March 5, 1968 H. N. DOUGLAS 3,371,885

REINFORCING WIRE DISPENSER

Filed May 3, 1966

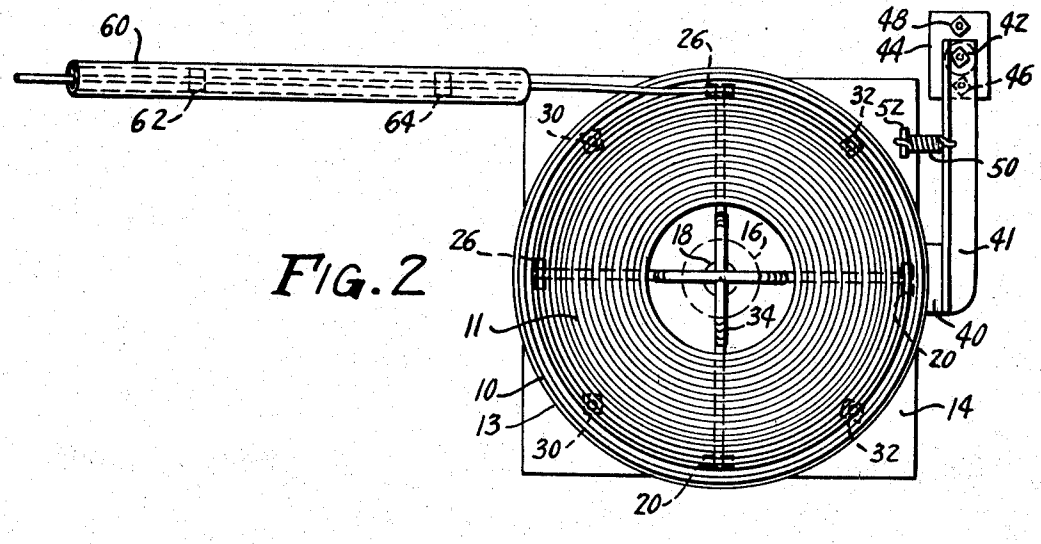


FIG. 2

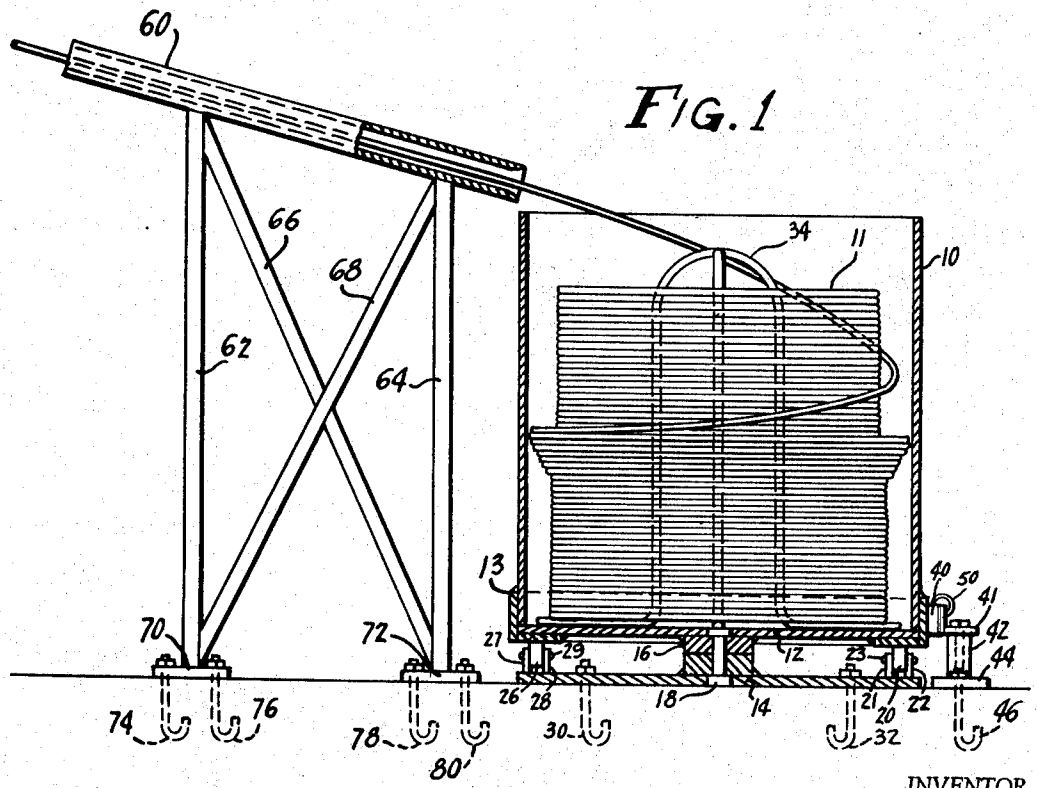


FIG. 1

INVENTOR.
HOWARD N. DOUGLAS

BY Kimmel, Crowell & Weaver
ATTORNEYS.

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REINFORCING WIRE DISPENSER

Howard N. Douglas, 20 Circle Drive,
Chico, Calif. 95926

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ABSTRACT OF THE DISCLOSURE

A dispenser for heavy stiff reinforcing wire which includes a reel support frame secured for rotation said frame including a substantially cylindrical container, the walls of the cylinder extending substantially above the height of the roll of reinforcing wire therein, and an elongate guide angularly disposed with respect to the axis of the cylinder for directing wire from the interior of the cylinder wall through the director and to the point of use that the stiffness of the wire acts automatically to brake the rotation of the wire support frame is disclosed.

This invention relates to a specially designed dispenser for reinforcing wire which is used in the making of concrete and other cast pipes. In particular, this invention relates to a specially designed reinforcing wire dispenser wherein the wire co-operates with the dispenser to provide automatic braking action.

In the making of concrete pipe, it is common to provide a plurality of windings, or other arrangements, of reinforcing wire. The reinforcing wire is normally selected because of its toughness and, in part, because of its resiliency and comparative rigidity. These features of the reinforcing wire make it very difficult to handle. In removing it from the rolls in which it is purchased problems are often encountered in preventing the wire from coiling or twisting. In particular, it is impracticable to remove the wire from the roll directly because of the twisting effect. It is, therefore, an object of this invention to provide a wire dispenser for reinforcing wire in the making of concrete pipe which will prevent the twisting effects.

Problems are also encountered in the handling of reinforcing wire in the making of such concrete pipes as are known in the art, with regard to the over-run of wire from the roll and consequent twisting and knotting of the wire. It is therefore an object of this invention to provide a dispenser for reinforcing wire in which the wire will co-operate with the dispenser to provide automatic braking action to reduce the over-run of wire from the roll.

While the automatic braking action previously mentioned is effective in reducing the twisting effects and the over-run and the consequent problems, additional braking is frequently necessary and it is, therefore, an object of this invention to provide an automatic dispenser for reinforcing wire having a specially designed braking feature to prevent over-run and consequent twisting and knotting of the dispensing wire.

Because of the resiliency and stiffness of the wire used in reinforcing concrete pipes, difficulties are frequently encountered in guiding the wire from the roll to the point of use; it is, therefore, an object of this invention to provide an automatic dispenser for reinforcing wire including specially selected means for guiding the wire to a point of use from the roll.

In the handling of reinforcing wire, which normally comes in heavy bundles, difficulty is frequently encountered in providing means for carrying a heavy load of wire and supporting it for rotation; it is, therefore, an object of this invention to provide a specially designed dispenser for the reinforcing wire having means for rotatably supporting a roll of dispensing wire.

Other objects of this invention will become apparent

from the specification which follows and from the drawings to which reference is made.

With reference now to the drawings;

FIGURE 1 is a side view of the dispensing apparatus of this invention shown in partial cross-section;

FIGURE 2 is a top view of the automatic dispensing means of this invention.

With further reference to the drawings, the automatic dispensing device of this invention includes a cylindrical container **10** for holding any roll of reinforcing wire **11**. Container **10** includes a bottom closure **12** and may be reinforced as indicated by the reinforcing portion **13** of the cylindrical container **10**. The cylindrical container is supported on a base plate **14** by a bearing member **16** and a pin member **18**. The bearing member **16** and pin **18** provide rotatable support for the container **10**. Further rotatable support is provided by a plurality of wheels **20** and **26** which are mounted by supports **21** and **22** and **27** and **28** respectively and by means of pins **23** and **29**. The base plate **14** may be secured to any fixed structure by means of securing hooks or bolts **30** and **32**. The fixed structure will, in normal construction, comprise concrete footings; however, by fixed structure it is intended that the invention include such structures as would normally be immovable in use. Cylindrical container **10** also inclules a center supporting member **34** for receiving a roll of wire. The center support **34** guides the roll of wire and prevents unwinding and twisting effects.

As best shown in FIGURE 2, braking means are included. The braking means include a brake shoe **40** carried by a lever **41** which is pivotally mounted by a bolt **42** to a bracket **44**. The bracket **44** may be secured to the fixed structure by hooks or bolts **46** and **48**. The brake shoe **40** is biased against the cylindrical container **10** by a spring **50**. Spring **50** is hooked to the lever **41** and to an upright eye member **52**.

The guiding means of this invention comprises an elongate guide **60**, which in a preferred embodiment, may comprise a tube. The guide **60** is supported by a frame comprising vertical upright supports **62** and **64** and bases **66** and **68** which are mounted by means of plate **70** and plate **72** which may be secured by bolt hooks **34**, **36**, **78** and **80** to the fixed structure.

As is shown in FIGURES 1 and 2, because of the nature of the enforcing wire used in making concrete pipes, the roll of wire tends to unwind and expand against the container **10**. As wire ceases to be withdrawn from the roll **11**, this expansion of the wire against the cylindrical container **10** in cooperation with the elongate guide means **60**, automatically tends to brake the rotary movement of the roll **11**. This braking action is very important in preventing over-run when the wire is no longer being removed from roll **11**. The automatic braking action is supplemented if necessary, by a brake shoe **40** which is permanently biased against the outside of cylindrical container **10**.

While this invention has been described with reference to specific and preferred embodiments, it will be understood that to those skilled in the art various modifications and changes in the structural details may be made without departing from the spirit of this invention.

I claim:

1. A wire dispenser in combination with stiff substantially rigid reinforcing wire utilized for the construction of reinforced concrete pipe, comprising:

a cylindrical container of a length substantially greater than the length of the roll of reinforcing wire;

a bottom closure on the cylindrical container for supporting the roll of reinforcing wire;

a base plate;

means for securing the base plate to a fixed structure;

rotational supporting means for rotatably supporting the bottom closure above the base plate;

an elongate guide means for directing the wire along a substantially linear path in said guide means, said guide means being angularly disposed with respect to the axis of the cylindrical container and with respect to a diameter of the cylindrical container such that when the reinforcing wire expands against the sides of the cylindrical container and is directed through the guide means stoppage of the flow of wire by the guide means exerts, through the wire, a force on the wall of the cylindrical container so as to develop an automatic braking action for the container; and support means for the guide.

2. The invention of claim 1 wherein the elongate guide comprises a longitudinal tube through which the reinforcing wire is guided.

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LEONARD D. CHRISTIAN, *Primary Examiner.*