No. 874,994. PATENTED DEC. 31, 1907.

M. H. RICHARDSON.

ROTARY MEASURING DEVICE.

APPLICATION FILED MAR. 16, 1907.

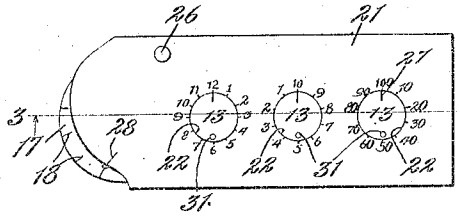


Fig. 1.

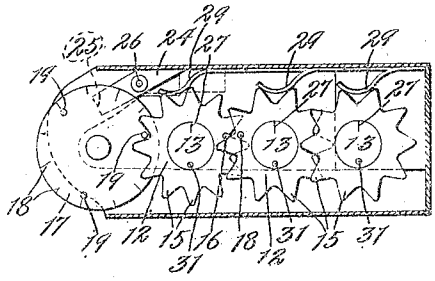


Fig. 2.

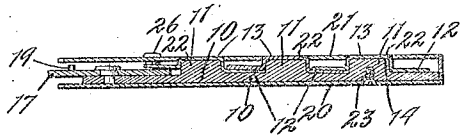


Fig. 3.

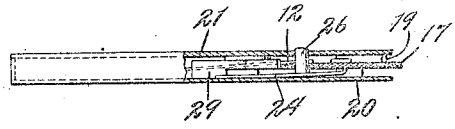


Fig. 4.



Fig. 5.

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ROTARY MEASURING DEVICE.

No. 874,994. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed March 16, 1907. Serial No. 362,629.

To all whom it may concern:

Be it known that I, MYRON H. RICHARDSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rotary Measuring Devices, of which the following is a specification.

This invention relates to improvements in rotary measuring devices particularly adapted for measuring the length of articles or surfaces, and the primary object of the invention is to provide an improved device of this character which is adapted to be placed in engagement with and moved across the surface to be measured for rapidly ascertaining the length thereof.

A further object is to provide an improved hand device of this character which will be simple, compact, light and durable in construction, and efficient and effective in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed, and shown in the accompanying drawing, illustrating an exemplification of the invention and in which—

Figure 1 is a top plan view of an improved device of this character constructed in accordance with the principles of this invention. Fig. 2 is a view similar to Fig. 1 with the top of the casing removed. Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 1. Fig. 4 is an edge view of one end of Fig. 1. Fig. 5 is a detail view of a modified form of operating disk.

Referring more particularly to the drawing, and in this exemplification of the invention the numeral 10 designates a supporting base of any desired size and constructed of any suitable material. Projecting beyond the face of the base 10 is a plurality of projections 11, which are preferably cylindrical in construction and are suitably spaced from each other.

The numeral 12 designates register disks which are preferably constructed of thin metal and are provided with an upstruck portion 13 adjacent the center thereof to form a recess 14, and these recesses are of a configuration similar to the shape of the projections 11 and are adapted to receive one of the projections. The depth of the recesses are substantially equal to the height of the projections 11, that when the register disks are placed in position so that the projections 11 will enter the respective recess 14, the periphery of the disks 12 will rest adjacent the face of the base or support 10.

The projections 11 are so spaced from each other and the disks 12 are of such a diameter that a portion of each disk will overlap a portion of the next succeeding disk, as shown more clearly in Fig. 3 of the drawing, which permits the disks to be arranged compactly. The disks 12 are preferably provided with peripheral teeth 15 and extending upwardly from each disk is a lug or projection 16 which is adapted to engage one of the teeth 15 of the next succeeding disk to impart one step of rotation to the disk when the disk carrying the projection has made one complete revolution.

Rotatably mounted upon the base or support 10 is a disk or operating member 17, a portion of the periphery of which preferably projects beyond the base or support 10 and said disk or member 17 is of such a diameter and so located with respect to the first recorder disk 12 that a portion of its periphery will extend under one edge of said disk. The operating member or disk 17 is preferably provided with a series of graduations 18 and upwardly extending lugs or projections 19, which latter are so placed that when the disk or operating member 17 is rotated or actuated, one of the lugs or projections 19 will engage one of the peripheral teeth 15 of the adjacent disk 12 to impart one step of rotation thereto, which disk in turn will impart one step of rotation to the next succeeding disk in a similar manner when it has made one complete revolution.

The supporting base or member 10 is adapted to be inserted in a casing or housing 20, which is provided with a top 21 and said top 21 is provided with a series of apertures 22 arranged so as to receive the upper portion of the upstruck portions 13 of the disks 12, and said upstruck portions are of a diameter to substantially fill the apertures 22 so that the upper face of the upstruck portions will be substantially flush with the top 21. The extremity of the casing is preferably open, as shown more clearly in Fig. 3 of the drawing, and is so constructed that the portion of the periphery of the disk or member 17 which extends beyond the base or support

10 will extend through and beyond the end of the casing. The support or base 10 is secured against displacement within the casing in any suitable manner, preferably by means of a screw or bolt 23.

Arranged within the casing is a suitable bra e 24 preferably constructed of spring metal and is so disposed that the extremity 25 thereof will normally engage and rest against the face of the operating member or disk 17 to prevent said member from being rotated when the measuring device is not in use. Any suitable means may be provided for releasing the brake 24, such as a handle or button 26, which is secured to the brake 24 and preferably projects or extends through the top 21 of the casing and on the side adjacent the apertures therein.

Arranged around the apertures 22 in the top 21 are a series of indicating characters, preferably numerals, which successively progress from 1, and coöperating with said characters is an indicator 27 which is located on the disks 12 preferably the upper face of the upstruck portions 13. A similar indicator 28 is also arranged on the top 21 of the casing preferably adjacent one end thereof and is adapted to coöperate with the graduations 18 on the operating member or disk 17. Any suitable means, such as springs 29 or the like, may be provided for preventing accidental rotation of the disks 12. The periphery of the disk or operating member 17 is preferably milled or knurled as shown more clearly in Fig. 4 of the drawing to prevent the disk or operating member 17 from slipping when the device is in use.

In the modified form shown in Fig. 5, the disk or operating member 17 preferably comprises two plates arranged on opposite sides of a suitable, flexible member 30, such as rubber or the like, which also serves to prevent the disk from slipping and to cause the same to rotate and operate the register disks when the operating member or disk 17 is rotated.

In use the operator grasps the casing 20 in his hand in such a manner that the operating disk or member 17 may be placed in contact with the surface to be measured and assuming the register disk to be in the position shown in Fig. 1 of the drawing, the device may be moved across the said surface. The knurled or milled periphery of the disk or member 17 will cause said disk or member to rotate as the device is advanced and as the projections 19 thereon engage one of the peripheral teeth of the adjacent register disk 12, the latter will be rotated one step and a continued rotation of the operating disk or member 17 will cause another projection 19 to engage one of the peripheral teeth and impart another step of rotation to the recorder disk. This operation will continue, if the surface to be measured is long enough, until the first register disk has made one complete revolution and at the completion or the last step of rotation, the next register disk will be moved one step and so on.

When the operating disk or member 17 reaches the end of the surface, the operator can ascertain from the face of the casing the exact length of the surface, as the disks are arranged to indicate units, tens and hundreds of feet. Before the operator moves the device across the surface, the button 26 must be depressed so as to release the brake 24.

Any suitable means may be provided for re-setting the register disks to their normal position and a simple and efficient means for accomplishing this purpose comprises an aperture or recess 31 arranged preferably in the face of the upstruck portion 13 and into which any suitable pointed instrument, such as a pencil or the like, may be inserted to individually rotate the register disks. The hundreds disk being first set, the tens and units disk may be similarly re-set.

In order that the invention might be fully understood by those skilled in the art, the details of the foregoing embodiment thereof have been thus specifically described, but

What I claim as new and desire to secure by Letters Patent is—

1. In a hand rotary measuring device, the combination of a support provided with a projection extending beyond the surface thereof, a register disk provided with an upstruck portion to form a recess adapted to receive the projection to pivotally support the disk, means for preventing displacement of the disk, an operating member rotatably mounted on the support, and means operatively related to said member for moving the disk about its pivot when the member is operated, said member being adapted to engage and move across the surface to be measured.

2. In a hand rotary measuring device, the combination of a support provided with a projection, a register disk provided with an upstruck portion forming a recess adapted to receive the projection to form a pivot for the disk, a casing for the support and disk, said casing being provided with an aperture adapted to receive the upstruck portion to prevent displacement of the disk, a rotatably supported operating member, and means operatively related to the said member for moving the disk when the member is rotated, the periphery of said member being adapted to be moved in engagement with and across the surface to be measured.

3. In a hand rotary measuring device, the combination of a support provided with a projection, a register disk provided with an upstruck portion forming a recess adapted to receive the projection to form a pivot for the disk, a casing for the support and disk, said casing being provided with an aperture adapted to receive the upstruck portion to prevent displacement of the disk, a rotatably

supported operating member, means operatively related to the said member for moving the disk when the member is rotated, a portion of the periphery of the operating member projecting beyond the casing, the periphery of the member being adapted to be moved in engagement with and across the surface to be measured, and means for retaining the register disk in its adjusted position.

4. In a hand rotary measuring device, the combination of a casing, provided with an aperture and having a series of indicating characters surrounding the aperture, a disk rotatable within the casing and having a projecting portion extending into the aperture, said portion being provided with an indicator adapted to coöperate with the said indicating characters surrounding the aperture, an operating member rotatably mounted in and projecting beyond the casing, means operatively related to the member for rotating the disk to successively indicate the characters when the member is rotated and separate means for adjusting the disk.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 2nd day of March A. D. 1907.

MYRON H. RICHARDSON.

Witnesses:
J. H. JOCHUM, Jr.,
M. W. CANTWELL.