Apr. 10, 1923.

1,451,131

H. WEBER

ADJUSTABLE REEL

Filed June 26, 1920

2 sheets-sheet 1

Fig. 1.

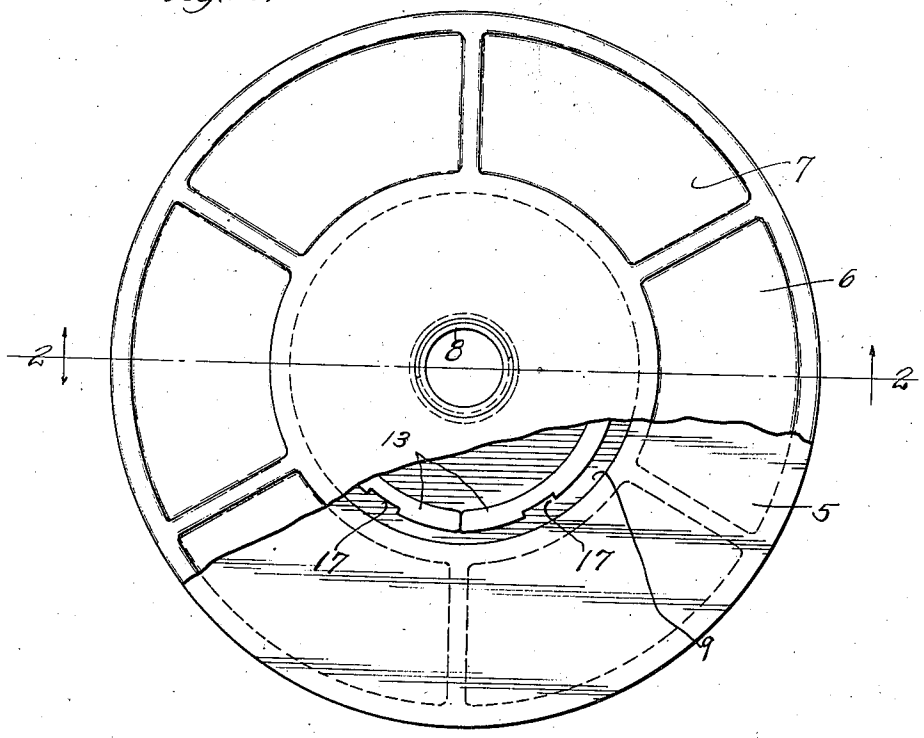
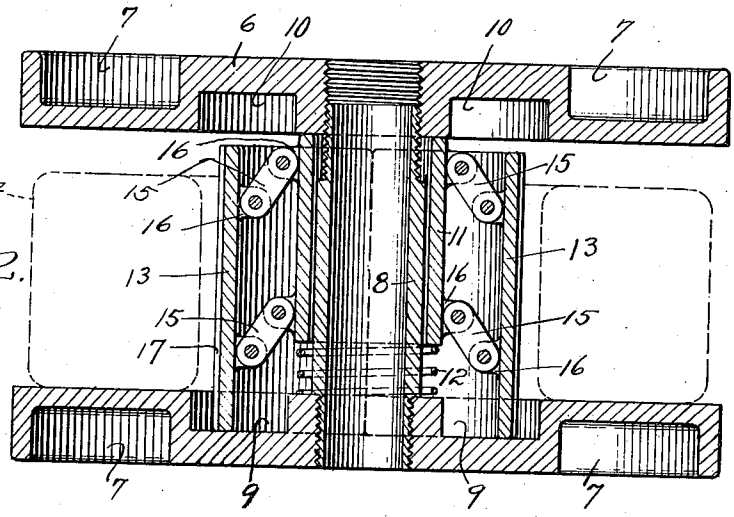


Fig. 2.



Witness:
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Fig. 3

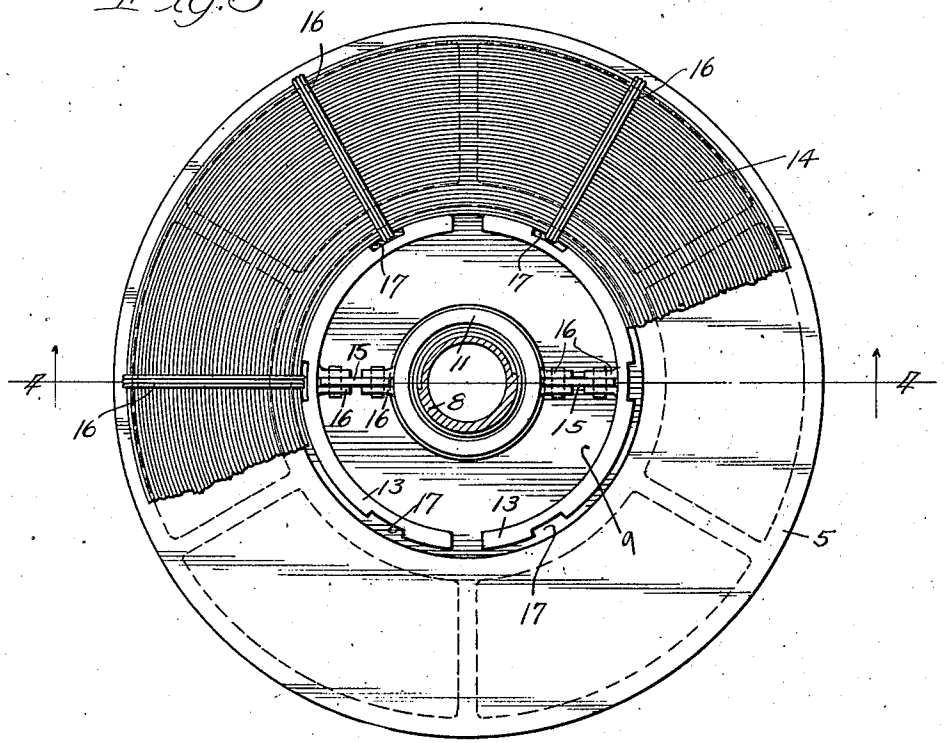
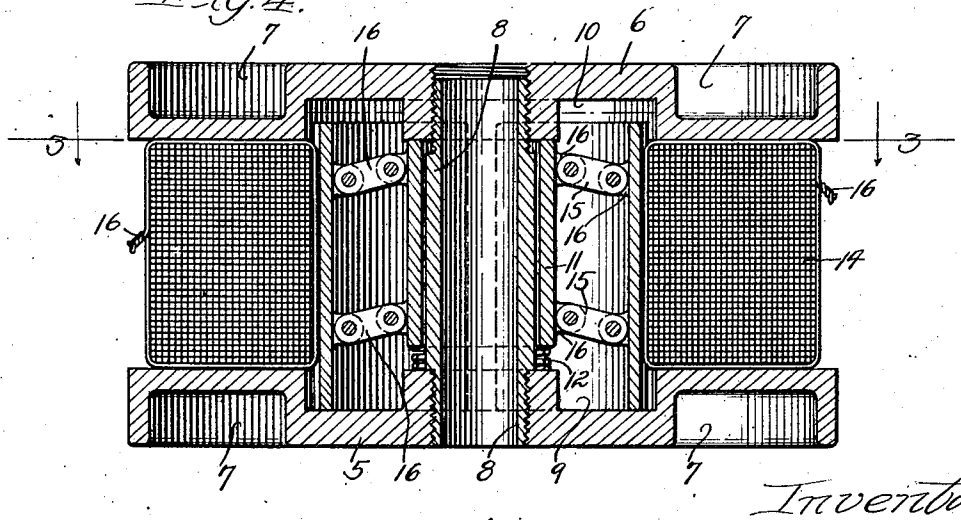


Fig. 4.



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Patented Apr. 10, 1923. 1,451,131

UNITED STATES PATENT OFFICE.

HENRY WEBER, OF CHICAGO, ILLINOIS.

ADJUSTABLE REEL.

Application filed June 26, 1920. Serial No. 391,944.

To all whom it may concern:

Be it known that I, HENRY WEBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Reels, of which the following is a specification.

My invention relates to reels and has for one of its objects the provision of a simple and efficient reel capable of adjustment to hold coils of wire, or the like, of various sizes.

A further object is the provision of a simple and efficient reel applicable to various machines using wire, or the like, in coils and adapted for easily and quickly placing such coils onto such reel.

A still further object is the provision of a reel for coils of wire, or the like, adapted for automatic adjustment to the size of the coil of said wire, or the like.

Other objects will appear hereinafter.

An embodiment of my invention is shown in the accompanying drawings, forming a part of this specification, and in which—

Fig. 1 is a plan view of a reel embodying my invention indicated as having a part broken away to expose internal parts;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 4; and

Fig. 4 is a section taken on line 4—4 of Fig. 3.

My improved reel is intended to be applied to machines using coils of wire, or the like. Hithertofore it has been the practice to place such wire, or the like, on wood spools, but recently the cost of such spools has increased so much that it has made the spooled wire quite expensive. With my device the wire can be placed in coils and shipped to the user who simply takes my improved reel apart and places the coil of wire in position thereon, thus saving the entire cost of the wooden spools.

Referring more particular to the drawings, I have indicated my reel as having two end plates 5 and 6. These end plates may be formed of any desirable material and may be cast or formed in any other desired manner. I have shown these plates as being cast and hollowed out as at 7 to make them lighter. One of the plates is provided with a central extension 8. In the present instance I have shown the extension or tubular member 8 threaded in the plate 5 and screwed up tight so as to remain in connection with said plate. It will be apparent, however, that the member 8 may be secured to one of the plates in any desirable manner. The other plate 6 is indicated as having a threaded connection with the tubular member 8 so as to be adjustable on said member.

In adjacent sides of the plates 5 and 6 I provide annular recesses 9 and 10 to receive the ends of the hub member to be described later. The depth and diameters of the recesses 9 and 10 may be varied to suit different requirements and are preferably of a size to accommodate expanding the hub to receive different sizes of coils of wire, or the like.

My improved hub member comprises a central portion, which in the present instance is indicated as being a tubular member 11 having its bore sufficiently large to slide over the extension 8. The member 11 is preferably shorter than the distance between the plates 5 and 6 and a compression spring 12 placed between one end of the member 11 and one of the plates, such as the plate 5, as indicated.

Disposed around the inner part 11 is an outer part, which in the present instance is indicated as being two semi-cylindrical parts 13. It will be apparent, however, that the number of parts 13 may be increased or decreased from the number shown when so desired, or, the parts 13 may be formed in one piece and made of flexible material so as to yield and expand against the wire coil 14.

Any desirable means may be used to expand the parts 13 out against the wire coil 14. I have indicated links 15 connected to ears 16 on the members 11 and 13. In Fig. 2 of the drawings the device is indicated as just having received a wire coil 14 and before the end plate 6 has been adjusted to position. Upon screwing the end plate 6 down to its position indicated in Fig. 4 the central part of plate 6 presses the member 11 down against spring 12, and owing to the link connection between members 11 and 13 said members 13 are caused to expand out against the coil 14. The coil 14 also limits the adjustment of the plate 6 down onto member 8 so that the thickness of the coil and the size of the opening in the coil have to do with the amount of adjustment of plate 6 down onto extension 8.

It will be apparent that by simply placing

a coil of wire in position on plate 5 over members 13 and screwing plate 6 down against the coil, the latter will be placed in operative position, and when the coil is used by simply unscrewing plate 6 from member 8 the reel is in condition to receive a new coil. After a coil has been placed in position on the reel the tie wires 16′ are cut or broken and pulled out from around the coil, leaving the coil free to be unwound. In order to make the tie wires 16′ easily removable I have indicated grooves 17 in the periphery of members 13 so that the tie wires can slip out easily. When desirable the plate 6 can be left slightly loose until the tie wires have been removed and then tightened up as tight as desirable.

I claim:

1. A wire spool comprising end plates having annular recesses in adjacent sides concentric with the axis thereof; a member joining the end plates together; a tube over the member between the end plates shorter than the distance between said end plates; partial-cylindrical plates having their ends extending into said annular recesses; and links connecting said tube with said partial-cylindrical plates.

2. A wire spool comprising end plates having annular recesses in adjacent sides concentric with the axis thereof; a member joining the end plates together; a tube over said member and shorter than the distance between said end plates; a plurality of plates disposed around said tube having their ends extending into said recesses; links connecting said tube with the last mentioned plates; and a compression spring between one end plate and said tube.

3. A wire spool comprising end plates; a member between said end plates and attached thereto; the tube over said member engaging one end plate and shorter than the distance between said end plates; a plurality of plates substantially concentric with said tube and engaging one of the end plates; a plurality of links disposed at acute angles to the last mentioned end plate and connecting the tube with the plates concentric with said tube.

4. A wire spool comprising a cylinder; two end plates, one rigidly attached to said cylinder and the other loosely threaded thereon; a tube on the cylinder shorter than the distance between said end plates; a spring at one end of the tube pressing the latter against one end plate; a split tube engaging the other end plate; links connecting the tube with said split tube; and a spring pressing the tube against one end plate.

5. A wire spool comprising a cylinder; two end plates, one rigidly attached to one end of the cylinder and the other loosely threaded on the other end of said cylinder, said plates having annular recesses in adjacent sides concentric with and spaced from said cylinder; a tube around said cylinder engaging one end plate between the recess therein and said cylinder; a coil spring around said cylinder and engaging said tube and the other end plate; a split tube having its ends disposed in said recesses and one end resting against the bottom of one of said recesses; and parallel links pivoted to the split tube and first mentioned tube.

6. A reel comprising two end plates with an extension on one plate adjustably connected with the other plate; an expandible hub member made up of an inner part and an outer part between said plates with one of said parts against each plate and adapted for relative movements of said parts upon adjustments of the plates with respect to each other; and links connecting the parts of the hub member together.

7. A reel comprising two plates with an extension on one plate adjustably connected with the other plate; a tubular member around said extension; a spring tending to press said tubular member against one of the plates; an expandible member around the tubular member and disposed against the other plate; and links connecting the expandible member with said tubular member so that adjustments of said plates moves the tubular member and expandible member relatively to each other to expand the latter member.

8. A reel comprising a hub member having an inner part; partial-cylindrical portions disposed about said inner part; a plurality of links connecting each of the partial-cylindrical portions with the inner part; a resilient member pressing the inner part in one direction; and end members adjustably mounted with respect to each other, one end member pressing said inner member against the influence of said resilient member and the other end member pressing said partial-cylindrical portions in a direction opposite to the pressure applied by the first-mentioned end member to the inner part.

9. A spool for wire comprising end plates; a connecting member between said end plates; a tube between said end plates and surrounding said member; a plurality of expandible devices forming a drum for the spool adapted to receive a coil of wire thereon; a plurality of links between said tube and expandible devices; and means engaging said tube to move the latter axially to expand said expandible devices.

10. A spool for wire comprising spaced-apart end plates; an expandible drum of smaller diameter than the end plates adapted to be inserted into the central opening of a helix of wire; a connecting member between said end plates; a tube on said member movable axially thereof; a plurality of links

connecting said tube with said expandible drum; and means on one of said plates for engaging said tube to cause the expansion of said drum against the inner wall of the wire helix when said plates are connected and moved toward each other to form the spool with said helix of wire thereon.

11. A wire spool comprising two end plates having recesses in adjacent sides; a tube threaded in one of the end plates and having a shoulder thereon engaging said end plate; an adjustable threaded connection between said tube and the other end plate; a cylinder telescoping said tube and engaging one of the end plates; a coil spring between the end of said cylinder and the other end plate; a split cylinder having its ends disposed in said recesses and disposed around said cylinder; and links connecting said split cylinder and the first-mentioned cylinder adapted to hold the split cylinder against the bottom of one of said recesses.

In testimony whereof I have signed my name to this specification on this 24th day of June A. D. 1920.

HENRY WEBER.