

No. 663,634.

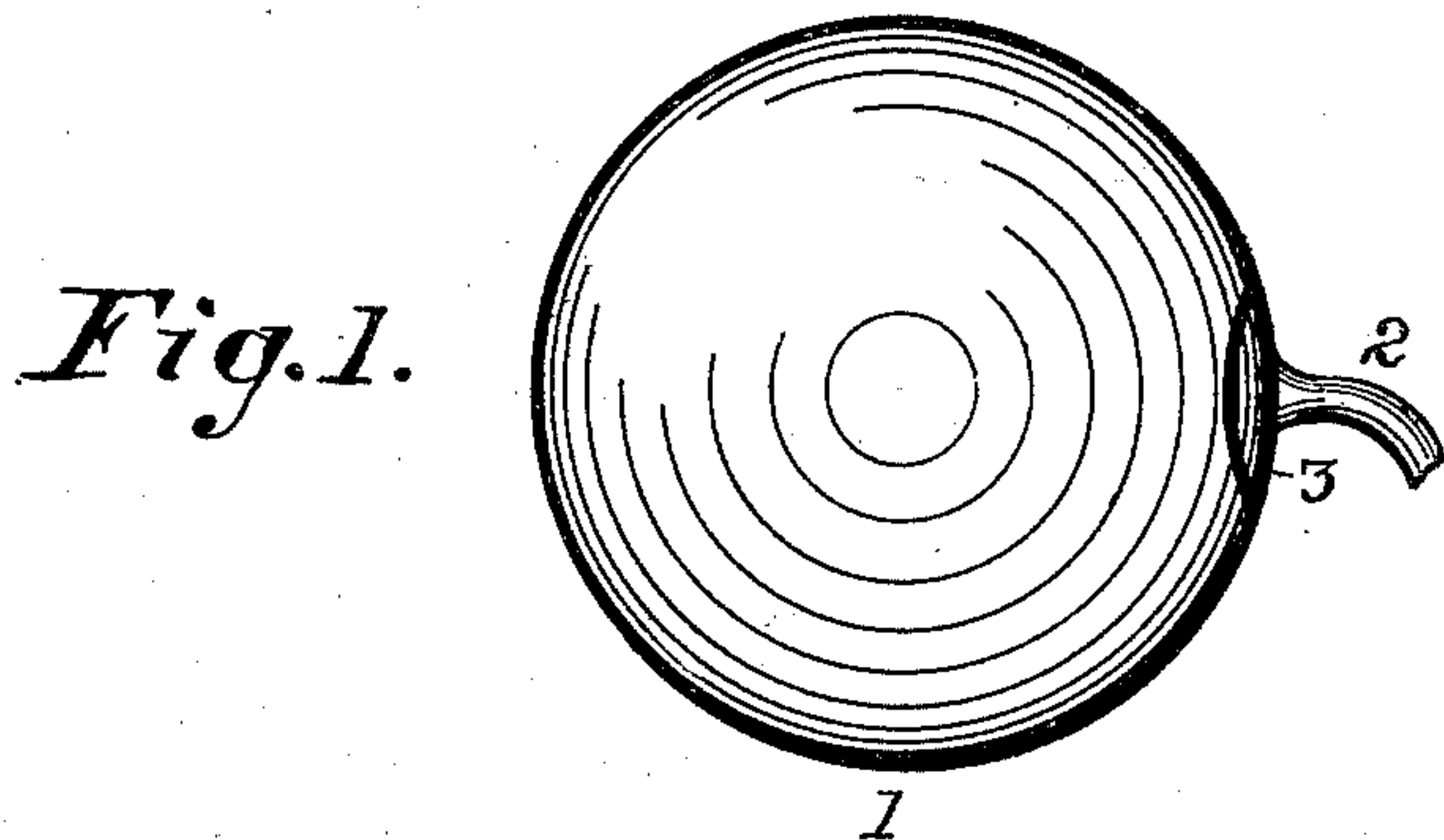
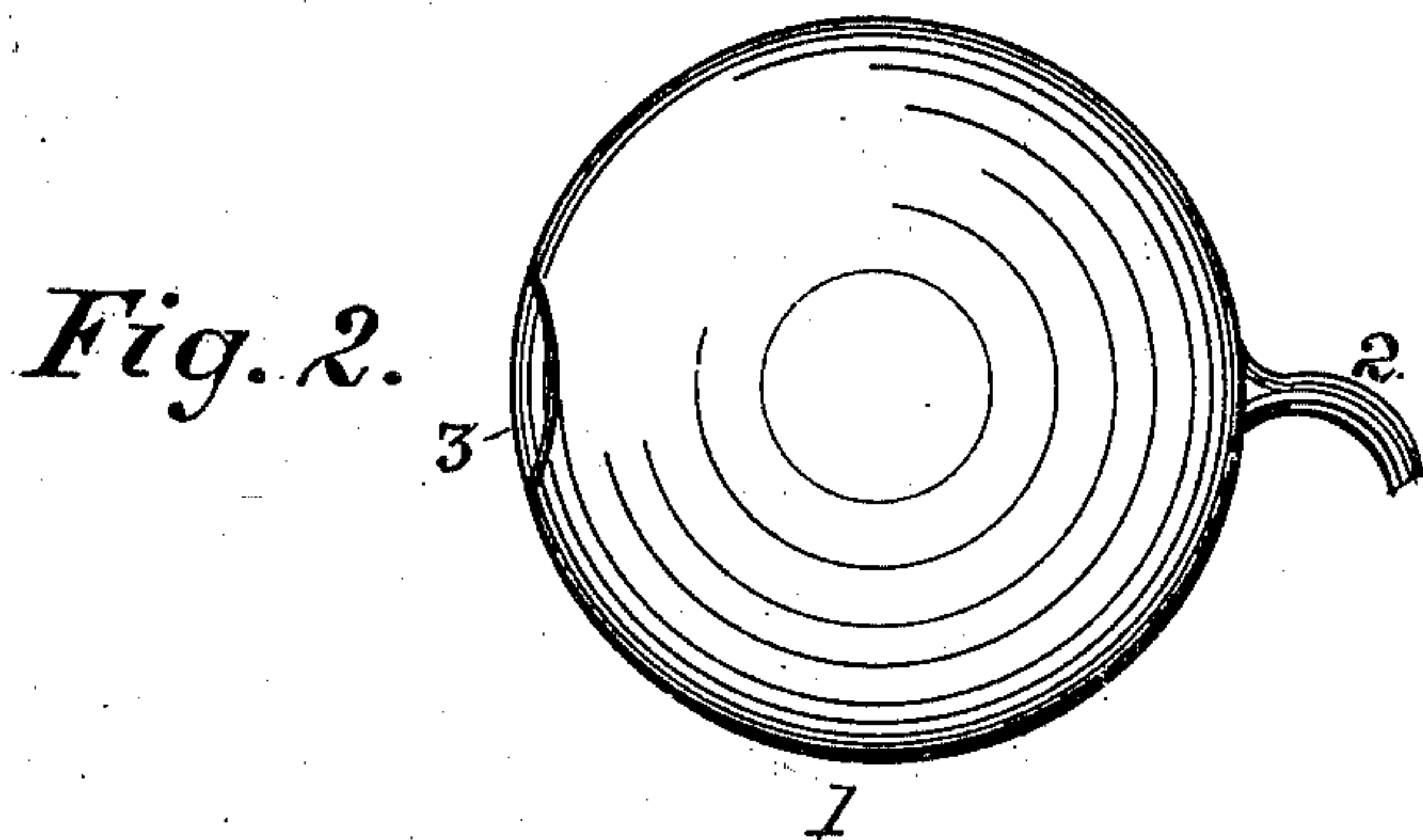
Patented Dec. 11. 1900.

H. F. MITZEL.

INFLATABLE RUBBER BAG FOR STRIKING BAGS OR FOOT BALLS.

(Application filed July 20, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

HARVEY F. MITZEL, OF AKRON, OHIO.

INFLATABLE RUBBER BAG FOR STRIKING-BAGS OR FOOT-BALLS.

SPECIFICATION forming part of Letters Patent No. 663,634, dated December 11, 1900.

Application filed July 20, 1900. Serial No. 24,274. (No model.)

To all whom it may concern:

Be it known that I, HARVEY F. MITZEL, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Inflatable Rubber Bags for Striking-Bags and Foot-Balls, of which the following is a specification.

My invention has relation to improvements in inflatable rubber bags adapted to be inclosed in a leather case to constitute striking-balls for the gymnasium or foot-balls for the field. Heretofore, as far as I can ascertain, these bags have been built up, like balloons, of sections of rubber or rubber-saturated fabric either prepared for vulcanization or already vulcanized, the seams between the sections being lapped and secured by cement or by vulcanization. The objection to these bags is that they are unnecessarily heavy, are lacking in that complete elasticity desirable in such bags, and the seams constantly present lines of weakness, where leakage is liable, and also ridges of greater thickness and density than the rest of the bag, thus detracting from evenness of surface.

The object of my invention is to produce an improved bag that shall avoid these objections, be light and perfectly elastic, and in which the seams shall be absent.

To the aforesaid objects my invention consists in a peculiar and novel process of construction and also in a new and improved bag constructed by that process. This process and product are thus described, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 shows a spherical bag on which the inflating-tube is secured in the patch that covers the opening through which the form or mold is withdrawn; and Fig. 2 a similarly-shaped bag in which the inflating-tube is made simultaneously and integral with the bag, the form having been removed from the opposite side of the bag and the opening covered with a patch.

These bags are shown spherical; but it will be apparent that they may be elliptical, if preferred.

In constructing the bags a model or form of non-absorbent material of preferred shape is used. If it is intended to construct the bag without the tube and to add the tube afterward, the form has no projection; but if it is desired to construct the tube integral with the bag a suitable stem on which the tube is to be formed is secured to and projects from one end of the mold. This stem may be at any desired place on the mold where the tube will be the least exposed to injury. The mold thus constructed is immersed in a siccative solution of rubber, preferably rubber dissolved in naphtha, by which a thin coating of rubber is deposited on the mold. This process is repeated until the bag has acquired the requisite degree of thickness, when it is then immersed in a bath of chlorid of sulfur and bisulfid of carbon, which cures and hardens the rubber layer. A small incision is then made and the mold carefully withdrawn, which is readily done, as the bag is very elastic and permits the mold to be withdrawn through an opening much smaller normally than the mold.

If the tube 2 is to be placed on the completed bag, it is formed integral with a patch 3 and cemented on the opening through which the mold was withdrawn, as shown in Fig. 1.

If the tube is to be constructed integral with the bag, as shown in Fig. 2, the opening is made in another part of the bag and after the mold is removed is closed by a patch 3, and this is the preferred method of construction, as affording greater security to the union between the tube and bag.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The process of making elastic inflatable rubber bags, for striking, foot-balls, &c., which consists in forming said bags from a siccative solution of rubber by repetitions of the dipping process to secure the desired thickness, forming an inflating-tube integral

and simultaneously therewith, then dipping the same in a curing-bath to harden the gum making an incision in the bag distant from the tube and cementing a patch on said
5 incision, substantially as described.

2. An improvement in inflatable bags for striking-bags, foot-balls, &c., consisting of a bag of repeated layers of a siccative solution of rubber, and an inflating-tube integral

therewith all simultaneously vulcanized, substantially as described.

In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

HARVEY F. MITZEL.

In presence of—

C. E. HUMPHREY,
C. P. HUMPHREY.