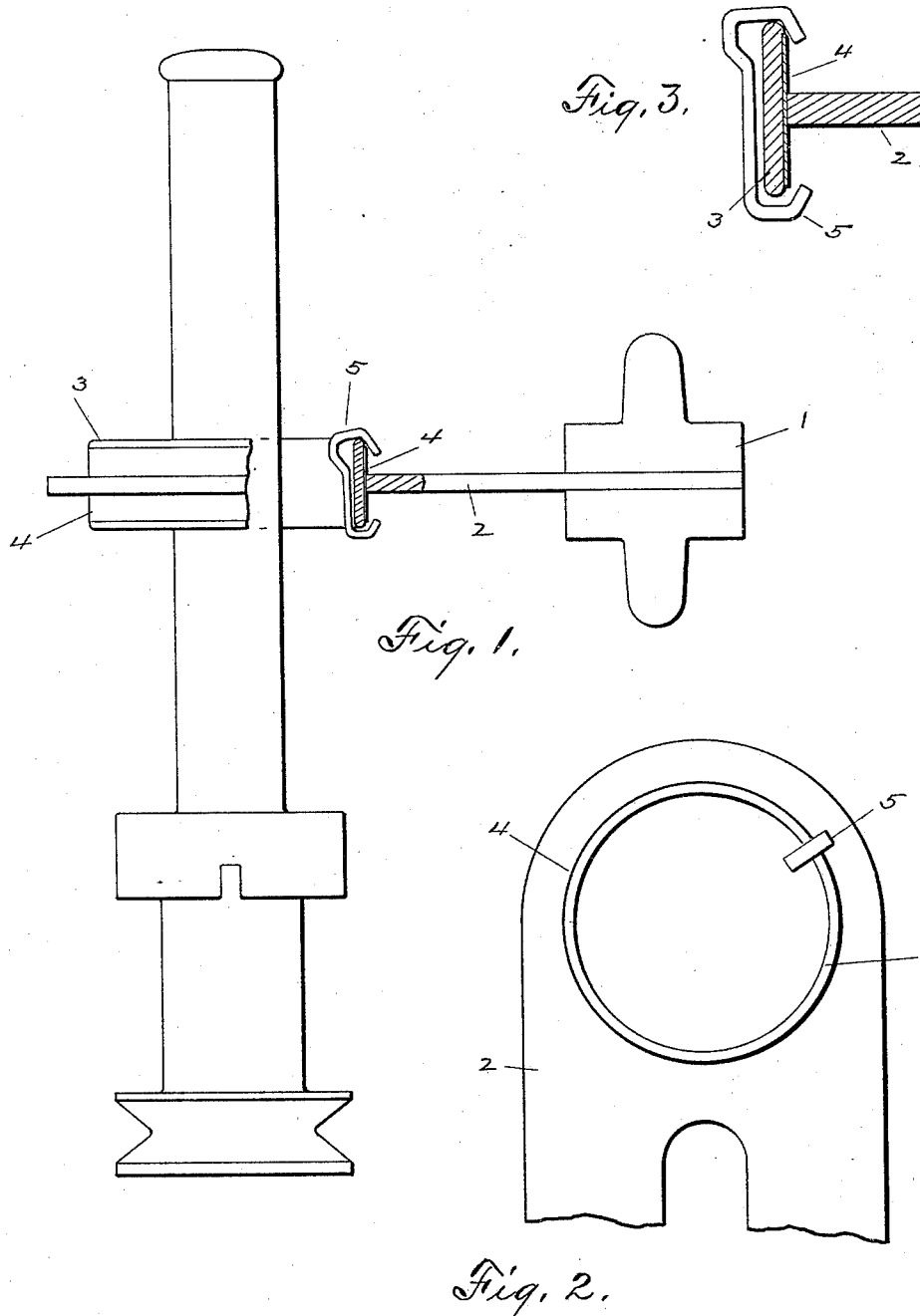


(No Model.)

J. BELFIELD.
TWISTER RING.

No. 422,699.

Patented Mar. 4, 1890.



Witnesses:
Henry S. Goodell
James McIntyre

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UNITED STATES PATENT OFFICE.

JOSEPH BELFIELD, OF LINCOLN, RHODE ISLAND.

TWISTER-RING.

SPECIFICATION forming part of Letters Patent No. 422,699, dated March 4, 1890.

Application filed November 12, 1889. Serial No. 330,095. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BELFIELD, a citizen of the United States, residing at Lincoln, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Twister-Rings, of which the following is a specification.

My invention relates to an improvement in such rings as are used in the process of wet twisting, wherein the yarn passes through water on its way to the twister-spindle. This water is immediately thrown off by the yarn in twisting, wetting the rails and rings and causing the latter (which are now made of hardened steel) to rust and become rough on the outer surface, which is not kept bright by the friction of the traveler. This roughness of the ring causes the traveler to start hard and frequently prevents it from starting, in which case the yarn is broken, and one loose end (as is well known) often causes the breaking of one or more others on either side of it, thus necessitating knots in the yarn, waste of stock, and loss of time.

I have indicated above one of the difficulties experienced in the use of the reversible steel twister-ring as now made, which it is the object of my invention to overcome. I attain that object in the manner shown in the accompanying drawings, in which—

Figure 1 is an end elevation of the rail, showing ring-plate, ring, and bobbin, with a portion broken away to show a section of the ring. Fig. 2 is a plan of the ring and ring-plate. Fig. 3 is an enlarged section of the ring, showing traveler in position.

Similar figures refer to similar parts throughout the several views.

The rail 1 carries the ring-plate 2, into which the jacketed ring 3 is forced. This jacket consists of a thin tight-fitting ring 4, of brass or other rustless metal, made nearly as wide as the inner ring, which it incloses, and which serves to protect from rust that part of the inner ring not touched by the traveler when in operation.

The ring 3 may be made with the outer line of its cross-section straight, as at present, or it may be made with a shoulder of about the depth of the thickness of the jacket. This shoulder will hold the jacket in place while the ring is forced into the ring-plate 2.

The traveler in operation is in contact with the two edges and inner surface of the hardened ring 3, which are thus kept bright; and my improvement serves to protect the outer surface of the ring 3 from rust and thus greatly increase the life of the ring, besides preventing knots in the yarn, waste of stock, and loss of time, as already explained.

I claim, therefore, as my invention and desire to secure by Letters Patent—

The combination, in a twister-ring, of a ring of hardened steel or iron with a jacketing-ring of brass or other rustless metal, substantially as described, and for the purpose set forth.

JOSEPH BELFIELD.

Witnesses:

HENRY S. CROWELL,
JAMES MCINTYRE.