

S. S. RIDER.
CLOTHES LINE REEL.
APPLICATION FILED MAR. 9, 1908.

939,862.

Patented Nov. 9, 1909.

2 SHEETS-SHEET 1.

Fig. 1.

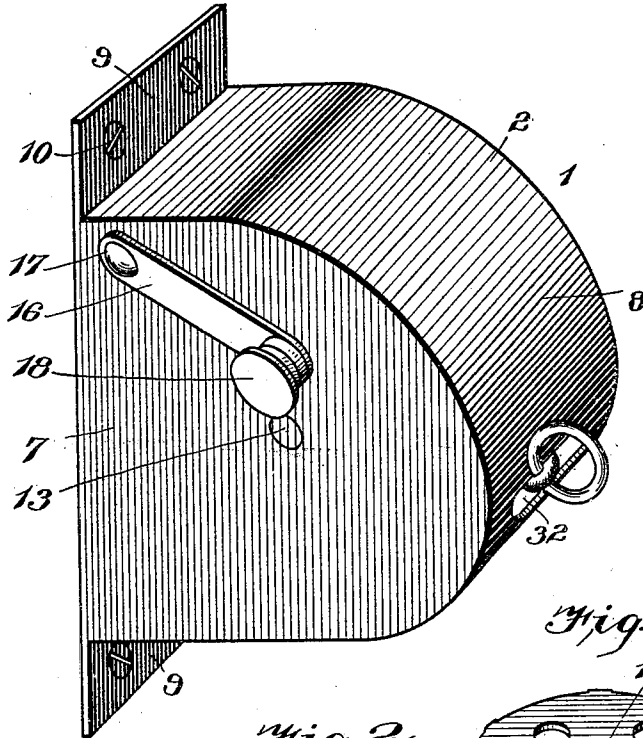


Fig. 2.

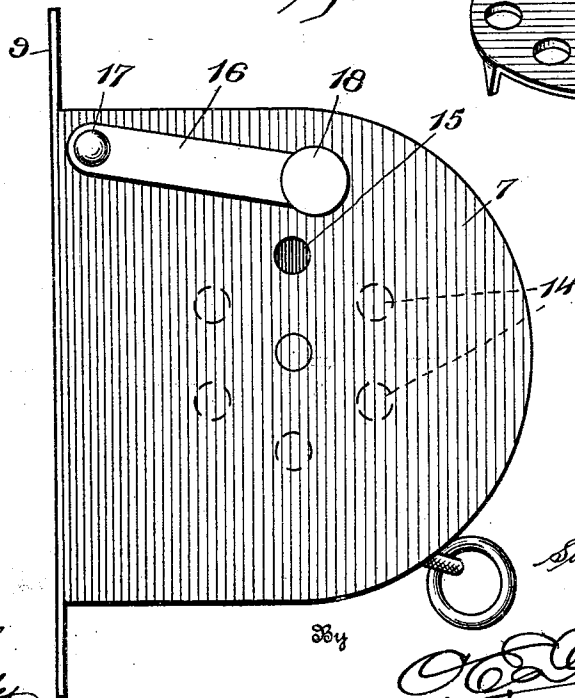
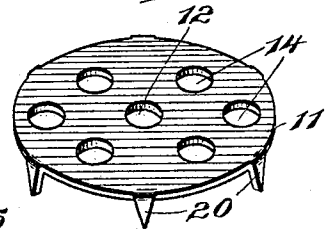


Fig. 3.



Witnesses

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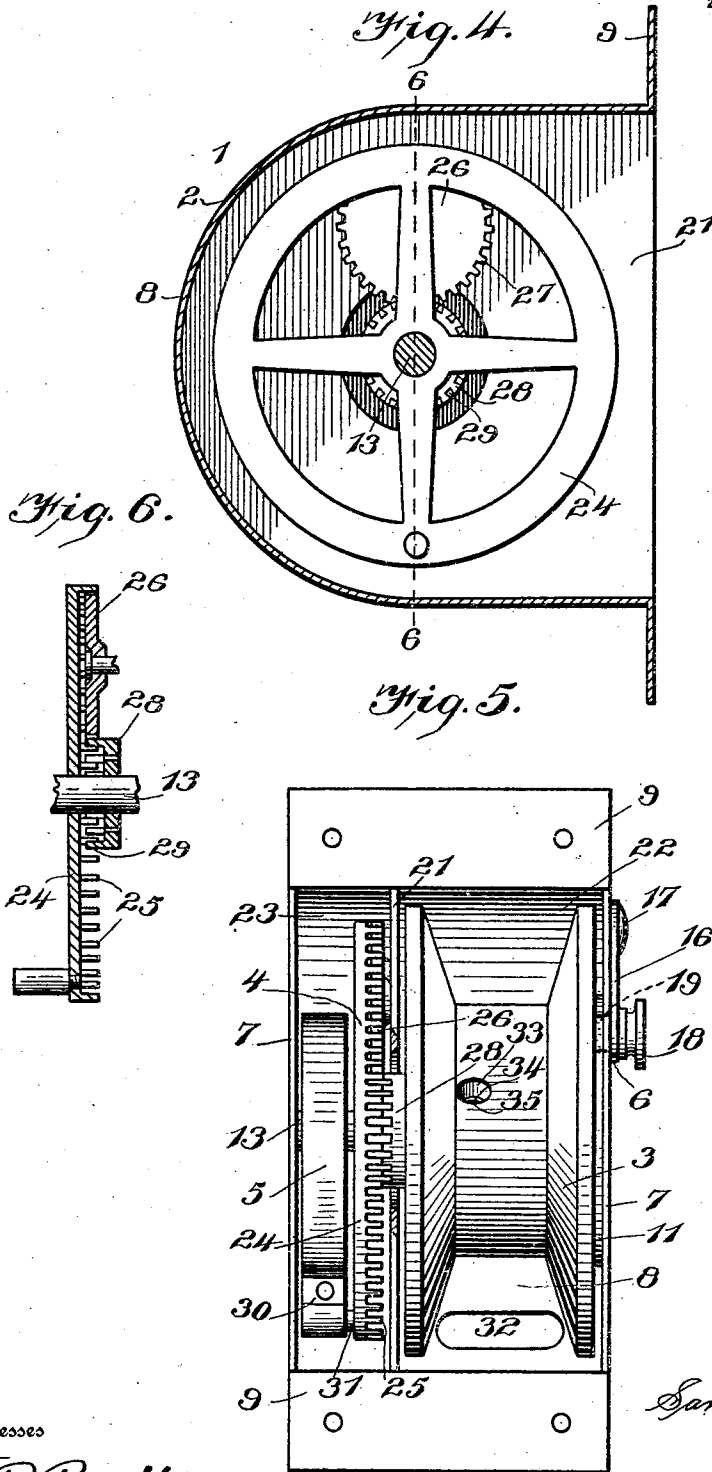
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SAMUEL S. RIDER, OF BROOKLAND, DISTRICT OF COLUMBIA.

CLOTHES-LINE REEL.

939,862.

Specification of Letters Patent.

Patented Nov. 9, 1909.

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To all whom it may concern:

Be it known that I, SAMUEL S. RIDER, a citizen of the United States, residing at Brookland, District of Columbia, have invented certain new and useful Improvements in Clothes-Line Reels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to the class of clothes line reels and has for its object to provide a device which is particularly designed for domestic use and in which the line is automatically wound upon the spool or reel after the line has been used.

A further object of my invention is to provide a device of this class which is particularly simple in construction, cheap and easy to manufacture and which occupies a very small space.

With these objects in view my invention consists in the novel construction and arrangement of the gearing.

My invention also consists in the novel construction and arrangement of the locking device.

My invention also consists in other novel features of construction and in combinations of parts all of which will be first fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawings: Figure 1 is a perspective view of a clothes line reel constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of the perforated locking plate which is secured to one side of the reel. Fig. 4 is an elevation of the device with one side of the cover removed. Fig. 5 is a rear elevation of the reel, and Fig. 6 is a vertical sectional view through the gearing taken on line 6—6 of Fig. 4.

Like numerals of reference indicate the same parts throughout the several figures in which;

1 indicates the device which comprises the case 2, winding reel 3, gearing 4, spring 5 and locking device 6. The case or cover 2 is constructed as shown in Fig. 1 having two side plates 7, a curved front 8, and the base

9 which, as shown, is designed to receive suitable screws or other fastenings 10 for the purpose of securing the device in position.

The reel 3 may be of any conventional form such as that shown in Fig. 5, and upon one side of the reel 3 I provide a perforated plate 11, having therein a central perforation 12 through which the shaft 13 of the reel passes, and a series of perforations 14 spaced apart regularly as shown in dotted lines in Fig. 2. In the side plate 7 of the case or cover 2 I provide a single perforation 15 as shown in Fig. 2.

16 indicates a spring lever which as shown in Fig. 2 is pivotally mounted on the case or cover 2 at 17. A small knob 18 is carried on the end of the spring lever 16 and a small pin or projection 19 is carried on the underside of the knob 18 on the spring lever 16 as shown in dotted lines in Fig. 5. The perforation 15 in the side plate 7 of the casing 2 is arranged in the path of the pin 19, while the perforated disk 11 on the reel 3 is so arranged that the perforations 14 in said disk register with the perforation 15 in the side plate 7, in such manner that the pin or projection 19 on the spring lever 16 passes through the perforation 15 on the side plate 7 and enters the perforations 14 in the disk 11 as shown in Fig. 5, thus locking the reel against rotation. As shown in Fig. 3 the disk 11 is provided around the periphery thereof with a series of tangs 20 which are driven into the reel 3 to secure the plate or disk 11 thereon.

Referring to Figs. 4 and 5 it will be seen that a partition plate 21 is arranged within the case or cover 2 which divides said case or cover into two compartments 22 and 23. The reel 3 is housed within the compartment 22 while the gearing 4 and spring 5 is located within the compartment 23. The shaft 13 of the reel 3 passes through the case or cover as shown in Fig. 5, and to said shaft 13 the inner end of the spring 5 is secured. Mounted on the shaft 13 and rotatable thereon is a large gear wheel 24, said gear wheel having its teeth 25 extending transversely therefrom as clearly shown in Fig. 6. Mounted on the partition plate 21, at a point between the periphery of the gear wheel 24 and the center thereof, is a pinion wheel 26, said pinion having the usual form of teeth 27 as shown in Fig. 4. Secured to the face of the reel 3 is a small pinion wheel 28, said

pinion 28 also having its teeth 29 extending transversely therefrom as clearly shown in Fig. 6. Referring to Fig. 5 it will be seen that the free end 30 of the spring 5 is secured to the large gear wheel 24 at the point 31. It will also be seen that a slot or opening 32 is formed in the front 8 of the case or cover 2 through which the line passes from the reel.

Having thus described the several parts of my invention its operation is as follows: The reel is first rotated by hand before the line is applied thereto, which operation rotates the gear wheel 24 through the medium of the pinion wheels 26 and 28 thus winding up the spring 5. The line is then secured to the reel by being passed through the perforation 35 and knotted, and the spring is then allowed to unwind. The unwinding of the spring rotates the reel and winds up the line thereon. When it is desired therefore to use the line the same is withdrawn from the casing and the free end hooked or fastened to a wall or other object in a convenient position to receive clothes or garments. When the line has been used the free end thereof is simply unhooked and allowed to run free, the spring having been wound up when the line was drawn from the reel, said spring immediately unwinds which rapidly winds the line upon the reel and carries the same into position shown in Fig. 1. In order to release the line from all strain from the spring when the same is in use and to prevent the line from sagging by reason of the weight of the clothes or garments thereon the locking device 6 is provided; the spring lever 16 is moved into position shown in Fig. 1 which forces the pin or extension 19 thereon through the perforation 15 in the side plate 7 and into one of the perforations 14 on the plate or disk 11 of the reel 3, thus securely locking the reel against rotation in either direction. When the free end of the line has been unhooked, as before stated, the knob 18 is grasped and the lever moved into position shown in Fig. 2 which operation disengages the pin or extension 19 from the perforations 15 and 14 and allows the reel to be rotated by the spring 5, and thus rapidly wind up the line.

By reason of the specific form and arrangement of the gearing 4, shown in Fig. 6, I am enabled to arrange the large gear wheel 24 concentrically with the reel 3, and I am also enabled to arrange the spring 5 concentrically with the reel 3, thus making it possible to employ a comparatively large reel within a small case or cover; while this arrangement at the same time renders the gearing extremely compact requiring a very small space within the case or cover. By this construction it is at once apparent that the device occupies a minimum amount of space rendering the same extremely neat in

appearance, cheap and easy to manufacture and particularly strong, durable and efficient.

By my construction and arrangement the gearing is compounded, thus rendering it possible to employ a shorter spring than would otherwise be necessary and adapting the device to wind up a longer line; and by reason of the concentric position of the spring I am enabled to employ if necessary a very long spring, as the spring when unwound can be as large as the reel itself without requiring a casing any larger than is necessary to accommodate the reel. By this construction of gearing I am also enabled to employ gears stamped out of thin metal which would be practically useless were the three gear wheels constructed with radially extending teeth, for the reason that by my construction the gears will not run out of mesh should there be any lateral or wobbling movements thereof which would be liable should the gears be stamped out of thin metal with radial teeth. This construction of gearing therefore allows me to employ extremely light and inexpensive stamped gear wheels, thus reducing the cost of manufacture and minimizing the time required for assembling the device.

As shown in Fig. 5 I provide the reel 3 with a perforation 35 extending there-through to receive the end of the line, said perforation being countersunk at 33 forming a shoulder 34, the countersunk portion receiving a knot at the extreme end of the line, the shoulder 34 preventing said knot from passing through the perforation, thus providing a simple and secure means for fastening the line to the reel.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A device of the character described comprising a suitable casing, a reel carried therein, a partition plate within said casing dividing the same into two compartments, said reel being housed in one compartment, mechanism for rotating said reel, said mechanism comprising a coil spring having one end thereof mounted concentrically with said reel, a gear wheel mounted concentrically with said reel to which the free end of said spring is connected, said gear wheel having its teeth extending transversely from the periphery thereof, an intermediate gear wheel mounted on said partition plate, said intermediate gear wheel having regularly extending teeth in mesh with the transversely extending teeth of said first mentioned gear wheel, a pinion wheel carried on said reel and mounted concentrically therewith, said pinion wheel having its teeth extending transversely therefrom and in mesh with said intermediate gear wheel, substantially as described.

2. A device of the character described

comprising a suitable casing, a reel housed therein, mechanism for rotating said reel housed in said casing, said mechanism comprising a spiral spring, a gear wheel to which one end of said spring is connected, said gear wheel being mounted concentrically with said reel, an intermediate gear wheel associated with said first mentioned gear wheel and in mesh therewith, said intermediate gear wheel being mounted at a point between the periphery of said gear wheel and its center, and a pinion wheel carried on said reel and mounted concentrically therewith, said pinion wheel being in mesh with said intermediate wheel, substantially as described. 15

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

SAML. S. RIDER.

Witnesses:

CATHERINE E. BRUMBAUGH,
G. M. BRUMBAUGH.