(No Model.) 2 Sheets—Sheet 1.

F. FORSBERG.

WIRE REEL.

No. 571,156. Patented Nov. 10, 1896.

FIG. 1.

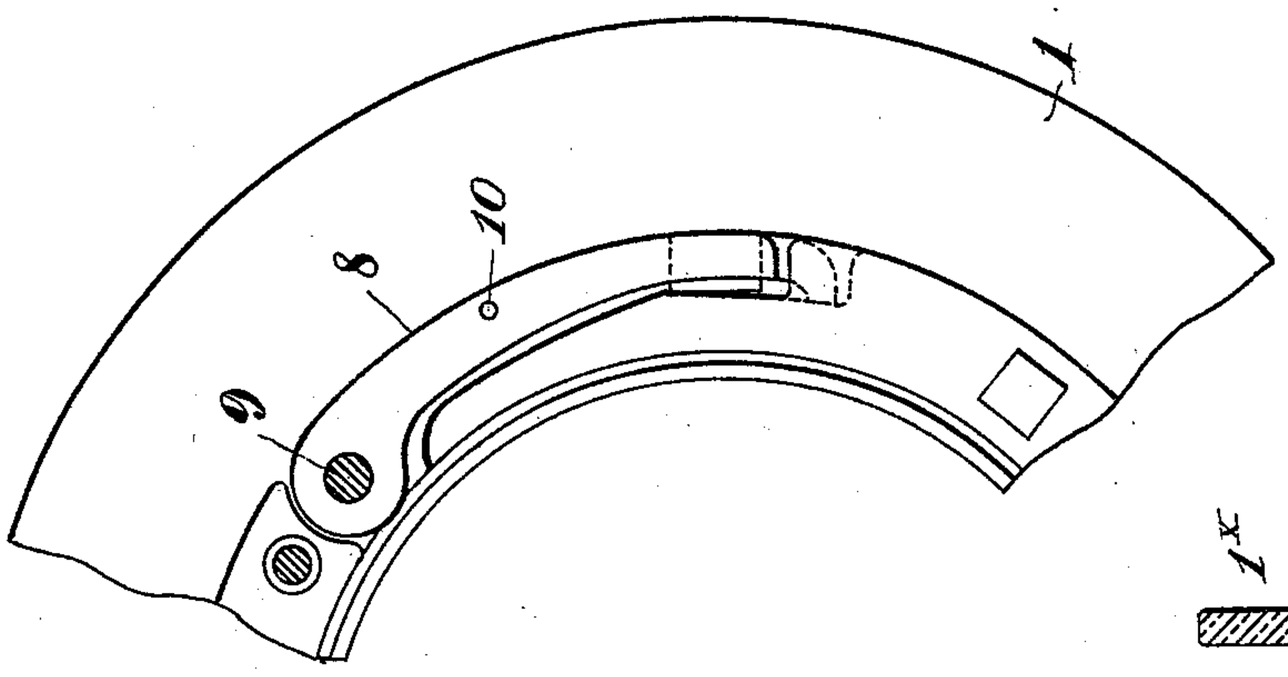

FIG. 1a.

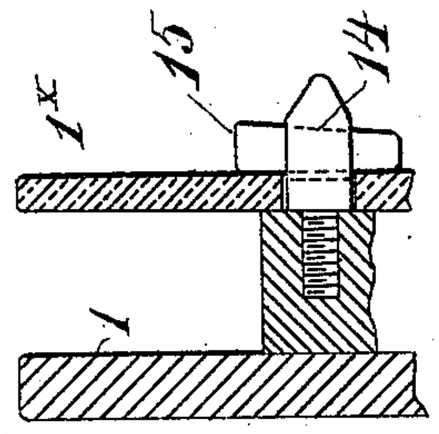

FIG. 1b.

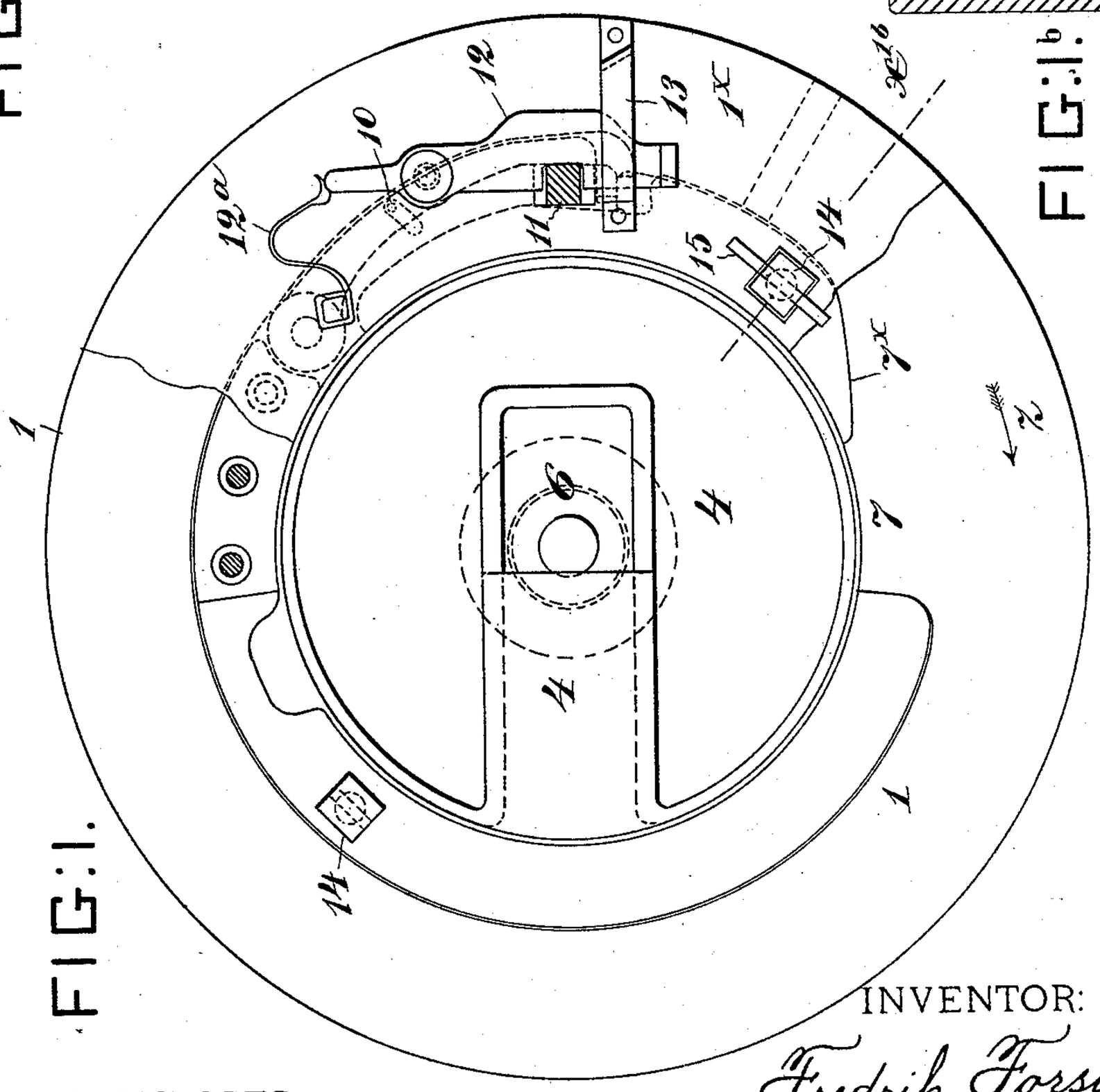

FIG. 1.

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(No Model.) 2 Sheets—Sheet 2.

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WIRE REEL.

No. 571,156. Patented Nov. 10, 1896.

FIG. 2.

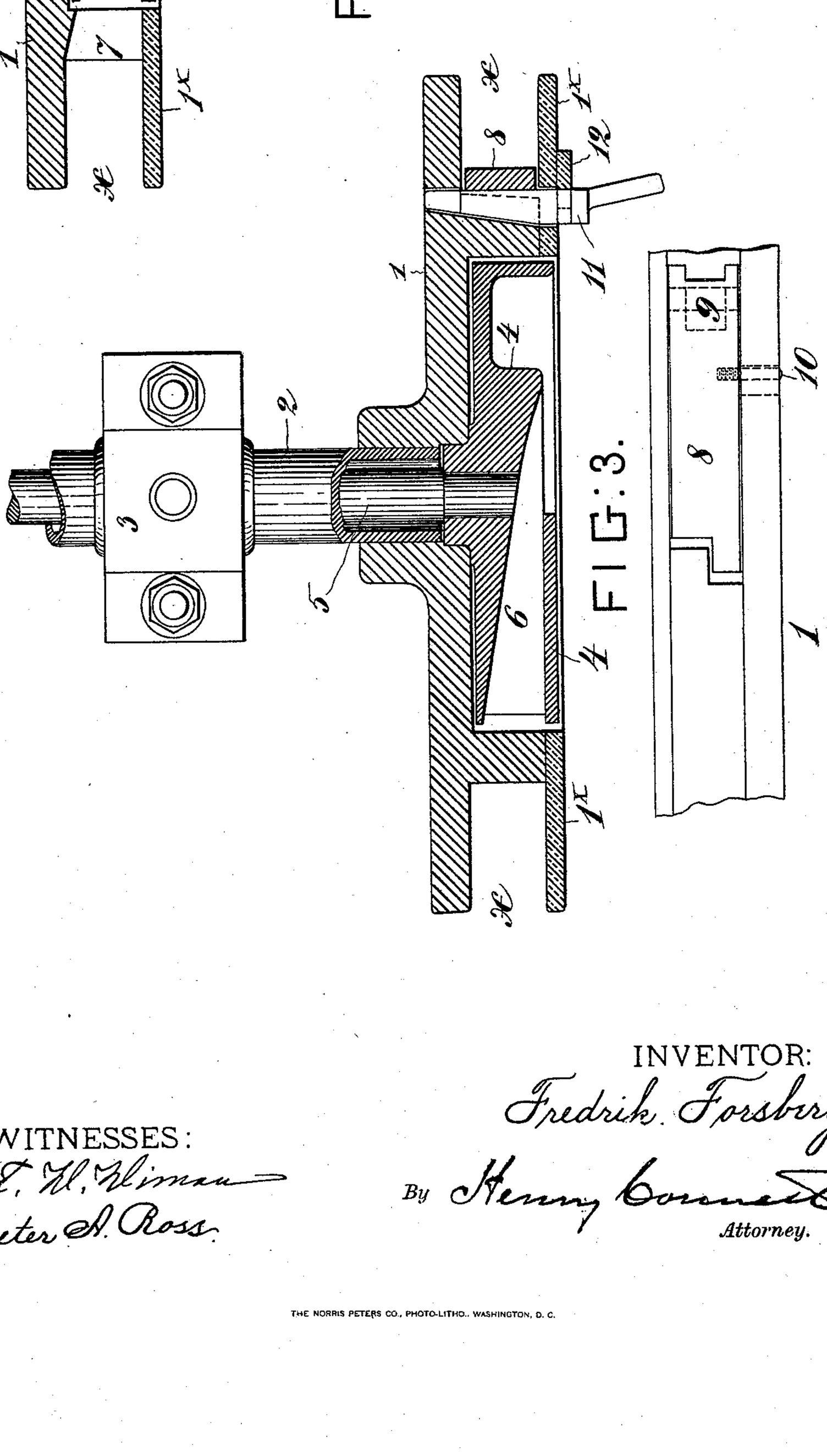

FIG. 2a.

FIG. 2b.

FIG. 3.

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UNITED STATES PATENT OFFICE.

FREDRIK FORSBERG, OF SANDVIKEN, SWEDEN.

WIRE-REEL.

SPECIFICATION forming part of Letters Patent No. 571,156, dated November 10, 1896.

Application filed June 1, 1896. Serial No. 593,699. (No model.)

To all whom it may concern:

Be it known that I, FREDRIK FORSBERG, a subject of the King of Sweden and Norway, residing at Sandviken, Sweden, have invented certain new and useful Improvements in Winding-Reels, of which the following is a specification.

My invention relates to improvements in the class of reels for receiving from the rolls, while hot, such manufactures as flat-rolled wire, band-iron, and the like. In the reels heretofore employed for this purpose there has been some difficulty in securing the end of the wire or strip quickly to the reel at starting to reel up, and also some difficulty in removing the coil from the reel owing to the forcible clasping of the reel by the coil when it shrinks in cooling. To obviate these defects is the principal object of my invention, which I will now describe with reference to the accompanying drawings, wherein—

Figure 1 is a side view of the reel with the removable ring-flange partly broken away. Fig. 1^a is a fragmentary view showing the part of the reel obscured by the ring-flange in Fig. 1, and Fig. 1^b is a cross-section of the rim of the reel at the line x'^b in Fig. 1. Fig. 2 is a diametrical section of the reel. Fig. 2^a is a view of the expanding wedge detached, and Fig. 2^b is a fragmentary sectional view showing the parts in a position different from that seen in Fig. 2. Fig. 3 is a fragmentary edge view of the reel, showing the expanding flap.

1 is the reel proper fixed on a hollow shaft 2, having a suitable bearing at 3. In the outer face of the reel is a concentric circular recess occupied by a center piece 4, fixed on a non-rotative shaft or arbor 5, which extends through the hollow shaft 2 of the reel. In the center piece 4 is formed a radial channel 6, which opens out at the periphery of the center piece at one end and at the middle of the center piece 4 at its other end. This channel is clearly shown in Figs. 2 and 2^b. In the rim of the reel 1, at the bottom of the circumferential groove (x in Figs. 2 and 2^b) therein, is an aperture 7, which aperture may be brought to register with the outer end of the channel 6 in the center piece by rotation of the reel to the position seen in Fig. 2^b. The rear edge or margin of the aperture 7 is sloped, as indicated at $7^\times$ in Fig. 1, by preference, the arrow z in this figure indicating the direction of rotation.

In the bottom of the groove x in the reel is formed a recess extending some distance along the same, and this recess is occupied by a flap 8, hinged at 9, said flap being limited in its movement outwardly by a stud 10 in its edge, which plays in a slot in the side of the reel. This flap 8 may be depressed into the recess in the reel, as seen in Fig. 1^a, but normally its free end is supported (see Figs. 1 and 2) on a wedge 11, which occupies a keyway in the reel. When this wedge is in place, it is held by a dog or latch 12, pivotally mounted on the outer face of the reel and adapted to engage a neck on the wedge, where it is retained by a spring 12^a. The free end of said latch engages a keeper 13 on the reel.

In the operation of the reel it is first turned until the aperture 7 is coincident with the channel 6 in the fixed center piece, as seen in Fig. 2^b, and the flap 8 forced outward by the insertion of the wedge 11 into its keyway, where it is locked by the latch. The wire or strip hot from the rolls is now conducted into the aperture 7 and channel 6 until its end appears at the inner end of said channel. In the rotation of the reel the inserted end of the wire or strip is bent over by contact with the stationary wall of the channel 6 and is folded up close against the inner periphery of the reel, occupying the space between the said periphery and the outer periphery of the disk-like center piece 4. This annular space must be sufficient to admit the flattened wire or strip being reeled up. After the wire or strip has been reeled up the wedge 11 is removed, so as to slacken up the coil, and the ring-flange $1^\times$ of the reel taken off, when the coil may be readily removed. This ring-flange is conveniently secured by the device seen in Figs. 1 and 1^b. This consists of studs 14, which pass through apertures in the ring-flange and have mortises to receive keys 15, as clearly shown.

The reel may have imparted to it a to-and-fro motion in an axial direction, so as to wind up the wire in a well-known way, but this has no reference to my invention.

Any known means may be employed for

driving the flap 8 outwardly and supporting it during the reeling operation, and I do not limit myself strictly to the construction shown.

In Fig. 1 the wedge 11 is represented with the outer end broken away.

Having thus described my invention, I claim—

1. A rotatively-mounted winding-reel having a circumferential groove to receive the wire, or the like, a concentric circular recess in its face, and an aperture 7 at the bottom of said groove and opening into said recess, in combination with a fixed, circular center piece occupying said recess in the reel and having in it a radial channel 6, adapted to be brought into coincidence with the aperture 7 in the reel, substantially as and for the purpose set forth.

2. A rotatively-mounted reel to receive flattened wire or the like direct from the rolls, having a circumferential groove, and provided with a removable ring-flange, a hinged flap 8, occupying a recess in the bottom of the circumferential groove, and means substantially as described for supporting the said flap during the winding operation, substantially as set forth.

3. A rotatively-mounted reel to receive a flattened wire or the like direct from the rolls, having a circumferential groove, and provided with a removable ring-flange, a hinged flap 8, occupying a recess in the bottom of the circumferential groove, a wedge 11, arranged in a keyway in the reel under the free end of said flap, and a latch 12, for locking the said wedge in place, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDRIK FORSBERG.

Witnesses:

ERNST SVANGIRST,

E. NORDGREN.