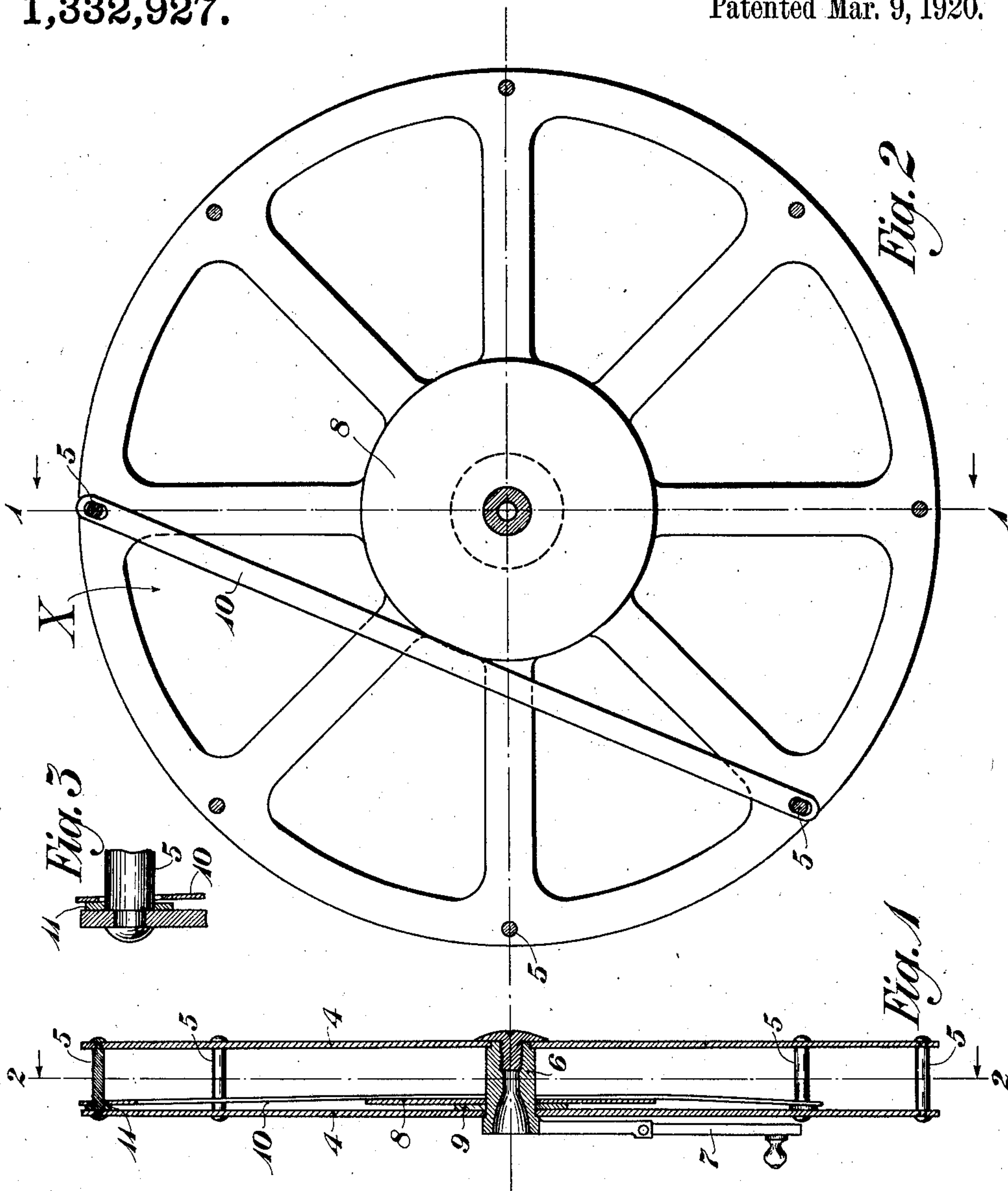


T. C. SMITH.
REELING DEVICE.
APPLICATION FILED AUG. 8, 1918.

1,332,927.

Patented Mar. 9, 1920.



INVENTOR.
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TEMPLE C. SMITH, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

REELING DEVICE.

1,332,927.

Specification of Letters Patent.

Patented Mar. 9, 1920.

Application filed August 8, 1918. Serial No. 248,926.

To all whom it may concern:

Be it known that I, TEMPLE C. SMITH, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain Improvements in Reeling Devices, of which the following is a specification.

This invention relates to reeling devices, especially those for winding materials, such as measuring tapes, where the width of the material is substantially the same as the width of the reel.

In reels of this type, and especially in the case of tape reels which are subject to much rough usage, difficulty is experienced from a fault known as piling, that is, the tendency of the tape to lie closely against or lap up on, first one side and then the other of the casing, which creates much friction as the subsequent convolutions of the tape tighten upon the under layers, giving an increasing tendency to wedge and bind between the two sides of the case as the winding goes on. It is not practicable to make the width of the casing the same as the width of the material being wound, because this varies in actual practice; thus different tape measures from the same manufacturer will vary somewhat in width, and the same tape as it wears, and as it becomes wet and dry, varies in width. It is the object of the present invention to provide a reel of simple and efficient character for overcoming the difficulties above indicated.

The invention will be more fully described in connection with the accompanying sheet of drawings, in which Figure 1 indicates a sectional view taken on the line 1—1 of Fig. 2 looking in the direction of the arrows. Fig. 2 represents a sectional view on the line 2—2 of Fig. 1, looking in the direction of the arrows, and Fig. 3 represents a detail on an enlarged scale.

The reel is composed of two side members or plates, 4, 4 held in spaced relation by posts 5 distributed around the periphery of the side members, to which they may be secured by screws or rivets as shown. The usual winding hub or drum 6 is rotatably mounted between the side members and is provided with a winding handle 7. The width of the reel is made greater than that of the tape or strip of material to be wound by an amount sufficient to permit of the insertion of spring members between the material when in place, and one of the side

members 4. These springs serve to urge the material gently against one side member as it is wound, while being sufficiently resilient to avoid cramping the material in case it has become altered in width through wear or moisture. In the invention as here illustrated, these springs consist of a disk on the hub, and a long leaf spring arranged tangentially thereto. The disk 8 snugly fits the winding hub 6 but is preferably rotatable thereon. It is spaced apart from the adjacent side member 4 by a washer 9. The disk itself may normally be perfectly flat. A long leaf spring 10 is loosely mounted on two of the posts 5 by openings in the spring which permit it to be flexed without binding, and lies across the edge of the disk 8 so that the disk normally holds it spaced from the said member 4 near the center. The spring 10 is preferably slightly curved so that the portion adjacent the disk 8 tends to bow outward toward the center of the reel. A washer 11 surrounds the post 5 at each end of the spring 10 and lies between it and the side member 4 on the same side as the disk 8.

The material to be wound is fed into the reel at the point indicated by the arrow X, so that it must pass the spring 10 before settling into place as it is wound up, and is thereby pressed against the opposite side of the reel. By using the disk spring 8 the main spring member 10 may be made quite light and yet bear against the tape near its center with sufficient effort to make it wind properly. The disk 8 also forms a convenient guide for the first convolutions of the tape near the hub. The washers 11 at the ends of the spring 10 hold it slightly away from the side member 4, so that, as the casing fills and the spring 10 is pressed back toward the member 4, there is still sufficient resiliency at the outer ends of the spring to accomplish the desired purpose.

It will be obvious that various modifications in the details of the reel may be made without departing from the spirit of the invention as indicated in the appended claims.

What is claimed is:

1. A reel comprising side members, a winding hub or drum and a spring member mounted between the side members for forcing successive convolutions of the material to be wound against one of said side members.

2. In a reel structure a winding hub, side

members in which said hub is mounted to rotate, and a spring member supported near the periphery of one of said side members and tending to push the material to be wound snugly against the opposite side member.

3. In a reel structure a winding hub, side members in which said hub is mounted to rotate, a spring member supported near the periphery of one of said side members and tending to push the material to be wound snugly against the opposite side member and a second spring member supported near the winding hub and cooperating with said first mentioned spring.

4. In a reel structure, a winding hub, side members in which said hub is mounted to rotate and resilient guiding means supported adjacent the inner face of one of said side members whereby the material to be wound is laid snugly against the opposite side member as it is wound.

5. In a reel structure, a winding hub, side members in which said hub is mounted to

rotate and a spring member supported at two points near the periphery of one of said side members and normally bowing toward the opposite side member between said points.

6. In a reel structure, a winding hub, two side members in which said hub is mounted to rotate, a disk shaped spring member mounted on said hub near one side member, a narrow leaf spring overlying the edge of said disk spring and extending substantially tangentially thereto, and supports for said leaf spring near the periphery of said side member, whereby said springs cooperate to urge one edge of the material being wound, against the opposite side member.

7. A reel comprising side members, a winding hub or drum, and a means for forcing successive convolutions of the material to be wound against one of the side members.

In testimony whereof, I have signed my name to this specification this sixth day of August, 1918.

TEMPLE C. SMITH.