(No Model.)

H. L. PEIRCE.

TRAVELER RING FOR SPINNING MACHINES.

No. 504,997. Patented Sept. 12, 1893.

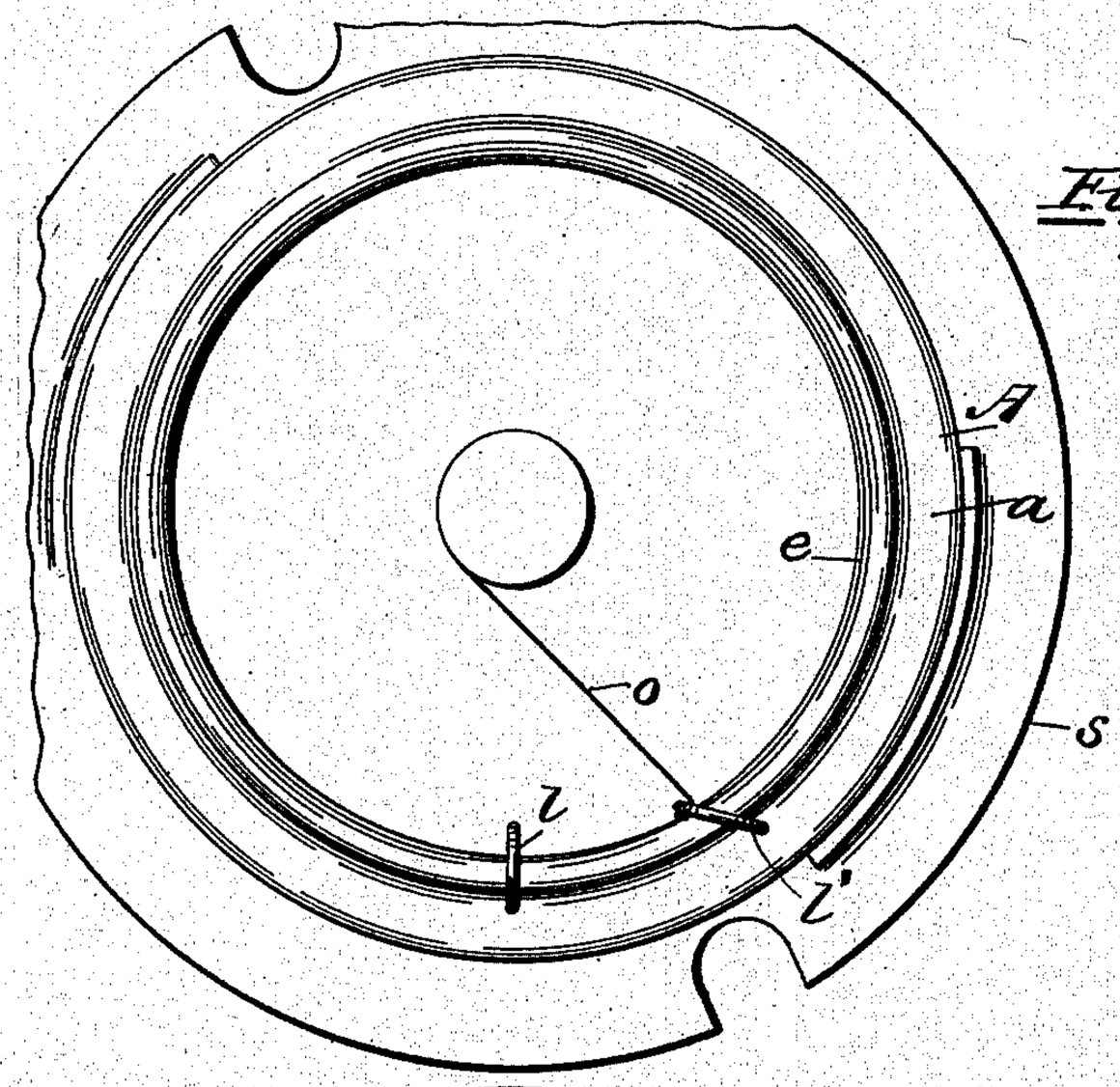

Fig. 1.

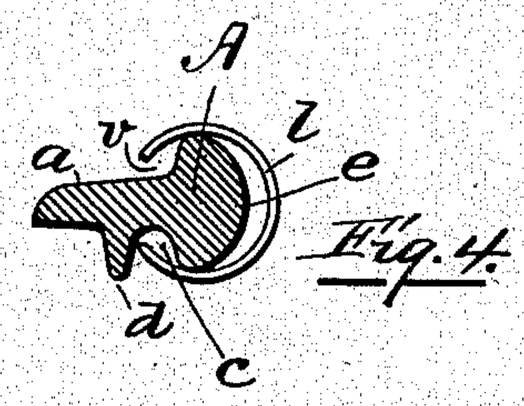

Fig. 4.

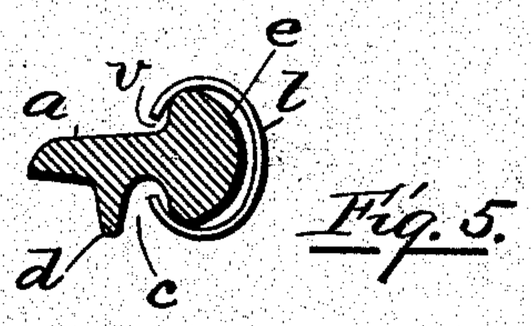

Fig. 5.

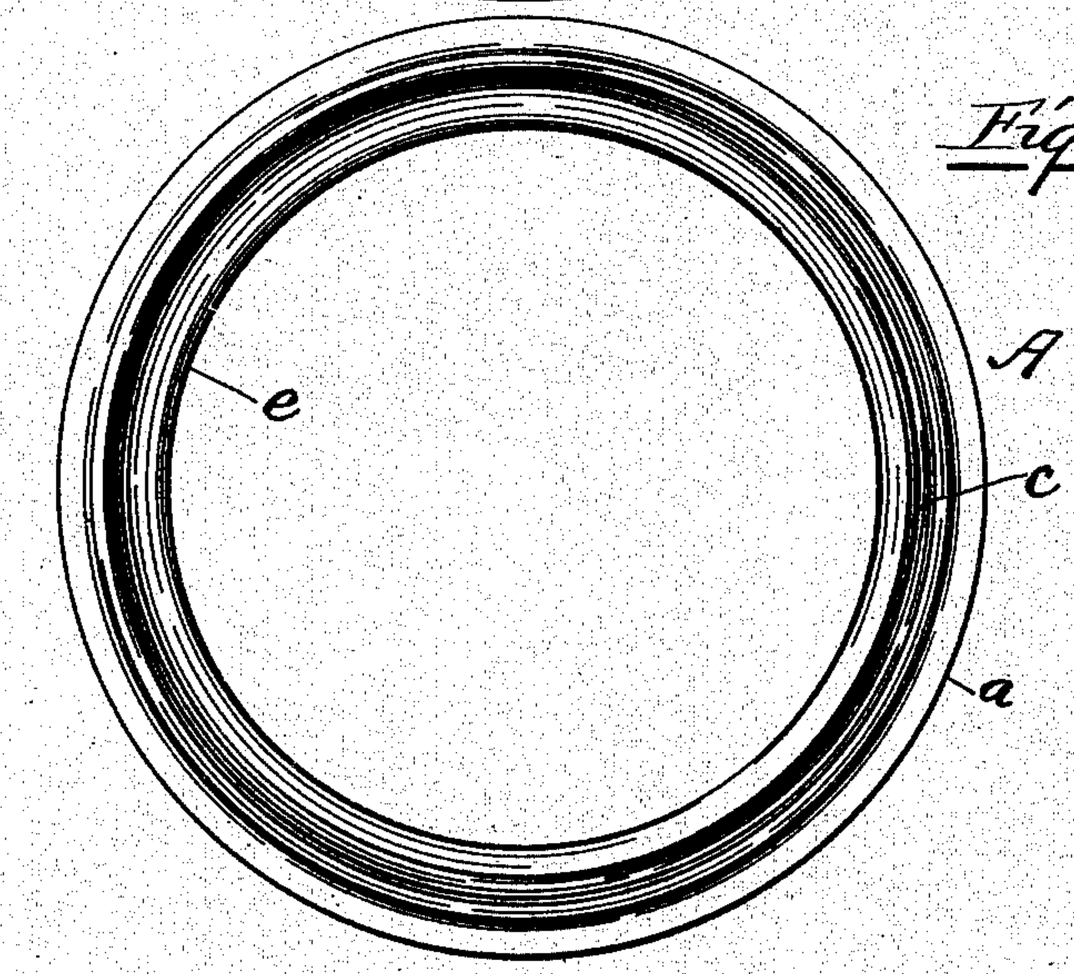

Fig. 2.

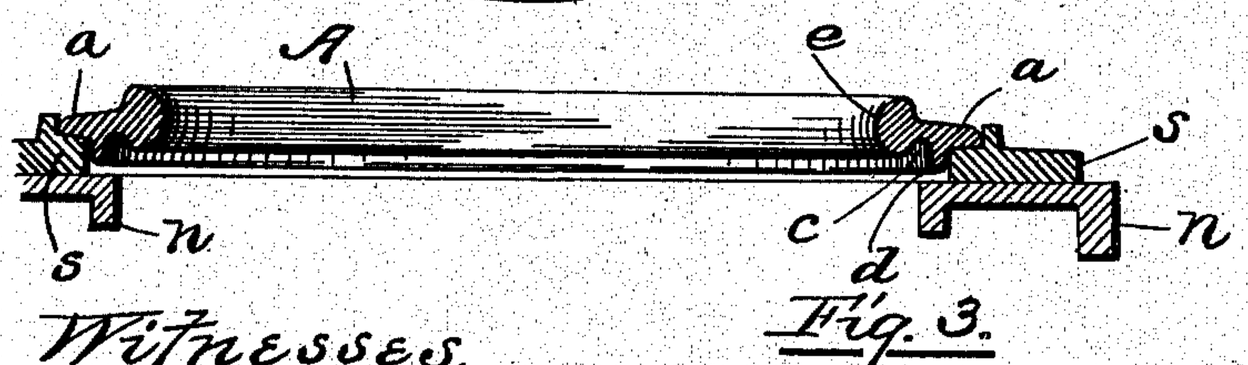

Fig. 3.

Witnesses.

Charles Hannigan.

E. B. Read

Inventor.

Horatio L Peirce

by Benj Arnold

Atty.

UNITED STATES PATENT OFFICE.

HORATIO L. PEIRCE, OF OLNEYVILLE, ASSIGNOR TO ALBERT CURTIS TINGLEY, OF PROVIDENCE, RHODE ISLAND.

TRAVELER-RING FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 504,997, dated September 12, 1893.

Application filed October 11, 1892. Serial No. 448,519. (No model.)

To all whom it may concern:

Be it known that I, HORATIO L. PEIRCE, of Olneyville, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Traveler-Rings for Spinning-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked theron, which form a part of this specification.

This invention is an improvement in the traveler ring used in ring spinning frames and consists in such modifications of it as will adapt the vertical traveler and its ring heretofore used for twisting purposes only, to be used in the operation of spinning fine yarns, &c. It is illustrated in the accompanying drawings.

Figure 1 is a top view of the ring and holder with travelers represented in different positions. Fig. 2 shows the under side of the ring. Fig. 3 represents a vertical cross section of the ring with its holder and portions of the ring rail. Figs. 4 and 5 show cross sections of the ring with travelers in different positions.

The ring A consists of a horizontal plate having a vertical flange *e* on its inner edge extending above and below the plate *a*, for the traveler *l* to run on. The inner face of the flange *e* is preferably made a part of a circle in cross section, the convex portion of the circle projecting in toward the center of the ring, with the upper and lower outer corners of the flange rounded off slightly. On the under side of the ring another vertical flange or ridge *d* is made about midway between the outer edge of the plate *a* and a flange *e* so as to form a groove or recess between the flange *e* and the ridge *d* on the under side of the ring for the lower limb of the traveler to run in. That part of the plate *a* extending out beyond the ridge *d* serves to support the ring on the holder *s*, which is secured to the ring rail *n*, see Fig. 3. The traveler *l*, is made in the form of a true circle a little larger in diameter than the circle that the inner face of the flange *e*, is a portion of, and has an opening *v*, made in one side to receive the plate *a* when the traveler is on the ring.

To explain the operation and show the advantages of the improved form of ring reference is made to Fig. 1 in which the traveler *l*, is shown on the ring at rest. Upon starting the machine the yarn *o*, draws the traveler into the position shown at *l'*, causing it to bind on the upper and lower flanges, thus preventing the traveler from starting easily so that sometimes it is necessary to touch them to get them in motion, especially as there is then no centrifugal force to throw the limbs out clear of the flange. This objection is remedied by the convex face of the flange *e* upon the center of which the center of the traveler *l'*, will touch when brought into the position at *l'* and prevent any binding of the flange by the traveler. Consequently the traveler is ready to start off the instant the yarn draws upon it. When the traveler is fully under way making say eight thousand or ten thousand turns per minute, the centrifugal direction of the force exerted upon it throws it out against the ring but by means of the ridge *d* the lower limb of the traveler in the recess *c*, is prevented from going out so as to allow the traveler to bind on the inner face of the ring, (see Fig. 4) and consequently the traveler under the influence of the yarn and controlled by the ridge *d* will run forward in that perfectly free and uniform manner that is essential to the production of smooth even fine yarns.

The ring is shown in Fig. 1 in a well known holder but is not confined in use to any particular holder.

One great advantage of a ring made with a horizontal plate with a narrow vertical flange is that the flange and traveler are held up clear of the ring rail and the space below those parts is entirely open so as to afford no chance for lint or waste to collect, the circulation of air caused by the revolving part blowing them all away. In this way the necessity for a cleaner is avoided and also the liability of interfering with the traveler and yarn in wiping off the under side of the rail.

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

1. A traveler ring for spinning machines consisting of a horizontal plate with a vertical flange on its inner edge extending above

and below the horizontal plate, said plate having a flange or ridge on its under side midway between its outer edge and the vertical flange on its inner edge, so as to form a groove or recess between the ridge and vertical flange, substantially as set forth.

2. A traveler ring for spinning machines consisting of a horizontal plate having a vercal flange on its inner edge made with a convex face projecting at its middle toward the center of the ring, said horizontal plate having a flange or ridge on its under side midway between its outer edge and the vertical flange on its inner edge, substantially as specified.

3. A traveler for ring spinning machines shaped in the form of a true circle with an opening or gap in its side, in combination with a ring consisting of a horizontal plate having a vertical flange on its inner edge made with a convex face projecting at its middle toward the center of the ring, and a flange or ridge on its under side midway between its outer edge and the vertical flange on its inner edge substantially as described.

HORATIO L. PEIRCE.

Witnesses:
A. C. TINGLEY,
BENJ. ARNOLD.