

G. F. WILSON.

Spinning-Ring and in the Method of Forming the Same.

No. 218,803.

Patented Aug. 19, 1879.

Fig. 1.

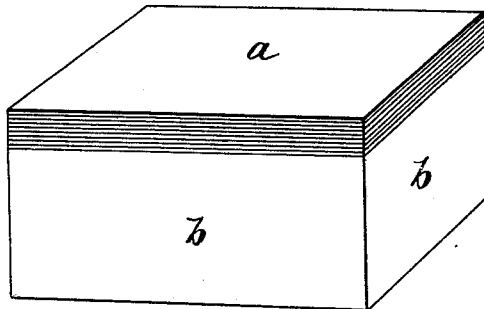


Fig. 2.



Fig. 3.

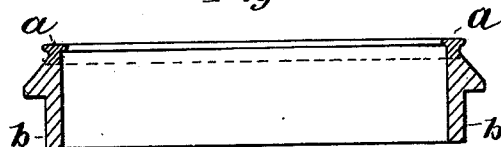
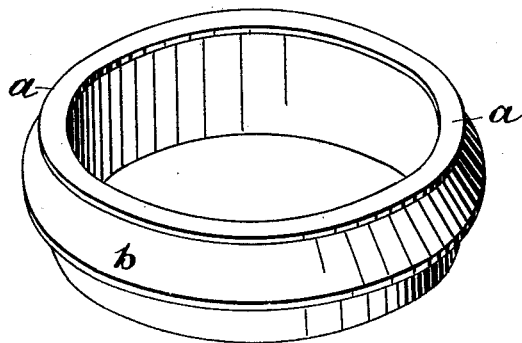


Fig. 4.



Witnesses:

E. E. Masson

E. J. Dick

Inventor

George F. Wilson
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UNITED STATES PATENT OFFICE

GEORGE F. WILSON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SPINNING-RINGS AND IN THE METHODS OF FORMING THE SAME.

Specification forming part of Letters Patent No. **218,803**, dated August 19, 1879; application filed June 15, 1878.

To all whom it may concern:

Be it known that I, GEORGE F. WILSON, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Spinning-Rings, which improvement is fully set forth in the following specification.

The object and use of spinning-rings are to assist in the formation of spools or cops of thread by affording a track or race for a traveler to run upon to guide the thread onto the spool. This track or raceway tends to become worn and rough under the action of the traveler. To obviate this difficulty various devices have heretofore been used.

A mode of making or repairing spinning-rings is described in Letters Patent of the United States No. 90,956, granted June 8, 1869, to H. L. Peirce, whereby a more durable race or track is formed. A steel ring is sprung into a groove turned at the point where ordinarily the inside flange of the track or race is formed. It is soldered or swaged in place, and is then hardened. This spinning-ring is found to be a great improvement upon the ordinary spinning-rings made of case-hardened iron, which are soft, which wear quickly and unevenly and become rough, and so liable to break the thread. The form or shape of the ring has been varied with more or less improvement. In general, the flanged portion forming the track is connected with the body by a thin circular neck, shoulders being formed both outside and inside where the neck joins the body of the ring.

In the patent of H. L. Peirce, No. 117,676, August 1, 1871, the inside flange of the raceway, formed of a steel ring welded in place, projects within the cylindrical portion of the ring, which is made smooth without any cavity or shoulder for the lodgment of dirt and waste.

This invention relates to the manufacture of spinning-rings which shall be superior to those now made in point of durability, efficiency, and economy, inasmuch as the traveler is allowed to move smoothly and easily over the race or track, which is not liable to become rough or to wear away quickly under its action.

It consists in a process of making spinning-rings or raceways with an iron body and steel track of a compound bar of steel and iron, and

in the new article or spinning-ring, as herein-after more fully set forth.

The spinning-ring made in accordance with this invention may be of any desired form; but the form shown in the patent of H. L. Peirce, August 1, 1871, is preferred by me, and I have shown the said form in the drawings illustrating this invention.

The following is a description of the mode preferably employed by me of carrying out my invention.

In the drawings, Figure 1 represents the block of iron and steel; Fig. 2, a cross-section of the compound iron and steel bar in two forms, one being without an exterior or bolster flange, and the other with such a flange, the same being formed upon the bar in rolling, the latter being preferred. Fig. 3 shows a cross-section, and Fig. 4 a perspective view, of the finished ring.

In all the figures, *a* represents the steel parts, and *b* the portions of the block, bar, and spinning-ring made of iron.

To a block of malleable iron a layer of chrome-steel, of about one-fourth the thickness of the iron, is united in the manner well understood by workers in iron and steel. This block is heated, hammered, and passed between rolls again and again until a steel-faced bar of the desired size is secured. The grooves in the face of the rolls may be plain, or they may be of the proper configuration to form the bar into approximately the desired shape of the ring as it is to be when finished, in order to lessen the subsequent labor of turning or swaging. The bar is in any case of a general oblong cross-section.

In rolling the compound block of iron and steel, it should be so fed to the rolls that the steel face on the resultant bar shall occupy one of the edges or narrow sides. Its mass is about one-fourth that of the iron. From this compound bar a portion sufficient for the formation of one ring is severed. The cut portion is then bent into the form of a ring, and the ends are securely welded together. To finish the ring it is swaged in dies or turned in a lathe.

The method of swaging or turning spinning-rings is well known, and need not be here described.

It will be understood from the relative pro-

portions of the iron and steel in the compound bar, as shown by the letters *b a* on the drawings, that the flange which forms the track or race for the traveler, the thin neck which connects the flange with the body of the ring, and the shoulder or shoulders at the base thereof, are made from the steel, and that the main body of the ring and bolster-flange which supports the ring upon the ring-rail are of iron. By this construction the requisite strength of all parts of the ring is secured.

The turned or swaged ring is then hardened by temper. It is heated and then chilled by any suitable medium.

The tempering of iron and steel is a matter well understood, and need not be herein described more fully.

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

1. The method of manufacturing spinning-rings by forming the same from a compound

bar of iron and steel, the metals being united by welding, substantially as described.

2. The herein-described spinning-ring, the body of which is made of iron, and the track or race for the movement of the traveler of hardened steel, the two being united by a thorough and complete weld, substantially as specified.

3. A compound spinning-ring in which the race, the thin connecting-neck, and the shoulder or shoulders at the base thereof are of steel and the main body of iron, the iron and steel portions being thoroughly united by a welded joint, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEO. F. WILSON.

Witnesses:

A. POLLOK,

E. A. DICK.