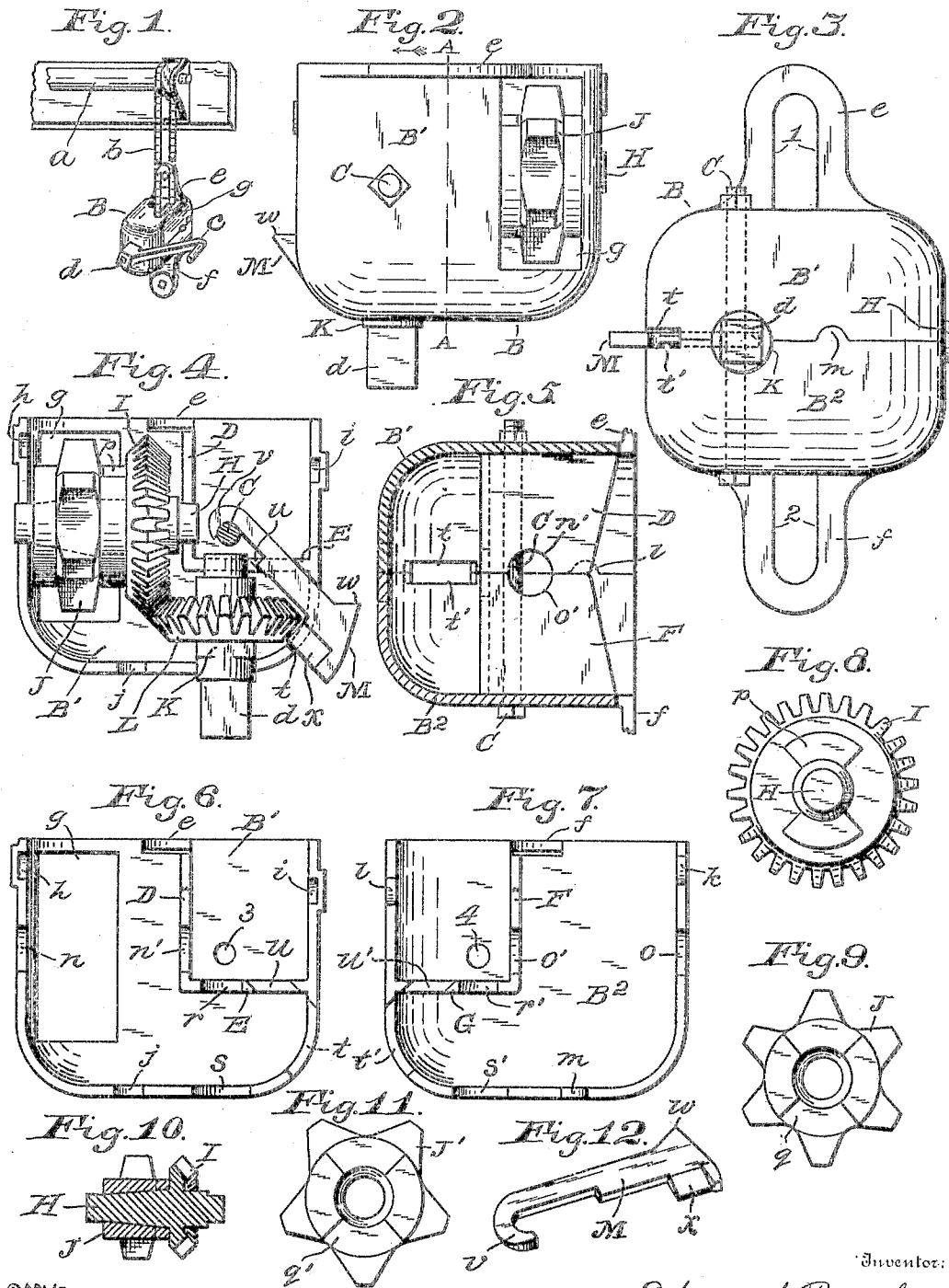


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CRANK GEARING FOR AWNINGS.
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CRANK-GEARING FOR AWNINGS.

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To all whom it may concern:

Be it known that I, EDMUND ROSENBERG, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Crank-Gearing for Awnings; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to crank boxes and gearing for operating roller-awnings; and the invention has reference particularly to the gearing to which the crank is to be connected for controlling the sprocket-chain that operates the roller of the awning, to the box that supports and incloses the gearing, and to the lock for the gearing.

The object of the invention is to provide gearing of the above-mentioned character of improved construction, so that parts thereof may be quickly removed and other parts of different dimensions substituted therefor.

Another object is to so improve the construction of the crank-boxes that they may be produced cheaply and be adapted to receive various sizes of gearing; and a still further object is to provide an improved locking apparatus for the gearing, whereby the awning may be held at any position desired.

With the above-mentioned objects in view the invention consists in the novel parts contained in the apparatus, and in the novel combinations and arrangements of parts, as hereinafter particularly described and claimed.

Referring to the drawings, Figure 1 is a fragmentary perspective view illustrating the purpose of the invention and showing the relative arrangements of the features comprised in roller-awnings, the awning being omitted; Fig. 2, a top plan of the crank-box constructed in accordance with the invention; Fig. 3, a front elevation of the crank-box; Fig. 4, a plan of the upper half of the crank-box inverted and the gearing therein; Fig. 5, a vertical sectional view of the empty crank-box on the line A A in Fig. 2, the securing-ears thereof being broken away; Fig. 6, a plan

of the empty upper half of the crank-box inverted; Fig. 7, a top plan of the interior of the lower half of the empty crank-box; Fig. 8, an end view of the counter-shaft and bevel gear-wheel that directly drives the sprocket drive-wheel; Fig. 9, an elevation of the inner side of the sprocket drive-wheel; Fig. 10, a central longitudinal sectional view of the counter-shaft and the bevel gear-wheel and the sprocket drive-wheel thereon; Fig. 11, an elevation of the inner side of a sprocket drive-wheel that may be used interchangeably on the counter-shaft with the other sprocket-wheel, and Fig. 12 a perspective view of the lock-bolt of the apparatus.

Similar reference characters in the drawings designate corresponding elements or features in the several figures thereof.

In Fig. 1, *a* designates the roller to which the awning is to be attached, and *b* the sprocket-chain for rotating the roller in its bearings, the chain being operated by the gearing in the crank-box B, and *c* designates the crank detachably connected to the squared end *d* of the drive-shaft of the gearing in the crank-box. The crank-box is composed of a shell consisting of two halves B' and B², fitting closely together and separable, the dividing plane thereof being horizontal. The upper half B' is provided with an upwardly-projecting ear *e* at its rear side, having a slot 1 therein, and the lower half B² is provided with a downwardly-projecting ear *f* at its rear side, having a slot 2 therein for bolting the box adjustably to the side of the building below the awning-roller near the ground. The two halves are held together by a bolt C, the shell having holes 3 and 4 to receive the bolt. The upper half B' has an aperture *g* in its top to admit the chain *b*. Partitions D and E are connected together at right angles and also to the shell of the half B', and partitions F and G are connected together at right angles and also to the shell of the half B², the partitions of the upper half registering with the partitions of the lower half. The upper half B' has recesses *h*, *i*, and *j* in the parting edge of its shell to receive projections *k*, *l*, and *m* of the parting edge of the lower half B², whereby to insure matching of the two halves of

the box. The box is provided with bearings, in which a counter-shaft H is journaled, the bearings being composed of half-bearings *n* and *o* in the parting edges of the shell and half-bearings *n'* and *o'* in the parting edges of the partitions D and F. A bevel gear-wheel I is secured to the shaft H, (in the present case being shown as integral therewith,) and a sprocket-wheel J is mounted removably on the shaft H adjacently to the gear-wheel, the latter having clutch projections *p* entering recesses *q* in the wheel J, whereby the two wheels are locked detachably together. The shaft H is tapering, as is the bore of the sprocket-wheel, to insure close fitting of rough castings. A main shaft K is journaled in bearings formed of half-bearings *r* and *r'* in the partitions E and G and like bearings *s* and *s'* in the edges of the shell of the halves B' and B², and a bevel gear-wheel L is secured to the shaft K and meshes with the wheel I to drive the counter-shaft H, the shaft K having the squared end *d* projecting beyond the front of the box B. The rear part of the box is open as constructed, but is closed by the building supporting the box. In one of the front corners of the box is a guideway formed of a recess *t* in the parting edge of the upper half B' and a recess *t'* in the parting edge of the lower half B², and a somewhat similar guideway is formed in the parting edges of the partitions E and G by recesses *u* and *u'* therein. In the two guideways a lock-bolt M is mounted slidingly, so as to move longitudinally only, the bolt having a hook *v* at its inner end beyond the inner guideway adapted to engage the bolt C to stop the bolt M when moved outwardly. The lock-bolt M has a finger-hold *w* for withdrawing the bolt and for stopping the bolt when it is pushed inward, the bolt M having also a blade *x*, adapted to engage the teeth of the wheel L to lock the gearing thereby.

A sprocket-wheel J', having recesses *q'*, may be used in lieu of the wheel J, the wheels having a different number of teeth, so that different patterns of sprocket-chains may be used. Also the wheels I and L may be made in various sizes and either size be used in the same crank-box.

Each part of the apparatus except the bolt C is adapted for being molded and cast ready for use without requiring machining of any kind.

In practical use the lock-bolt M must be in its outermost position in its guideways, as in Fig. 4, and the gearing may then be operated and the awning-roller controlled by means of the sprocket-chain if the crank *c* be connected to the end *d* of the main shaft K. If the lock-bolt be pushed inward, so as to carry the blade *x* between two of the teeth of the wheel L, the wheel will be securely locked against rotation, and consequently the roller *a* will be held against rotation, thus holding the

awning in any position above its lowermost position. Dust usually is blown by the winds into the aperture *g*, which cannot be prevented, but may readily be removed after removing the upper half B' of the box, when the gearing may also be readily removed and cleaned and greased or oiled. The slot 2, which extends through the bottom of the part B², serves also as a drain for water that may enter the aperture *g*.

Having thus described the invention, what is claimed as new is—

1. Apparatus for controlling awning-rollers including a crank-box comprising two corresponding parts, each part having a base-ear projecting beyond its rear side and having also a bolt-hole in the body portion thereof, and a bolt extending through said holes and the interior of said box and holding said two parts thereof together.

2. Apparatus for controlling awning-rollers including a two-part crank-box parting on a horizontal plane, a plurality of rotative shafts journaled in said plane and having meshing gear-wheels thereon, a sprocket-wheel attached to one of said shafts, and a vertically-disposed securing-bolt holding the two parts of said box together.

3. Apparatus for controlling awning-rollers including a crank-box comprising two corresponding parts having partitions therein provided with bearings, rotative shafts mounted in the bearings of said partitions and also in the shell of the box, connecting gear-wheels on the shafts, a lock-bolt mounted slidingly in said box and adapted to engage one of said gear-wheels, and a fixed stop in said box adapted to be engaged by said bolt.

4. Apparatus for controlling awning-rollers including a two-part crank-box, a movable gearing mounted in the crank-box, a sprocket-wheel driven by the movable gearing, a lock-bolt mounted in the crank-box and adapted to engage and lock the movable gearing, and a bolt securing the two parts of the crank-box together and also serving as a stop for the lock-bolt.

5. A crank box and gearing for awnings comprising two halves having matching recesses and projections and also having partitions therein provided with journal-bearings, journal-bearings in the shells of the halves, shafts journaled in the bearings in said shells and said partitions, a sprocket-wheel mounted on one of the shafts, gear-wheels connecting the shafts together, guideways in said shells and said partitions, a securing-bolt fastening said two halves together, and a lock-bolt mounted slidingly in said guideways and having a hook forming a stop therefor against said securing-bolt.

6. The combination, with an awning-roller and a drive device therefor, of a crank-box comprising two halves having each a partition therein provided with journal-bearings, jour-

nal-bearings in the shells of the halves, shafts journaled in said bearings, gear-wheels operatively connecting the shafts together, a securing-bolt extending through said box in proximity to said partitions and holding said two halves together, and means operatively connecting one of said shafts with said drive device.

7. The combination, with an awning-roller and a drive-chain therefor, of a crank-box comprising two corresponding halves having each a partition therein provided with journal-bearings, journal-bearings in the shells of the halves, gear-wheels connecting the shafts operatively together, a sprocket-wheel mounted on one of the shafts in connection with said drive-chain, guideways in said box, a lock-bolt mounted slidingly in said guideways and

adapted to engage one of said gear-wheels, and a plurality of stops for said lock-bolt.

8. The combination, with a crank-box having journal-bearings therein, of a pair of shafts journaled in the bearings of the crank-box, gear-wheels on the shafts in operative engagement, a sprocket-wheel on one of said shafts, a lock-bolt stop attached to said box, a lock-bolt having a blade adapted to engage the teeth of one of said gear-wheels and provided with a hook adapted to engage said stop, and guides in said box for said bolt.

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

EDMUND ROSENBERG.

Witnesses:

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