

C. A. ERNST.
SPINNING BOX.
APPLICATION FILED JUNE 8, 1916.

1,272,241.

Patented July 9, 1918.

Fig. 1.

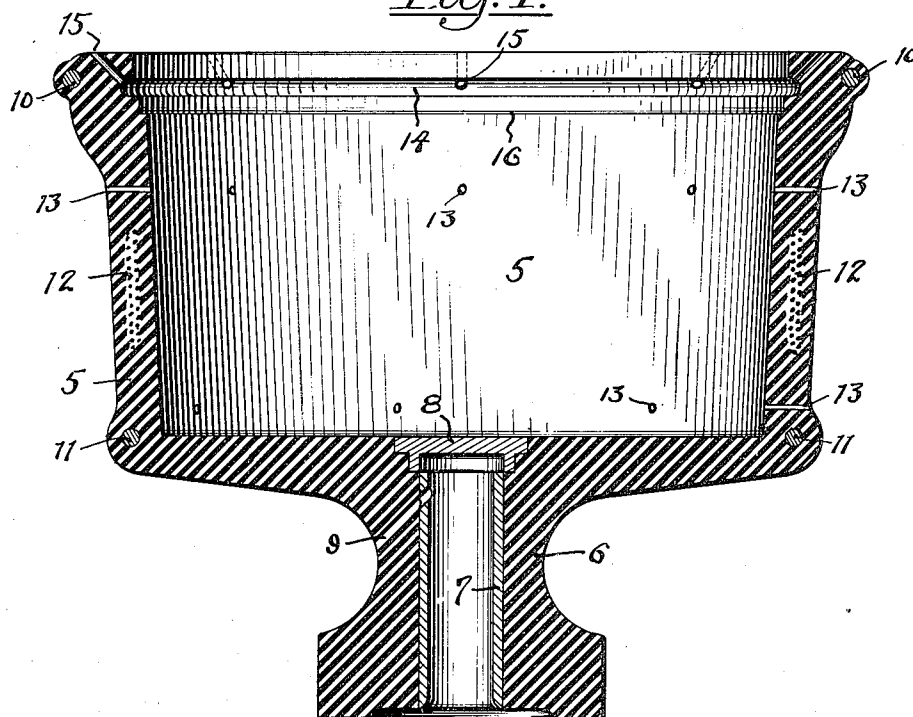
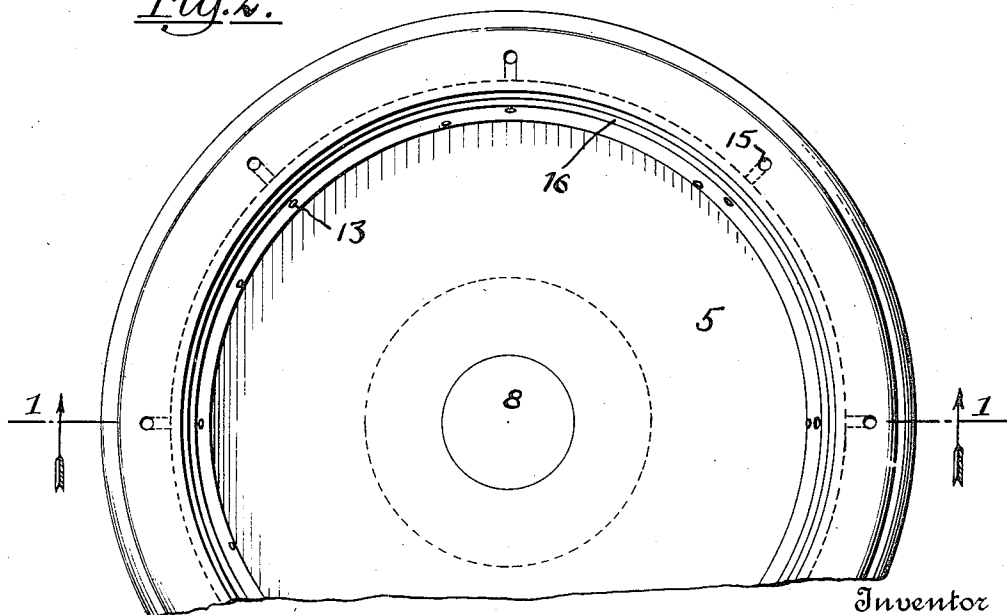


Fig. 2.



Witness:
Titus H. Irone.

Inventor
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UNITED STATES PATENT OFFICE.

CHARLES A. ERNST, OF MARCUS HOOK, PENNSYLVANIA, ASSIGNOR TO THE VISCOSE COMPANY, OF MARCUS HOOK, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SPINNING-BOX.

1,272,241.

Specification of Letters Patent.

Patented July 9, 1918.

Application filed June 8, 1916. Serial No. 102,516.

To all whom it may concern:

Be it known that I, CHARLES A. ERNST, a citizen of the United States of America, and residing at Marcus Hook, in the county of Delaware and State of Pennsylvania, have invented a certain new and useful Improvement in Spinning-Boxes, of which the following is a specification.

My invention relates to spinning boxes and particularly to spinning boxes for handling artificial silk, the object of my invention being to provide an article of this type of improved construction.

In the accompanying drawings,
Figure 1 is a vertical section through a spinning box in which my invention is embodied; and

Fig. 2 is a partial plan thereof.

The present spinning box comprises a cup-shaped body 5 of vulcanized rubber, having a hollow shank 6 within which is arranged a phosphor bronze bearing bushing 7 to fit over the spinning spindle (not shown). Directly above the bushing and consequently precisely in the axial center of the bottom of the spinning box I set in a round button 8 of white material, such as celluloid, which contrasts in color with the rubber body and thus facilitates the exact centering of the spinning nozzle (not shown) within the box preparatory to spinning. An air vent 9 may be opened through the shank 6 and bushing 7 to prevent the formation of an air cushion at the head of the shank when the box is positioned upon the spinning spindle.

In operation the spinning box rotates at a speed of about 3000 revolutions per minute, with the consequent danger that the rubber box body will break or bulge under the centrifugal stresses generated. To overcome this difficulty, reinforcing rings 10 and 11 are molded into the upper and lower peripheries of the box wall, and a hoop or band 12, preferably of wire mesh, is molded into the vertical wall of the box.

In order to permit the escape of acid which is carried to the spinning box by the strands of cellulose or viscose from the setting bath, the wall of the box is pierced at different levels by drainage holes 13 through which the liquid is thrown out by centrifugal force. Adjacent the upper margins of the box a collecting channel 14 is provided to receive any liquid which may find its way

to the upper portion of the box. Inclined holes 15 opening outward from the channel 14 insure the centrifugal escape of the acid from this channel. An internal ledge 16 below the level of the channel 14 forms a seat for the box cover (not shown).

A box of vulcanized rubber, thus reinforced, is practically proof against breakage or deformation in spite of the high speed of revolution at which it is driven during the spinning operation. It possesses the advantage over a metal spinning box that it is not subject to deterioration through the action of the acids, and it is at the same time lighter and less expensive.

Obviously the particular method of reinforcement may be varied as also the proportions of the parts and the location of the drainage holes without departing from what I claim as my invention.

I claim as my invention:—

1. A spinning box of the type described, comprising a hard rubber body with metallic reinforcing rings embedded in its upper and lower edges and an intermediate metallic hoop embedded in the side wall of the box to prevent breakage or deformation of the box under operating conditions.

2. A spinning box of the type described, comprising a hard rubber body with metallic reinforcing rings embedded in its upper and lower edges and an intermediate metallic wire mesh hoop embedded in the side wall of the box to prevent breakage or deformation of the box under operating conditions.

3. A spinning box of the type described comprising a hard rubber body perforated at different levels to permit the escape of liquids from the interior, together with metallic reinforce embedded in the walls of the box in the interspaces between the perforations.

4. A spinning box of the type described comprising a hard rubber body having radial perforations in the side walls of the body, a collecting channel toward the upper margin of the box and perforations leading therefrom to the exterior of the box, together with a reinforcing metallic ring at the upper margin of the box and embedded therein out of the path of the channel leading from the collecting channel.

5. A spinning box of the type described comprising a hard rubber body having upper and lower series of perforations on its

side wall, and a metallic reinforcing mesh embedded in said side wall between said series of perforations.

6. A spinning box of the type described
5 comprising a hard rubber body having a hollow shank or hub to receive the spinning spindle, a metallic bushing within said shank, and a centering button set into the bottom of the box above said bushing to facili-

tate the location of the box on the spinning 10 spindle.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES A. ERNST.

Witnesses:

WALTER ABBE,
HUBERT HOWSON.