No. 690,897. Patented Jan. 7, 1902.

R. SIMS.

TAPE HOLDER.

(Application filed Apr. 24, 1901.)

(No Model.)

Fig. 1.

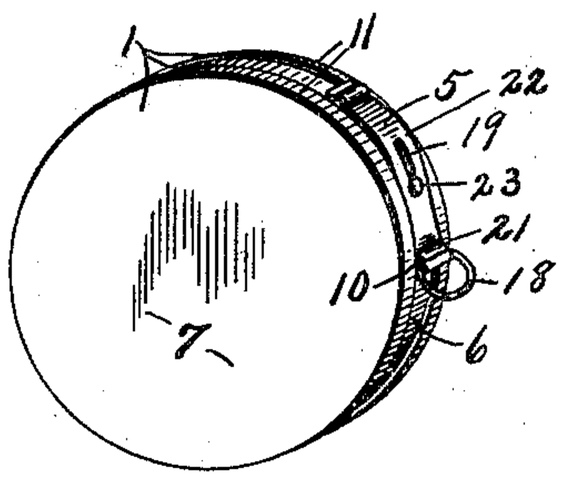


Fig. 2.

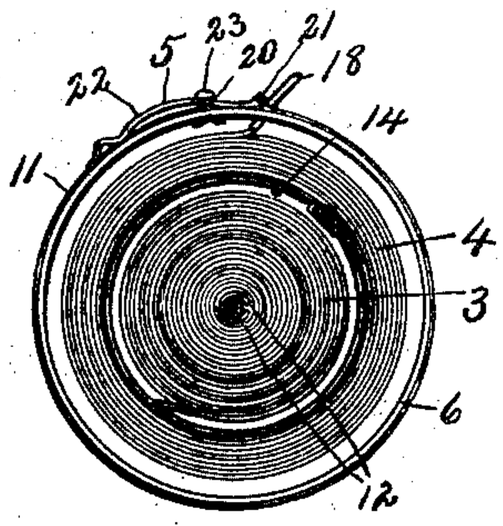


Fig. 3.

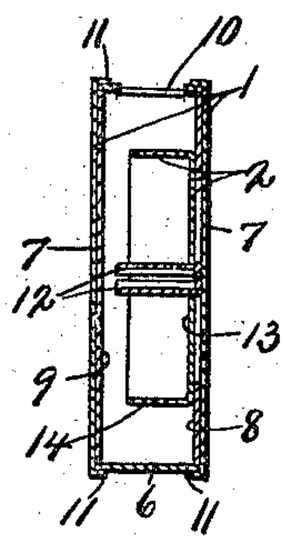


Fig. 4.

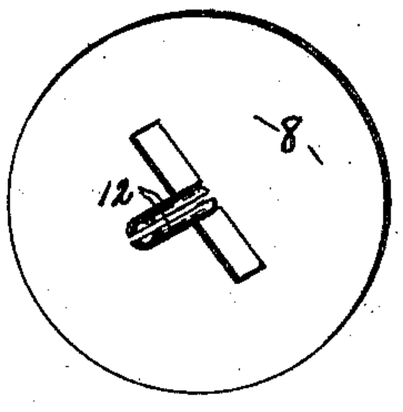
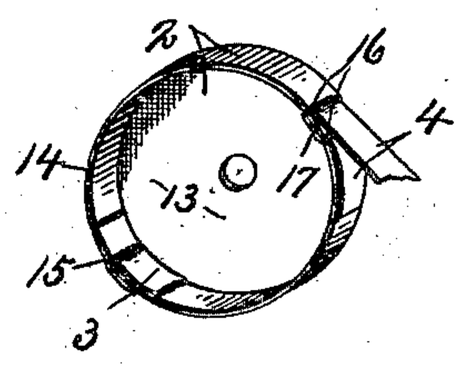


Fig. 5.



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UNITED STATES PATENT OFFICE.

RICHARD SIMS, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE WHITEHEAD & HOAG COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TAPE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 690,897, dated January 7, 1902.

Application filed April 24, 1901. Serial No. 57,325. (No model.)

To all whom it may concern:

Be it known that I, RICHARD SIMS, of Newark, in the county of Essex, in the State of New Jersey, have invented new and useful Improvements in Tape-Holders, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in tape-holders, having particular reference to that class in which the tape is automatically rewound by a spring-motor.

The object of this invention is to produce manually-operated means movable circumferentially upon the periphery of the frame into and out of engagement with the tape for the purpose of frictionally holding said tape in its extended position, and thereby indicating any measurement upon said tape.

The further object of this invention is to so construct and arrange the component parts of the frame of the holder that the same may be manufactured at a minimum cost and assembled by ordinary unskilled labor.

To this end the invention consists in the construction and arrangement of the component parts of a tape-holder, as hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a tape-holder embodying this invention. Fig. 2 is a face view of my improved tape-holder, one of the end caps being removed for disclosing the interior mechanism. Fig. 3 is a sectional view through the detached frame and tape-supporting drum, the tape and spring being omitted. Fig. 4 is an isometric view of one of the detached inner plates, which is provided with a trunnion. Fig. 5 is an isometric view of the detached drum, to which the spring-motor and tape are connected.

Similar reference characters indicate corresponding parts in all the views.

As seen in the drawings, this invention consists of a supporting-frame 1, a revoluble drum 2, mounted therein, a spring-motor 3, a measuring-tape 4, and a circumferentially-movable member 5 for engaging the measuring-tape.

The frame 1 preferably consists of an annular ring 6, opposite caps 7, engaged with the end faces of the ring, and inner plates 8 and 9, arranged adjacent to the inner faces of the caps 7 and secured from rotary movement by any desired means hereinafter mentioned.

The ring 6 and opposite cap 7 may be of any desired material, but are preferably formed of celluloid, the ring 6 being cylindrical in form and provided with a tape-opening 10 and the caps 7 being provided with peripheral inturned flanges 11, lapped upon the periphery of the opposite ends of the ring 6, said flanges being cemented or otherwise secured to the ring and serving to stiffen the frame and to form a suitable guide for the member 5.

The plates 8 and 9 are usually formed of sheet metal, are arranged adjacent to the inner faces of the caps 7, being cemented or otherwise secured to the caps or to the inner periphery of the ring 6 to hold the same from revoluble movement, and serve to stiffen the caps 7 and ring 6. One of these plates, as 8, is provided with laterally-projecting arms 12, which are formed by cutting suitable tongues in the intermediate portion of the plate and then bending said tongues laterally at substantially right angles to the body of the plate, said tongues being then bent transversely into semicircular bearings for forming a trunnion.

The drum 2 preferably consists of a cup-shaped shell formed from a single piece of sheet metal and having an end wall 13 and an annular flange 14, the end wall 13 being provided with an aperture for receiving the trunnion 12, upon which the drum rotates, and the flanges 13 are provided with a slit 15 for receiving one end of the spring 3 and is also provided with additional slits 16 for forming a tongue 17, the slits and tongue serving as a suitable support or shoulder for securing one end of the tape-measure 4 to the drum.

One end of the spring 3 is inserted through the slit 15 and lapped upon the periphery of the drum, and the other end is inserted between the arms of the trunnion 12 and interlocked with said trunnion. The inner end of the tape-measure 4 is inserted through the slits 16 around the tongue 17, being held in position by said tongue, and its other end is wound around the drum and passed outwardly through the opening 10 in the ring 6

and provided with a loop 18 of greater width than the opening 10, whereby said tape-measure may be drawn outwardly through said opening in the usual manner.

The member 5 forms a particularly important feature of this invention and consists of a piece of spring metal mounted upon the periphery of the ring 6 between the flanges 11 and is provided with a lengthwise slot 19, which is arranged to receive a stud or shoulder 20. This member 5 is movable circumferentially upon the periphery of the ring 6, one end being bent outwardly at 21 and movable across the opening 10 for frictionally engaging the tape-measure movable in said opening. The intermediate portion 22 of this member is arched or slightly curved outwardly from the adjacent face of the ring 6 in order that the member may be always in frictional engagement with a suitable head 23, formed on the stud 20, for holding said member 5 in its adjusted position. It is thus apparent that the opposite ends of the member 5 are engaged with the periphery of the ring 6 and that the intermediate portion is tensioned against the head 23 and that as said member is moved toward and away from the opening 10 the same is held in its adjusted position by frictional engagement with the shoulder 23, it being understood that the end 21 is adapted to engage the tape at one side of the opening and to impinge the same against the opposite wall of said opening 10, holding the tape in its extended position, the end 20 also serving as a suitable indicator for indicating the length of the tape drawn through the opening 10.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings.

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

1. A tape-holder comprising a shell having a tape-opening and a stud projecting from its periphery, and a sliding bar mounted on the periphery of the shell and provided with a slot receiving the stud, said bar being movable across the opening for the purpose described.

2. The combination with a cylindrical shell having a tape-opening in its peripheral wall, a manually-operating sliding bar engaged with the periphery of the shell and movable across the opening, said bar being formed with an elongated slot, and a fastening member having one end passed through the slot and secured to the shell and its outer end formed with a head wider than the slot for the purpose set forth.

3. The combination with a shell having separated annular shoulders and a tape-opening, a spring-wound tape supported in the shell and movable through said opening, and a circumferentially-movable bar mounted on the periphery of the shell between said shoulders and having one end arranged to frictionally engage the tape for the purpose set forth.

4. A tape-receiving shell comprising a cylindrical ring having a tape-opening, and opposite heads or caps having inturned flanges lapped upon the periphery of the ring, in combination with a spring-wound tape movable through the opening, and a manually-operated circumferentially-movable bar mounted on the periphery of the ring between said flanges and having one end arranged to engage the tape for the purpose set forth.

5. A tape-holder comprising a cylindrical shell having a tape-opening, a fixed circular plate adjacent to one of the side walls of the shell and having portions thereof cut and bent inwardly for forming a trunnion, a spring-actuated drum journaled on the trunnion and a tape connected to the drum and movable through the opening and a circumferentially-movable bar mounted on the periphery of the shell and movable across the opening for engaging the tape.

In witness whereof I have hereunto set my hand this 18th day of April, 1901.

RICHARD SIMS.

Witnesses:
WM. A. JONES,
GEORGE W. DUNN.