A. E. ANDERSON.

ADJUSTABLE SWIFT.

APPLICATION FILED DEC. 27, 1920.

1,401,123. Patented Dec. 27, 1921.

FIG. 1

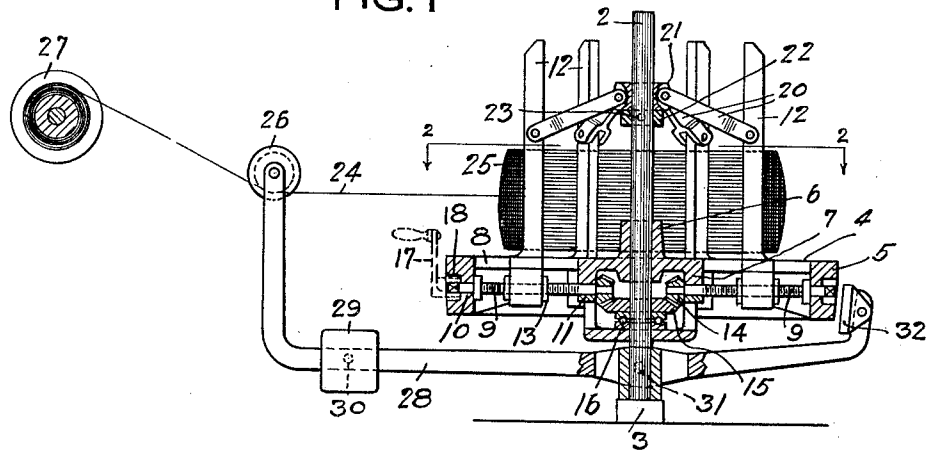
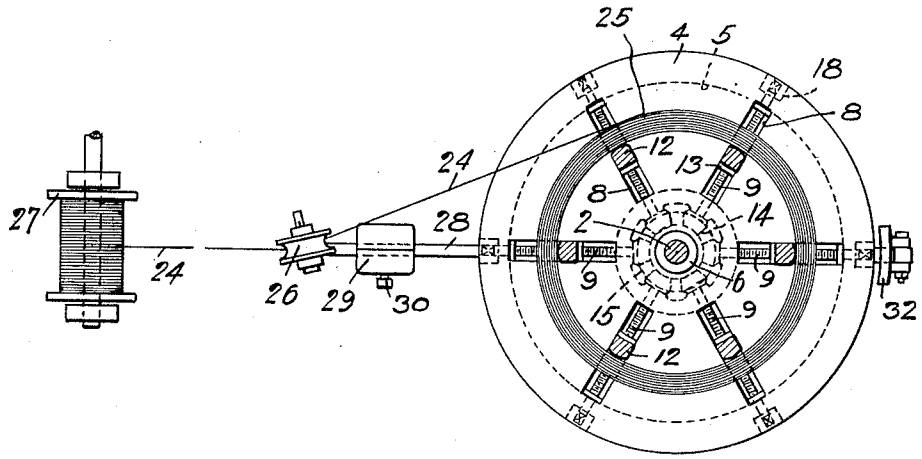


FIG. 2



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ADJUSTABLE SWIFT.

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To all whom it may concern:

Be it known that I, ALBIN E. ANDERSON, a citizen of the United States, and resident of Oakmont, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Adjustable Swifts; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to swifts or reels for unwinding coils of wire, and it has for one of its objects to provide a swift with arms that are readily and simultaneously adjustable to fit any size of coil.

Another object of my invention is to provide a swift with an improved form of brake controlled by the tension of the wire being drawn from the coil.

In a general way, my improved swift consists of a circular plate mounted for free rotation on a central spindle and provided with radial slots in which are screw shafts that support the vertical rods which form the body of the swift. The several screw shafts are suitably geared together so that by turning one of them all of the shafts will be turned equally and the arms will be correspondingly adjusted in radial directions. The arms are held vertical by means of suitable braces, connected between the arms and a collar carried on the central spindle. The wire, as it leaves the swift, passes beneath a sheave which is connected to a brake in such a way that if the wire becomes slack the brake will operate to reduce the speed of rotation of the swift, and when the wire is again tightened the brake will be released, thus permitting the swift to rotate faster.

In the accompanying drawing, which shows a preferred embodiment of my invention, Figure 1 is a side view, partly in elevation and partly in section, and Fig. 2 is a sectional plan view of the structure taken on the line 2—2, Fig. 1.

In the drawing the numeral 2 designates a stationary central spindle mounted vertically in a standard 3. A plate 4, which may suitably be pressed from sheet metal, has a downturned peripheral flange 5, a central sleeve 6 which surrounds the spindle 2 and forms a bearing for the plate 4, and a second downturned flange 7 which surrounds the sleeve 6. Radial slots 8 are formed in the plate 4 and below each of these slots is a screw shaft 9 having its ends received in bearings 10 and 11 in the flanges 5 and 7 respectively. A vertical bar 12 is mounted to travel on each of the screw shafts 9 and for this purpose is provided with a screw-threaded sleeve 13 at its lower end.

Each of the screw shafts 9 carries at its inner end a bevel pinion 14, and all of the pinions 14 mesh with a bevel gear 15 which loosely surrounds the central spindle 2 and rests on a ball-bearing 16. One or more of the screw shafts 9 have squared outer ends to receive a socket wrench 17, a socket 18 being formed around the squared end of the shaft to admit the wrench. When one of the shafts 9 is turned by means of the wrench 17, all of the shafts are turned correspondingly by reason of the interconnection formed by the bevel pinions 14 and the bevel gear 15, and all of the arms 12 are thereby moved radially toward or from the spindle 2.

A brace 20 connects each of the vertical arms 12 to a central collar 21 which surrounds the spindle 2 and is adjustably held thereon by means of a collar 22 having a set-screw 23.

The wire 24 drawn off from the coil 25 passes beneath a sheave 26 and thence to a bobbin 27. The sheave 26 is carried at the upper end of an L-shaped brake lever 28, the horizontal portion of which carries a weight 29 that may be secured in any position on the lever 28 by means of a set-screw 30. The lever 28 surrounds the central spindle 2 and is pivoted at 31 for vertical rocking movement. At the end of the lever 28 opposite to the weight 29 is secured a brake shoe 32 which is adapted to engage the outer side of the flange 5 of the plate 4.

In operation, the swift is adjusted to the internal diameter of the coil 25 by applying the socket wrench 17 to the end of one of the shafts 9 and turning this shaft to move the arms 12 in the radial slots 8, and when the arms 12 are properly adjusted, the collar 22 is moved into contact with the collar 21, thus fixing the position of the braces 20. The wire is then led beneath the sheave 26 and to the bobbin 27, and the weight 29 is adjusted on the lever 28 so as to apply the desired tension to the wire. This tension should be such that the brake shoe 32 is out of contact with the flange 5 when the wire is being drawn off from the swift at the proper rate, but will engage the flange 5 when the wire becomes slack with a pressure proportional to the slackness of the wire.

Various changes in the form and arrangement of parts may be made by those skilled in the art without departing from my invention, and I therefore desire that no limitations be imposed upon my invention except such as are indicated in the appended claims.

I claim as my invention:

1. A swift comprising a rotatable support, screw shafts arranged radially on the said support and permanently geared to rotate together and coil-supporting arms associated with the said screw shafts and adapted to be moved thereby, and means for turning one of said screw shafts and for thereby simultaneously adjusting all of said arms.

2. A swift comprising a circular rotatable support, coil-supporting arms carried by the said support, a brake, and means for applying the edge of said brake to the said support in accordance with the tension of the wire drawn from the swift, the said braking means comprising an L-shaped lever having a vertical arm and a horizontal arm pivoted adjacent to the said central spindle, a brake shoe carried by one end of the horizontal arm of said lever adjacent to the edge of said support, a sheave carried by the vertical arm of the said lever and adapted to be suspended from the horizontal arm of said wire, and a weight adjustably mounted on the said lever.

3. A swift comprising a rotatable support, screw shafts arranged radially on the said support and permanently geared to rotate together, and coil-supporting arms associated with the said screw shafts and adapted to be moved thereby, at least one of the said screw shafts having its outer end formed for engagement with a wrench, whereby all of the said coil-supporting arms may be simultaneously adjusted by applying a wrench to the end of one of the said screw shafts.

4. A swift comprising a circular rotatable plate having spaced circular flanges, bearings formed in the said flanges, screw shafts supported in the said bearings, at least one of the said screw shafts having its outer end formed for attachment to a wrench, a socket formed in the outer flange and surrounding the said wrench-receiving end of the said screw shaft, coil-supporting arms carried by the said screw shafts, bevel pinions carried by the inner end of the said screw shafts and a loose bevel gear meshing with all of the said pinions.

5. A swift comprising a circular rotatable support having a peripheral brake-engaging surface, radial shafts carried by the said support and geared to rotate together, and coil-supporting arms movably carried by said shafts, the ends of the said shafts being countersunk beneath the said brake-engaging surface and at least one of the said shafts having its end formed for engagement with a wrench.

In testimony whereof, I, the said ALBIN E. ANDERSON, have hereunto set my hand.

ALBIN E. ANDERSON.

Witnesses:

ROBT. D. TOTTEN,

JOHN F. WILL.