S. H. LIBBY.

ROPE GUIDE FOR WINDING DRUMS.

APPLICATION FILED JUNE 24, 1908.

907,825.

Patented Dec. 29, 1908.

Fig. 1.

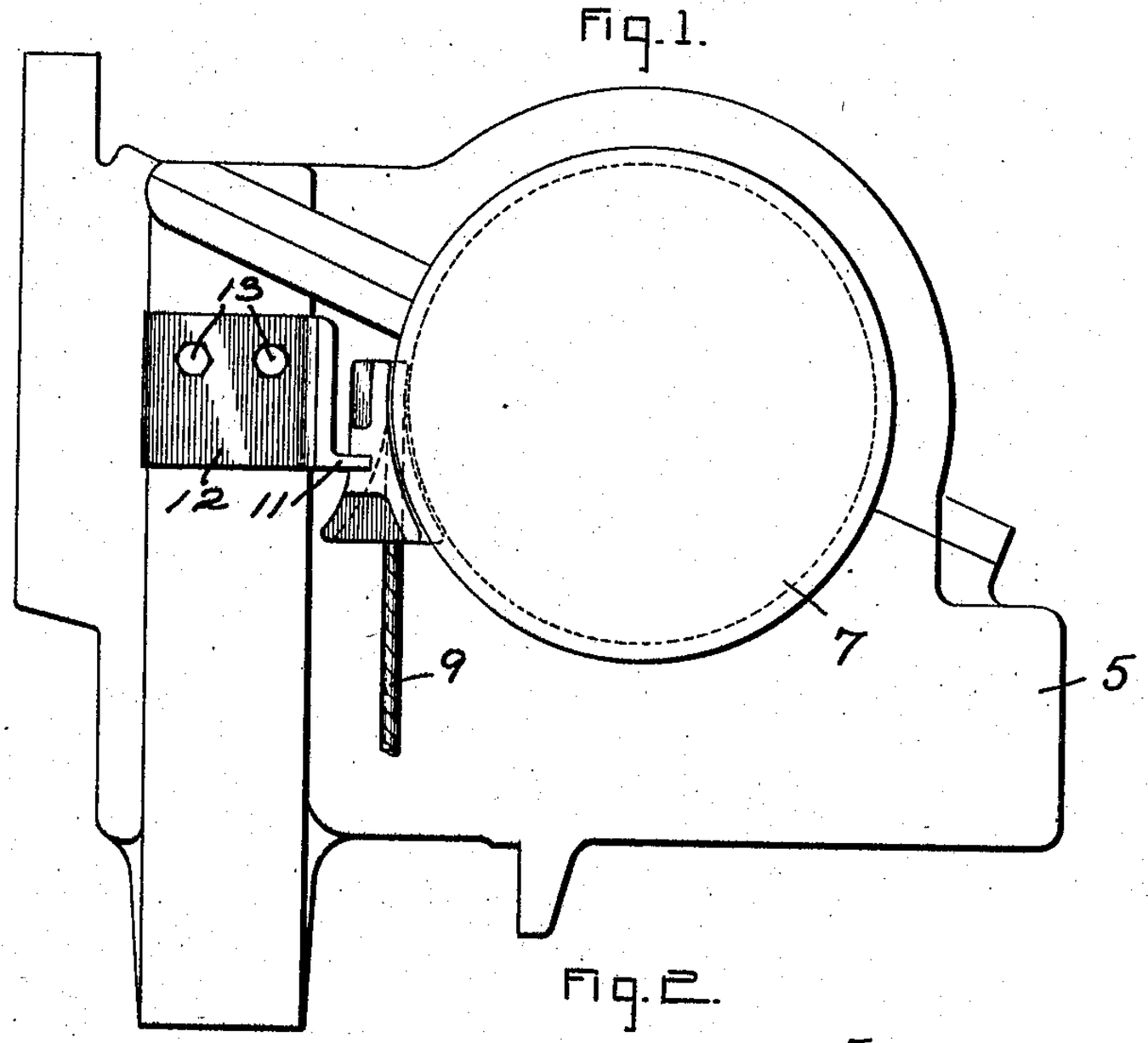


Fig. 2.

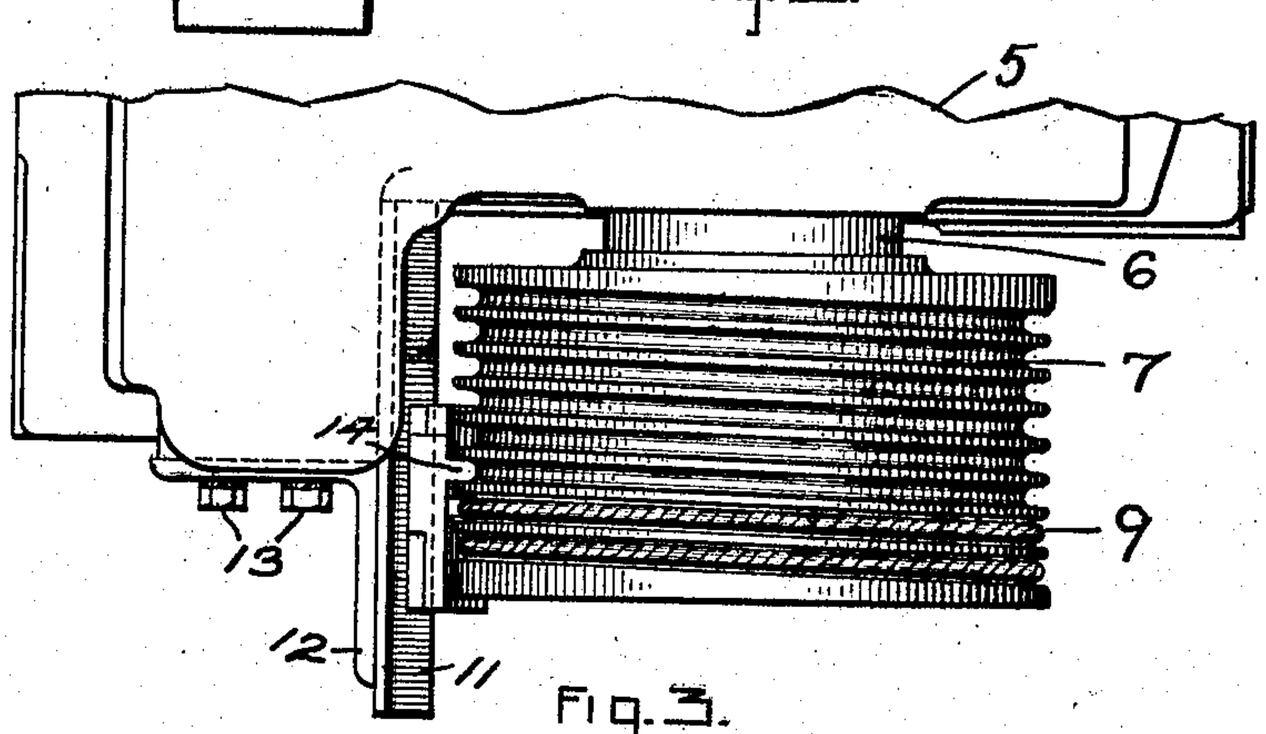
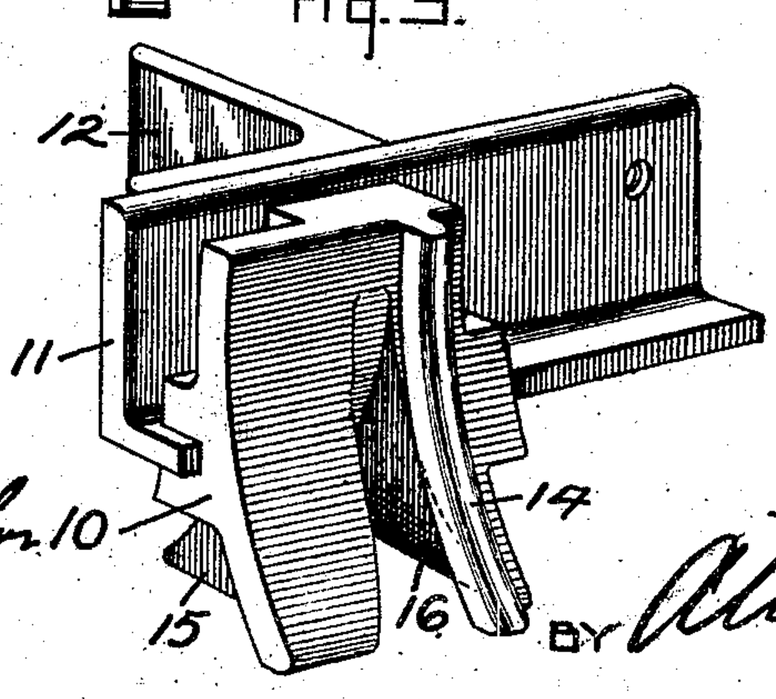


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAM H. LIBBY, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO SPRAGUE ELECTRIC COMPANY, A CORPORATION OF NEW JERSEY.

ROPE-GUIDE FOR WINDING-DRUMS.

No. 907,825. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed June 24, 1908. Serial No. 440,131.

To all whom it may concern:

Be it known that I, SAM H. LIBBY, a citizen of the United States, residing at East Orange, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Rope-Guides for Winding-Drums, of which the following is a specification.

My invention relates to guides for winding drums, and is particularly adapted for use in connection with spirally grooved drums used in hoists and similar forms of apparatus.

In hoists in which a cable is taken up and paid out by the rotation of a spirally grooved drum, it may occur that the rope will not follow the groove if the weight which the hoist is lifting is not directly below that part of the groove in which the last turn of the rope rests. If under this or any other condition the rope rides over the walls of the grooves and does not follow the latter, disastrous results are liable to occur by bruising or cutting the rope, or by allowing the rope to ride off the end of the drum.

It is an object of my invention to provide a simple form of guide which will positively insure the rope following the groove in the drum at all times and under all conditions.

To the above end, I have provided for use in connection with spirally grooved winding drums, a rope guide which is moved in coöperative relation to the drum by engagement of the guide with the spiral groove in the drum.

In the drawing I have illustrated a simple form of my invention.

Figure 1 is an end elevation of a hoist having a spirally grooved winding-drum with my rope guide applied thereto; Fig. 2 is a plan view of the drum and guide shown in Fig. 1; and Fig. 3 is a view in perspective of the rope guide and the part by which it may be supported.

Like parts are referred to throughout the several views by the same reference characters.

A portion of the casing of a hoist is shown in outline at 5, from which projects a shaft 6 upon which is mounted a spirally grooved drum 7. A rope 9 is shown wound upon a portion of the drum 7. The rope 9, where it leaves the drum, passes down through a slot in a rope guide 10, the form of which is best shown in Fig. 3. This guide 10 is arranged for sliding movement upon a way 11 which may consist of an angle iron clamped in any suitable manner to the frame of the hoist, as by means of an angle iron 12 secured to the angle iron 11 and attached to the frame of the hoist by the bolts 13. The face of the guide 10 is curved to conform to the drum 7 and projecting from this face is a lug 14 adapted to fit the groove in the drum 7.

The drum, rope and rope guide are so assembled that the lug 14 on the guide projects into the groove in the drum 7 one thread in advance of the last turn of rope. With this arrangement the guide is moved back and forth across the face of the drum parallel to the axis thereof and will effectively prevent the rope from winding up on the drum otherwise than in the groove. Wings 15 and 16, extending from the bottom of the guide 10, as shown in Figs. 1 and 3, serve to take any side pull which may be exerted by the rope when the load is not directly beneath that portion of the groove in which the last turn of rope then lies.

While I have shown but one form in which my invention may be embodied, I do not wish to be understood as limiting it thereto since, as will be obvious to those skilled in this art, it may be embodied in many forms without departing from the spirit of the invention, as defined in the following claims.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In combination, a spirally grooved drum adapted to receive a rope, and a rope guide arranged to be moved parallel to the axis of said drum by engagement with the spiral groove in said drum.

2. In combination, a spirally grooved drum adapted to receive a rope, and a rope guide coöperating with said drum and arranged to engage the groove in said drum and to be moved thereby.

3. In combination, a spirally grooved drum adapted to receive a rope, a rope guide coöperating with said drum, means for supporting said rope guide in its movement parallel to the axis of said drum, and a lug on said rope guide projecting into the groove in the drum whereby said guide is moved.

4. In combination, a spirally grooved drum adapted to receive a rope, a rope guide

coöperating therewith, a support for said rope guide allowing movement thereof longitudinally of said drum, and a lug on said rope guide projecting into the groove in said drum in advance of the rope whereby the rope guide is caused to traverse the face of said drum.

In witness whereof, I have hereunto set my hand this 19th day of June, 1908.

SAM H. LIBBY.

Witnesses:
ROGER H. BUTTERWORTH,
ANNA M. GILLIN.