

July 3, 1928.

1,675,429

H. E. SCHNEE

REELING DEVICE

Filed June 8, 1926

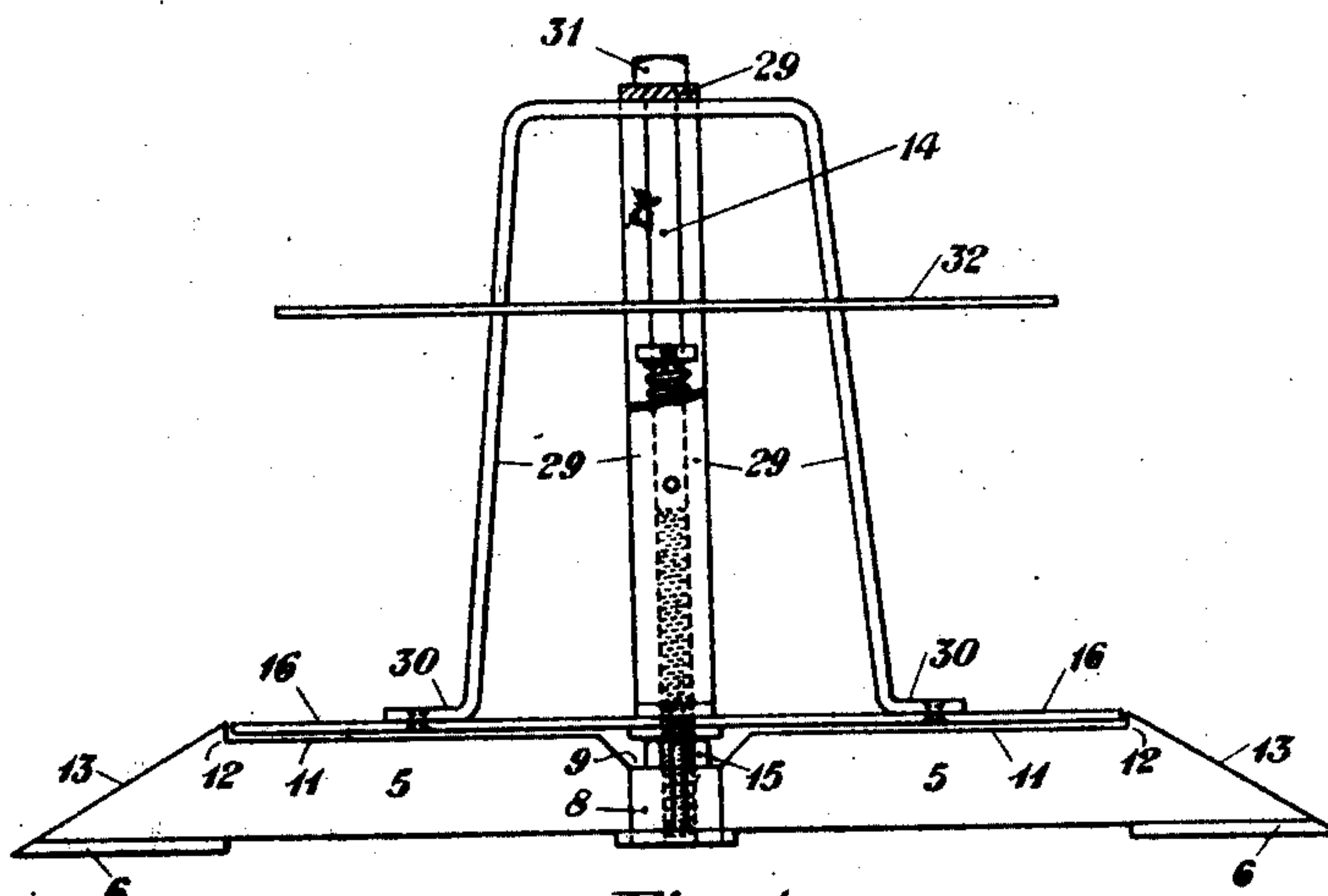


Fig. 1

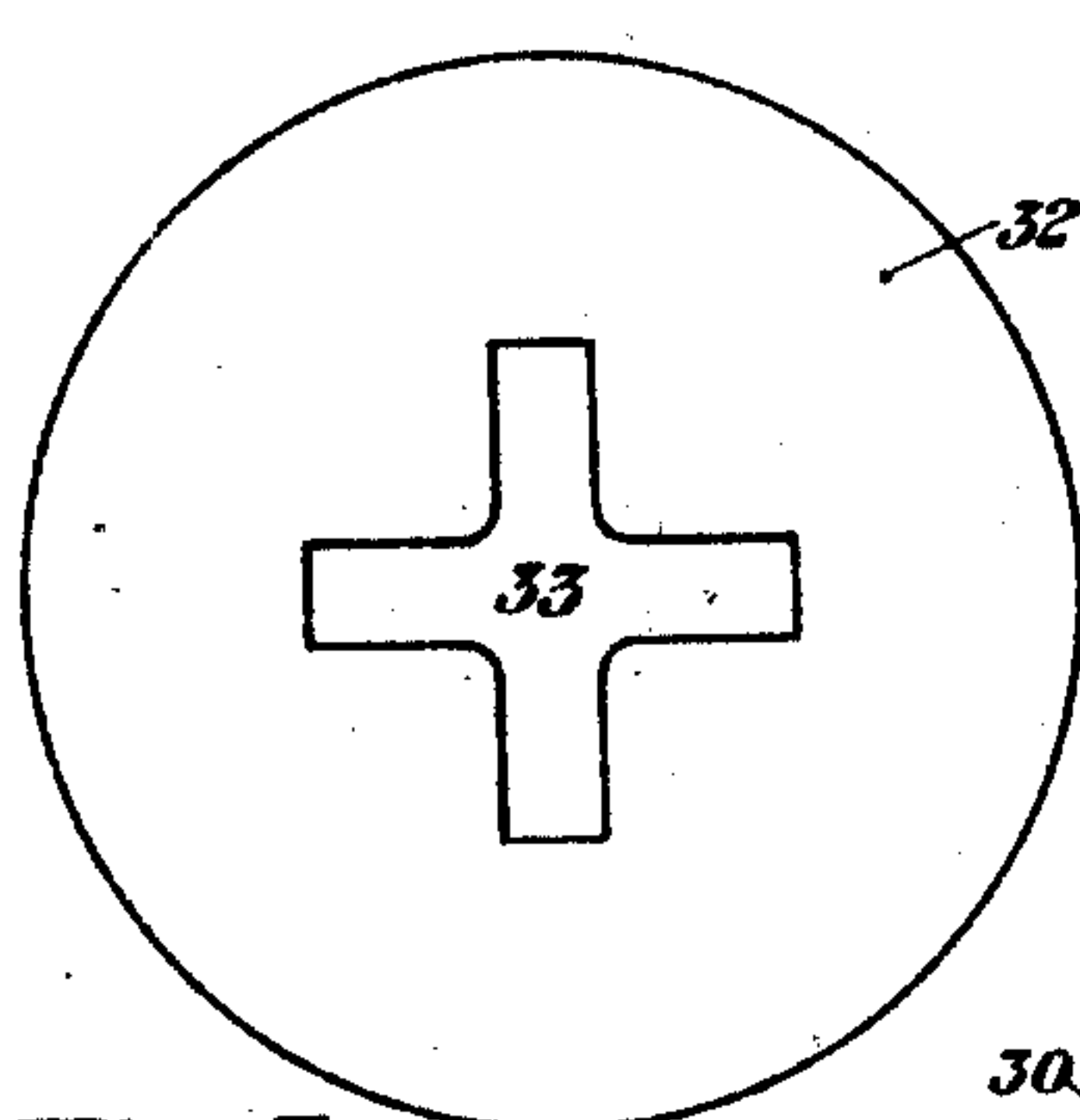


Fig. 3

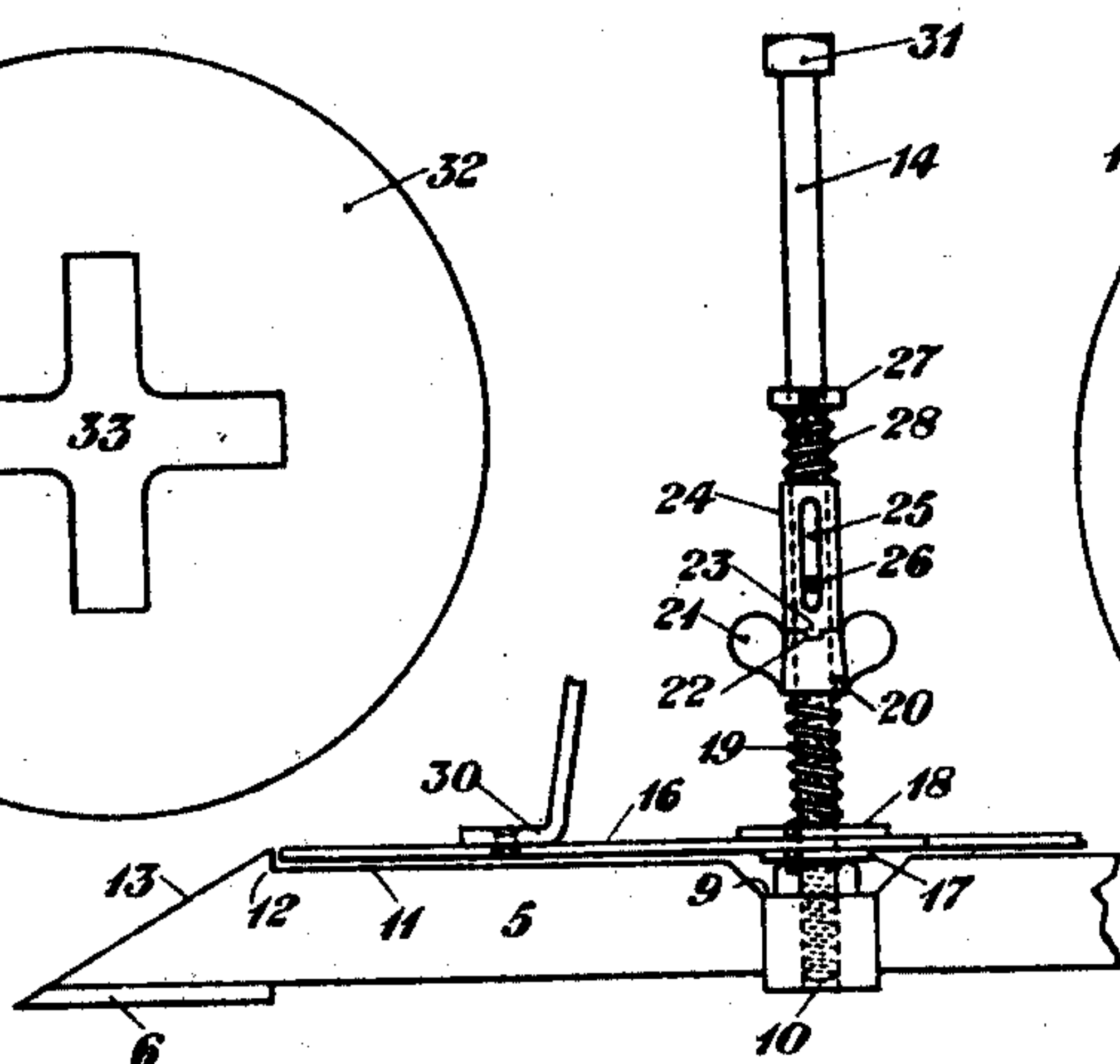


Fig. 2

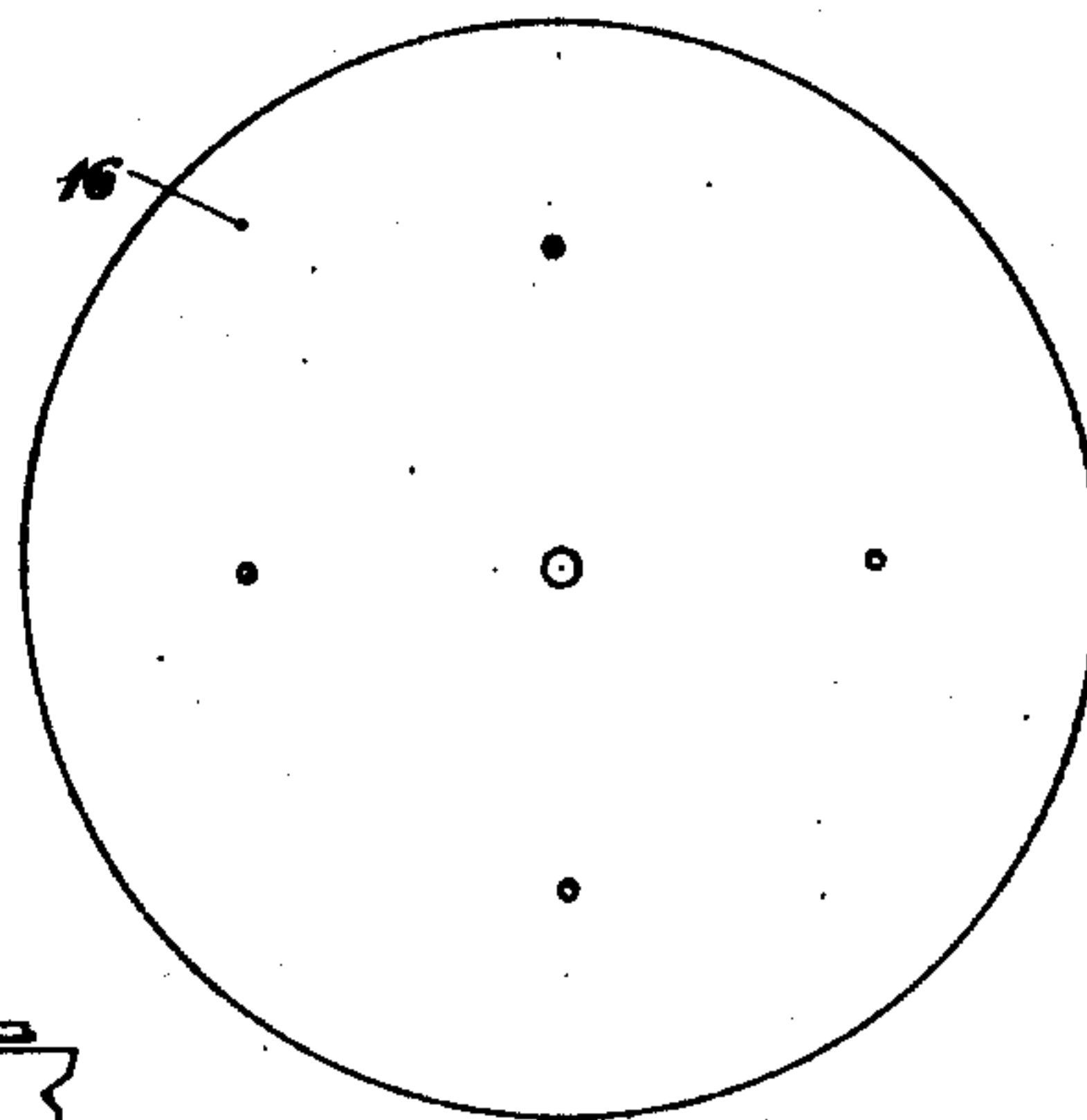


Fig. 4

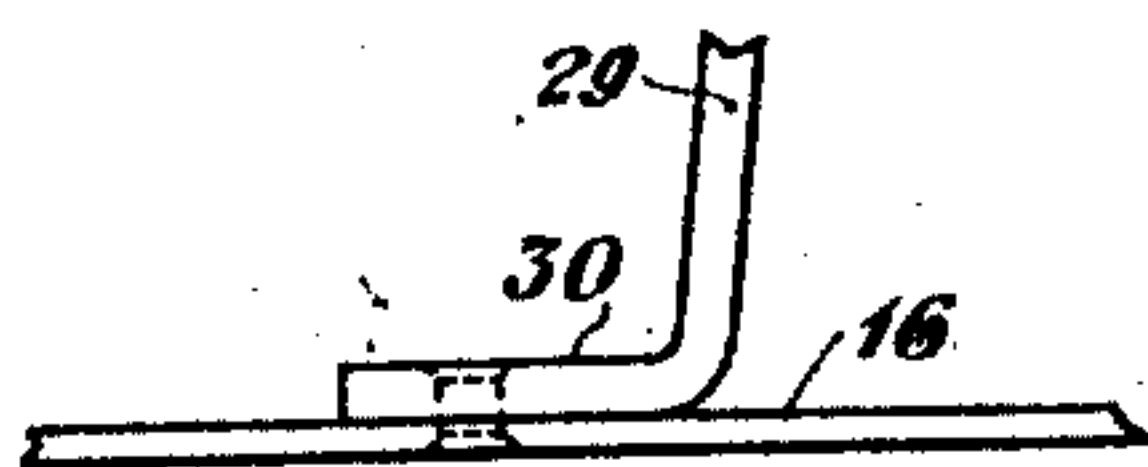


Fig. 5

INVENTOR

H. E. Schnee

BY

g. e. for

ATTORNEY

Patented July 3, 1928.

1,675,429

UNITED STATES PATENT OFFICE.

HENRY E. SCHNEE, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

REELING DEVICE.

Application filed June 8, 1926. Serial No. 114,528.

This invention relates generally to wire reels, and more particularly to a type of reel employing an automatic braking feature as a means for controlling the serving of the wire.

5 In many reels in use at the present time, it is extremely difficult, if not impossible, to prevent over-running when the wire is served, thus introducing considerable labor and loss of time as a factor in the use of
10 such a reel. The present invention relates to a wire reel provided with suitable braking features which will reduce rotary momentum sufficiently to prevent the wire over-running. The braking is controlled by tension exerted
15 on the drum as the wire is unreeled.

It is an object of the invention to provide a reel which is light and portable, efficient in operation, and which is provided with an automatic braking feature designed to pre-
20 vent over-running of the wire.

In the preferred form of the invention there is provided a reel of the spindle type with a base, turn-table, drum and braking mechanism which are preferably of metal.
25 The drum has standards which are slightly tapered in order that the coils of wire may be easily and quickly placed in a position directly as prepared without the usual re-winding operation. The standards provide
30 a handle and render the reel portable, and a reel spool head or plate loosely engages said standards and tilts as the wire is drawn off in an upward direction at a sharp angle and facilitates the removal of the wire under
35 these circumstances. Braking action is provided to prevent the drum from spinning by the use of a tension spring acting against a turn-table, and the force exerted by the spring may be varied without the aid of
40 tools.

The invention will be better understood from consideration of the following description, taken in connection with the accompanying drawing and the appended claims.

45 In the drawing, Figure 1 is an elevation of the assembled reel; Fig. 2 is a longitudinal view of the spindle and associated parts setting forth some of the features of the invention; Fig. 3 is a top plan view of the reel
50 spool head; Fig. 4 is a top plan view of the turn-table; and Fig. 5 illustrates broken away portions of the turn-table and one of the standards, showing the manner in which they may be attached to each other.

55 Referring to the drawing, the reel has a

base casting comprising four arms to each of which the numeral 5 is applied. These arms extend outwardly from a common center and are disposed at approximately 90
60 degrees from each other. The arms may be in the form of ribs which terminate in flanges 6, which may be in a perpendicular plane to said ribs. The flanges are of sufficient dimension to provide proper support
65 for the reel to prevent its movement on the surface upon which it is mounted. In the present instance it is shown as mounted in a horizontal plane, but it is equally well adapted with slight modifications to be
70 mounted on a ladder or on a vertical surface, such as a wall or the like. In the latter case, the flanges may be somewhat enlarged and screws or other securing means may pass
75 through holes provided in the flanges into the vertical supporting wall to attach the reel thereto. The top surface of the central
portion 8 is depressed as shown at 9, and a threaded opening 10 extends downwardly
80 therefrom through the axis of the central portion 8. The tops of the ribs 5 have cut-away portions 11 extending from the depressed central portion 9 to shoulders 12,
and from these shoulders the ribs are tapered downwardly toward the flanges, as indicated
85 by the numeral 13.

A spindle 14, extending upwardly from the base of the reel, has a threaded end which enters and engages the threaded opening 10. The threaded end of the spindle also passes
90 through a lock-nut 15 seated in the depression 9. This lock-nut is preferably provided with a left-hand thread, and serves to keep the spindle 14 from rotating. A turn-table
16 in the shape of a disk is rotatably mounted on the spindle, and extends to a point closely
95 adjacent the inner surfaces of each of the shoulders 12, one of which is provided on each of the rib members 5. Thus there is only sufficient space provided between the inner surface of the shoulders and the rim
100 of the disk to permit its rotation. This relatively small space prevents the wire from getting caught as it is unreeled. A washer 17 is positioned between the nut 15 and disk
16 and a second washer 18 is positioned on
105 the top of said disk. These washers may be separated from affixed to or integral with the disk. The distance of the turn-table 16 above the top of the shoulders 5 is only
110 enough to permit clearance of the disk dur-

ing its rotation. This clearance space prevents excessive deflection of the turn-table and undue strain on the spindle should the disk be stepped upon accidentally.

5 A helical spring 19 is positioned about the spindle 14 and its lower end bears against the washer 18, while the upper end of the spring is turned so that it enters a slot 20 in a wing-nut 21 which is threaded
10 on the spindle 14. The nut 21 is provided with left-hand threads and parallel slots 22 are cut in its top to receive extensions 23 of a tubular sleeve 24 which fits about the spindle. The remaining bottom portion of
15 the sleeve rests upon the top surface of the nut and these elements register with each other. The sleeve 24 is provided with parallel longitudinal slots 25 through which taper pins 26 affixed to the spindle project
20 and serve to guide the sleeve along the spindle and prevent its rotation thereon. A collar 27 is affixed to the spindle a sufficient distance above the tubular sleeve to permit the positioning of a spring 28 between the
25 two elements so that the spring rests against the bottom of the collar 27 and the top of the sleeve 24 and provides compression to maintain the extensions 23 of said sleeve in registered engagement with the slots 22 of
30 nut 21.

A pair of standards 29, 29 of inverted U-shaped are mounted on the disk turn-table 16 by means of terminating lugs 30 provided on each standard. The lugs 30 extend at approximately right angles to said
35 standards and are seated on the turn-table and secured thereto by screws or rivets which pass through and are counter-sunk in coinciding openings in the lugs and turn-table. The standards are arranged about
40 the turn-table so that their arms are separated by an angle of approximately 90 degrees. The top portion of one of said standards passes over a like portion of the other standard, and both are secured together by
45 the passage of the upper portion of the spindle 14 through openings provided in the intersecting portions of said standards. A nut or head 31 is applied to the threaded
50 top of the spindle extending through the standards, and this serves to keep the standards together. When thus positioned, the tops of the standards provide a handle by which the reel may be rendered portable.

55 The standards are slightly tapered toward the upper portions to permit the ready placing of a coil of wire thereon and to facilitate the withdrawal of the wire for use. The wire is shipped in the form of
60 coils which have a tapered eye, which permits the coil to be seated tightly on the tapered standards.

It will be obvious from the above description that the coil of wire mounted on the
65 standards is permitted to rotate as the disk

16 rotates while the wire is being withdrawn. When the pulling action on the wire is stopped, sufficient friction is exerted on the disk 16 by the spring 19 to prevent further rotation. This braking action
70 prevents over-running of the wire from the reel.

A spindle head 32 may be applied over the tapered arms of the standards for the purpose of providing a slight pressure on
75 the coil of wire mounted on the drum. This head comprises a disk or plate having its center 33 cut away to provide radially extending slots which slidably register with the four uprights of the standards, and said
80 head is held in place by gravity and friction only. The head may be removed for the purpose of inserting a new coil of wire without the use of thumb nuts or other fastening details, and as it fits loosely on the up-
85 rights it will tilt if the wire is drawn off in an upward direction at a sharp angle and facilitates the removal of the wire under these conditions.

What is claimed is:

1. In a device for reeling wire, a drum adapted to support a coil of wire, said drum comprising a rotatable disk having stand-
90 ards positioned thereon in spaced relation from each other, a spindle for supporting said disk and standards, a base for said spindle, said base having shoulders closely adjacent to the edge of said disk to prevent the catching of the wire as it is unwound
95 from the drum, and braking mechanism associated with said spindle for permitting the rotation of the drum in one direction under tension applied thereto in the withdrawal of the wire and preventing rotation of the
100 drum upon the release of the pulling tension.

2. In a reeling device, a pivoted drum adapted to support a coil of wire, said drum comprising a rotatable disk having stand-
110 ards mounted thereon, a spindle upon which said drum is rotated in one direction under tension applied in the withdrawal of the wire, a base for said spindle, said base having shoulders closely adjacent to the edge of said disk to prevent the catching of the
115 wire as it is unwound from the drum, a helical spring associated with said spindle for preventing movement of the reel upon the release of said tension, a disk loosely associated with the standards for facilitating
120 the removal of the wire in a direction at a sharp angle from the longitudinal axis of the reel, and means associated with said spindle for controlling the compression exerted by said spring.

3. In a reeling device, a pivoted reel adapted to support a coil of wire, said reel comprising a rotatable disk having stand-
125 ards mounted thereon, a spindle upon which said reel is rotated in one direction under

tension in the withdrawal of the wire, spring mechanism associated with said spindle for directly applying friction to said disk to prevent movement of the reel upon the release of said tension, and means including
5 a spring member associated with said spindle and said spring mechanism for control-

ling the compression exerted by said spring mechanism on said disk.

In testimony whereof, I have signed my name to this specification this 21st day of May, 1926.

HENRY E. SCHNEE.