(No Model.)

J. A. FURMAN.

TOY.

No. 426,120. Patented Apr. 22, 1890.

Fig. 1.

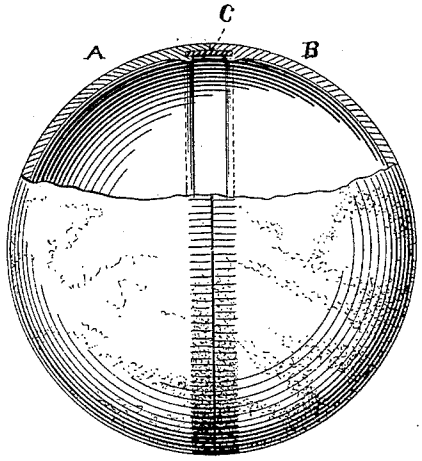


Fig. 2.

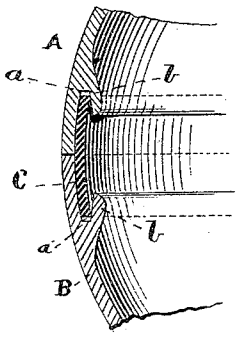
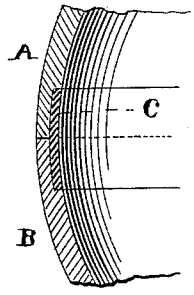


Fig. 3.



WITNESSES:

Gustave Dieterich.

Harry Y. Davis

INVENTOR

John A. Furman

BY

George Cook

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. FURMAN, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE CELLULOID NOVELTY COMPANY, OF NEW YORK, N. Y.

TOY.

SPECIFICATION forming part of Letters Patent No. 426,120, dated April 22, 1890.

Application filed December 19, 1889. Serial No. 334,305. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. FURMAN, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Toys, of which the following is a specification.

My invention relates to an improvement in toys, and more particularly to hollow spheres or globes constructed of thin pyroxyline material, such as that known as "celluloid" or "zylonite," which, being elastic, are used in every way the same as rubber balls. These balls or spheres have heretofore, as is well known, been constructed of two sections joined together by means of a strip or band of a similar material cemented or glued to the inner surfaces of the hemispheres near their edges, the strip holding the two sections of the ball or globe together, forming a complete article, the said inner surfaces of the two sections being hollowed out, forming a recess for the reception of the said band or strip of material used for holding said sections together. The defect in this joint, however, is the liability of the band or strip becoming loose or parted from the inner surfaces of the two sections when the ball or toy is in use, and thus allowing the two sections of the toy to separate.

The object of my present invention is to overcome this defect and to so join or secure the two sections of the toy together that it will be impossible for the binding strip or band to become loose, whereby the defects and inconveniences above referred to are effectually corrected.

In the accompanying drawings, Figure 1 is a view, partly in section and partly in elevation, of a ball or sphere constructed in accordance with my invention. Fig. 2 is a view in section of a portion of the ball or sphere with the binding strip or band secured thereto. Fig. 3 is a sectional view showing the ball or sphere as ordinarily constructed.

A B represent the two sections of a ball or sphere constructed of celluloid or any other like compound of pyroxyline or other elastic material, the edges of which are somewhat increased in thickness and cut away to form a recess for the reception of the binding strip or band C, formed of a material like that of which the ball or sphere is formed, or of any other desired elastic material, the object of said band being simply to secure the two sections of the ball or sphere together. In forming the recess for the reception of said binding-strip a groove *a* is at the same time formed, thereby providing the overlapping edge or lip *b*, which serves, when the two sections of the ball or sphere are brought together, to lock or fasten the binding-strip C securely in position and against any possible displacement.

In securing the two sections of the ball or sphere together the surface of the binding-strip C (and, if desired, the inner edge of the sphere with which said binding-strip comes in contact) is covered or has applied thereto any suitable adhesive material, and is then inserted in the groove *a*, one-half of the width of the said binding-strip C projecting beyond the extreme edge of the section of the sphere or ball to which it is applied, the edge of the other section of the sphere or ball being then slipped over the projecting half of the binding-strip C until the outer extreme edges of the two sections of the sphere meet that portion of the binding-strip projecting beyond the extreme edge of the section A entering the undercut groove or slot in the section B, the lip or flange *b*, formed on the section B, lapping over the edge of the binding-strip, as in the case of the section A. It will be seen that from this construction there is no possibility of the binding-strip C becoming disengaged from the two sections of the ball after the latter have been properly brought together. As these spheres were before commonly constructed, as shown in Fig. 3, when compressed the binding strip or band parted from the inner surfaces of the sections of the sphere, there being nothing to hold it in position other than the cement or adhesive material used in connection therewith, and, as it is impossible, of course, to have access to the inside of the sphere after the two sections have been brought together, the joining or cementing of the section last brought in contact with the band or strip C was imperfect; but by forming each section of the sphere with the undercut groove *a*, as above described, the projecting lip or flange *b* securely

locks said band or strip C tightly in position, and when used with cement or other adhesive material obviates all danger of the two sections of the spheres from parting.

In order to have the strip or band C come in contact with every part or point of the inner surfaces of the cut-away portion of the sections of the sphere and so securely cement them to the band or strip C, I form the undercut groove *a* on a slant or incline, as shown, which has the effect of bending or forcing the outer surface of the said band or strip against the inner surface of the spheres, which would not so certainly be the case if the undercut groove *a* were made straight.

I would have it understood that I do not confine the application of my invention to balls or spheres constructed of a pyroxyline compound, as it is obvious that other materials may be used, although I greatly prefer to use a pyroxyline compound, such as celluloid or zylonite or the like; and it is also obvious that the shape of the ball or sphere may be varied to have an oval or ellipitical form, and in using the word "sphere" I desire to be so understood.

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

1. A ball or sphere made in sections secured together by means of a band or strip fitted in undercut grooves *a*, formed in said sections, substantially as set forth.

2. A ball made of a pyroxyline compound or other elastic material made in sections provided with the undercut grooves and secured together by means of the band or strip C, substantially as set forth.

3. As an article of manufacture, a ball or sphere made of two or more sections and of a pyroxyline compound, said sections being provided with the undercut grooves *a* and united by means of a band or strip C, fitting in said grooves, and having applied thereto a suitable adhesive substance.

Signed at New York, in the county of New York and State of New York, this 9th day of December, A. D. 1889.

JOHN A. FURMAN.

Witnesses:
HERMAN GUSTOW,
GEORGE COOK.