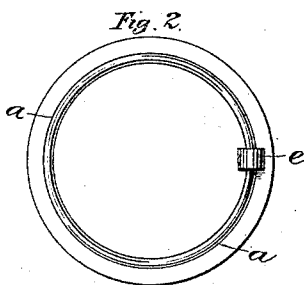
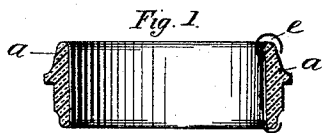
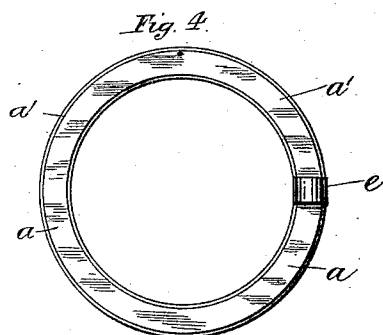
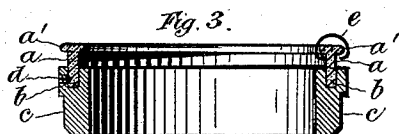


(No Model.)

R. A. JOHNSON & R. BREWSTER.
COMPOSITION OF MATTER FOR SPINNING RINGS, &c.

No. 474,253.

Patented May 3, 1892.



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UNITED STATES PATENT OFFICE.

ROSE ANN JOHNSON, OF MANCHESTER, AND ROBERT BREWSTER, OF NEW BARNET, ENGLAND.

COMPOSITION OF MATTER FOR SPINNING-RINGS, &c.

SPECIFICATION forming part of Letters Patent No. 474,253, dated May 3, 1892.

Application filed April 4, 1891. Serial No. 387,621. (No specimens.)

To all whom it may concern:

Be it known that we, ROSE ANN JOHNSON, of Moss Side, Manchester, in the county of Lancaster, and ROBERT BREWSTER, of New Barnet, in the county of Herts, England, subjects of the Queen of England, have invented certain new and useful Improvements in the Manufacture of Rings Used in Frames for Spinning and Doubling Textile Fibers; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

We will describe our invention with reference to the accompanying drawings and to the letters marked thereon.

Our invention relates to improvements in the manufacture of rings used in frames for spinning and doubling textile fibers, and has for its object to produce such rings of a ceramic material which shall be as durable as metal rings at present in use and which shall dispense with oil lubrication.

The material or body we employ is made of the following materials, preferably in about the proportions stated: feldspar, fifty parts; rock-crystal, fifty parts; china-clay, thirty parts; borax or other suitable flux, thirty parts. These materials are well ground and combined with water in the usual manner of working pottery bodies or materials, and they are made into a comparatively dry clay or body or into what is known as "slip." The material thus prepared is when in the state of a comparatively dry clay or body molded into the required shapes by means of molds or dies and pressure, or it may be turned into form, or when in the form of slip it is molded into the shape required by pouring the same into molds, as is well understood in the pottery trade. Rings formed of this material are dried and fired and leave the fire polished, and may be turned or ground, trued, and further polished, if required, or as may be necessary.

Rings formed of the above material possess the requisite hardness, are highly polished, and do not require glazing.

Figure 1 represents a vertical section, and Fig. 2 a plan, of a ring *a* constructed entirely of the material above described and of form to take the place of the metal rings ordinarily used in the usual ring rails or plates of spinning and doubling machines and to be fixed in said ribs or plates by a set-screw, as usual, or by other suitable means. Fig. 3 is a vertical section, and Fig. 4 is a plan, of a ring *a*, formed of the material hereinbefore described, combined with a metal base or ring *c*, which latter fits within the holes in the usual ring rail or plate. In this case the ring *a* of ceramic material is formed with an annular web *b* to fit within an annular socket or recess formed in the metal base or ring *c*, and said ring *a* is fixed within the ring *c* by a set-screw *d* or by cement, while the ring *c* is fixed in the ring-rail by the usual set-screw or by other suitable means.

In all the figures *e* represents the traveler.

In Figs. 1 and 2, in consequence of the ring *a* being without a flange at its top, the traveler is formed, as usual, to clip over the top and bottom edges of such ring; but in Figs. 3 and 4, the ring *a* being formed with a flange *a'* at its top, the traveler *e* is of form to clip over the same, as usual.

We are aware that it has before been proposed to make rings for use in spinning and doubling frames of earthenware or porcelain; but such rings have always been glazed and the body of the material has been comparatively rough, and such glazed rings are neither sufficiently true and smooth nor sufficiently hard. Thus when the glaze has worn off, the rough or biscuit surface is exposed, thereby rendering such rings unsuitable for the purpose desired. The material which we employ is much harder than a glazed surface, and the rings can be made in a perfectly annular form and can, if necessary, be highly polished, so as to cause little friction. Our

improved rings when in use do not lose their polished surface.

We would here remark that the proportions herein stated of the materials used in the manufacture of the ceramic material to form the rings may be somewhat varied so long as the required hardness, solidity, strength, and exterior smoothness or polish are obtained without the necessity for applying a glaze thereto.

Having fully described our invention, what we desire to claim and secure by Letters Patent is—

A composition of matter for the manufacture of spinning and doubling rings, consisting in about the following proportions: fifty parts feldspar, fifty parts rock-crystal, thirty

parts china-clay, and thirty parts of a flux, such as borax.

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