

Aug. 2, 1966

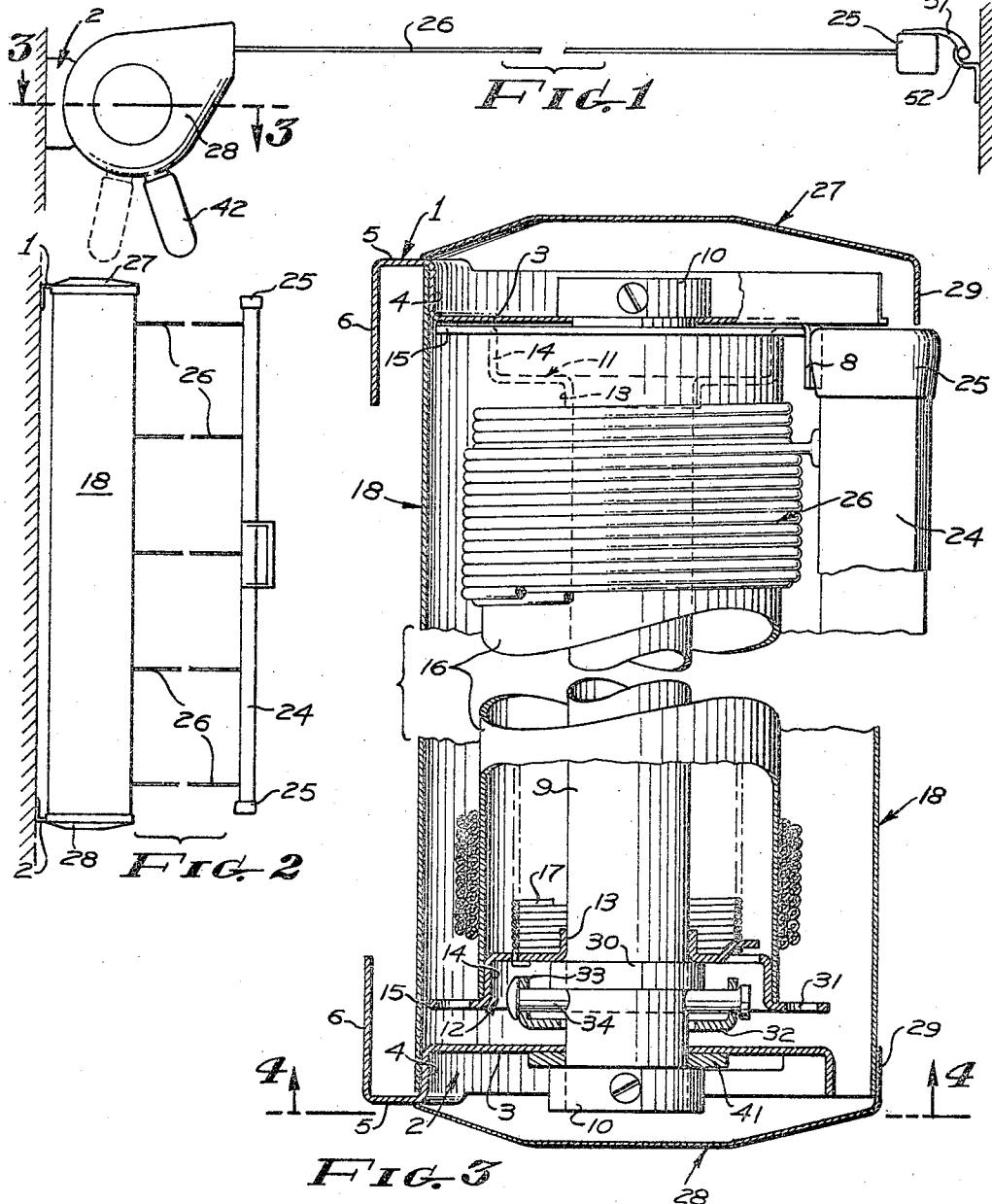
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3,263,939

RETRACTABLE CLOTHESLINE

Filed July 14, 1964

3 Sheets-Sheet 1



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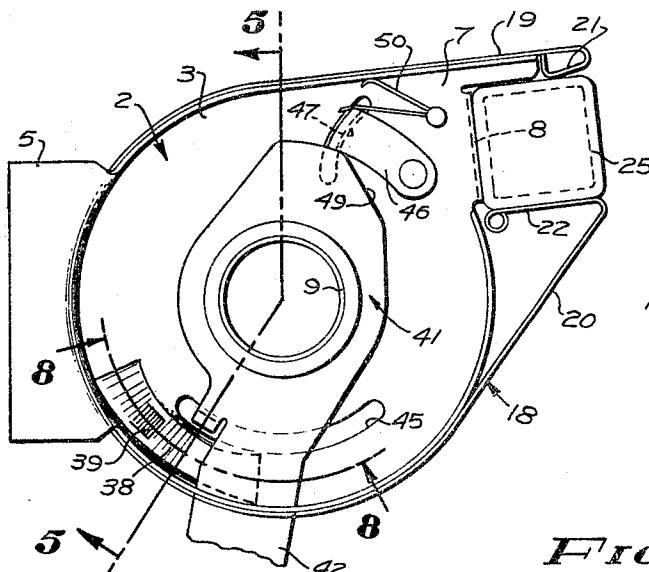


FIG. 4

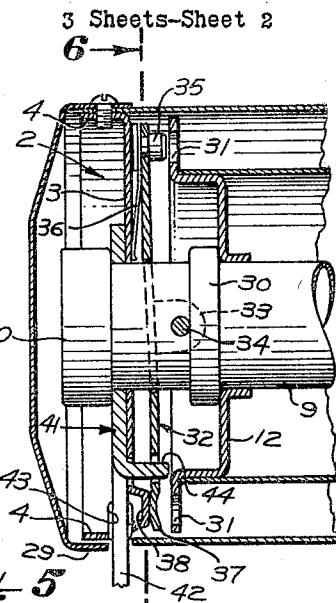


Fig. 5

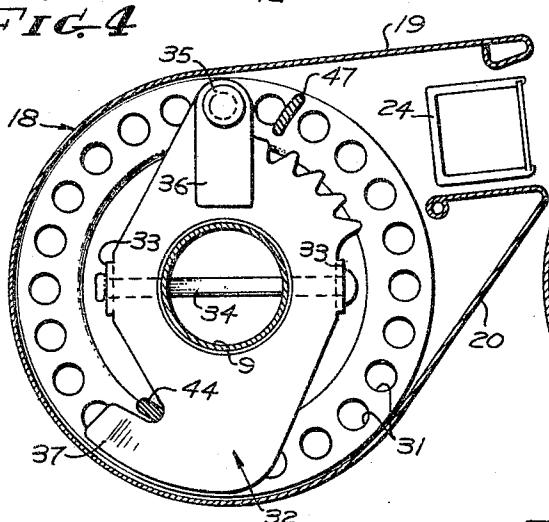


FIG. 6

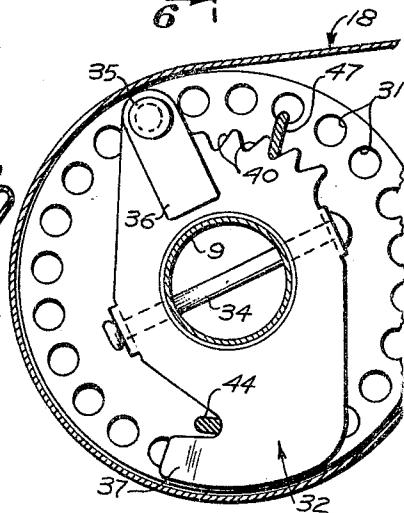


FIG. 7

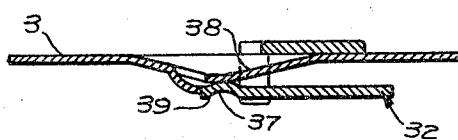


FIG. 8

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3 Sheets-Sheet 3

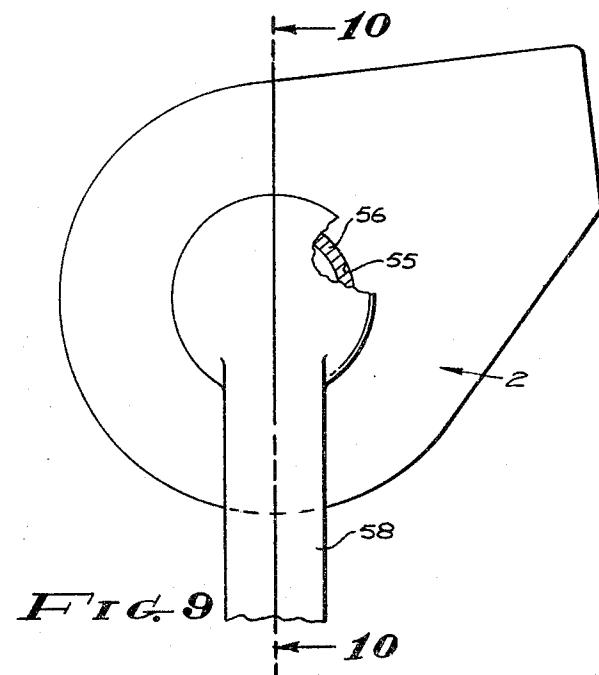


FIG. 9

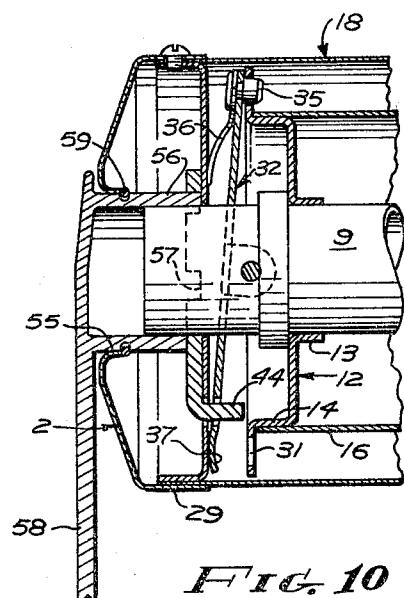


FIG. 10

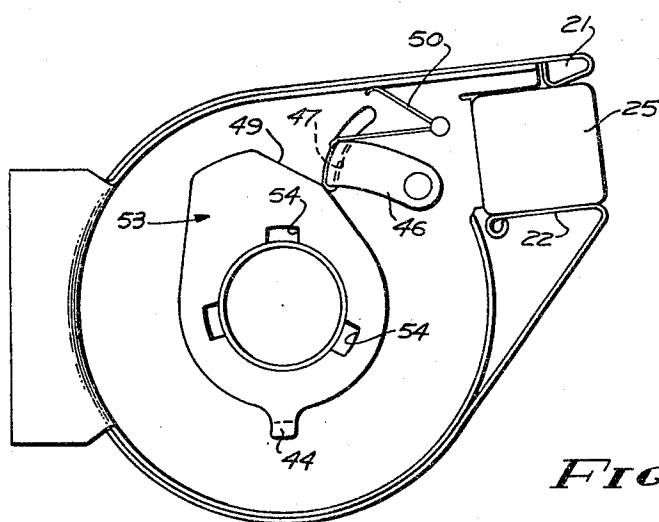


FIG. 11

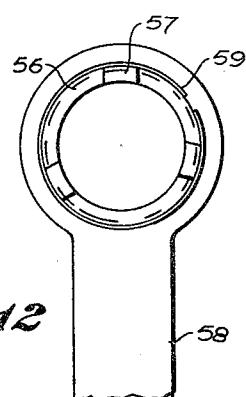


FIG. 12

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RETRACTABLE CLOTHESLINE
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8 Claims. (Cl. 242—100.1)

This invention relates to retractable clotheslines and included in the objects of this invention are:

First, to provide a retractable clothesline wherein one or more clotheslines are wrapped about a reel when stored, the reel being spring biased so that the clotheslines tend to wind onto the reel, and which incorporates a novel clutch means whereby the reel may be released from its biasing spring so that the clotheslines may be readily unreeled.

Second, to provide a retractable clothesline which incorporates novel, easily manipulable means whereby the clotheslines may be properly tensioned for use, yet readily released when it is desired to store the clothesline.

Third, to provide a retractable clothesline wherein the operating mechanism formed principally by low cost stampings is arranged in a compact unit at one end of the reel and its housing.

With the above and other objects in view, as may appear hereinafter, reference is directed to the accompanying drawings in which:

FIGURE 1 is a side view of the retractable clothesline shown in its extended or operating condition;

FIGURE 2 is a plan view thereof;

FIGURE 3 is an enlarged longitudinal fragmentary sectional view taken through 3—3 of FIG. 1 with portions shown in elevation and showing the clothesline in its retracted condition;

FIGURE 4 is an end view of the retractable clothesline taken from 4—4 of FIG. 3 with the end plate removed;

FIGURE 5 is a fragmentary sectional view taken substantially through 5—5 of FIG. 4;

FIGURE 6 is a transverse sectional view taken substantially through 6—6 of FIG. 5, the parts being shown in the position corresponding to the position shown in FIGS. 4 and 5 wherein the pin clutch and ratchet means are in their disengaged positions;

FIGURE 7 is a sectional view similar to FIG. 6 but showing the pin clutch and ratchet means in their engaged positions;

FIGURE 8 is a fragmentary sectional view taken through 8—8 of FIG. 4;

FIGURE 9 is an end view showing a modified form of the retractable clothesline;

FIGURE 10 is a fragmentary sectional view thereof taken through 10—10 of FIG. 9;

FIGURE 11 is an end view thereof corresponding to FIG. 9 but with the handle and the end plate removed;

FIGURE 12 is a fragmentary view of the modified handle.

The retractable clothesline includes a pair of end brackets 1 and 2, each including a plate portion 3 having a peripheral flange 4. At one portion the peripheral flange is provided with a radial extension 5 folded at its extremity to form a mounting flange 6. At its opposite side from the radial extension 5, each plate portion is provided with a tangential extension 7 having a folded extremity forming a stop 8.

The two plate portions have central apertures which journal the ends of a tubular hub shaft 9, the extremities of which are fitted with collars 10.

Journalled on the tubular hub shaft is a reel which includes end disks 11 and 12 having central bearing flanges 13 and concentric cylindrical offset portions 14 from which extend peripheral flanges 15. The cylindrically

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offset portions support a cylindrical sleeve or drum 16 which is spot-welded or otherwise secured thereto.

A coil spring 17 is contained within the drum 16 and is anchored at one end to one of the end disks, as shown in FIG. 3, and is anchored at its other end, not shown, to the hub shaft 9.

The reel is encased in a housing 18 formed of sheet metal. The housing is wrapped around the peripheral flanges 14 and includes upper and lower tangential extensions 19 and 20. The extremities of the extensions are folded as indicated by 21 and 22 so as to define with the extremities 8 of the plate portions 3 a rectangular opening. The opening thus defined receives a clothesline bar 24 preferably square in cross section and provided with end pads 25.

Wrapped about the drum 16 are several clothesline cables 26. One end of each cable is anchored to the drum and the other end is secured to the clothesline bar 24. The cables are so arranged as to be uniformly spaced from each other. The plate portions of the two end brackets are provided with end covers 27 and 28 which have flange portions 29 overlying the peripheral flanges 24 and the ends of the housing 18 and are secured thereto by screws.

Near one end of the tubular hub shaft 9, the hub shaft is provided with a second collar 30 which forms a stop for the end disk 12. The peripheral flange 15 of this disk is provided with a ring of perforations 31. Mounted between the end disk 12 and the confronting

30 end bracket 2 is a wobble plate or clutch plate 32. The wobble plate 32 is provided with diametrically disposed lugs 33. A cross pin 34 extends through the hub shaft 9 and lugs 33 to permit limited pivotal movement of the wobble plate 32 about an axis transverse to the hub shaft.

35 At one extremity the wobble plate is provided with a clutch pin 35 positioned to engage any of the perforations 31. This end of the wobble plate is provided with a leaf spring 36 which bears against the confronting end bracket 2 so that the pin is normally urged into engagement with an aligned perforation 31.

30 The diametrically opposite side of the wobble plate is provided with a circumferentially extending finger 37 which forms a cam follower. The plate portion 3 of the confronting end bracket is provided with a circumferentially extending raised portion which forms a cam 38 adapted to be engaged by the cam follower 37. The cam 38 terminates in a stop 39.

45 The wobble plate 32 is provided at one side of the clutch pin 35 with a series of ratchet teeth 40 concentric with the hub shaft 9.

50 Mounted on the tubular hub shaft 9 axially outward from the plate portion 3 of the end bracket 2 is an operating lever 41. The lever is free to rotate on the hub shaft and is retained by the adjacent collar 10. The lever is provided with a handle 42 which extends radially through an accommodation slot 43 in the end bracket 2 and a corresponding slot formed between the end cover 28 and the housing 18.

55 The lever 41 is also provided with a lug 44 which extends axially through a slot 45 in the end bracket 2 and is adapted to engage the wobble plate 32 so that the lever 41, wobble plate 32, and hub shaft 9 may be rotated in unison in a direction opposed by the spring 17.

60 Pivottally mounted on the plate portion 3 of the end bracket 2 and extending arcuately is a ratchet lever 46 terminating in an axially directed ratchet pawl 47 which projects through a slot 48 provided in the plate portion. The ratchet pawl is adapted to engage the ratchet teeth 40. The lever 41 is provided with a cam portion 49 which is adapted to engage the ratchet lever so as to lift the pawl 47 from engagement with the ratchet teeth

40. A spring 50 urges the ratchet lever in a direction tending to cause engagement of the pawl with the ratchet teeth.

Operation of the retractable clothesline is as follows: When the handle lever 41 is in the position shown in FIGS. 4, 5, and 6, the pawl 47 is held out of engagement with the ratchet teeth 40 by means of the cam 49. Also, the clutch pin 35 is held out of engagement with the perforations 31 by means of the cam 38. Under these conditions, the clothesline bar 24 and clothesline cables 26 may be withdrawn against the force exerted by the spring 17. It should be noted that the lug 44 prevents rotation of the hub shaft 9 when the drum 16 is turned by withdrawal of the clothesline cables. That is, as shown in FIG. 6, the drum is prevented from rotating clockwise.

The clothesline bar 24 is provided with a handle 51 which may be arranged to engage a hook 52 or the like attached to a post or other member spaced from the member at which the end brackets 1 and 2 are attached.

After the clothesline bar has been secured, the handle 42 is turned in a counterclockwise direction from the position shown in FIG. 4 toward the position shown in FIG. 7. This movement of the handle 42 and the lever 41 causes the pin 35 to engage one of the perforations 31 so that the drum is turned with the lever, tightening the clothesline cables 26. This movement of the lever 41 releases the ratchet lever 46 so that the ratchet pawl 47 may engage one of the ratchet teeth 40 and lock the drum while maintaining the clothesline cables 26 under tension.

When it is desired to retract the clothesline, it is merely necessary to move the handle 42 and lever 41 in a clockwise direction which first releases the pawl 47 from the ratchet teeth 40 and then releases the clutch pin 35 from the ring of perforations 31 so that the handle 51 may be unhooked and the cables 26 may be rewound on the drum by the action of the spring 17.

Reference is now directed to the construction shown in FIGS. 9 through 12. This construction differs from the previously described construction, principally in the arrangement of the handle. In place of the lever 41, an operating disk 53 is provided which, however, includes the lug 44 and cam 49. In place of the handle 42, the operating disk is provided with key slots 54 confronting the hub shaft 9.

The end cover 28 is modified to provide a central aperture 55 concentric with the hub shaft 9. The aperture 55 receives a sleeve 56 having key lugs 57 which fit the key slots 54. The outer extremity of the sleeve is provided with a radially extending handle arm 58 which is located outside of the end cover. The sleeve is provided with a groove which receives a split retainer ring 59.

The key lugs and the key slots are asymmetrically arranged so that, when interengaged, the handle arm will extend in the desired radial direction. Initially, the sleeve and handle arm are separated from the retractable clothesline. Upon installation of the clothesline, the sleeve is inserted through the aperture 55 until the key lugs 57 engage the key slots 54 and the retainer ring 59 has moved past the margins of the aperture 55, as shown in FIG. 10.

While a particular embodiment of this invention has been shown and described, it is not intended to limit the same to the exact details of the construction set forth, and it embraces such changes, modifications, and equivalents of the parts and their formation and arrangement as come within the purview of the appended claims.

What is claimed is:

1. A retractable clothesline, comprising:

- (a) a reel structure including a hub shaft, a reel drum journaled on said shaft and a retracting spring interconnecting said shaft and drum;
- (b) mounting brackets for journailling said shaft;
- (c) at least one clothesline cable wrapped on said drum for withdrawal therefrom against the force of

said spring and having an extremity adapted to be secured at a point distant from said drum;

(d) a clutch having interengaging elements carried by said shaft and said drum to secure said shaft and drum together for rotation in unison;

(e) a handle structure including a first means operable on movement of said handle structure in one direction to cause interengagement of said clutch elements and winding of said cable on said drum thereby to tension said cable, when the extended end thereof is secured;

(f) and a ratchet means having an element carried by said shaft and an element carried by one of said brackets, said elements being engageable to lock said shaft in a series of positions relative to said one bracket, thereby, when said clutch elements are engaged, to secure said cable under tension;

(g) said handle structure also including a second means operable on movement of said handle structure in an opposite direction to disengage said ratchet means;

(h) said shaft being limited in movement by said handle structure, whereby the force of said spring is operable to wind said cable on said drum.

2. A retractable clothesline, comprising:

- (a) a pair of mounting brackets;
- (b) a shaft journaled therebetween;
- (c) a reel drum journaled on said shaft;
- (d) a cable wrapped on said drum for withdrawal therefrom and having an extended end adapted to be secured at a distant point;

(e) a clutch secured with respect to said shaft and engageable with said drum to provide a drive connection between said shaft and drum;

(f) a ratchet means for securing said shaft in a series of positions relative to said brackets;

(g) and a handle structure having a first position engageable with said clutch and engageable with said ratchet means to hold said clutch and ratchet means disengaged, to permit withdrawal of said cable and securing of its extended end;

(h) said handle structure being movable from said first position to cause interengagement of said shaft and drum through said clutch, and tensioning of said cable, when its extremity is secured, and to permit securing of said shaft by said ratchet means thereby to hold said cable under tension.

3. A retractable clothesline, comprising:

(a) a reel structure including a hub shaft, a reel drum journaled on said shaft and a retracting spring interconnecting said shaft and drum;

(b) mounting brackets for journailling said shaft;

(c) at least one clothesline cable wrapped on said drum for withdrawal therefrom against the force of said spring and having an extremity adapted to be secured at a point distant from said drum;

(d) a flange on said drum confronting one of said brackets, and having a ring of perforations therein;

(e) a wobble plate disposed between said flange and said one bracket, and connected with said shaft for limited pivotal movement about an axis transverse to said shaft thereby to cause diametrically opposite sides of said plate to move to and from said flange and bracket, and a series of ratchet teeth on said wobble plate concentric with said shaft;

(f) a pin on said plate engageable in a selected perforation to lock said shaft and drum against relative rotation, and yieldable means urging said pin into engagement;

(g) a cam on said bracket and engageable with said plate to extract said pin from the selected perforation;

(h) a ratchet pawl carried by said bracket engageable with said ratchet teeth for locking said shaft relative to said bracket;

(i) an operating lever journaled on said shaft and in-

cluding a drive lug engageable with said plate, and a cam engageable with said pawl to free said ratchet; (j) and a handle for moving said lever in one direction to cause interconnection of said shaft and drum thereby to turn said drum manually in a direction to tighten said cable, when its extremity is secured, and to cause interengagement of said ratchet teeth and pawl to hold said cable under tension; said handle adapted to move said lever in the opposite direction to free said pawl and pin, thereby to release said drum for retraction of said clothesline under urge of said spring.

4. A retractable clothesline as set forth in claim 3, wherein:

(a) said handle is integral with said lever and extends radially with respect to the axis of said shaft.

5. A retractable clothesline as set forth in claim 3, wherein:

(a) said handle includes a sleeve axially slidable on said shaft for interlocking engagement with said lever; 20 (b) a radially-directed handle arm is secured to said sleeve and capping said shaft; (c) and means is provided to maintain said sleeve and lever in interlocking engagement.

6. The combination with a retractable clothesline including mounting brackets, a shaft journaled therebetween; a reel drum journaled on said shaft, a retracting spring interconnecting said shaft and drum, and a clothesline cable wrapped about said drum for withdrawal therefrom against the force of said spring and having an extremity adapted to be secured at a point distant from said drum of a clothesline cable tensioning means comprising:

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(a) an operating means including a clutch for interengagement of said shaft and drum, and a ratchet for interengagement of said shaft and a mounting bracket;

(b) and a handle for moving said operating means in one direction to cause operation of said clutch thereby to move said shaft and drum to tighten said cable when its extremity is secured, and to cause engagement of said ratchet thereby to secure said cable in its tightened condition; said handle movable in the opposite direction to release said clutch and said ratchet means.

7. A combination as set forth in claim 6, wherein:

(a) said handle is integral with said lever and extends radially with respect to the axis of said shaft.

8. A combination as set forth in claim 6, wherein:

(a) said handle includes a sleeve axially slidable on said shaft for interlocking engagement with said lever; (b) a radially-directed handle arm is secured to said sleeve and capping said shaft; (c) and means is provided to maintain said sleeve and lever in interlocking engagement.

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