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COUNTERBALANCED SUPPORT FOR WIRE REELS.
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COUNTERBALANCED SUPPORT FOR WIRE-REELS.

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To all whom it may concern:

Be it known that I, MAURITZ OLSON, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Counterbalanced Supports for Wire-Reels, of which the following is a specification.

This invention relates generally to wire and metal reels for supporting the reel of wire in connection with wire working machinery, and the object of my invention is to provide a counterbalance reel so that a coil of wire can be quickly and easily placed upon the reel and then moved to its proper position with reference to the wire working machine.

Herefore wire supporting reels have been constructed in such a manner that more or less difficulty has been encountered in placing the heavy coils of wire either upon the reel or in positioning the reel after the coil has been placed thereon, and it is with the object of overcoming this difficulty that I have provided a reel which can be turned down to a position convenient for the placing of the coil of wire thereon, and then easily moved back to its proper position.

With this object in view my invention consists essentially in providing a counterbalanced support for the wire reel together with suitable locking devices for holding said reel securely in either its working or adjusting position.

My invention consists also in certain details of construction whereby the operation of the various parts is rendered quick and easy.

The invention also includes certain details of construction and novelties of combination hereinafter more fully described and pointed out in the claims.

In the drawings forming part of this specification Figure 1 is a perspective view of counterbalance reel constructed in accordance with my invention, the reel being tilted to the coil receiving position. Fig. 2 is a sectional elevation, the reel being shown in its horizontal or working position. Fig. 3 is a vertical section view showing the positions of the various parts when the reel is tilted to receive the coil of wire. Fig. 4 is a similar view showing the positions of the various parts when the reel is lifted to its working position. Fig. 5 is a horizontal section on the line 5—5 of Fig. 4. Fig. 6 is a sectional view on the line 6—6 of Fig. 3, and Figs. 7 and 8 show details of construction.

In the practical embodiment of my invention I employ a base 1 having a standard 2 extending upwardly therefrom and having suitable bearings at its upper end to receive a journal 3 upon which a counterbalance weight 4 turns, the upper end of the counterbalance weight having a spindle 5 secured thereto and upon which the reel is adapted to be mounted.

The standard 2 is preferably channeled as shown, being closed at the front and open at the rear. A curved lever 8 is located within the bottom of the standard 2, the forward end thereof extending through an opening in the bottom of the standard and is pivoted to a lug 7 formed upon the base 1 slightly in advance of the bottom of the standard and the forward end of this lever 8 is provided with a thread or step 9. The upper or rear end of the lever is shaped into a suitable handle as shown at 10. The lever 8 is formed intermediate its ends with a downward extending nose or lug portion 11 which is adapted to engage a lug 12 formed upon one side of the lower edge of the counterbalance weight 4, and when the reel is lifted and the counterbalance weight comes to its normal position the nose 11 dropping back of the lug 12 locks the counterbalance weight and prevents its rearward movement. The forward movement of the counterbalance weight is arrested by means of a stop finger 14 formed upon the lower forward end of the counterbalance weight and which contacts with the forward side of the standard when the counterbalance weight is in its normal position as shown in Fig. 4. The upper face of the lug 12 is beveled and the rear face of the nose 11 is slightly curved or rounded so that as the counterbalance weight 4 is brought down, the lug 12 will ride readily under the locking nose or detent 11, and the lever is also provided with a slight projection 13 in advance of the nose 11 and which contacts with base 1 and prevents the lever dropping too far down and therefore holds the nose 11 in the proper position for engagement with the lug 12.

In addition to the lug 12-carried by the
weight 4 along its lower edge, there is another lug 14 formed upon the side of the weight about midway its length, said lug 14 is intended to contact with a lug 15 placed upon the opposite face of the lever 8, its upper edge being inclined as shown at 13° to correspond with the incline 14° of the lug 14. These lugs 14 and 15 contact weight, the reel when the reel is tilted down to its receiving position and in addition to these lugs, the lever is provided with a pin 16 which is carried by a flat spring 16 secured to one side of the lever and extending just beneath the forward edge of the counterbalance weight 4, thereby serving, in connection with the lug 15, to hold the counterbalance weight in its raised or horizontal position so that the reel will be maintained in its lower or receiving position, and in this position the coil of wire can be quickly and easily placed upon the reel, and then by virtue of the counterbalance weight, the reel loaded with a fresh coil of wire can be shifted back to its normal working position. In addition to the inclined face 14° the lug also has an inclined face 14° which contacts with the inclined face 15° of the lug 15 when the reel is pulled down and the counterbalance weight 4 raised and the lug 14 is thus caused to ride along the lower edge of the lug 15 throwing the lever 8 forward until the lug 14 passes the lug 15, and the lever dropping back will then bring the face 15° in contact with the face 14° as previously stated. After the coil has been placed upon the reel and it is desired to elevate same, the lever is moved forwardly either by pressing upon the handle 9 or pulling upon the handle 10. The pin 16 is thus brought into engagement with a groove 17 cut in the face of the weight 4 which groove forces the pin back. After the lever has been given this slight forward movement the operator can then use both hands for returning the reel, and inasmuch as this groove 17 is gradually tapered toward its inner end the pin will be gradually forced back and carried out of the groove, the counterbalance being fully released and moving toward its normal lower position. As the counter weight descends the lug 12 drops beneath the nose or pawl 11 and thereby becomes securely locked. The counterbalance can be unlocked either by pressing upon the handle 9 or pulling upon the handle 10 as previously stated.

The reel comprises a hub 18, arms or spokes 19 and a rim 20; the hub 18 resting upon a sleeve 21, and secured by means of a collar 22.

In practice I prefer to construct the sleeve 21 with a stub axle 25 extending at right angles therefrom and upon which the reel hub can be mounted if it is desired to support the reel in a vertical instead of a horizontal position.

Upon the spokes 19 are mounted the adjustable arms 24 provided with suitable fastening means, and each arm 24 is provided with adjustable fingers 25, the coil being arranged upon the spokes and held in position by the arms 24 and fingers 25 being clamped against the coil; the coil being indicated in dotted lines in Fig. 2.

It will thus be understood from the above description in connection with the accompanying drawings that I provide a support for the wire reel which can be quickly and easily pulled down to a receiving position for the purpose of having the coil of wire placed thereon, and then as easily returned to its normal work-position, by virtue of the counterbalance weight which will compensate for the weight of the coil upon the reel, the counterbalance being securely locked in its raised position when the coil is being placed upon it and equally locked when the counterbalance is lowered and the reel lifted to its normal or working position. It will also be understood that the counterbalance can be quickly and easily unlocked from either one of its above described positions.

What I claim is:

1. In a wire reel, a support, a counterbalanced spindle mounted on said support and carrying a reel, together with a common means adapted to engage the counterbalance of said spindle for locking said spindle in its raised and lowered positions.

2. In a reel, a support, a counterbalanced spindle mounted on said support and carrying a reel, said counterbalance having a lug on the side thereof and a lever connected to said support and having a lug adapted to engage the lug of the counterbalance of the spindle in both its raised or lowered positions for the purpose set forth.

3. In a reel, a support, a spindle mounted thereon and provided with a counterbalance weight, a lever mounted upon said support, and a common engaging means carried by the lever for holding said weight locked in its raised or lowered position.

4. In a wire reel, a support, a spindle mounted on said support, a counterbalance weight for said spindle, a lever pivoted to the support, projections carried by said lever and lugs carried by said counterbalance weight and adapted to engage the projections upon the lever whereby said counterbalance weight is held locked in its raised or lowered position.

5. In a wire reel, a support, a spindle and its counterbalance weight mounted on said support, said counterbalance having lugs upon one face thereof, a lever pivoted upon the support and having projections adapted
to engage the lugs upon the counter weight, the counter weight and lever being provided with means to prevent their movements when not in engagement with each other.

6. In a wire reel, a support, a counterbalance weight mounted thereon and carrying a spindle, a lever fulcrumed upon the support and having a treadle at one end and a handle at the opposite end and a limiting stop and locking projection intermediate its ends, a lug carried by the weight at its lower edge and adapted to engage the locking projection of the lever, a second lug carried by the weight and an engaging lug carried by the lever, said lugs having inclined engaging faces, and a spring actuated pin carried by the lever for engaging the counter weight when in its raised position.

7. In a wire reel, a support, a counterbalance weight mounted thereon, a spindle attached to the weight and adapted to carry a reel thereon, said counter weight having a projection adapted to limit its forward movement, said counter weight also having a lug at its lower edge, a lever fulcrumed upon a support having a treadle at one end and a handle at the opposite end, and limiting stop adjacent its forward end, and a downwardly extending projection adapted to engage the lug upon the lower end of the counter weight, a second lug carried by the counter weight and having inclined faces, a lug carried by the lever having inclined faces, said lugs being adapted to engage each other when the counterbalance weight is swung upwardly, and a spring actuated pin carried by the lever for engaging the counter weight when in a raised position, the face of said counter weight being grooved to receive said pin as set forth.

8. In a wire reel, a support, a spindle journaled thereon having a counterbalance weight at one end and a wire carrying reel journaled upon its opposite end, said reel being adjustably mounted upon said spindle, and a common means mounted upon said support and adapted for engagement with the counterbalance of said spindle for locking said spindle and said reel in its raised and lowered positions.

In testimony whereof I have hereunto set my hand this 27th day of November, A. D. 1914.

MAURITZ OLSON.

Witnesses:
MARY E. LIDBY,
RICHARD F. BROWN.