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H. C. ELLISON

MEANS FOR AND METHOD OF HANDLING AND TRANSPORTING WIRE FOR BOLT MAKING MACHINES

Original Filed Nov. 12, 1928 2 Sheets-Sheet 1

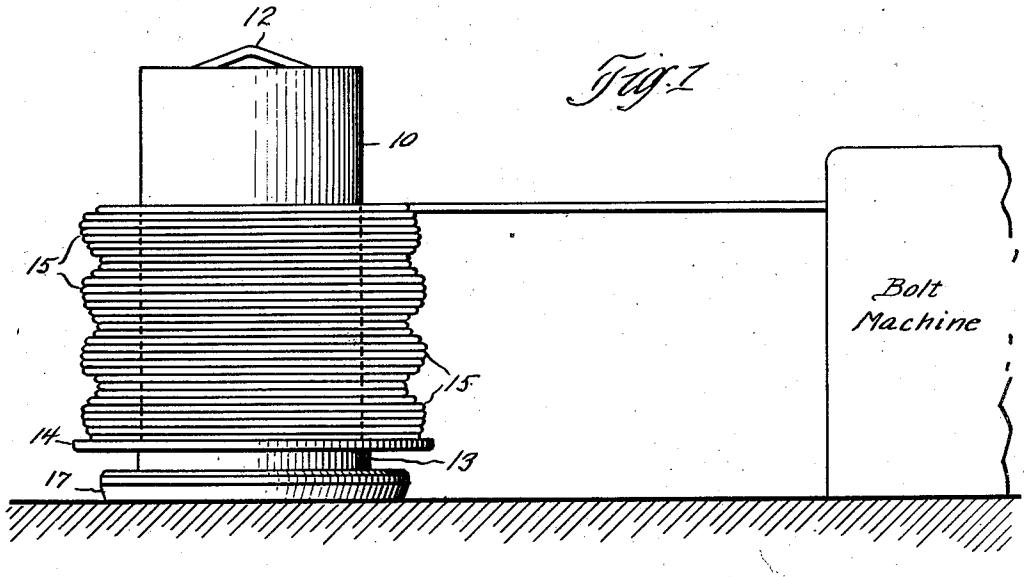


Fig. 1

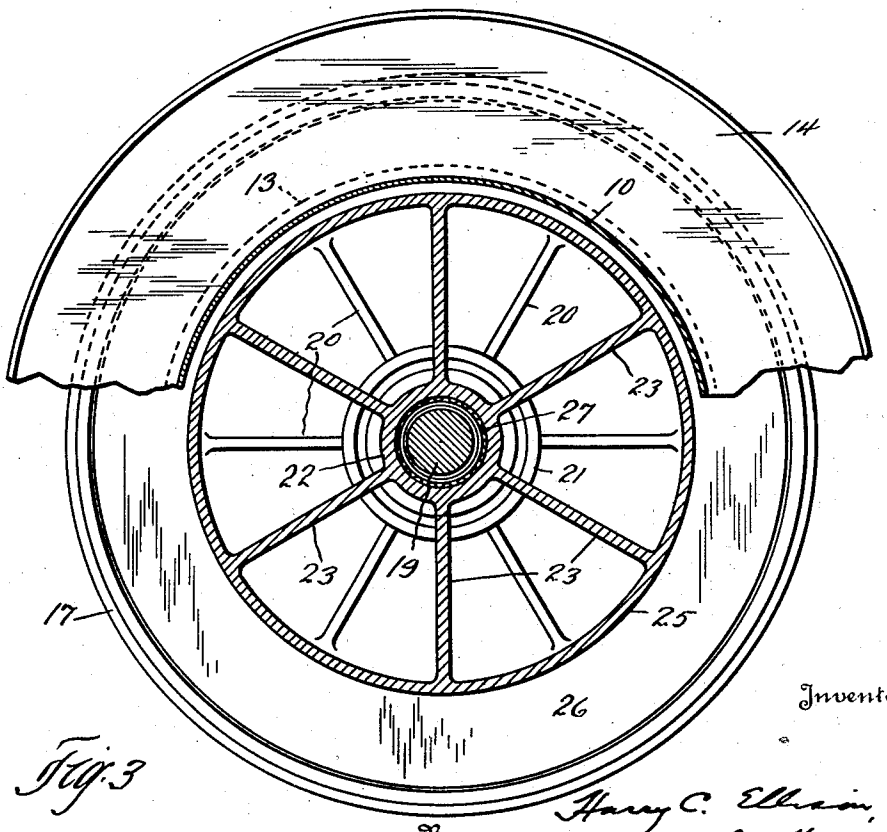


Fig. 3

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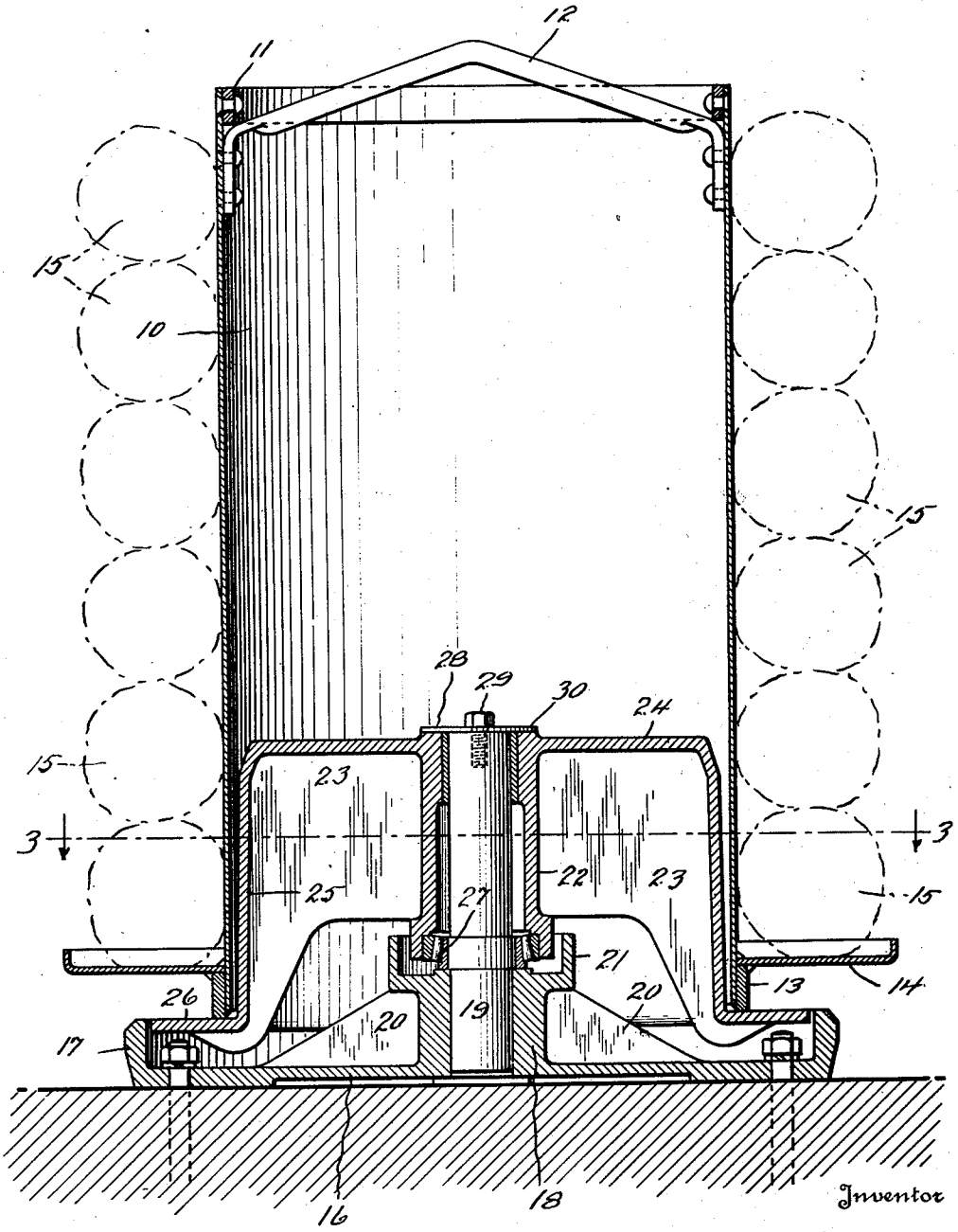


Fig. 2

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1,859,585

UNITED STATES PATENT OFFICE

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MEANS FOR AND METHOD OF HANDLING AND TRANSPORTING WIRE FOR BOLT MAKING MACHINES

Application filed November 12, 1928, Serial No. 318,713. Renewed September 8, 1931.

This invention relates generally to a device to be used in connection with a bolt making machine or similar article in which the material operated upon is in the nature of a wire or wire rod.

In the manufacture of bolts a wire or wire rod is fed to the machine for the purpose of cutting and shaping the bolts. When wire is drawn it is usually wound into coils of definite lengths and in practice it is customary to place a number of these coils upon a truck and run this truck up to the bolt making machine, remove the coil from the truck and arrange the same upon a reel from which it is fed to the bolt making machine. Of course a number of coils can be deposited adjacent each machine but nevertheless a great deal of time and labor is consumed in their transportation and also in picking up the coil and placing it upon the reel when one coil becomes exhausted.

The object of my invention is to provide a device upon which a number of coils can be arranged in superposed order and easily transported and placed adjacent to the bolt making machine and from which the wire can be fed without the necessity of stopping to place a coil of wire upon a reel as each coil becomes exhausted.

The invention consists in the novel features of construction and in the manner of combining or arranging the same all of which will be fully described hereinafter and set forth in the appended claims.

In the drawings forming part of this specification, Fig. 1 is a view showing the practical application of my invention; Fig. 2 is a vertical sectional view of the same, the coils of wire being indicated in dotted lines; Fig. 3 is a detail sectional view on the line 3—3 of Fig. 2.

Broadly speaking my invention comprises a rotatable support which is preferably arranged adjacent a bolt making machine and upon which is arranged a drum, cylinder or reel carrying a plurality of superposed coils of wire to be fed successively to the bolt making machine. In the drawings I have illustrated one form of device for carrying out my inventive thought but it will, of course, be understood that certain variations may be made within the scope of the appended claims without departing from the broad principle of my invention.

Referring to the drawings, 10 indicates a hollow cylindrical drum or reel preferably made of sheet metal or any suitable material may be employed. This cylindrical shell or drum is preferably reinforced at the top by means of an interior ring 11 fastened thereto and in practice I prefer to attach a bail 12 to the upper portion of the cylindrical shell by means of which the shell with the coils of wire arranged thereon can be lifted by any suitable means. To the exterior of the cylindrical shell at the lower end thereof I also attach the ring 13 for the purpose of sustaining a flanged annular support or ring 14 of such size that a coil of wire 15 can rest conveniently thereon, this coil 15 surrounding the cylindrical shell 10 as most clearly shown. A limited number of coils of wire can be arranged upon this outwardly projecting annular support 14 as shown, the number of coils being dependent, of course, upon the height of the central cylindrical shell or reel 10. It will be seen that the annular support or flange 14 is spaced from the bottom of the reel or shell 10. This permits the reel to be lifted and transported to a position adjacent the bolt machine by means of an industrial truck the lifting mechanism of which may be inserted beneath the flange. This wire carrying reel is placed upon a turntable or rotatable member so that it can be rotated for the purpose of unwinding the wire during the bolt forming operation. This rotatable support is preferably made in two parts, one part being stationary and secured to the floor at the proper place and the other pivotally arranged thereon and carrying the reel or drum supporting the coils of wire. The stationary portion comprises a circular base 16 having the exterior upwardly extending flange 17. At the center of the base there is formed a hub 18 in which is mounted the upwardly projecting standard or post 19. The base is formed with radial reinforcements 20 and the hub portion 18 is also formed with an upwardly extending flange 21. The movable

part of the rotatable support comprises the central tubular portion 22, the radiating arms 23, the top portion 24, cylindrical side portion 25 and the outwardly projecting flange 26 which supports the cylinder or reel. A roller bearing or other form of anti-friction bearing 27 is interposed between the lower end of the tubular portion 22 and the central post or standard 19 and the flanged portion 21 of the hub provides ample space for retaining lubricant. A retaining plate 28 is attached to the top of the post or standard 19 by means of a bolt 29 and if desired a bushing 30 can be arranged in the upper end of the tubular portion 22.

The device constructed as herein shown and described is simple and at the same time strong and durable. The base 16 can be readily secured to the floor at the proper place and then the rotatable portion of the support is fitted thereon. The cylindrical member 10 provided with the outwardly projecting annular support 14 can then be telescoped over the rotatable portion of the support and inasmuch as this cylindrical member or reel carries a plurality of superposed wire coils a considerable quantity of wire for use in connection with the bolt making machine is conveniently placed at the proper place for feeding into the machine and as the material is fed to the machine the wire is uncoiled, the reel or drum turning readily with the rotatable support. When all of the wire coils have been fed to the machine it is only necessary to lift the cylindrical drum off of the rotary support and place thereon another cylindrical drum loaded with the requisite number of wire coils.

It will thus be seen that I provide a cheap, simple and efficient device capable of carrying out all of the objects hereinbefore recited.

Having thus described my invention, what I claim is:—

1. In a device of the kind described, the combination with a base member having an upwardly extending annular flange at the outer edge thereof, a hub portion, an upwardly extending standard arranged in said hub portion, a rotatable support comprising a central tubular member turning upon the upwardly extending standard and having an outwardly extending flange at its lower end, and a cylindrical drum resting upon said outwardly extending flange, said cylindrical drum having an outwardly extending annular support at its lower end adapted to support a plurality of superposed coils of wire, the cylindrical drum being centrally disposed with reference to the superposed coils of wire.

2. In a device of the kind described, a cylindrical drum, an annular rim surrounding the same at the lower end thereof and an outwardly extending annular support surrounding said drum and resting on said rim.

3. In a device of the kind described, a tubular member including a central sleeve, a tubular portion surrounding said sleeve and connected thereto by a plurality of radial webs, an outwardly extending flange at the lower end of the tubular portion, means for rotatably supporting said sleeve, and a cylindrical drum telescoping on said tubular member and supported by said outwardly extending flange.

4. In a device of the kind described, a tubular member including a central sleeve, a tubular portion surrounding said sleeve and connected thereto by a plurality of radial webs, an outwardly extending flange at the lower end of the tubular portion, means for rotatably supporting said sleeve, and a cylindrical drum telescoping on said tubular portion and supported by said outwardly extending flange, said webs having portions extending under said flange for strengthening the same.

5. In a device of the kind described, a tubular member including a central sleeve, a tubular portion surrounding said sleeve and connected thereto by a plurality of radial webs, an outwardly extending flange at the lower end of the tubular portion, means for rotatably supporting said sleeve, and a cylindrical drum telescoping on said tubular member and supported by said outwardly extending flange, said drum having an annular reinforcing rim at the top thereof and a bail attached to said drum below and adjacent said rim.

6. In a device of the kind described, a base, a tubular member rotatably mounted thereon, said member having an outwardly extending annular flange at the lower end thereof; and a cylindrical wire holder telescoping said tubular member and resting on said flange, said wire holder having an outwardly extending annular support attached thereto and extending therearound.

7. In a device of the kind described, a base, a tubular member rotatably mounted thereon, said member having an outwardly extending annular flange at the lower end thereof; and a cylindrical wire holder telescoping said tubular member and resting on said flange, said wire holder having an outwardly extending annular support attached thereto, spaced above the bottom thereof and extending therearound.

8. In a device of the kind described, a rotary support comprising an upwardly extending body having an outwardly extending support at its lower end; a body member adapted to support a plurality of superimposed coils of wire telescoping said upwardly extending body and resting on said outwardly extending support, means near but spaced from the bottom of said body member for engagement with the lifting mechanism of an industrial truck, and means above said first mentioned means for engagement

with the lifting mechanism of an overhead hoist.

9. In a device of the kind described, a hollow body member for supporting a number of superimposed coils of wire, means near but spaced from the lower end for engagement with the lifting mechanism of an industrial truck and means adapted to be engaged by the lifting mechanism of an overhead hoist.

10. In a device of the kind described, a rotary support, a wire holder adapted to support a plurality of superimposed coils of bolt wire and having means disposed near but spaced from the bottom thereof for engagement with the lifting mechanism of an industrial truck and also having means above said first mentioned means adapted for engagement with the lifting mechanism of an overhead hoist, interengaging means on the rotary support and the wire holder whereby the wire holder is supported on the rotary support in a substantially vertical position and is prevented from tipping as heavy wire is unwound from the upper end thereof.

11. The method of handling wire of the kind used in bolt making comprising the following steps: (1) winding the wire into coils on a reel in a coiling machine; (2) removing the coils from the reel of the coiling machine; (3) assembling a plurality of coils one upon another upon a second reel; (4) transporting the second reel with coils of wire thereon to a machine; (5) rotatably mounting the second reel adjacent to the second-mentioned machine; and (6) drawing off the wire of the coils in succession from the second reel with rotation thereof and feeding the wire into the second-mentioned machine.

In testimony whereof, I hereunto affix my signature.

HARRY C. ELLISON.