

D. D. SAMAIA.
CHAIN AND ROLLER GEARING FOR AWNINGS AND THE LIKE.

APPLICATION FILED JULY 7, 1910.

Patented Oct. 22, 1912.

1,041,883.

2 SHEETS—SHEET 1.

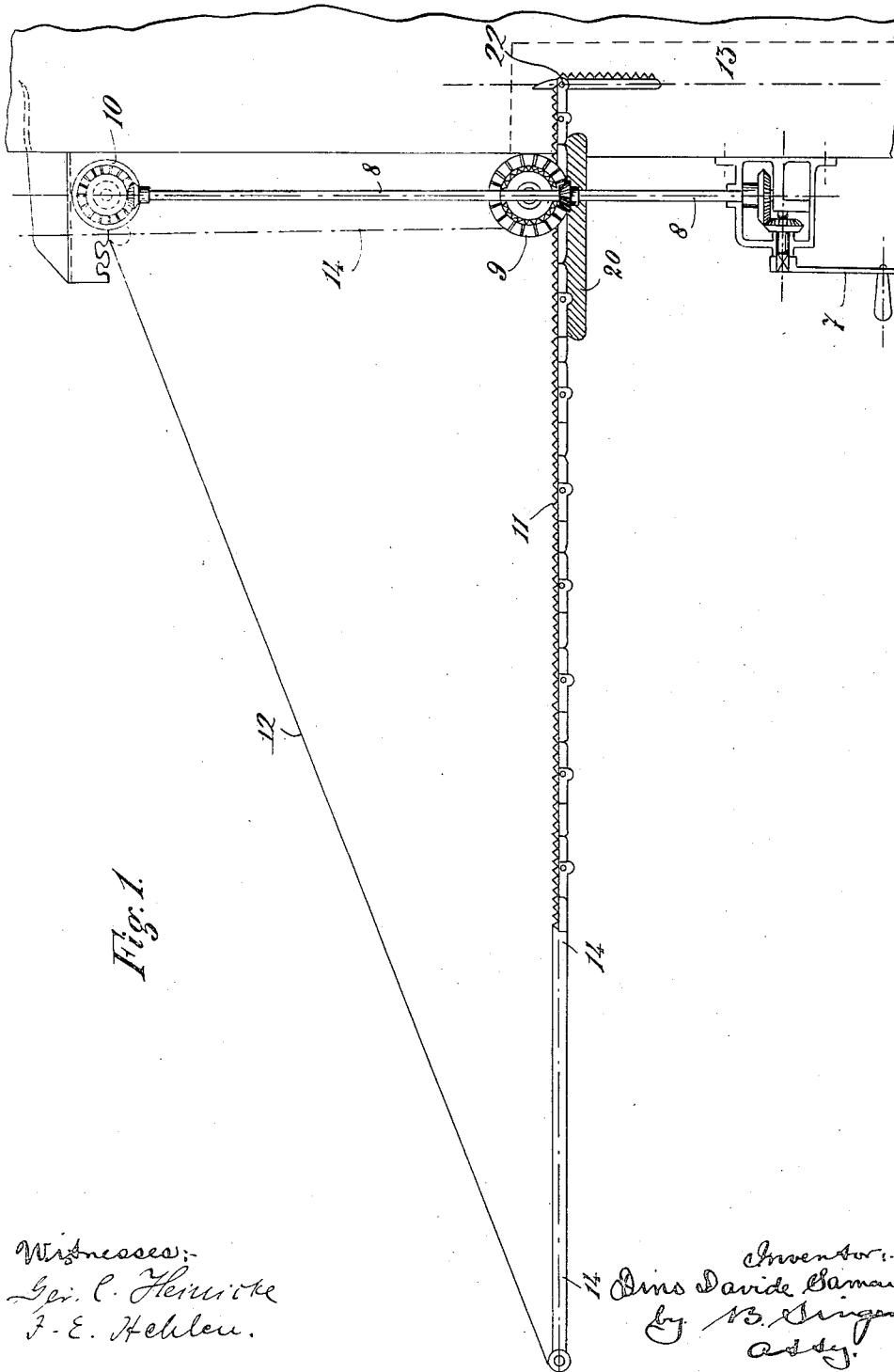


Fig. 1.

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Fig. 6.

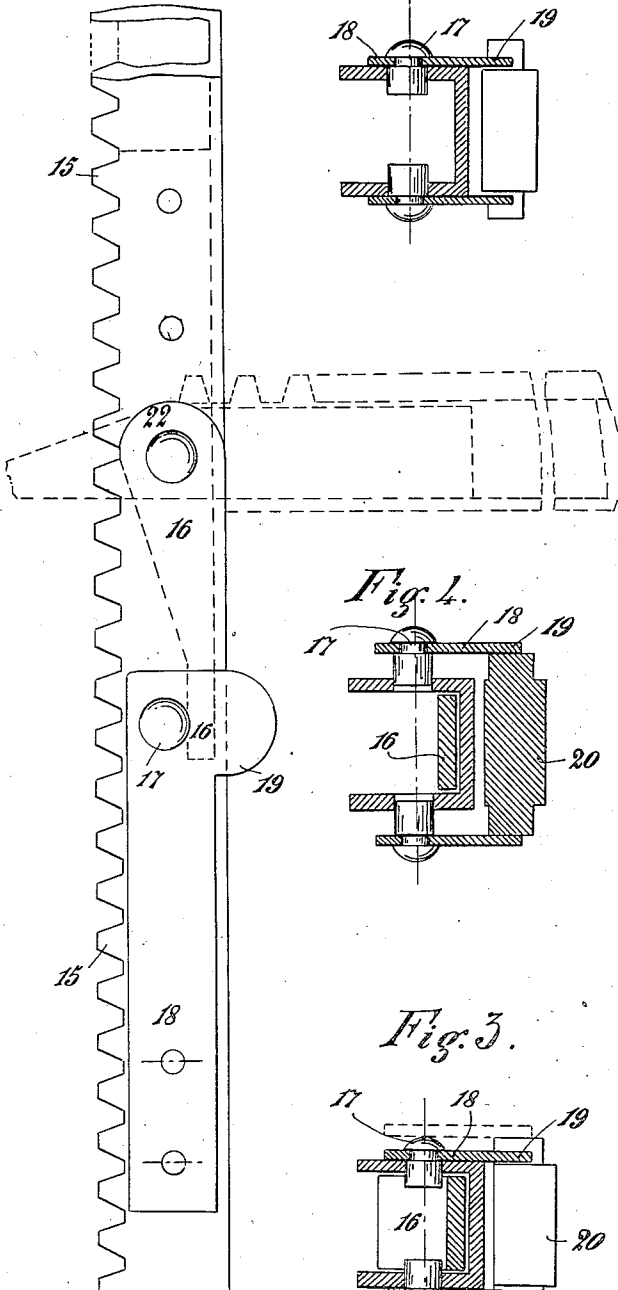


Fig. 5.

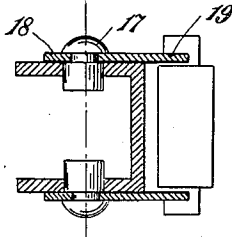


Fig. 2.

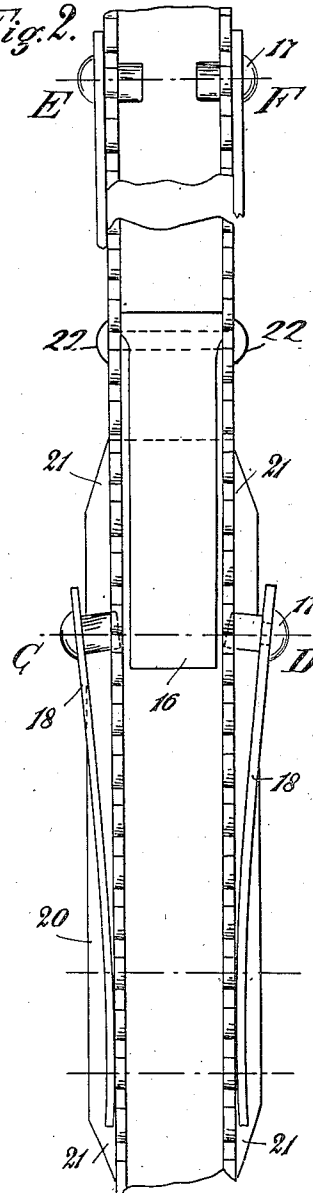


Fig. 4.

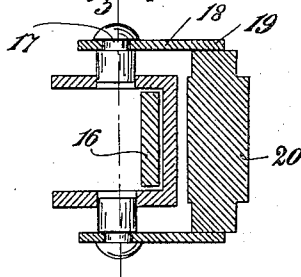
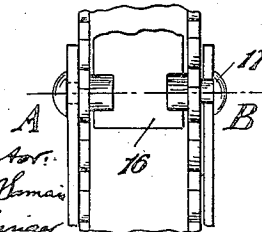
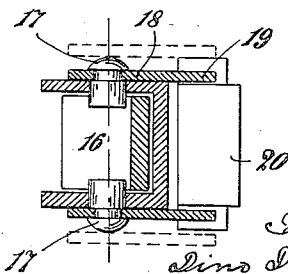


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CHAIN AND ROLLER GEARING FOR AWNINGS AND THE LIKE.

1,041,883.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed July 7, 1910. Serial No. 570,902.

To all whom it may concern:

Be it known that I, DINO DAVIDE SAMAIA, a subject of the King of Italy, residing at Vicenza, Italy, have invented new and useful Improvements in Chain and Roller Gearing for Awnings and the Like, of which the following is a specification.

This invention has for its object to provide chain and roller gearing for awnings and the like.

In the accompanying drawing given by way of example Figure 1 is a side view of the device; Fig. 2 is a plan view of the chain; Figs. 3, 4 and 5 are sections taken on lines A—B, C—D and E—F respectively of Fig. 2. Fig. 6 is a detail view.

Motion is transmitted by means of a crank 7 (Fig. 1) which rotates a shaft 8 and consequently the gears 9 and 10. Gear 9 meshes with teeth on the chain 11 whereas gear 10 controls the lowering and winding of the awning 12. When the awning is rolled up the loosened chain is hidden in a chamber 13 provided in the wall and a rod 14 which is attached to the outer end of the chain 11 occupies the position shown in broken lines on the right hand side of Fig. 1.

The chain 11 is made of a number of U shaped sections 15, 15, jointed together as shown on Fig. 6. Each section 15 has at its end a front piece 16 which extends into the preceding section and may be fixed thereto so as to form a single rigid piece therewith. Each section is fitted with two lateral springs 18 formed at one end with depending lugs 19 and to which are attached pins 17 engaged in holes through the arms of the sections and adapted to protrude within the latter and so lock the front piece 16 of the following section. The setting is effected automatically as the chain is unrolled by the action of the gear 9. For this purpose is provided a fixed horizontal iron bar 20 both ends of which have two laterally inclined faces 21 (Fig. 2) against which slide the lugs 19 of the springs 18. The two front inclined faces are intended for moving apart the springs 18 and consequently the pins 17 thus enabling the tail pieces 16 to contact with the back of the preceding U shaped section while the two back inclined faces allow the springs 18 to resume their former position and thus cause the pins 17 to extend within the section 15 for the purpose of locking down the tail-piece

16 by preventing the latter from rocking about its pivot 22.

The device works as follows: On rotating the crank 7, the sections 15 are advanced horizontally by the gear 9 and the lugs 19, 60 of the springs 18, engage the inclined faces 21 of the bar 20 and spread the pins 17 apart and out of the path of the front pieces 16. So long as the lugs 19, after passing beyond the said inclined faces 21, 65 slide along the straight portions of said bar 20, the springs 18 are kept apart so that the pins 17 do not extend within the chain section, the front pieces 16 being thus allowed to fall upon the back of the preceding U shaped section (Fig. 4). As soon as the lugs 19 have passed beyond the straight portion of the bar 20, the springs 18 come 70 together as the lugs 19 pass along the back inclined faces of said bar and force inward the pins 17 (Fig. 3) which by bearing upon the front-pieces 16 lock the latter in place. The same operation is repeated successively for each section 15 so that the chain 11 is made into a rigid rod which serves to support the awning as shown in Fig. 1.

It will be seen that the springs 18 are rigidly mounted on the links but that their free ends, carrying the pins 17, are capable of being spread to bring the pins out of engagement with the overlapping portions 16, or, when released, to move the pins 17 into locking relation with the overlapping portions 16. It will therefore be seen that I have provided rigidly mounted yielding mechanism or means, carried by the links, to lock or unlock the overlapping portions 16.

I claim:—

1. A horizontally disposed rigid chain device for awnings, comprising U-shaped sections non-extensibly joined together, each section having a front piece extending over the transverse portion of the preceding section, and means for locking said front piece upon such transverse portion to rigidly lock the two sections together in straight aligned relation, substantially as described.

2. A rigid chain device for awnings comprising U-shaped sections joined together, each section having a front piece extending over the transverse portion of the preceding section, springs attached by one end to and along the sides of the sections, pins fixed to the other ends of said springs and extending

within the said sections over the said front pieces through holes in the sides of the said preceding sections, means for moving apart the free ends of the springs to withdraw said pins, and means for releasing said springs to permit the springs to project the pins into the sections and lock the front pieces upon the transverse portions of said preceding sections, substantially as described.

3. A horizontally supporting rigid chain device for awnings, comprising in combination, a plurality of non-extensible links, each link having a portion lying in overlapping relation with respect to its adjacent link, and yieldingly acting locking means mounted on said links for locking the overlapping parts in straight alined relation, substantially as and for the purposes set forth.

4. A horizontally acting rigid chain device for awnings, comprising in combination, a plurality of links non-extensibly pivoted together, each link having a portion lying in overlapping relation with respect to its adjacent link, and spring mechanism rigidly mounted on said links for locking the overlapping parts to prevent flexure of the chain in either of two directions, substantially as and for the purposes set forth.

5. A horizontally acting chain device for awnings comprising in combination, a plurality of jointed links having portions lying in overlapping locking relation with respect to each other, and yielding mechanism carried by the links for engaging the overlapping parts of adjacent links for locking the same to prevent flexure of the chain, substantially as and for the purposes set forth.

6. A horizontally acting rigid chain device for awnings comprising in combination, a plurality of jointed links having locking portions lying in overlapping locking relation with respect to each other, means rigidly secured to the links for locking the same to prevent flexure of the chain, and mechanism for displacing said means from locking relation with respect to said links, substantially as described.

7. A horizontally acting rigid chain device for awnings comprising in combination, a plurality of links non-extensibly pivoted to each other and having portions lying in overlapping relation with respect to each other to prevent flexure in either direction from a straight line, yielding means rigidly secured to the links for locking said links to prevent flexure of the chain, and mechanism

automatically displacing said means from locking relation with respect to said links, substantially as and for the purposes set forth.

8. A horizontally acting rigid chain device for awnings comprising in combination, a plurality of jointed links, yielding means mounted on the links for locking said links to prevent flexure of the chain in either direction from a straight line, and stationary cams for displacing said means from locking relation with respect to said links, substantially as and for the purposes set forth.

9. A horizontally acting rigid chain device for awnings comprising in combination, a plurality of jointed links, spring actuated means secured to said links for locking said links to prevent flexure of the chain in either direction from the longitudinal axis of the chain, and cams displacing said means from locking relation with respect to said links, said cams having portions permitting said means to assume locking relation with respect to said links at a predetermined time, substantially as and for the purposes set forth.

10. A horizontally acting rigid chain device for awnings comprising in combination, a plurality of jointed links each having a locking portion lying in overlapping relation with an adjacent link, means carried by the chain and engaging and coacting with said locking portion to rigidly lock the links thereby forming a rigid bar with the links held against movement in either direction from a straight line, substantially as described.

11. In combination with an awning, a horizontally acting chain attached to the free end of the awning and composed of a plurality of jointed links, means carried by said links to lock the same in alined relation and against flexure in either direction, mechanism for unlocking said links upon movement of the chain in one direction, and means for extending or retracting said chain and simultaneously unwinding or winding said awning.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

DINO DAVIDE SAMAlA.

Witnesses:

W. REILLY,
ALTHUT MITOL.