April 18, 1933. E. M. HARRIS 1,904,286

WIRE REEL

Filed May 9, 1930 3 Sheets-Sheet 1

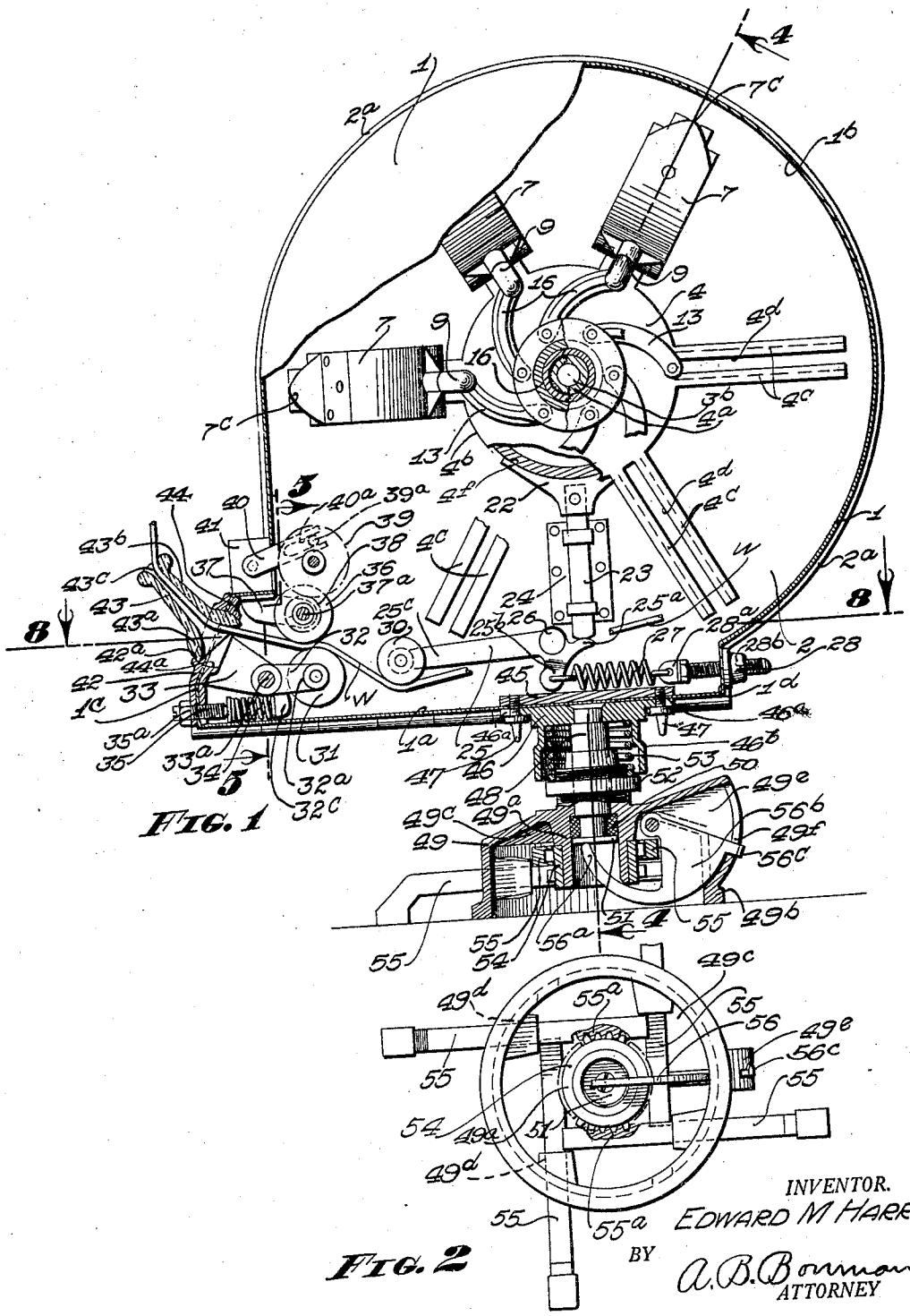


FIG. 1

FIG. 2

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WIRE REEL

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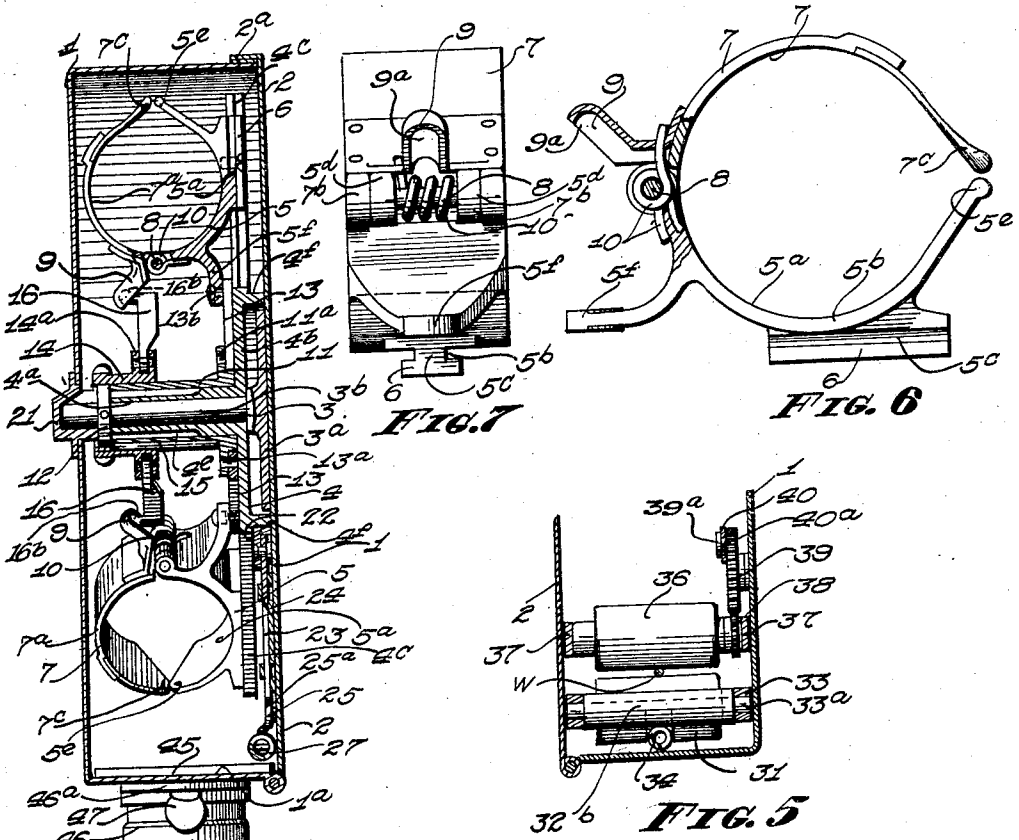


FIG. 7

FIG. 6

FIG. 5

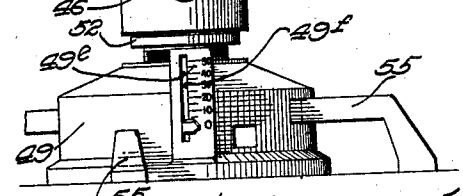


FIG. 4

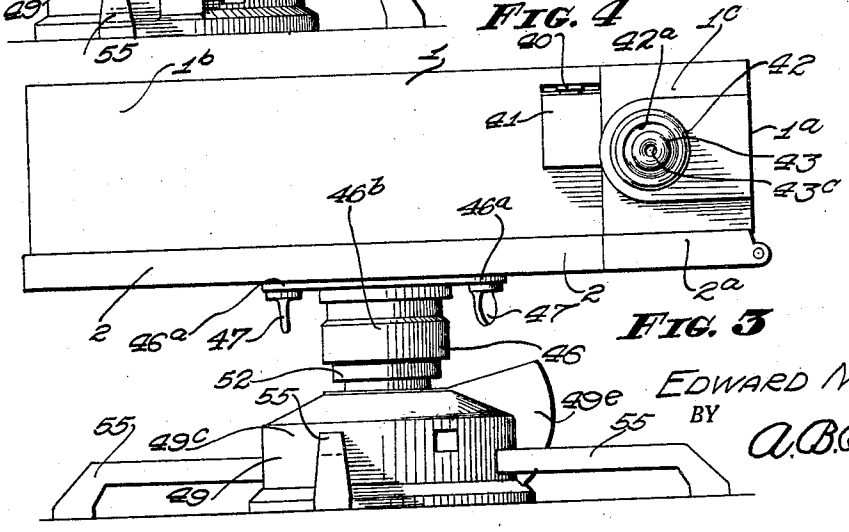


FIG. 3

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WIRE REEL

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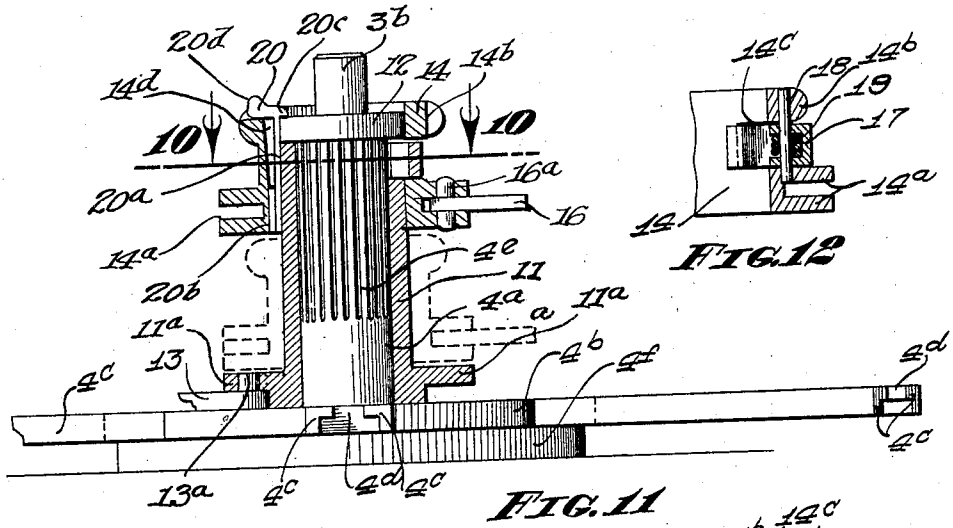


FIG. 11

FIG. 12

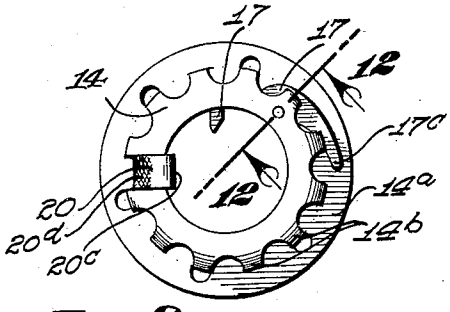


FIG. 9

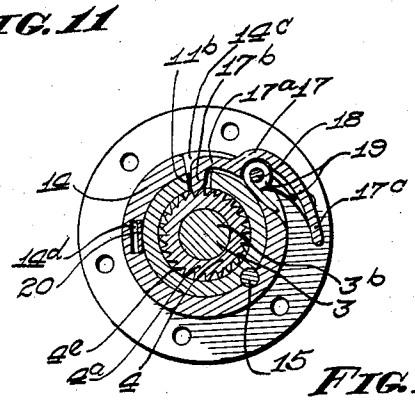


FIG. 10

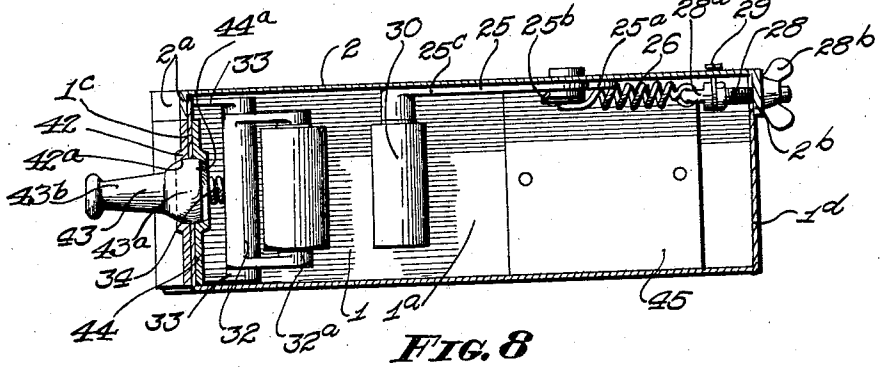


FIG. 8

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UNITED STATES PATENT OFFICE

EDWARD M. HARRIS, OF SAN DIEGO, CALIFORNIA

WIRE REEL

Application filed May 9, 1930. Serial No. 451,011.

My invention relates to wire reels, and the objects of my invention are:

First, to provide a wire reel which receives and dispenses previously coiled wire, rope or the like;

Second, to provide a wire reel in which one size of reel may receive several different diameters of coiled wire, and possibly any gauge or type of wire, such as insulated or bare wire;

Third, to provide a wire reel which eliminates all possibility of entangling the wire;

Fourth, to provide a wire reel which is especially adapted for use in connection with the stringing of electric power lines, telegraph or telephone lines, particularly when several lines are strung at once, and in such use, greatly reduces the number of men necessary for this work;

Fifth, to provide a wire reel which operates equally well whether the wire is drawn through conduits or strung between poles;

Sixth, to provide a wire reel which not only automatically measures and records the lengths of wire as it is used, but weighs the wire remaining on the reel;

Seventh, to provide a wire reel having an automatic braking means which is released only when the wire is being withdrawn from the reel, and which acts upon the reel so as to prevent continued rotation thereof when wire is not being drawn from the reel, thus preventing tangling of the wire due to the inertia set up during the withdrawal of the wire;

Eighth, to provide a wire reel which is totally enclosed but which may be readily opened up for changing or replenishing the wire; and

Ninth, to provide on the whole a novelly constructed wire reel which is particularly simple of construction, durable, efficient in its action, and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon, which form a part of this application, in which:

Figure 1 is a sectional view taken transversely through the axis of the wire reel with parts and portions shown in elevation or removed to facilitate the illustration; Fig. 2 is a fragmentary bottom view of the stand for supporting the wire reel; Fig. 3 is an end elevational view of the wire reel and its stand, with the reel casing shown mounted on its side; Fig. 4 is a transverse, sectional view through 4—4 of Fig. 1, with parts and portions in elevation; Fig. 5 is a fragmentary sectional view through 5—5 of Fig. 1, with parts and portions in elevation; Fig. 6 is an enlarged side elevational view of one of the wire retaining members with parts and portions shown in section; Fig. 7 is an end elevational view thereof; Fig. 8 is a sectional view through 8—8 of Fig. 1, with parts and portions as shown in elevation; Fig. 9 is a plan view of the knob member; Fig. 10 is a sectional view through 10—10 of Fig. 11; Fig. 11 is an enlarged elevational view of the wire reel with the wire cage members and other portions removed, and parts and portions in section to facilitate the illustration; and Fig. 12 is a fragmentary sectional view through 12—12 of Fig. 9.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

Casing 1, cover 2, reel support 3, reel base 4, wire cage bases 5, retaining plates 6, wire cage lids 7, hinge pins 8, arm members 9, springs 10, sleeve 11, collar 12, link members 13, handle 14, key 15, connecting bars 16, catch lever 17, pin 18, spring 19, latch member 20, stirrup 21, brake shoe 22, brake rod 23, guide 24, brake lever 25, brake lever pin 26, brake tension spring 27, adjusting screw 28, indicator arm 29, brake lever roller 30, lower roller 31, yoke member 32, support bracket 33, tension spring 34, adjusting screw 35, upper roller 36, supporting bracket 37, driving gear 38, driven gear 39, arm member 40, counter member 41, reinforcing plate 42, wire guide 43, retaining plate 44, reinforcing plate 45,

spring housing 46, thumbscrews 47, shank member 48, pedestal 49, collar 50, cap plate 51, adjusting nut 52, weighing spring 53, equalizing gear 54, extensible feet members 55, and indicating lever 56 constitute the principal parts and portions of my wire reel.

The casing 1 is preferably formed of sheet metal, and is cylindrical except for one side which is offset downwardly, forming a base portion 1*a*. The base portion 1*a* is connected to the cylindrical portion 1*b* of the casing by angularly extending forward and rear walls 1*c* and 1*d*, respectively. The one end of the casing is closed, while the other end thereof is open.

A cover member 2 conforming in shape to the casing 1 and having an overlapping peripheral rim 2*a*, is hinged to the base portion 1*a* along the open side of the casing. Any suitable clasp means, not shown, may be used to hold the cover firmly in place over the end of the casing 1.

Mounted on the cover 2 by means of a flanged base portion 3*a*, in centered relation to the cylindrical portion 1*b* of the casing 1, is a reel support 3. Centered on the base portion 3*a*, and extending into the casing 1, is a spindle portion 3*b*, upon which is rotatably mounted the hub portion 4*a* of the reel base 4. The end of the sleeve portion 4*a* adjacent the flanged portion 3*a* is enlarged radially, forming a drum portion 4*b*, which overhangs said base portion 3*a*, and the periphery of which extends into contiguous relation with the cover 2. Extending radially from the drum portion 4*b*, in spaced relation to the cover 2, are a plurality of bifurcated arm members 4*c*.

A wire cage is provided for each of the radially extending arms or spokes 4*c*. Each wire cage comprises a base 5 the inner periphery of which is substantially semi-cylindrical. Each wire cage base 5 is provided with a shoe portion 5*c*, the axis of which is at right angles to the cylindrical portion 4*a*. Each shoe portion 5*b* is provided with a downwardly projecting ridge 5*c*, which fits in the slot 4*d* formed between the members of each bifurcated spoke 4*c*. This ridge 5*c* prevents twisting of the reel cage base 5 relative to the spoke 4*c*. Secured to the ridge 5*c*, so as to engage the under sides of the bifurcated spokes, on either side of the slots 4*d*, is a retaining plate 6.

A wire cage lid 7, having a substantially semi-cylindrical inner periphery 7*a*, complements the wire cage base 5. The rear side of each wire cage base 5 is provided with hinge bearing portions 5*d*, and each lid 7 is provided with corresponding hinge bearings 7*b*, through which extends a hinge pin 8.

Secured to each lid 7 above the hinge end, is an inwardly extending arm member 9, which extends inwardly towards the hub of the base member 4, and which will be described in more detail hereinafter.

Between the hinge bearings 5*d* and 7*b*, and coiled around the hinge pin 8, is a spring 10, an end of which fits in a hole in the arm 9 and tends to raise the lid 7.

The forward sides of the wire cage are provided with tangentially extending lip portions 5*e* and 7*c*. These lip portions extend towards each other and into contiguous relation with each other, as shown best in Figs. 4 and 6. The lip portions taper to a rounded blunt point. The lip portion 7*c* of each cage is preferably made of resilient material so that it may give sufficiently to allow wire to pass out of the cage.

Fitted over the hub portion 4*a*, of the reel base 4 is a sleeve 11, which is retained in abutting relation with the drum portion 4*b* by means of a collar 12 secured to the extended portion of the spindle 3*b*. In slightly spaced relation to the face of the drum portion 7*b* the sleeve 11 is provided with a flange 11*a*.

The flange 11*a* is pierced by a plurality of holes which receive pins 13*a* mounted at the one end of link members 13. The link members 13 extend outwardly from the sleeve 11 towards the several wire cages. Each wire cage base 5 is provided with an inwardly extending arm portion 5*f*, which is in substantial alinement with the arm 9. The extended end of each arm 5*f* is adapted to be connected by means of a pin 13*b* to the extended end of one of the link members 13. By rotating the sleeve 11 the several cages are simultaneously moved outwardly or inwardly upon the spokes 4*c*.

Slidably mounted on the sleeve 11, is an annular handle 14. The sleeve 11 is provided with an axially extending semi-cylindrical channel therein, which receives a key 15. The handle 14 is provided with a correspondingly shaped channel, which fits over the protruding part of the key so that rotation of the handle 14 will cause rotation of the sleeve 11, as shown in Figs. 4 and 10.

The end of the handle 14 towards the base of the sleeve 11 is provided with a double flange 14*a*. The double flange 14*a* is provided with holes therethrough in alinement with the holes in the flanges 11*a*. Connecting bars 16 fit between the members of the double flange 14*a*, and are pivotally secured thereto by pins 16*a* which fit in the holes in said flange. The connecting bars 16 extend outwardly from the flange 14*a*, and each is upturned at its extended end and provided with a ball position 16*b*.

Each arm member 9 is provided with an elongated socket portion 9*a* along its underside, which fits over the ball portion 16*b* at the end of the corresponding connecting bar 16, and which allows the corresponding lid 7 to rotate on its hinge, while said socket

remains in position upon said ball portion. Also, the connecting bars may extend at any desired angle relative to the socket portions 9*a* and still co-act therewith.

The connecting bars 16 are equal in length to the link members 13 so that radial movements of the ends of the connecting bars and link are equal, thereby enabling the ball portion 16*b* to retain its position underneath the corresponding arm member 9.

It is desirable to prevent the several wire cages from shifting inwardly, that is, towards the hub of the reel support, except when shifted by means of the handle 14. Formed on the outer periphery of the hub portion 4*a* of the reel base 4, are a plurality of longitudinally extending grooves or channels which form a plurality of teeth 4*e*, as shown best in Figs. 10 and 11. The upper portion of the handle 14, that is, the side towards the extended end of the sleeve 11, is enlarged, forming a grip portion 14*b*, which enables the handle to be readily grasped by the hand. The side wall of the handle between its enlarged portion 14*b* and the double flange 14*a* is provided with an opening 14*c*.

Hugging the handle 14, is a catch lever 17, which is rotatably mounted intermediate its ends on a pin 18 mounted opposite the opening 14*c*, adjacent the one margin thereof. The one arm 17*a* of the catch lever 17 fits in the slot 14*c*, and is provided at its extended end with an inwardly extending catch portion 17*b*, which extends through a slot 11b formed in the sleeve 11, and registering with the opening 14*c*, as shown best in Fig. 10. This slot allows access to the teeth 4*e*, which are engaged by the catch portions 17*b*. A spring 19 wound around the pin 18 yieldably holds the catch portion 17*b* in engagement with the teeth 4*e*.

The other arm 17*c* of the catch lever extends a short distance past the margin of the enlarged portion 14*b* of the handle so that it may be readily pressed inwardly by the fingers or thumb and release the catch portion 17*b* from the teeth 4*e*.

The teeth 4*e* and catch portion 17*b* are arranged so that said catch portion slides over said teeth when the knob 14 is turned so as to shift the wire cages outwardly, thus the wire cages are normally locked against inward movement, and are released from such locked condition by depressing the arm 17*c* of the catch lever.

Formed in the side wall of the handle 14, opposite from the extended end of the arm portion 17*c*, is an axially extending slot 14*d*, which receives a shank 20*a* of a latch member 20. The shank 20*a* of said latch member is in the form of a leaf spring, and is secured at its lower end to the handle 14, and is held from the base of the channel 14*d* by means of a spacer 20*b*. The upper end of the shank 20*a* is provided with a catch portion 20*c* adapted to overhang the sleeve portion 11, and engage the upper extended end thereof, or the collar 12, when the handle is moved to its outer position, shown in Figs. 4 and 11. This end of the latch member is provided with a suitable thumb engageable portion 20*d*, so that the catch portion 20*b* thereof may be shifted clear of its overhanging position.

As the several springs 10 tend to raise the lids 7 of the wire cages and consequently cause downward movement of the arms 9, it will be seen that the tendency of the handle 14 is to assume the dotted position shown in Fig. 11. Thus, axial movement of the handle 14 operates the several lids 7 simultaneously.

All the mechanism thus described, with the exception of the casing 1 and cover 2, constitutes the wire reel, and is supported entirely by the cover 2. In addition, the spindle 3*b* of the support 3 may extend beyond the handle 4 so as to ride in a stirrup 21 mounted in the casing 1, as shown in Fig. 4.

The drum 4*b* between the spokes 4*c* and the cover 2, forms a brake drum portion 4*f*, which is engageable by an arcuate brake shoe 22 at the side thereof facing the base 1*a* of the casing. The brake shoe 22 is secured to the one end of a brake rod 23 in the form of a flat strip; said brake rod is held in slidable relation contiguous to the cover 2 by means of a guide 24. The end of the brake rod 23 stops short of the lower end 1*a* of the casing, and is engageable by a cam portion 25*a* of a brake lever 25. The brake lever 25 is journalled at a point a slight distance forwardly of the brake rod 23 by means of a pin 26 secured to the cover 2. The brake lever is provided with an arm 25*b* extending into contiguous relation with the bottom 1*a* of the casing, to which is attached the one end of the spring 27. The other or rear end of the spring is secured to a looped end 28*a* of a polygonal shaped adjusting screw 28. The adjusting screw 28 extends through a reinforced portion 2*b* in the rim of the cover 2, and is provided with a wing nut 28*b* or the like.

Secured to the adjusting screw 28, adjacent its looped end 28*a*, is an indicator arm 29, which extends out through a slot provided in the cover 2, and is provided with a pointer adapted to register with suitable markings or the like provided on the outer side of the cover 2. This indicator forms a means of determining the pressure normally applied to the brake drum.

The lever 25 is provided with a relatively long arm 25*c* which extends contiguous to the cover 2 and towards the forward end 1*c* of the casing 1. At its forward end, said arm 25*c* supports a roller 30, which extends into the casing 1.

Between the roller 30 and the forward end 1*b* of the casing, with its upper surface approximately horizontally disposed relative to

the roller 30, is a lower roller 31. The lower roller 31 is supported at its ends by arms 32*a* of a yoke member 32.

The yoke member 32 is substantially U-shaped and its cross portion 32*b* connecting the arms 32*a*, extends between said roller 31 and the forward end of the casing 1, and forms a bearing which journals upon a pin 33*a*, supported between a pair of brackets 33 extending rearwardly from the forward side 1*b* of the casing 1.

The yoke 32 is provided with a downwardly extending arm 32*c* positioned intermediate the arms 32*a*. The arm 32*c* is adapted to be engaged by a spring 34. The other or forward end of the spring 34 is engaged by the inner ends of an adjusting screw 35, mounted in the forward side 1*b* of the casing 1.

The adjusting screw is provided with a suitable lock nut 35*a*. Rearward movement of the arm 32 tends to raise the roller 31.

Above the roller 31 is an upper roller 36. The upper roller 36 is mounted on a rod 37*a* extending between bracket portions of a bracket 37 extending rearwardly from the forward side 1*c* of the casing.

Mounted on the same shaft with the roller 36 is a driving gear 38, which meshes with the driven gear 39. The driven gear 39 is provided with an eccentrically located pin 39*a*, which is straddled by the bifurcated ends 40*a* of an arm member 40, which operates a counter member 41 adapted to register feet or similar units of length.

The forward side 1*c* of the casing is provided with reinforcing plate 42. This reinforcing plate has an opening 42*a* therethrough in the form of a zone of a sphere. This opening 42*a* is adapted to receive a semi-spherical end portion 43*a* of a wire guide 43. The semi-spherical portion 43*a* is held in position by means of a retaining plate 44, also having an opening 44*a* therein in the form of a zone of a sphere, and which is secured to the reinforcing plate 42.

From the semi-spherical portion 43*a*, said guide continues outwardly, forming a stem portion 43*b*. The wire guide 43 is provided with an axially extending opening 43*c* therethrough which is flared at its ends, as shown best in Fig. 1.

The wire W from the coil of wire, not shown, supported in the wire cages passes underneath the brake roller 30 between the upper and lower rollers 36 and 31, and out through the guide 43.

Secured to the base 1*a* of the casing, below the center of the wire reel, is a reinforcing plate 45. Below this plate, on the outer side of the casing 1, is a spring housing 46, having ear portions 46*a* on opposite sides, through which extend thumbscrews 47, which secure said spring housing 46 to the casing. Depending from the secured end of the housing 46 is a cylindrical shell portion 46*b*. Secured to the base of the housing 46 and extending downwardly in centered relation to the shell portion 46*b*, is a shank member 48.

The lower end of the shank 48 extends into a centrally located sleeve portion 49*a* of a pedestal member 49. The upper end of the sleeve portion 49*a* is constricted so as to fit snugly around the shank 48, as shown best in Fig. 1. Below said constricted portion, the shank 48 is also constricted and receives a collar 50 which retains the shank within the sleeve 49*a*.

The extended lower end of the shank 48 is provided with a cap plate 51, which holds the collar in place.

The pedestal 49 extends outwardly from the sleeve portion 49*a* intermediate the ends thereof, then downwardly past the lower end of said sleeve portion, forming an annular base 49*b* in concentric relation with said sleeve.

Above the outwardly extending portion of the pedestal said sleeve 49*a* is externally threaded and its outer periphery receives an adjusting nut 52.

A weighing spring 53 extends between the adjusting nut 52 and the base of the spring housing 46. The cylindrical portion 46*b* thereof encloses said spring. The spring thus carries the weight of the casing and cover, reel mechanism and wire supported thereby.

Journalled around the lower end of the sleeve portion 49*a*, within the housing portion 49*c* of the pedestal, is a double equalizer gear 54.

Each gear portion of the double equalizer gear 54 is adapted to engage on opposite sides a pair of rack portions 55*a* of extensible feet members 55 which extend in opposite directions through suitable sleeve portions 49*d* formed in the walls of the housing portion 49*c* of the pedestal members. Inward or outward movement of any one of the feet members 55, by reason of their interlocking relations with the gear 54, causes a corresponding movement of the others. The feet members 55 greatly increase the stability of the pedestal.

Mounted within the housing portion 49*c* of the pedestal contiguous to the upper side and adjacent the sleeve 49*a*, is an indicating lever 56 which is provided with a hook-shaped arm 56*a* adapted to extend underneath the sleeve portion 49*a* and engage the cap plate 51 secured to the end of the shank member 48.

The pedestal member 49 is provided with an arcuate extension 49*e* adapted to receive the other arm 56*b* of said lever. This arm is adapted to project through a slot 49*f* provided in said extension, and is provided with a pointer 56*c* at its extended end adapted to register with a scale formed along one margin of the slot 49*f*, as shown in Fig. 4. Thus, by adjusting the nut 52, so that when the reel

is empty, the pointer 56c registers zero, the weight of any coil of wire placed in the reel may be readily ascertained. Of course, where greater accuracy is desired, a more complex weighing arrangement may be substituted in the place of the weighing lever 56.

Operation of my wire reel is as follows:

When desiring to place a coil of wire in the reel, the cover 2 is opened until it extends at approximately right angles to the casing 1, whereupon the latch 20 is shifted to release the handle, allowing the handle to move to the dotted position shown in Fig. 11. This movement allows the lids 7 of the wire cages to rotate about ninety degrees. Before or after this is done, the handle 14 is rotated until the inner margins of the wire cages are slightly within the inner margins of the coil of wire to be placed therein. The wire is then placed in a cage, the handle 14 is then drawn out until the latch 20 functions, in which position the lips 5e and 7c are in contiguous relation. The handle 14 is then rotated until the inner margins of the wire cages bear against the inner portion of the coil of wire. The end of the wire is then fed underneath the roller 30 between the rollers 31 and 36, and out through the guide 43. The cover is then closed to the position shown in Fig. 1, and the reel is ready for operation.

Of course, before reeling out the wire the counter mechanism 41, as well as the scale mechanism, is read, and the braking spring 27 is set at the desired tension. When the extended end of the wire is pulled, the arm 25c of the lever is raised, releasing the tension of the brake shoe 22 against the drum and allowing the reel to rotate.

As soon as the tension on the wire is released, the spring 27 actuates the brake shoe and prevents the wire reel from continuing to revolve. The lips 5e and 7c allow the wire coil, one strand at a time, to pass out as the wire reel is rotated.

It is sometimes desirable to mount the reel in the position shown in Fig. 3. This is done by removing the thumbscrews 47, turning the reel over on its cover 2, and screwing the thumbscrews into suitable threaded holes provided in the flange portion 3a of the support 3.

It will be noted that the guide 43 may be shifted in any desired direction so that the position of the reel does not have to be changed even though the wire is to be drawn in one of several directions.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, a reel mechanism for receiving a previously wound coil of wire, a brake means normally engaging said reel mechanism, guide means for receiving an end of said coil of wire, a release means for said brake means disposed between said guide means and said coil of wire, said guide means adapted to cause said wire to pass said release means, whereby said wire upon the application of tension thereon, actuates said release means, said reel mechanism comprising a plurality of radially disposed wire receiving cages substantially encircling spaced apart portions of the annulus formed by said coil of wire, means for shifting said cages radially, and means for opening said cages.

2. In a device of the class described, a casing, a cover therefor, a reel mechanism for receiving a previously wound coil of wire revolubly mounted upon said cover, brake means normally engaging said reel mechanism, a guide tube supported by said casing and forming a universal joint therewith, said guide tube arranged to receive an end of said coil of wire, a release means in said casing arranged to ride upon said wire and shiftable, so as to release said brakes, upon the application of tension to said wire, said reel mechanism comprising a plurality of radially disposed wire receiving cages substantially encircling spaced apart portions of the annulus formed by said coil of wire, means for shifting said cages radially, and means for opening said cages.

3. In a wire reel, a revoluble base member, wire receiving cages supported by, and radially shiftable upon, said base member, each of said cages comprising a base portion, and a complementing lid portion arranged to receive a coil of wire, and yieldable coacting lips extending from said base portion and said lid portion forming a yieldable aperture for releasing the unwinding turn of said wire from said cage, means for simultaneously shifting said cages, and means for simultaneously opening and closing said cages, whereby a previously wound coil of wire may be inserted therein.

4. In a wire reel, a revoluble base member, a plurality of spaced apart wire receiving cages mounted thereon, arranged to receive in common a coil of wire and support the same in concentric relation to the axis of said base member, each of said cages comprising a base portion and a yieldable complementing lid portion arranged to encircle said coil of wire, said lid portion forming with said base portion a yieldable aperture for releasing the unwinding turn of said coil of wire, and means for simultaneously opening and closing said

cages, whereby a previously wound coil of wire may be inserted therein.

5. In a wire reel, a revoluble base member, a plurality of spaced apart radially shiftable wire receiving cages mounted thereon arranged to receive in common a coil of wire and support the same in concentric relation to the axis of said base member, each of said cages comprising a base portion and a yieldable lid portion arranged to encircle a coil of wire, said lid portion forming with said base portion a yieldable aperture for releasing the unwinding turn of said wire from said cage, an axially shiftable and rotatable handle means mounted on the hub of said base member, and link means extending therefrom to each of said cages, whereby said handle means, when rotated, causes said cages to shift radially, and whereby said handle means, when shifted axially, causes an opening or closing of said cages.

6. In a wire wheel, a revoluble base member, wire receiving cages supported by, and radially shiftable upon said base member, means for simultaneously shifting said cages, mechanism for simultaneously opening and closing said cages, whereby a previously wound coil of wire may be inserted therein, a handle common to said means and mechanism, a brake drum forming a part of said base member, a brake means normally engaging said brake drum, guide means for receiving an end of said coil of wire, and a brake release means engageable by said wire, whereby said release means is actuated upon application of tension to said wire.

7. In a wire reel, a revoluble base member, wire receiving cages supported by, and radially shiftable upon said base member, each of said cages comprising a base portion and a yieldable complementing lid portion arranged to receive a coil of wire, said lid portion and base portion forming therebetween a yieldable aperture for releasing the unwinding turn of said wire from said cage, means for simultaneously shifting said cages, means for simultaneously opening and closing said cages, whereby a previously wound coil of wire may be inserted therein, a brake drum forming a part of said base member, a brake means normally engaging said brake drum, guide means for receiving an end of said coil of wire, and a brake release means engageable by said wire, whereby said release means is actuated upon application of tension to said wire.

8. In a wire reel, a revoluble base member, a plurality of spaced apart wire receiving cages mounted thereon arranged to receive in common a coil of wire and support the same in concentric relation to the axis of said base member, each of said cages comprising a base portion and a complementing lid portion arranged to encircle said coil of wire, and lip means for releasing the unwinding turn of said coil of wire, and means for simultaneously opening and closing said cages, whereby a previously wound coil of wire may be inserted therein, a brake drum forming a part of said base member, a brake means normally engaging said brake drum, guide means for receiving an end of said coil of wire, and a brake release means engageable by said wire, whereby said release means is actuated upon application of tension to said wire.

9. In a wire reel, a revoluble base member, a plurality of spaced apart radially shiftable wire receiving cages mounted thereon arranged to receive in common a coil of wire and support the same in concentric relation to the axis of said base member, each of said cages substantially enclosing a section of said coil of wire, a rotatable handle means mounted on the hub of said base member, link means extending therefrom to each of said cages, whereby rotation of said handle means causes simultaneous radial shifting of said cages, a brake drum forming a part of said base member, a brake means normally engaging said brake drum, guide tube for receiving an end of said coil of wire, and a brake release means engageable by said wire, whereby said release means is actuated upon application of tension to said wire.

10. In a wire reel, a revoluble base member, a plurality of spaced apart radially shiftable wire receiving cages mounted thereon arranged to receive in common a coil of wire and support the same in concentric relation to the axis of said base member, each of said cages comprising a base portion and a yieldable lid portion arranged to encircle a coil of wire, said lid portion and base portion forming therebetween a yieldable aperture for releasing the unwinding turn of said wire from said cage, an axially shiftable and rotatable handle means mounted on the hub of said base member, link means extending therefrom to each of said cages, whereby said handle means, when rotated, causes said cages to shift radially, and whereby said handle means, when shifted axially, causes an opening or closing of said cages, a brake drum forming a part of said base member, a brake means normally engaging said brake drum, guide tube for receiving an end of said coil of wire, and a brake release means engageable by said wire, whereby said release means is actuated upon application of tension to said wire.

In testimony whereof, I have hereunto set my hand at San Diego, California, this 22nd day of April, 1930.

EDWARD M. HARRIS.