

No. 754,948.

PATENTED MAR. 15, 1904.

J. H. WHITE.
ARTIFICIAL STRAW.
APPLICATION FILED AUG. 8, 1903.

NO MODEL.

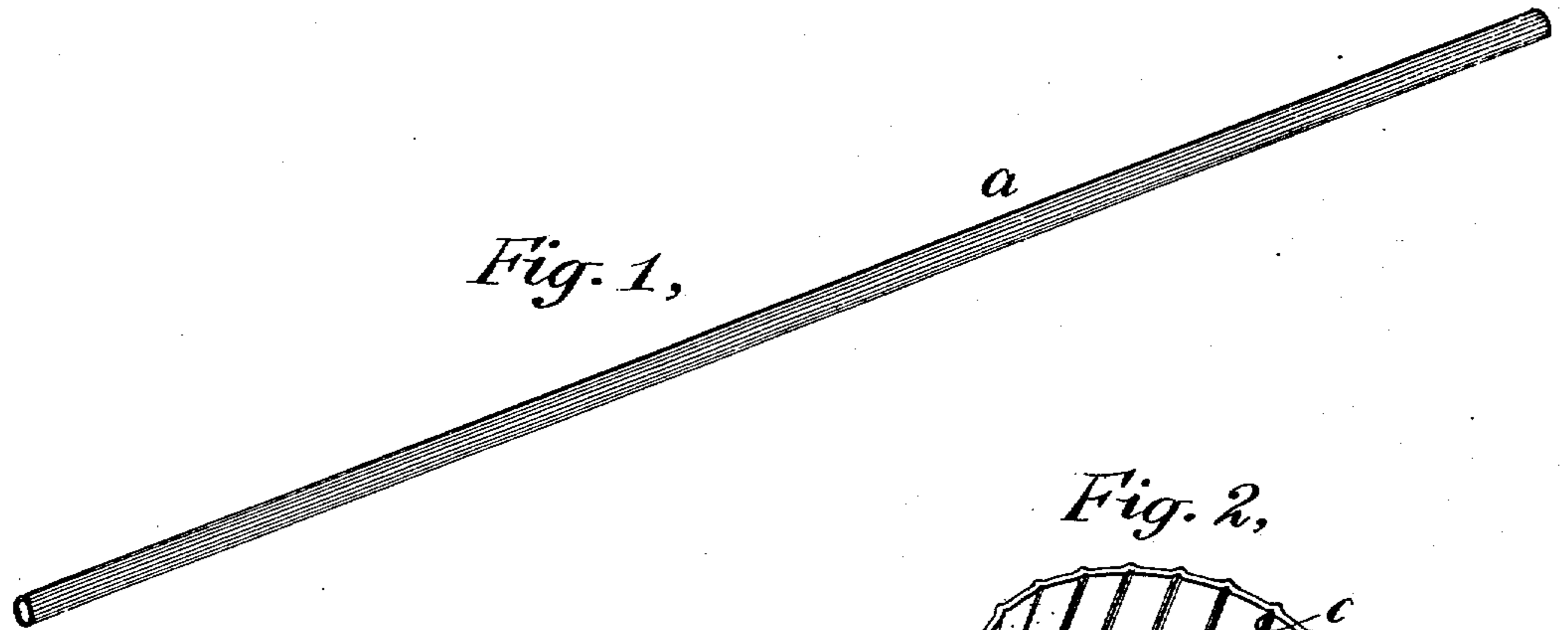


Fig. 2,

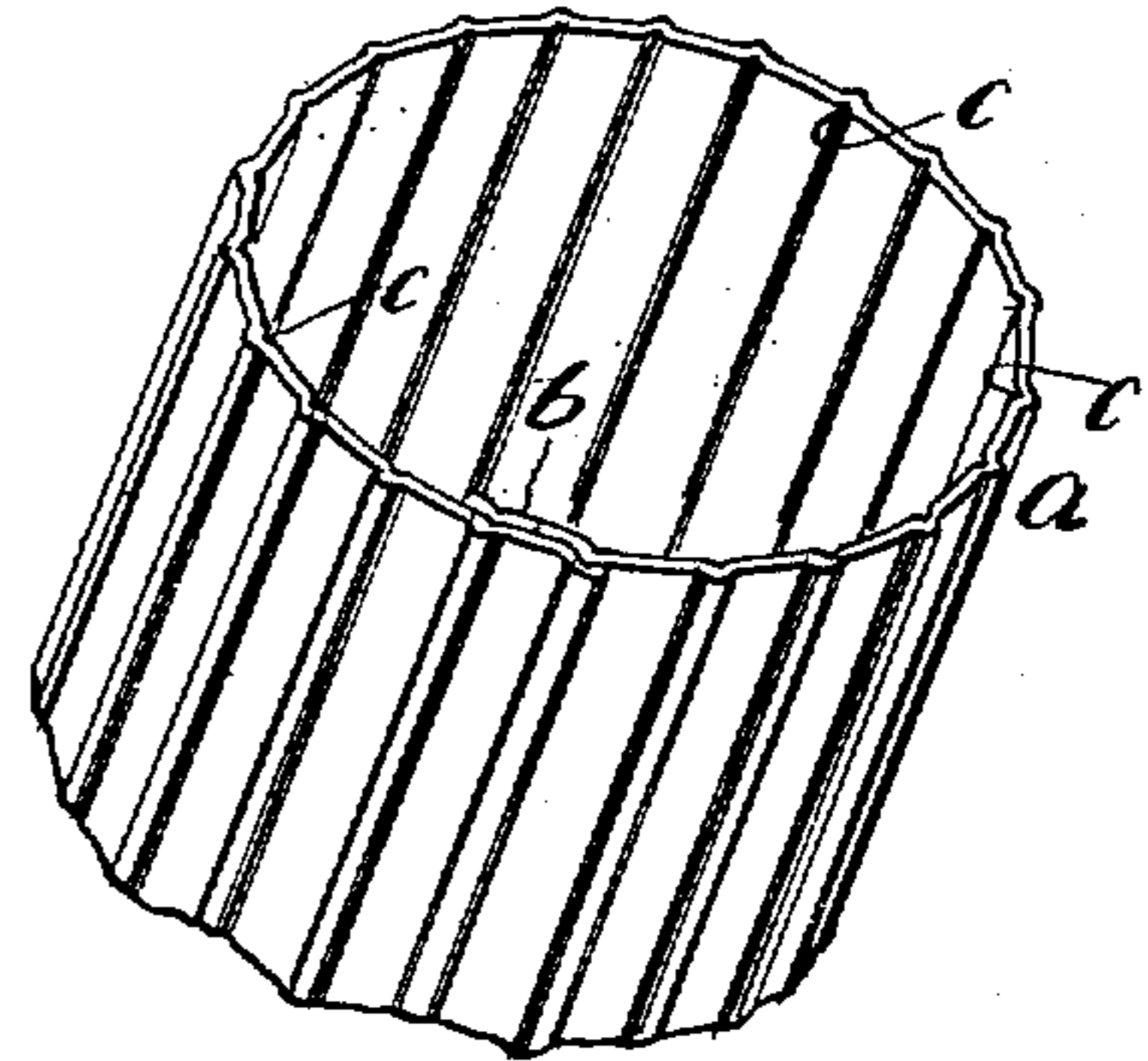


Fig. 3,

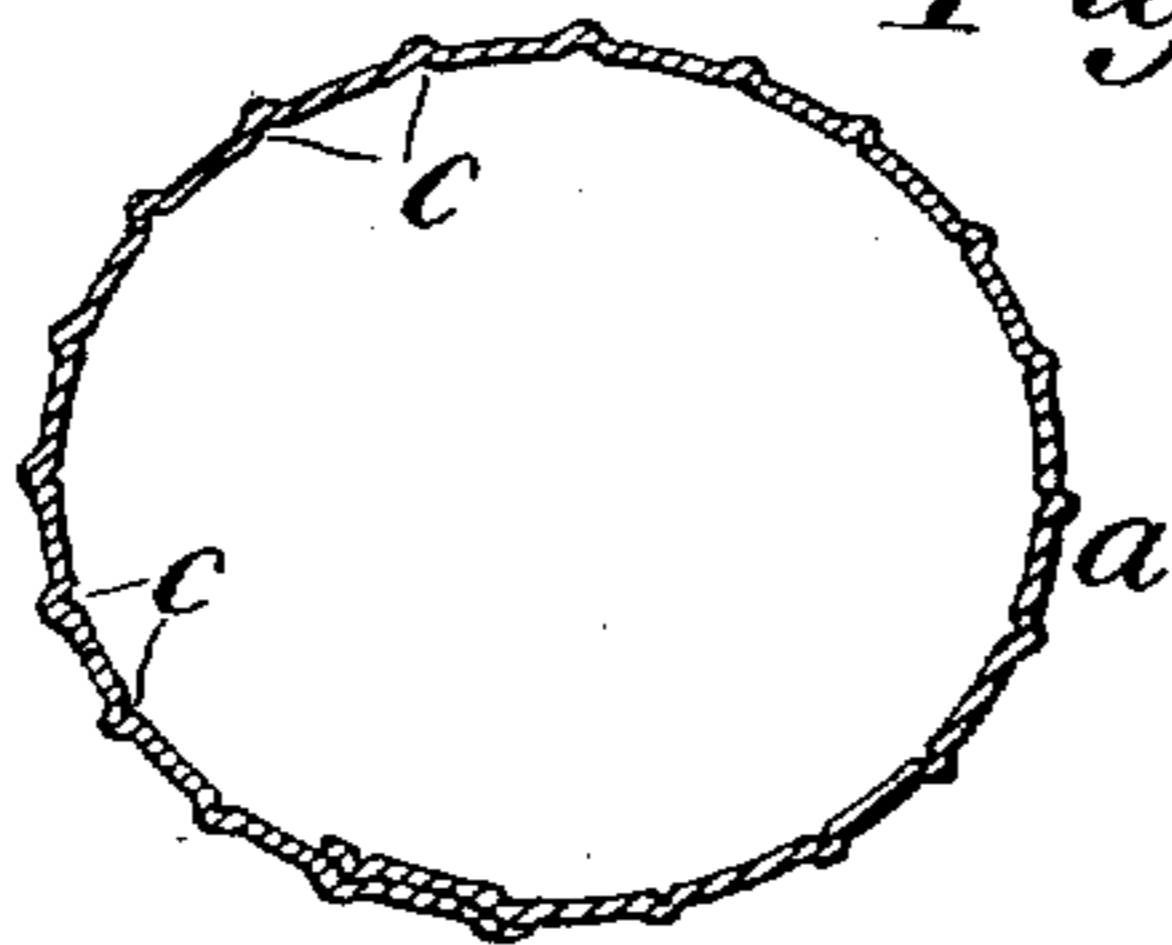


Fig. 4,

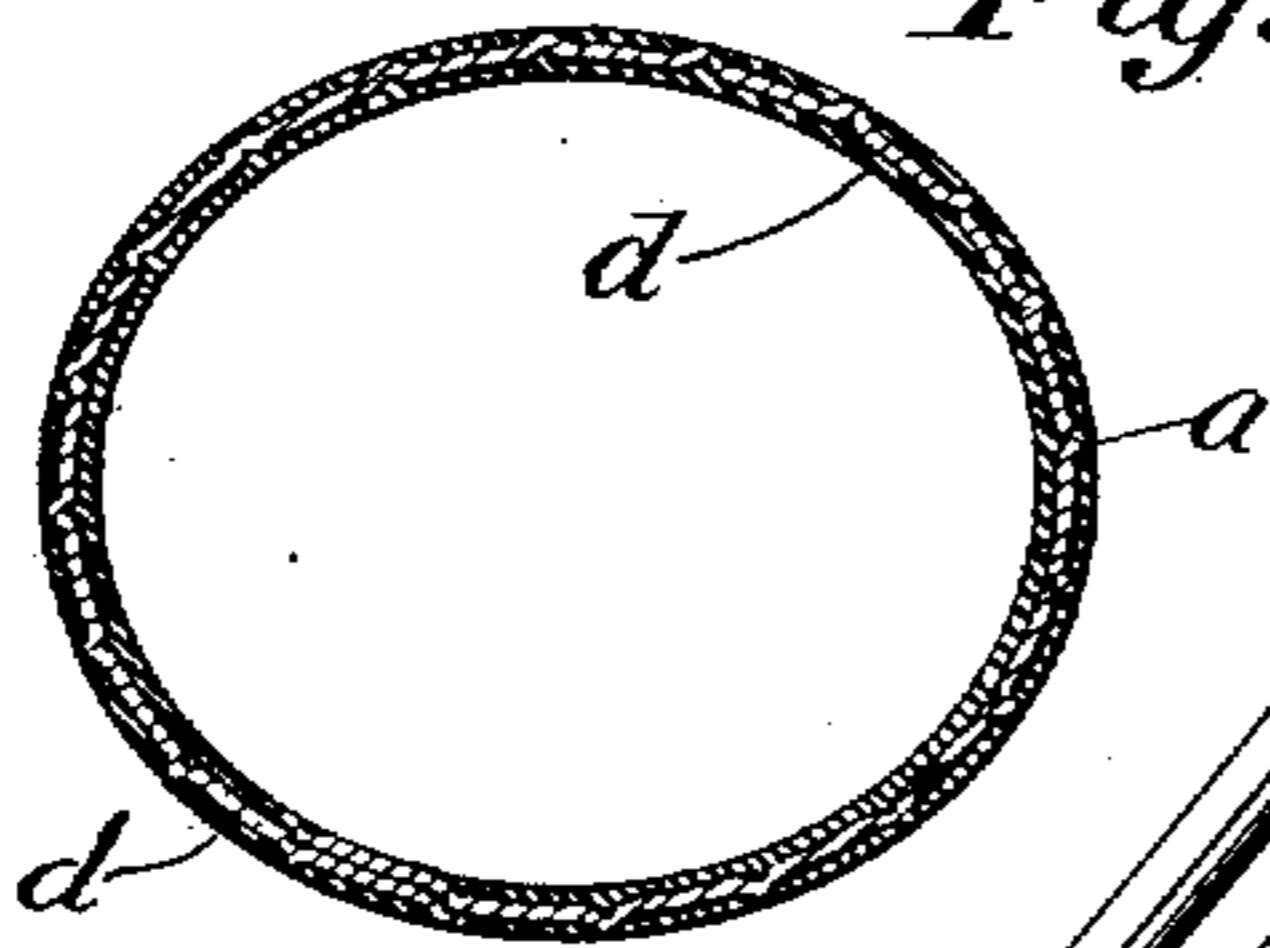
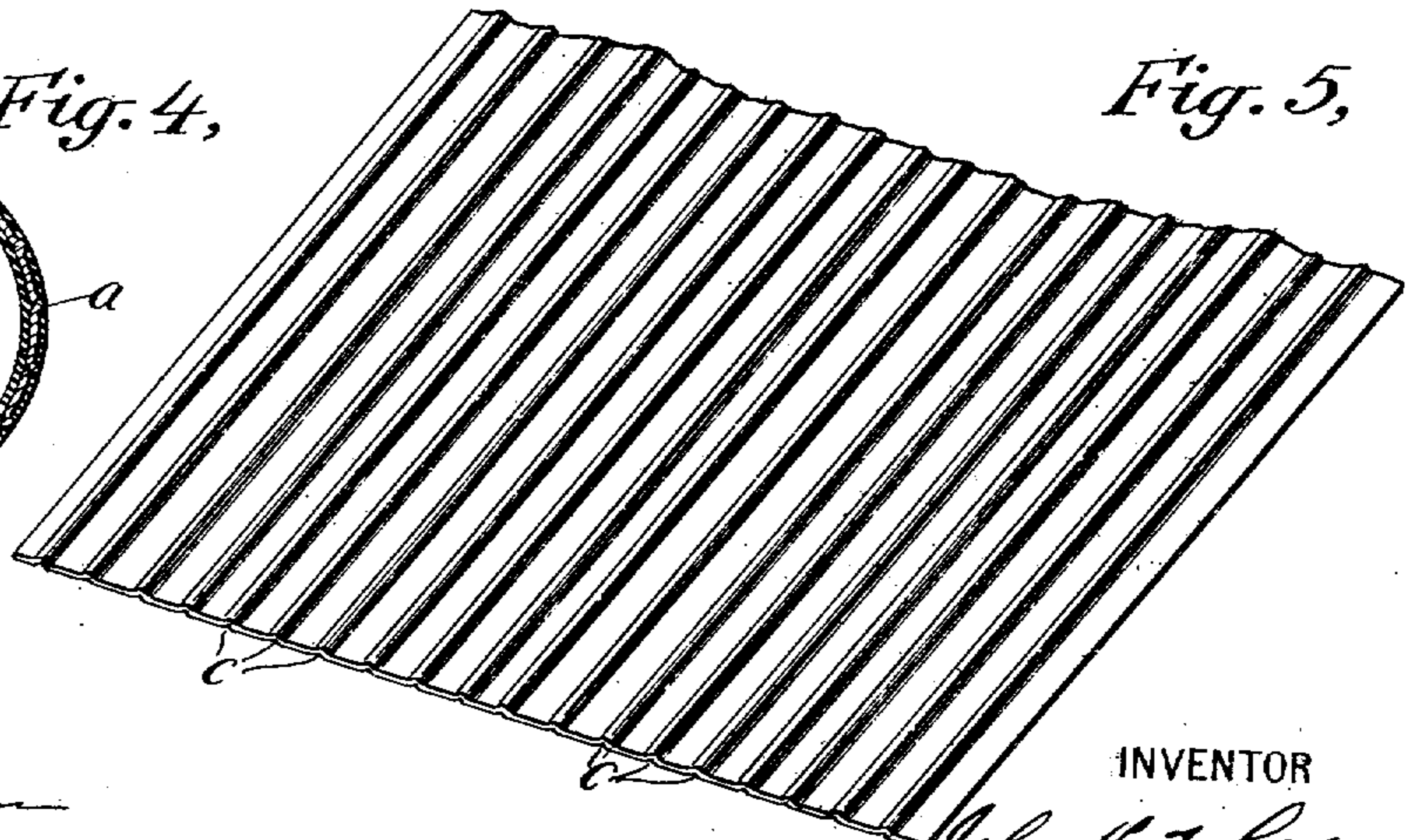


Fig. 5,



WITNESSES:

E. F. Canning
Anne J. Moller

INVENTOR

John H. White
BY
Chapman & Mable
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN H. WHITE, OF ENGLEWOOD, NEW JERSEY.

ARTIFICIAL STRAW.

SPECIFICATION forming part of Letters Patent No. 754,948, dated March 15, 1904.

Application filed August 8, 1903. Serial No. 168,714. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WHITE, a citizen of the United States of America, and a resident of Englewood, county of Bergen, State of New Jersey, have invented certain new and useful Improvements in Artificial Straws, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to artificial straws, such as are commonly used in bar-rooms, drug stores, restaurants, cafés, and the like in place of the natural or vegetable straws in the imbibition of certain classes of liquids. Artificial straws have largely displaced the vegetable stems or stalks formerly employed for this purpose, owing to their greater durability.

It is the purpose of the present invention to improve the form and construction of artificial straws so as to improve their appearance and render them still more durable.

To this end my invention consists in longitudinally grooving or ribbing the material of which the straw is formed and in reinforcing the grooved or ribbed tube with a strengthening material. The tube being longitudinally ribbed will have greater strength longitudinally than it would if it were plain. Also the presence of a stiffening material within the grooves and between the ribs will prevent such ribbing or grooving from weakening the tube laterally. The stiffening material may conveniently be paraffin, which will be applied when hot and in a fluid condition after the tube has been formed and ribbed. When the paraffin hardens, the finished article will not only be rigid and durable, but will be waterproof.

I will now proceed to describe, with reference to the accompanying drawings, an artificial straw embodying my invention and will then point out the novel features in claims.

In the drawings, Figure 1 is a perspective view of an artificial straw embodying my invention. Fig. 2 is a perspective view of a portion of a longitudinally ribbed and grooved tube of which my improved artificial straw is constructed, the same being drawn upon an exaggerated scale in order to more clearly illustrate my invention. Fig. 3 is a view in

transverse section, upon an enlarged scale, of the tube shown in Fig. 2. Fig. 4 is a view in transverse section, upon an enlarged scale, of a finished straw. Fig. 5 is a view in perspective of a portion of a strip comprising the blank from which the tube of which the straw is formed may be made.

The artificial straw herein comprises a cylindrical tube of paper, in practice about eight inches long and about three-sixteenths of an inch in diameter. The tube is preferably formed from a blank strip of paper about five-eighths of an inch wide, which is rolled up to form a tube and cut off in lengths the length of a finished straw. This paper blank may be rolled up into the form of a tube by suitable dies or formers in a manner well known and forming no part of this present invention. Usually the seam is disposed longitudinally of the tube and in a plane with the axis thereof. In the drawings the paper comprising the straw is designated by the reference character *a* and the seam by the reference character *b*.

In manufacturing an artificial straw embodying my invention I have produced a series of longitudinal grooves or depressions *c* in the blank, and thereby a corresponding number of ribs, so that in cross-section the blank, and consequently the tube formed therefrom, is substantially corrugated in form. These grooves, ribs, or corrugations render easier the rolling-up or forming operation of the blank to produce the finished article and cause the straw to more readily retain its rolled-up condition when once such condition is produced. Further, the joint at the overlapped seam *b* is improved by the tendency of the corrugations to interlock at this point. After the material of which the straw is formed has thus been grooved, ribbed, and rolled up into the form of a tube the same is treated with paraffin or other stiffening material. The paraffin may be applied in any desired or suitable manner, as by dipping or otherwise, and such material will enter and be retained within the grooves and between the ribs, so that when the same is dry and hardened the tube will be stiffened laterally. The stiffening material is shown at *d* in the drawings. The lon-

gitudinal grooving and ribbing very largely
 strengthens and increases the durability of the
 article, because it stiffens the tube longitudi-
 nally and renders the same less likely to be
 5 broken transversely. A tube thus ribbed will
 have greater strength longitudinally than it
 would if it were plain—that is to say, it will
 resist transverse breakage to a greater extent
 than if unribbed. This longitudinal stiffening,
 10 however, would be somewhat at the expense
 of lateral weakening if the tube were not other-
 wise stiffened—that is to say, a ribbed tube
 would resist a crushing strain to a less degree
 than a plain or unribbed tube. The stiffen-
 15 ing material employed will, however, com-
 pensate for the loss of lateral strength, as
 the same in entering the grooves and spaces
 between the ribs will form a backing or rein-
 forcement and so stiffen the tube laterally that
 20 when dried and hardened the completed article
 will have great strength and durability both
 longitudinally and transversely. The stiffen-
 ing material employed will further be a ma-
 terial preferably impervious to water, so that
 25 in the stiffening of the paper tube the same
 will also be rendered waterproof. So far I
 have found paraffin to be the most satisfactory
 material, as it is easily applied when hot and
 in a fluid condition, readily hardens and dries
 30 when cold, and renders the tube entirely wa-
 terproof. A commercial advantage is also
 obtained in thus grooving, ribbing, or corru-
 gating an artificial straw in that a straw so
 constructed will more closely resemble the
 35 vegetable product than will a plain cylindrical
 tube.

While I have described and shown a straw
 having a longitudinal seam therein, it will of
 course be understood that I do not desire to
 40 be limited to such construction; neither do I
 wish to be limited to the grooving of the

blank of which the straw is constructed, as
 obviously, if desired, the tube may be grooved,
 ribbed, or corrugated after it is formed.

What I claim is—

1. As an article of manufacture, an arti- 45
 ficial straw comprising a longitudinally-ribbed
 tube of paper, the spaces between the ribs re-
 inforced by a stiffening material.

2. As an article of manufacture, an arti- 50
 ficial straw comprising a longitudinally-ribbed
 tube of paper, the spaces between the ribs re-
 inforced by a coating of paraffin.

3. As an article of manufacture, an arti- 55
 ficial straw comprising a longitudinally
 grooved and ribbed tube of paper, the grooves
 of which contain a stiffening material.

4. As an article of manufacture, an arti-
 ficial straw comprising a longitudinally
 grooved and ribbed tube of paper, the grooves 60
 of which contain paraffin.

5. As an article of manufacture, an arti-
 ficial straw comprising a longitudinally
 grooved and ribbed tube of paper, the grooves,
 and the spaces between the ribs, of which con- 65
 tain a stiffening material.

6. As an article of manufacture, an arti-
 ficial straw comprising a longitudinally
 grooved and ribbed tube of paper, the grooves,
 and the spaces between the ribs, of which con- 70
 tain paraffin.

7. As an article of manufacture, an arti-
 ficial straw comprising a longitudinally
 grooved and ribbed tube of paper completely
 enveloped by a coating of paraffin, whereby 75
 the spaces between the ribs are reinforced by
 a stiffening material.

JOHN H. WHITE.

Witnesses:

CHAS. D. STANTON,
 H. BUTWHISTLE.

Correction in Letters Patent No. 754,948.

It is hereby certified that in Letters Patent No. 754,948, granted March 15, 1904,
 upon the application of John H. White, of Englewood, New Jersey, for an improve-
 ment in "Artificial Straws," an error appears in the printed specification requiring
 correction, as follows: After the word "thereof" in line 71, page 1, the following para-
 graph should be inserted; "The improved process herein, which consists in longitudi-
 nally ribbing, grooving or scoring a strip of paper or like material prior to subjecting
 it to tube-forming dies for a tube-forming operation, constitutes no part of the inven-
 tion claimed herein, but is separately claimed in a copending application filed Febru-
 ary 23, 1904, Serial No. 194,652;" and that the said Letters Patent should be read
 with this correction therein that the same may conform to the record of the case in
 the Patent Office.

Signed and sealed this 5th day of April, A. D., 1904.

[SEAL.]

F. I. ALLEN,
 Commissioner of Patents.

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