

T. J. SANDS.
 REEL OR RUNNER.
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1,171,545.

Patented Feb. 15, 1916.

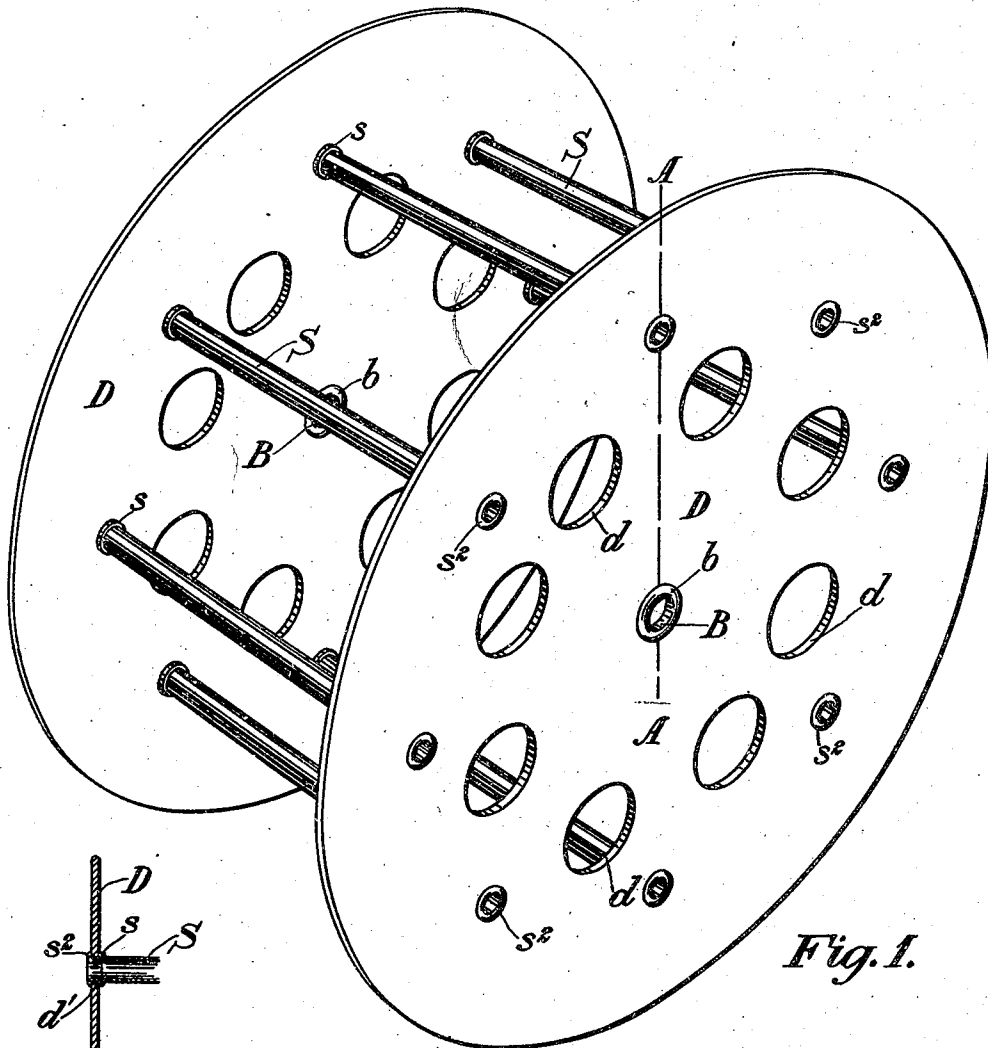


Fig. 1.

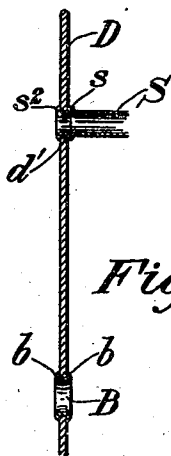


Fig. 2.



Fig. 3.

WITNESSES

L. H. Cadwall.

H. McSpangler.

INVENTOR

Thomas J. Sands

By *John Freeman Watson & Co.*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS J. SANDS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO UNIVERSAL WINDING COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

REEL OR RUNNER.

1,171,545.

Specification of Letters Patent.

Patented Feb. 15, 1916.

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To all whom it may concern:

Be it known that I, THOMAS J. SANDS, a citizen of the United States; residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Reels or Runners, of which the following is a specification.

My invention relates to reels or "runners" for holding skeins or hanks of yarn, thread and other textile materials in unwinding the same.

My improvement consists in providing a device of extremely light weight, yet rigid and strong in construction and capable of withstanding the hard treatment to which such devices are usually subjected in commercial use.

The invention is fully set forth in the following specification, illustrated by the accompanying drawings, in which:—

Figure 1 is a perspective view of my improved device; Fig. 2, a transverse, sectional view of a portion of one of the heads of the runner, taken on the line A—A of Fig. 1, and showing the method of securing the tubular struts in place and forming the axial bearings; Fig. 3, a detail view of one of the struts showing its form before assembling with the heads.

My improved reel, or "runner" as it is technically termed, is designed particularly for use with skein unwinding devices such, for instance, as that shown and described in my application for patent filed concurrently herewith. In employing such devices for unreeling or unwinding delicate materials, such as fine silk and gossamer-like threads, it is most essential that the supporting reels or runners for the skeins be extremely light in weight, so that they may be rotated easily without imposing undue strain on the strand of material through which their turning is effected.

In my present invention the novel and ingenious method of constructing the runner provides for a much lighter structure than usual, so that the effects of momentum and inertia are materially reduced, and consequently the efficiency of the device is greatly enhanced.

Referring to the drawings, my improved runner consists essentially of two heads or end-flanges D, D, preferably of circular or disk shape, arranged with cross-members

or struts S, S, etc., extending between them. The disks D are preferably constructed of relatively thin, sheet-fiber, or other similar light material possessing the qualities of strength and toughness and, if desired, may be punched with openings or holes *d, d*, etc., to further lessen their weight. The disks D, D are provided with axial bores in which are secured sleeves or bushings B, B to serve as bearings for the rod or axle on which the runner rotates. The bushings B are preferably made in the shape of eyelets, see Fig. 2, cut from thin, tubular metal and formed up with end flanges *b, b* which are clenched around the sides of the disks D. In this way a metallic hub or bearing is secured at a very slight cost of manufacture and provision made against wear in the bores of the disks.

The cross-members S are constructed of thin-walled tubing, preferably of copper or other non-corrosive metal, which renders them exceedingly light in weight yet substantially as rigid and strong as solid rods. Fig. 3 illustrates one of the struts S before assembling, and it will be noted that the ends of the tubes are formed with peripheral rings or flanges *s, s* swaged up from the stock. Referring to Fig. 2, the ends *s'* of the struts S are inserted in suitable holes *d'* in the disks D, arranged in a circle concentric with the axis thereof, and the projecting portions are then bent or curled over to provide the holding flanges *s*². The inner flanges *s* abut the inside faces of the two disks D, D while the outer flanges *s*² are clenched against the outside faces, and in this way the struts are securely fastened in position to hold the two disks together, while providing a skeleton barrel on which the skein can be held. I have here illustrated the runner as constructed with eight cross-members or struts S, but a greater or less number might be employed if desired. Instead of forming the end flanges D, D in the shape of disks, as here shown, they might be constructed with central hubs having spokes radiating therefrom and the struts secured to their ends, similar to the arrangement of a "swift."

It will be observed that my new device provides a strong, staunch structure of minimum weight and compact dimensions, yet possessing the necessary stiffness and rigidity to adapt it to commercial requirements. De-

