

No. 683,411.

Patented Sept. 24, 1901.

W. L. NORDEN.

REEL LATCH.

(Application filed May 16, 1901.)

(No Model.)

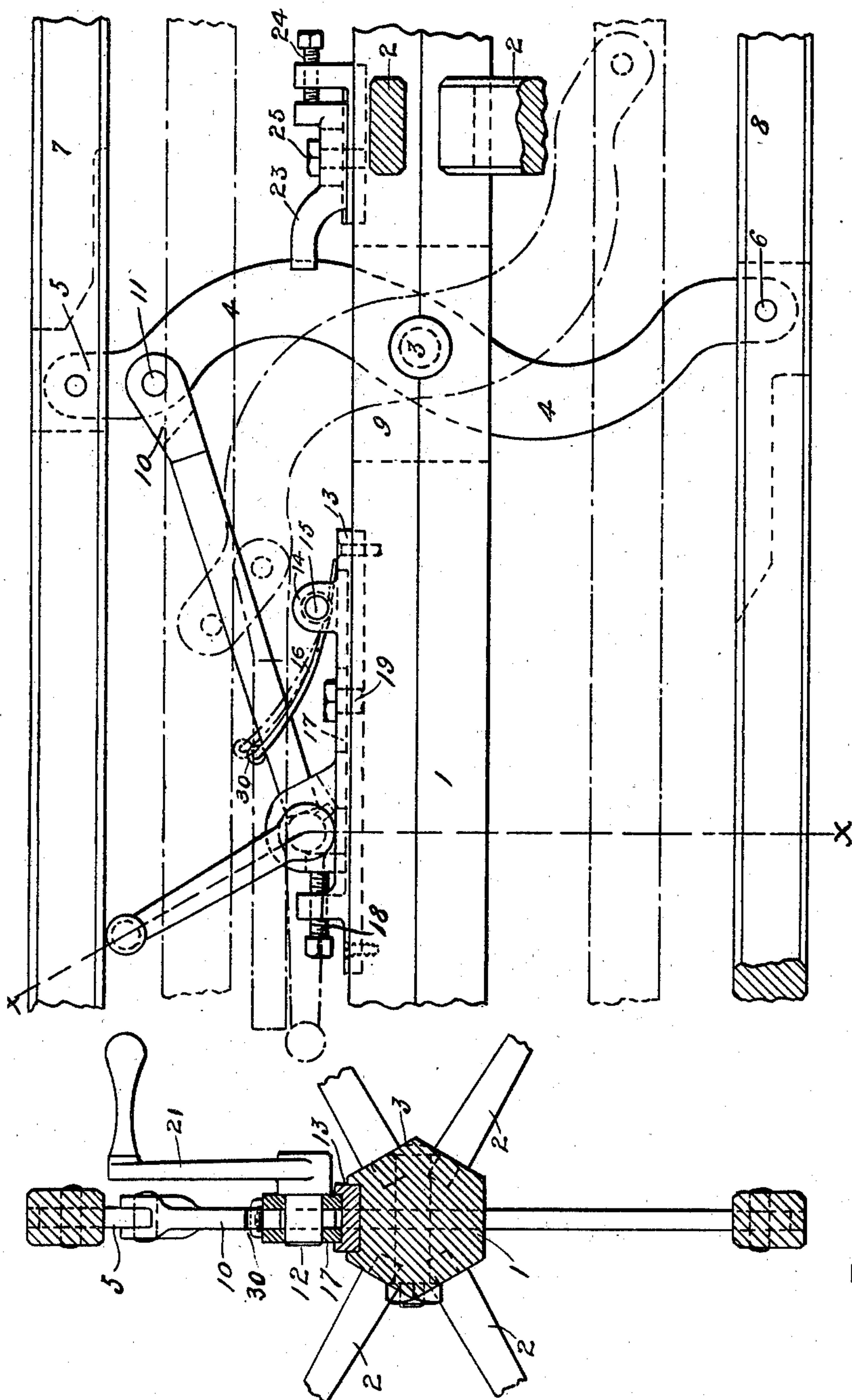


FIG. 1.

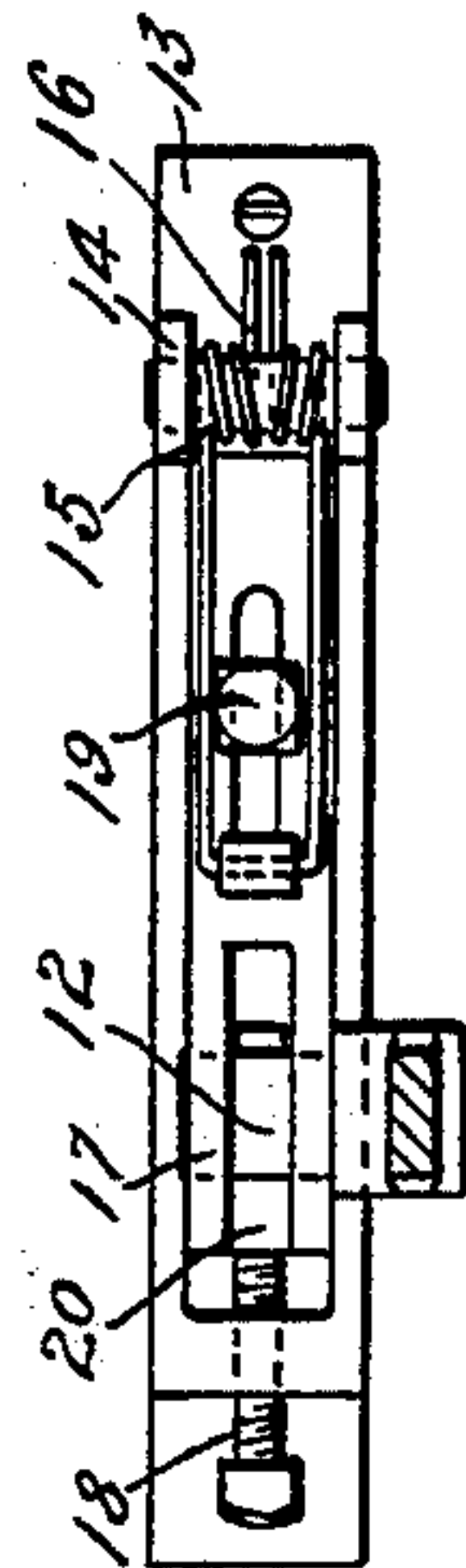


FIG. 4.

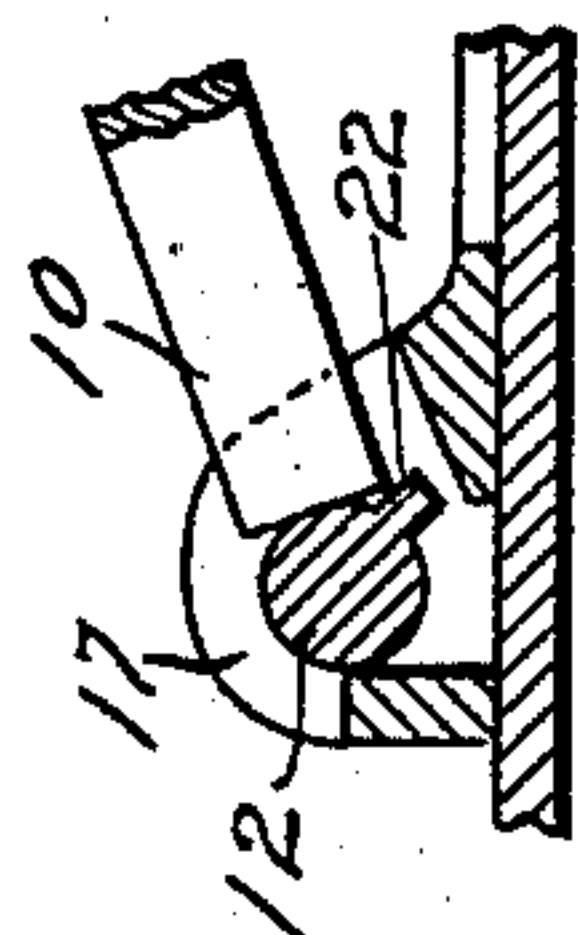


FIG. 3.

FIG. 2.

WITNESSES,

William C. Stanton

Helen A. Lake

INVENTOR,

William L. Norden

By *Noratio E. Billows*
ATT'Y.

UNITED STATES PATENT OFFICE.

WILLIAM L. NORDEN, OF HILLSGROVE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO SVAN B. SWANSON, OF SAME PLACE.

REEL-LATCH.

SPECIFICATION forming part of Letters Patent No. 683,411, dated September 24, 1901.

Application filed May 16, 1901. Serial No. 60,572. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. NORDEN, a citizen of the United States, residing at Hillsgrove, in the county of Kent and State of Rhode Island, have invented a certain new and useful Reel-Latch, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to means for collapsing the revolving frames of reels used for winding threads, yarns, or ribbons from the spindles or other mechanism employed to deliver the same. Its purpose is to furnish the operator a readily-accessible means for releasing the tension of the yarn wound upon the revolving frame to effect the desired result without stretching the goods and to substitute automatic for manual means.

Heretofore it has been usual and necessary for the operator in collapsing the slats of a reel to longitudinally force by hand the movable slat which is attached to the pivoted axial arm in order to assist the latter beyond the dead-center. This work is done automatically, and the advantages above enumerated are attained by the novel device hereinafter described in connection with the drawings, wherein like numerals of reference refer to like parts throughout.

Figure 1 is a side elevation of my latch and connected parts mounted upon the main shaft of the reel, which is in distended position, showing a relaxed position in broken lines; Fig. 2, a transverse section of the same on line *xx* of Fig. 1; Fig. 3, a detail longitudinal section of the lever-mounting, and Fig. 4 a plan view of the plate carrying the tripping mechanism.

In Fig. 1 is shown a section of an ordinary revolving reel-frame consisting of a main shaft or mandrel 1, with its radiating fixed spokes 2. Pivoted at its center to the shaft on pin 3 is an arm 4, which is S-shaped in the illustration; but this may evidently be straight, if desired. The arm-terminals 5 and 6 are pivotally connected, respectively, to the diametrically opposite slats 7 and 8. A rectangular oblong longitudinal slot 9 in the shaft 1 allows room for the vibration of arm 4. A latch 10 is pivoted to the upper end of

arm 4 at 11, with its free end forced against the face of the lever-stud 12. Fixed to the surface of the main shaft is an oblong plate 13, with upright lugs 14 to support a transverse pin 15, around which is wound a wire spring 16, slidably engaging and exerting a downward tension upon latch 10 to hold the latter normally against the lever-stud. An antifriction-roller 30 is mounted on spring 16 to form the bearing-contact on the latch. A block 17, longitudinally adjustable by set-screws 18 and 19, is seated in plate 13, having an open longitudinal passage 20, which forms a guide for the latch 10 after the release of the latter, as hereinafter explained. The lever-stud 12 is loosely mounted in the block 17 and is turned by the lever 21. It also carries a tripping pin or projection 22 upon its face in such a position as to contact with the lower edge of the free end of the latch 10 when the latter is in normal position.

A block 23, seated in the rear of the arm 4 upon the main shaft 1 and adjustable by means of screws 24 and 25, regulates the normal angle of said arm.

The operation of my mechanism is as follows: The normal position of the parts during operation is shown in full lines, Fig. 1. When, however, it is necessary to remove the skein from the frame or for any other reason to release the tension upon the same, the operator strikes the lever 21 to the position shown by broken lines in Fig. 1 and the slats 7 and 8 approach each other, thereby relieving the tension upon the inclosing skein. While the plate 13 is shown as fixed in this instance by means of screws to a hexagonal main shaft, it is evident that when an iron main shaft is preferable the plate 13 may be cast integral with said shaft without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a reel, the combination with a main shaft of an arm pivotally mounted in said shaft, slats on either side of the shaft pivotally secured to the ends of said arm, a latch pivoted at one end to the arm, a lever-stud against whose surface the free end of the latch

normally rests, a projection upon the lever-stud, normally contacting with the end of the latch, and means for turning the lever-stud.

2. In a reel, the combination with a main
5 shaft of an arm pivotally mounted in said shaft, slats on either side of the shaft pivotally secured to the ends of said arm, a latch pivoted at one end to the arm, a lever-stud against whose surface the free end of the
10 latch normally rests, a projection upon the lever-stud, normally contacting with the end of the latch, a spring bearing upon the trip-lever, and means for turning the lever-stud.

3. In a reel-latch, the combination of an

axial arm pivotally mounted in the main 15 shaft, a channeled dog also mounted thereon, a lever-stud mounted in said dog, a projection upon the lever-stud surface, and a latch pivoted at one end to the axial arm and normally bearing upon the surface of the lever-stud in 20 the channel of the dog.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM L. NORDEN.

Witnesses:

HORATIO E. BELLOWS,
SVAN B. SWANSON.