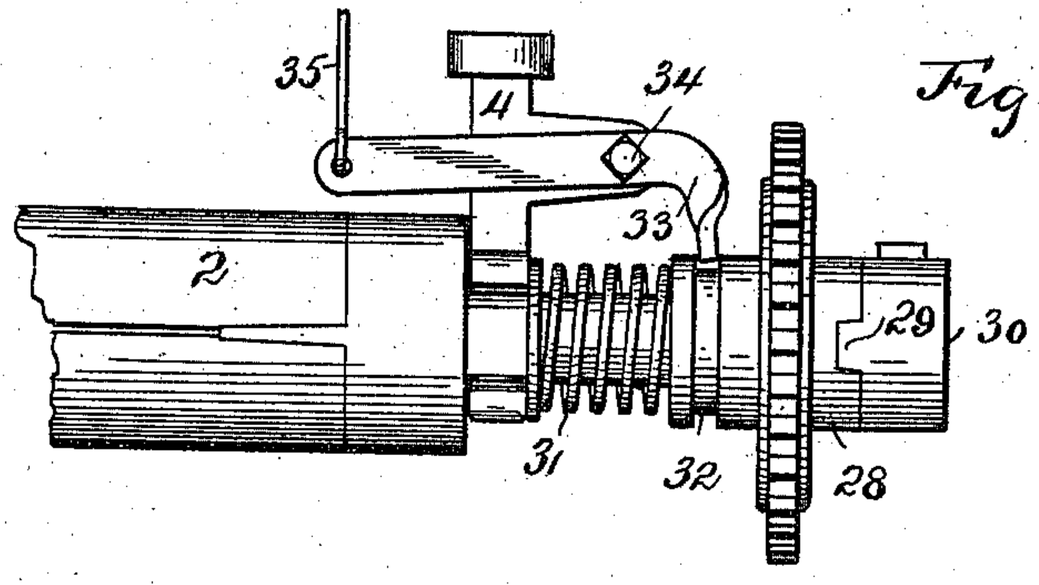


Fig 5

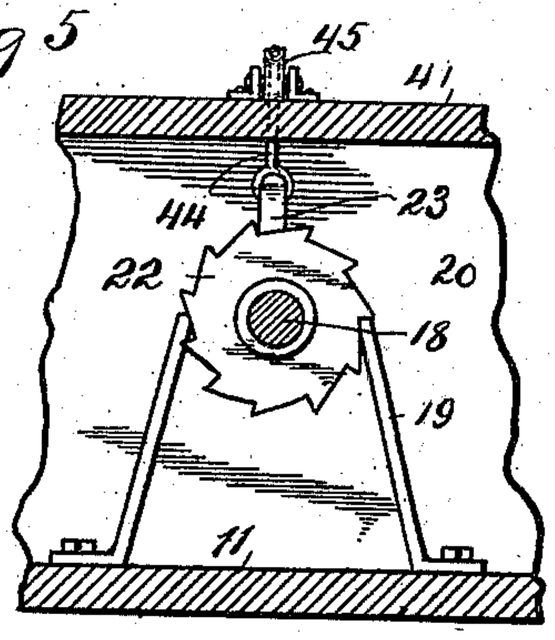


Fig 6

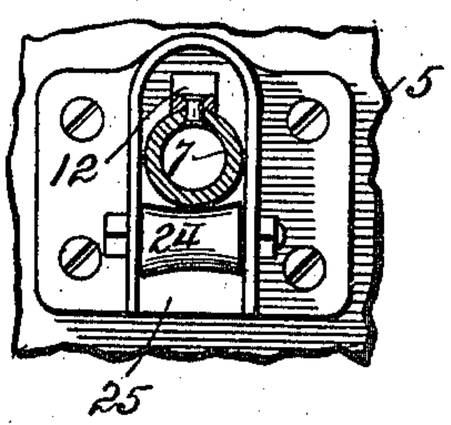


Fig 7

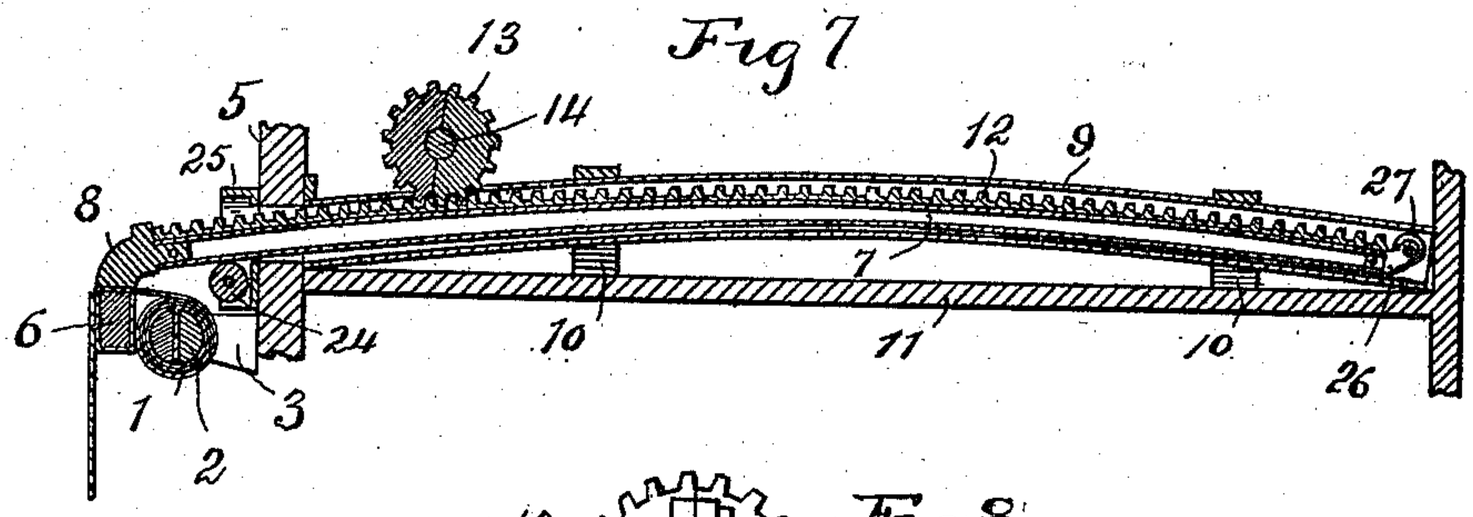
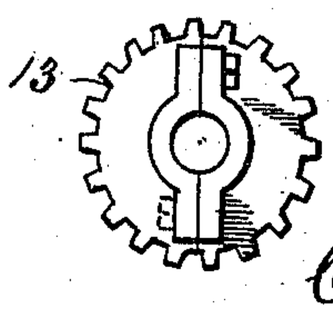


Fig 8



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UNITED STATES PATENT OFFICE.

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AWNING.

963,713. Specification of Letters Patent. Patented July 5, 1910.

Application filed October 28, 1905. Serial No. 284,821.

To all whom it may concern:

Be it known that I, CARL J. KAPKA, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented new and useful Improvements in Awnings, of which the following is a specification.

My invention relates to improvements in awnings.

It relates particularly to the class of awnings in which the awning sheet is extended by means of an inwardly and outwardly movable support, which support, when the awning is not in use, is withdrawn into the building, the awning sheet, at such time, being wound on a roller disposed on the front of the building.

The object of my invention is to provide a novel means by which the support may be moved outwardly and the awning sheet unwound from the roller and moved to the extended position.

My invention provides further means for releasably locking the awning support against inward retraction from any position in which it may be moved.

The invention provides also means by which the roller may be rotated so as to wind thereon the awning sheet, releasable connecting means being provided by which the roller and its rotating means may be disconnected so as to permit the free rotation of the roller when the awning is extended.

The invention provides means located in the building by which a person may from a place inside the building release the roller from its rotating means and cause the awning to be moved to the extended position.

The invention provides an awning support having downwardly curved members movable inwardly and outwardly in suitable guides located in the building, the curvature of the members permitting the downward inclination of the awning when extended and reducing to a minimum the space occupied in the building by the mechanism.

Other novel features are hereinafter fully described and claimed.

In the accompanying drawings illustrating my invention—Figure 1 is a horizontal sectional view taken on the broken dotted line *a*—*b* of Fig. 2. Fig. 2 is a side elevation view of the awning shown in the extended position, a portion of the building being shown in vertical section, taken on the dotted line *c*—*d* of Fig. 1. Fig. 3 is a top view of the lever employed to disconnect the roller from its rotating means, some of the parts connected with the lever also being shown. Fig. 4 is an enlarged top view of one end of the roller on which the awning sheet is wound and the clutch mechanism connecting the roller with its rotating means. Fig. 5 is a vertical sectional view taken on the dotted line *e*—*f* of Fig. 1. Fig. 6 is a vertical sectional view taken on the dotted line *g*—*h* of Fig. 1. Fig. 7 is a vertical sectional view showing the awning support retracted, the view being taken in a plane corresponding in position to the dotted line *i*—*j* of Fig. 1. Fig. 8 is an end elevation of one of the gear wheels employed to move the awning to its extended position.

Similar characters of reference denote similar parts.

1 denotes the awning sheet secured at its inner end to the periphery of a horizontal roller 2, rotatively supported at its ends in bearings 3 and 4 respectively, secured to the forward side of the building denoted by 5. The outer end of the awning sheet 1 is secured to an inwardly and outwardly movable support, comprising preferably the following described structure:—The outer end of the awning sheet is secured to a horizontal member 6, the ends of which are supported respectively upon the outer ends of two downwardly curved, rearwardly extending supporting members 7, preferably consisting each of a curved tube, the outer end of which has secured to it a fitting 8, secured to the adjacent end of the member 6, said member 6 comprising preferably the ordinary wooden bar. The members 7 are movable inwardly and outwardly respectively in guides provided therefor within the building, and on which the members 7 travel in a curve, said guides consisting preferably of downwardly curved tubes 9, disposed so as to receive therein the member 7 and supported each adjacent its ends in suitable bearings 10, supported upon a horizontal platform 11, serving as the top of an inclosed show window. On each member 7 is mounted a longitudinal rack 12, the teeth of which are engaged by the teeth of the spur gear wheels 13 mounted on and rotatable with a horizontal shaft 14, disposed in the rear of the front of the building 5 and rotatively mounted in bearings 15 secured to the upper side of the platform 11. The

upper sides of the tubular guides, 9 adjacent their outer ends, are slotted to receive therethrough the gear wheels 13 respectively. When the shaft 14 is turned in the proper direction the members 7 are forced outwardly through the intermediacy of the racks 12 and gear wheels 13. To rotate the shaft 14 it has secured to it a bevel gear wheel 16, which meshes with a bevel gear wheel 17, secured upon the outer end of a horizontal, rearwardly extending shaft 18, rotatively mounted adjacent its forward and rear ends respectively in suitable bearings 19, supported upon the platform 11. To the rear end of the shaft 18 and upon the outer side of the rear side 20 of the show window is a crank 21, by means of which the shaft 18 may be rotated. To prevent rearward movement of the awning support, due to wind pressure upon the awning sheet 1 when the awning sheet is extended, a locking mechanism is provided, which releasably locks the shaft 18 against rotation in a direction which would permit rearward movement of the supporting member 7. This releasable locking mechanism comprises a ratchet wheel 22, rigidly secured upon the shaft 18 forward of the rear bearing 19. Upon the said bearing 19 is pivotally mounted the rear end of a pawl 23, the forward end of which is adapted to engage the teeth of the ratchet wheel 22, which teeth are disposed so as to prevent rotation of the shaft 18 in a direction such that the members 7 would be rearwardly moved. When it is desired to move the members 7 to the position shown in Fig. 7, the pawl 23 is swung so as to clear the rack 22 in the manner hereinafter described. Each member 7 is supported at its forward end by means of a roller 24, rotatively mounted in a housing 25, secured to the front of the building 5. In the rear end of each tubular member 7, as illustrated in Fig. 7, is secured a fitting 26 the rear end of which is upwardly turned and has rotatively mounted in it a roller 27, which roller bears upon the inner upper side of the tubular guide 9, in which it is mounted.

I will now describe the mechanism by which the roller 2 is rotated, so as to wind thereon the awning sheet 1.

Upon the end of the roller 2, adjacent the bracket 4, is slidably mounted a sleeve 28, provided upon its outer end with a recess adapted, when the sleeve is in the position shown in Fig. 4, to receive therein a projection 29, provided on the inner end of a collar 30, rigidly secured upon the end of the roller 2. A coil spring 31, encircling the roller 2, bears at one end upon the bracket 4 and at the other end upon the inner end of the sleeve 28, the tension of the spring being such that the sleeve 28 is normally held against the collar 30. When the sleeve 28 is moved inwardly so as to clear the projection 29, the roller 2 may be rotated without turning the sleeve 28. For moving the sleeve 28 out of engagement with the collar 30, the inner end of the sleeve is provided with an annular groove 32, in which is disposed the forward end of a horizontal bell crank lever 33, pivotally mounted adjacent its angle, upon the bracket 4 by means of a vertical pin 34. To the other end of the bell crank lever 33 is secured the forward end of a cord, wire, or other similar instrumentality 35, which extends rearwardly from the said lever around a roller 36, secured to the inner side of the wall 5, thence upwardly to and over a pulley 37, thence horizontally along the inner wall 5 above the platform 11, to and around a pulley 38, supported upon the rear side of the wall 5, and thence rearwardly to the lower end of a lever 39, to which it is secured. The lever 39 is vertically disposed and is pivotally mounted upon a vertical segmental bracket 40, secured upon the upper side of a platform 41, disposed parallel with and above the platform 11. Upon the lever 39 is pivoted one end of a pawl 42, the other end of which, when the upper end of the lever 39 is swung forward to the proper position, will drop into a notch 43 in the segmental bracket 40, thus releasably retaining the lever 39 in the position to which it has been moved. When the lever 39 has been moved so that the pawl 42 enters the notch 43 the cord 35 will be drawn rearwardly thus swinging the inner end of the lever 33 rearwardly and forcing the sleeve 28 to a position in which it will be free from the projection 29. By withdrawing the pawl 42 from the notch 43, the coil spring 31 will force the sleeve 28 again into engagement with the collar 30, thus drawing forward the lower end of the lever 39 by means of the cord 35 and bell crank lever 33. A cord 44 has one end secured to the pawl 23, passing from thence upwardly through a hole provided in the platform 41, thence over a pulley 45 rotatively mounted upon the platform 41 and thence forward to the lever 39, to which the cord 44 is secured at a point above the point of pivotal connection between the lever 39 and bracket 40. The sleeve 28 has mounted upon it and preferably an integral part of it, a sprocket wheel 46 connected by a sprocket chain 47 with a sprocket wheel 48, secured upon a horizontal shaft 50 rotatively mounted in a housing 49, secured to the wall 5. The forward end of the shaft 50 is squared so as to be gripped by a wrench.

To retract the awning support from the position shown in Figs. 1 and 2, to that shown in Fig. 7, the shaft 50 is rotated so as to turn the roller 2, by the mechanism hereinbefore described, in a direction such that the awning sheet 1 will be wound upon

the roller 2, thus drawing rearwardly the awning support to the position shown in Fig. 7. To move the awning support to the extended position, shown in Figs. 1 and 2, the lever 39 is swung to a position in which the pawl 42 will enter the notch 43, at which time, as already described, the pawl 23 will be swung free from the ratchet wheel 22 and the sleeve 28 will have been moved inwardly so as to clear the projection 29 of the collar 30, thus permitting free rotation of the shaft 18 and roller 2. By now turning the crank 21 in the proper direction the shaft 14 will be rotated so as to force the member 7 outwardly, by means of the racks 12 and gears 13, to the position desired. The lever 39 is then swung rearwardly at its upper end, the pawl 42 having been raised clear of the bracket 40 to permit such movement. The cord 44 by its rearward movement will permit the pawl 23 to engage the ratchet 22, thus preventing any rearward movement of the members 7, as already described. At the same time the spring 31 will force the sleeve 28 outwardly into locked engagement with the collar 30.

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

1. The combination with the awning sheet, of an inwardly and outwardly movable support for the outer end of the sheet, a rotary shaft, means by which said support is outwardly moved when the shaft is rotated, a roller supporting the inner end of the sheet, means for rotating said roller so as to wind thereon the awning sheet, means for connecting and disconnecting said rotating means and said roller, and means for rotating said shaft.

2. The combination with the awning sheet, of an inwardly and outwardly movable support for the outer end of the sheet, a rotary shaft, means for outwardly moving said support when said shaft is rotated in one direction, releasable means for preventing inward movement of said support, a roller supporting the inner end of the sheet, means for rotating said roller so as to wind thereon said sheet, means for connecting and disconnecting said rotating means and said roller, and means for rotating said shaft.

3. The combination with the awning sheet, of an inwardly and outwardly movable support for the outer end of the sheet, said support having a rack disposed parallel with the direction of movement of said support, a rotary shaft, a gear wheel having its teeth engaging the teeth of said rack and rotatable with said shaft, means for rotating said shaft, a roller supporting the inner end of said sheet, means for rotating said roller so as to wind thereon the awning sheet, and means for connecting and disconnecting said rotating means and said roller.

4. The combination with the awning sheet, of an inwardly and outwardly movable support for the outer end of the sheet, the support having a rack disposed parallel with the direction of movement of the support, a rotary shaft, a gear wheel having its teeth engaging the teeth of the rack and rotatable with said shaft, means for rotating said shaft in a direction for forcing the support outwardly, releasable means for preventing inward movement of the support, a roller supporting the inner end of said sheet, means for rotating said roller so as to wind thereon said sheet, and means for connecting and disconnecting said rotating means and said roller.

5. The combination with the awning sheet, of a horizontal member supporting the outer end of said sheet, a plurality of members supporting said horizontal member, means for outwardly moving said plurality of members, a roller supporting the inner end of said sheet, means for rotating said roller and winding thereon said sheet and thus retracting inwardly said plurality of members, and means for connecting and disconnecting said rotating means and said roller.

6. The combination with the awning sheet, of a horizontal supporting member for the outer end of the sheet, a plurality of members supporting said horizontal member, means for outwardly moving said plurality of members, a roller supporting the inner end of said sheet, means for rotating said roller in a direction for winding thereon said sheet and retracting inwardly said plurality of members, means for connecting and disconnecting said roller and said rotating means, and releasable means for locking said plurality of members against inward movement.

7. The combination with the awning sheet, of a support for the outer end thereof having a plurality of inwardly and outwardly movable members, a plurality of racks mounted longitudinally respectively on said members, a plurality of tubular guides in which said members are inwardly and outwardly movable respectively, a rotary shaft, a plurality of gear wheels rotatable with the shaft and meshing respectively with said racks, means for rotating said shaft in one direction, releasable means for preventing rotation of said shaft in the opposite direction, a roller supporting the inner end of said sheet, means for rotating said roller so as to wind thereon said sheet, and means for connecting and disconnecting said roller and said rotating means.

In testimony whereof I affix my signature, in presence of two subscribing witnesses.

CARL J. KAPKA.

Witnesses:

WARREN D. HOUSE,

GEORGE C. LA MOUNTAIN.