

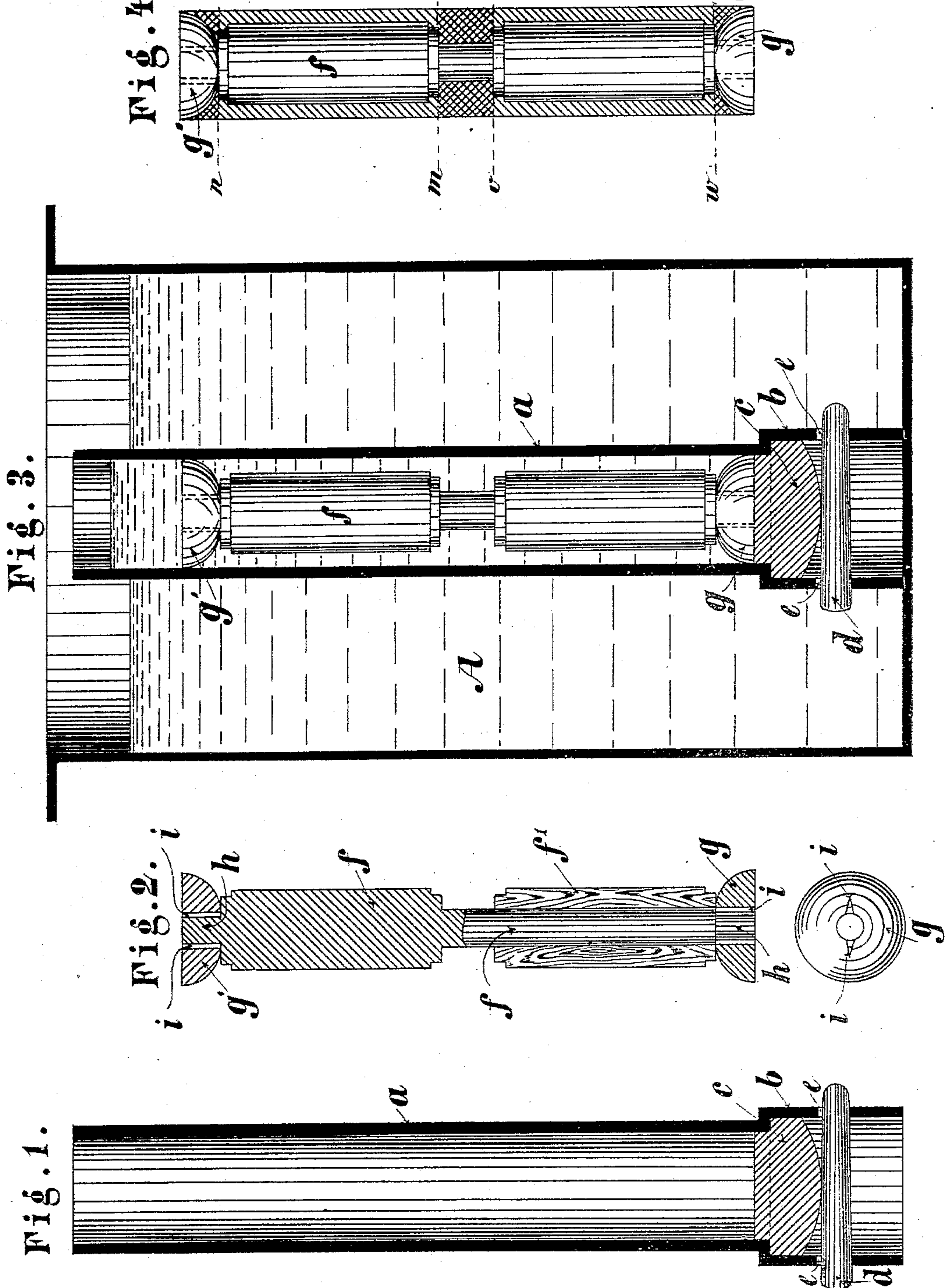
(No Model.)

J. APPELT.

APPARATUS FOR COATING DRAWING ROLLERS.

No. 303,970.

Patented Aug. 26, 1884.



Witnesses.
Charles Walstead
J. Gummel, Jr.,

Inventor.
Johannes Appelt
per Henry C. Roder
Attorney

UNITED STATES PATENT OFFICE.

JOHANN APPELT, OF REICHENBERG, BOHEMIA, AUSTRIA-HUNGARY.

APPARATUS FOR COATING DRAWING-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 303,970, dated August 26, 1884.

Application filed September 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHANN APPELT, a subject of the Emperor of Austria, residing in Reichenberg, Bohemia, Empire of Austria, have invented certain new and useful Improvements in Apparatus for Coating the Drawing-Rollers Employed in Spinning Machinery and other Rollers with a Fusible Compound, of which the following is a specification.

My invention relates to the apparatus for covering the drawing-rollers employed in spinning machinery, as well as other rollers requiring an elastic surface, with a fusible compound composed of gelatine, glycerine, and other more secondary ingredients, forming a substitute for leather or india-rubber, usually employed for this purpose.

The object of my invention is the production of an apparatus whereby the shaft, spindle, or core of drawing and other rollers may be covered with a compound in such a way as to insure a perfect, smooth, and cylindrical surface.

In the accompanying drawings, Figure 1 is a vertical section of my apparatus. Fig. 2 is a vertical section of the shaft, spindle, or core of a roller ready to be inserted into the apparatus, with top view of the disk shown below the same. Fig. 3 shows the apparatus placed in the water bath, and Fig. 4 shows the roller coated with the compound.

A tube, *a*, made of brass, iron, steel, or other suitable material, is bored out exactly cylindrical and smooth, of the required dimensions, the lower portion of which terminates in an enlarged cylindrical part, *b*, into which a plug, *c*, is fitted tight and secured in its place by means of the key *d*, put through suitable holes *e e*, made in the enlarged part *b*. When so prepared this tube is placed in a hot-water tank or bath, *A*, Fig. 3, and after the interior of the tube *a* has been oiled the same is partly filled with the melted compound, composed of gelatine, glycerine, and other more secondary ingredients. The spindle or core of the roller *f*, Fig. 2, is either made entirely of iron of the proper shape or of iron covered with a cylinder of wood, *f'*. The working-surfaces or journals of this spindle are either coated with varnish or lac, or covered in the

usual manner with cloth or other suitable material.

Upon the end pivots, *h h*, centering-disks *g g'*, the diameter of which corresponds with the internal diameter of the tube *a*, are placed. These disks *g g'* are provided with apertures *i i* in the central part. The thus prepared spindle *f*, Fig. 2, is then inserted carefully and slowly into the tube *a*, and is forced gradually into the melted compound previously placed into said tube *a*, as above described, the compound passing through the apertures *i i* in the lower disk, *g*, while the spindle *f* is forced downward, surrounding the same, and thus gradually covers the spindle, any surplus passing through the apertures *i i* in the upper disk, *g'*, until the bottom disk, *g*, comes in contact with the plug *C*, securely fastened in the bottom of the tube *a*. The hot-water bath surrounding the tube *a* will keep this tube at a high temperature during the operation of forcing the spindle or roller into the melted compound contained in the lower part of said tube *a*, and will prevent this compound from becoming chilled while rising gradually in the tube *a*, insuring thereby a perfectly smooth and even surface as the tube *a* is bored out, and the disks *g g'* will insure a perfect centering of the spindle or roller in said tube, whereby a perfectly concentric cylindrical covering will be obtained.

After the above-described process has been completed the spindle *f*, now covered with the compound, is allowed to remain a short time in the tube surrounded by the hot water, after which the tube *a*, together with the roller, is then removed out of the hot-water bath *A* and placed into a vessel containing cold water. As soon as the compound has congealed the tube *a*, with the roller, is removed, the key *d* is withdrawn, when the roller will easily come out of the tube *a* in consequence of the shrinkage which all compounds composed, principally, of gelatine and of glycerine undergo. The compound surrounding that part of the spindle which forms the journals of the roller, and which, as above mentioned, were previously coated with varnish, lac, or cloth, can easily be cut away from the other or working part of the roller—namely, at the planes *n* and

w outward for the end journals, Fig. 4, and between the planes *m v* for the central or middle journal.

In order that the melted compound may find free access to the extremities of the roller, the inner surfaces of the centering-disks *g g'* are bulbed, as shown in Figs. 2 and 3, thus allowing the melted compound to penetrate through the apertures *i i* in the lower disk, *g*, and between the bulbed or circular inner surface of the disks and the straight end surfaces of the wooden cylinder *f'* or the body of the core *f*, and in a similar manner escape through corresponding apertures in the upper disk, *g'*, as said apertures are made radiating or longitudinal in said disks, as seen in top view of the disk below Fig. 2.

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

The combination of the tube *a*, plug *c*, and key *d*, with the spindle or core of the roller *f* and centering-disks *g g'*, provided with apertures *i i*, in the manner and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHANN APPELT.

Witnesses:

LEO SEKELES,
ROBERT NEWEKLOW.