

A. BERNARDINI & W. L. E. KEUFFEL.

TAPE REEL.

APPLICATION FILED DEC. 27, 1912.

1,144,993.

Patented July 6, 1915

Fig. 1.

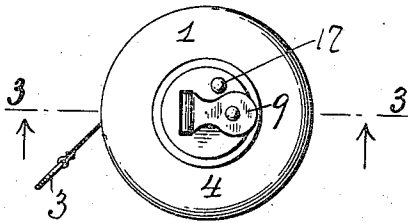


Fig. 2.

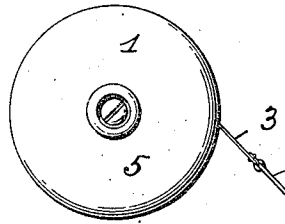


Fig. 3.

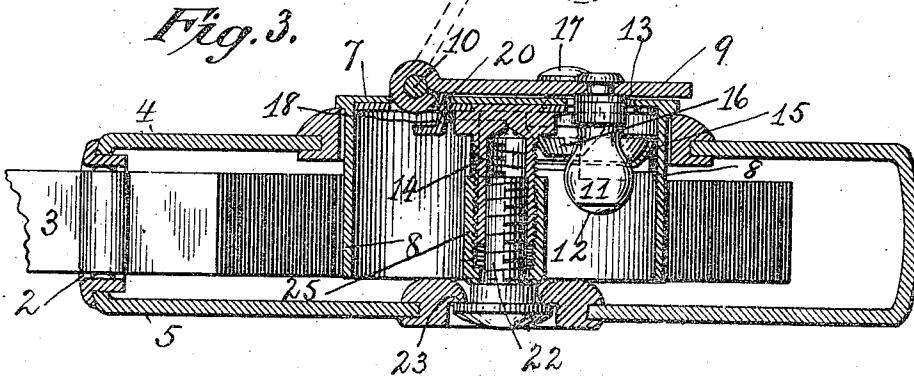
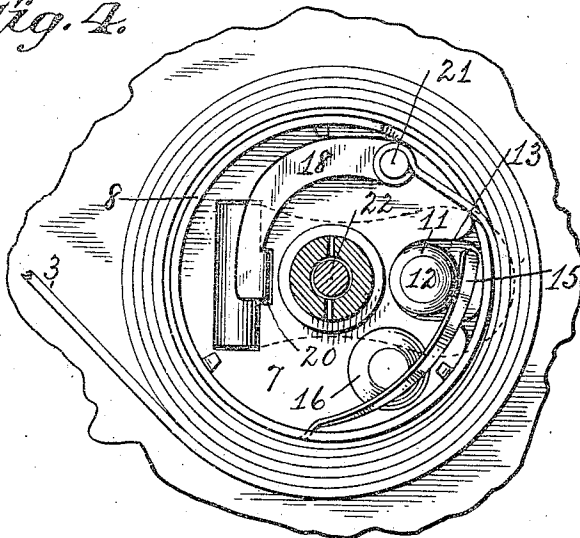


Fig. 4.



Attest:

Clarence C. Campbell
Frank J. Hunt

Adolph Bernardini, Inventors
and Willie L. E. Keuffel
by William R. Baird, Att'y.

UNITED STATES PATENT OFFICE.

ADOLPH BERNARDINI AND WILLIE L. E. KEUFFEL, OF HOBOKEN, NEW JERSEY,
ASSIGNORS TO THE KEUFFEL & ESSER COMPANY, OF HOBOKEN, NEW JERSEY,
A CORPORATION OF NEW JERSEY.

TAPE-REEL.

1,144,993.

Specification of Letters Patent.

Patented July 6, 1915.

Application filed December 27, 1912. Serial No. 738,794.

To all whom it may concern:

Be it known that we, ADOLPH BERNARDINI and WILLIE L. E. KEUFFEL, citizens of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Tape-Reels, of which the following is a specification.

This invention relates to cased tape reels, and its novelty consists in the construction and adaptation of the parts, as will be more fully hereinafter pointed out.

In the tape reels known to us, the tape is rolled upon a drum into which the crank handle is folded. In tape reels of this class the crank handles are difficult to unfold, especially if the user happens to have stiff fingers or is wearing gloves; or, if the handle is easily manipulated, it does not readily maintain its closed position. We have overcome these difficulties by providing means arranged outside of the drum so that the handle is readily brought into an operative position, even under adverse circumstances.

In the drawings, Figure 1 is a top plan view of a tape case embodying the invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a diametric section on an enlarged scale on the plane of the line 3—3 in Fig. 1. Fig. 4 is a detail bottom plan view of the tape drum.

In the drawings, 1 is a substantially cylindrical case made of any suitable material as leather, and adapted to contain the other parts hereinafter mentioned. An opening 2 is provided in its outer edge to allow for the unwinding of a tape 3. The side plates 4 and 5 of the cylindrical body of the case each have an inner central aperture, and about the peripheries of these apertures are mounted members adapted to serve in the usual manner as bearings for the rotatable parts, as hereinafter described.

The tape drum consists of an outer plate 7 and a cylindrical body 8, the tape being wound upon the latter. Upon the plate 7 is carried a crank 9 for the instrument and which crank is hinged upon a pintle 10 and provided with a handle 11 swiveled upon a post 12 secured to or made integral with the crank. The plate 7 is also provided with an aperture 13 to admit of the passage of the handle to within the cylindrical part of the drum. Within the drum and depending

from the plate 7 is a hollow axial sleeve 14 threaded externally and internally.

A portion of the drum cylinder is bent inwardly to form a leaf spring 15. A push pin having a conical termination 16 and a finger piece 17 is mounted in the plate 7. The conical termination of this pin is in constant engagement with the leaf spring 15, which spring is also in engagement with the handle 11 when the latter is folded and is inside of the drum.

A leaf spring 18 secured to the lower surface of the plate 7 is provided with an upwardly extending flange 20 which passes through an aperture in the plate 7 to contact with the crank 9 and which spring is compressed by such contact when the latter is brought to a position to bring the handle inside of the drum.

A post 21 eccentrically set within the drum is provided as a means for holding the end of the tape. A screw 22 threaded to fit the internal threads of the axial post 14 is provided with a bearing surface 23, which is adapted to rotate on the bearing of the lower side of the case 5.

Means are provided for determining the position of the screw 22 and limiting the extent of its movement consisting of a sleeve 25 internally threaded adapted to engage the external threads of the axial post 14. When this sleeve is placed upon such axial post and rotated to the desired position the screw 22 is moved inwardly only until it contacts with one end of the sleeve.

It is believed the operation of the device will be clear from the following description: When the handle crank is not in use, it is turned to the position shown in full lines in Fig. 3, in which case, the spring 15 engages the handle 11 and holds it within the drum. If, now the projecting end 17 of the push pin is pushed inwardly, its conical termination 16 will bear against the spring 15, thereby causing it to be disengaged from said handle, releasing the crank. Inasmuch as the crank 9 when in its inoperative position has forced inwardly the spring 18, this spring will react when the handle is released to throw the crank outward, as indicated in dotted lines in Fig. 3.

What we claim is:

1. In a device of the character described, a tape case, a tape drum in the case having

- one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and a device movably projecting from the drum at one side of the crank and operating on the spring for interrupting the function of the spring.
2. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and means for interrupting the function of the spring consisting of a push pin mounted in the outer plate of the drum.
3. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and means for interrupting the function of the spring consisting of a manually operated device mounted on the drum, movable independently of the crank and engaging the spring to actuate the same.
4. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and means for interrupting the function of the spring consisting of a push pin mounted in the outer plate of the drum, and provided with a conical projection adapted to move the spring laterally when actuated.
5. In a device of the character described, a tape case, a tape drum in the case of cylindrical shape having one plate with an aperture, a crank hinged to said plate and provided with a handle adapted to pass through said aperture when closed and shorter than the length of the drum, means for holding the handle within the drum, and releasing means for actuating said holding means, having a portion disposed exteriorly of the tape case, said means being mounted on the drum independently of the crank.
6. In a device of the character described, a tape case, a rotatable drum journaled therein and having an opening, a crank hinged to the drum and having a handle that enters the opening thereof when closed, means that engages the handle to hold it in the drum, means mounted on the drum independently of the crank for disengaging the holding means and handle, and a spring operating on the handle for moving said handle out of the drum when so released.
7. In a device of the character described, a tape case, a tape drum in the case of cylindrical shape having one plate with an aperture, a crank hinged to said plate and provided with a handle adapted to pass through said aperture when closed, and means for retaining the handle within the drum consisting of a spring formed by bending inwardly a strip of the drum cylinder to contact with the handle, and means that operates the spring for disengaging said spring from the handle, said latter means being movably mounted on the drum independently of the crank.
8. In a device of the character described, a tape case, a tape drum in the case of cylindrical shape having one plate with an aperture, a crank hinged to said plate and provided with a handle adapted to pass through said aperture when closed, and means for retaining the handle within the drum consisting of a spring formed by bending inwardly a strip of the drum cylinder to contact with the handle, and means for disengaging the spring from the handle, consisting of an actuating device mounted in the apertured plate of the drum.
9. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and means movably mounted on the apertured plate of the drum independently of the crank for interrupting the function of the spring, in combination with means for retracting the handle when the function of the engaging spring is interrupted.
10. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass through said eccentric opening when closed, a spring adapted to engage and hold said handle in its closed position, and means for interrupting the function of the spring to release the handle, in combination with means for retracting the handle when the function of the engaging spring is interrupted, consisting of a spring in contact with the handle when the latter is in a closed position.
11. In a device of the character described, a tape case, a tape drum in the case having one end provided with an eccentric opening, a crank hinged to said end and provided with a handle adapted to pass to a closed position through said eccentric opening, a spring adapted to engage and hold said handle in its

closed position, and means for interrupting the function of the spring to release the handle, in combination with means for retracting the handle when the function of the engaging spring is interrupted, consisting of a flat curved piece of metal provided with an up-turned lip fastened to the under side of the drum end and passing through said end to yieldingly contact with the crank when the latter is in its closed position.

12. In a tape reel, the combination with a drum, of a crank, a hinge connecting it to the drum, a handle projecting from the crank and adapted to be placed within the drum and two springs, one tending constantly to act against the crank, when in its closed position to move the handle outward and the other engaging the handle to overcome such tendency, and means movably mounted on the drum independently of the crank for interrupting the function of the second spring.

13. In a tape reel, the combination with a tape drum, of a crank, a hinge connecting it to the drum, a handle projecting from the crank and adapted to be placed within the drum and two springs, one tending constantly to act against the crank, when in its closed position to move the handle outward and the other engaging the handle to overcome such tendency and means mounted on the drum and movable independently of the crank for interrupting the function of the second spring, comprising a push pin adapted to move the spring out of engagement with the handle.

14. A tape reel having in combination, a drum about which the tape is adapted to

wind, the said drum provided with an end wall having a hole, a crank arm pivoted to the end wall of the drum and having a handle provided with a head protruding through said hole in said end wall of the drum into the interior thereof when the crank arm lies against the wall, a latch member in the interior of the drum for engaging with the head of the handle to hold the same in the drum, and a stud member protruding through the wall of the drum with which the latch member may be moved to release it from engagement with the head of the handle.

15. A tape reel, having in combination, a drum about which the tape is adapted to wind, the said drum provided with an end wall having a hole, a crank arm pivoted to the end wall of the drum and having a handle that can be partially passed through said hole in the end wall into the interior of the drum, a latch in the interior of the drum for engaging with the handle to hold the crank arm against the end wall of the drum, a stud protruding through the end wall of the drum by the moving of which the latch may be released from engagement with the handle and means for yieldingly thrusting against the crank arm so that when the latch is released the crank arm is thrust out from the end wall of the drum.

In testimony whereof we affix our signatures in presence of two witnesses.

ADOLPH BERNARDINI.
WILLIE L. E. KEUFFEL.

Witnesses:

OTTO FREUND, Jr.,
BOWDEWINE B. VAN SICKLE.