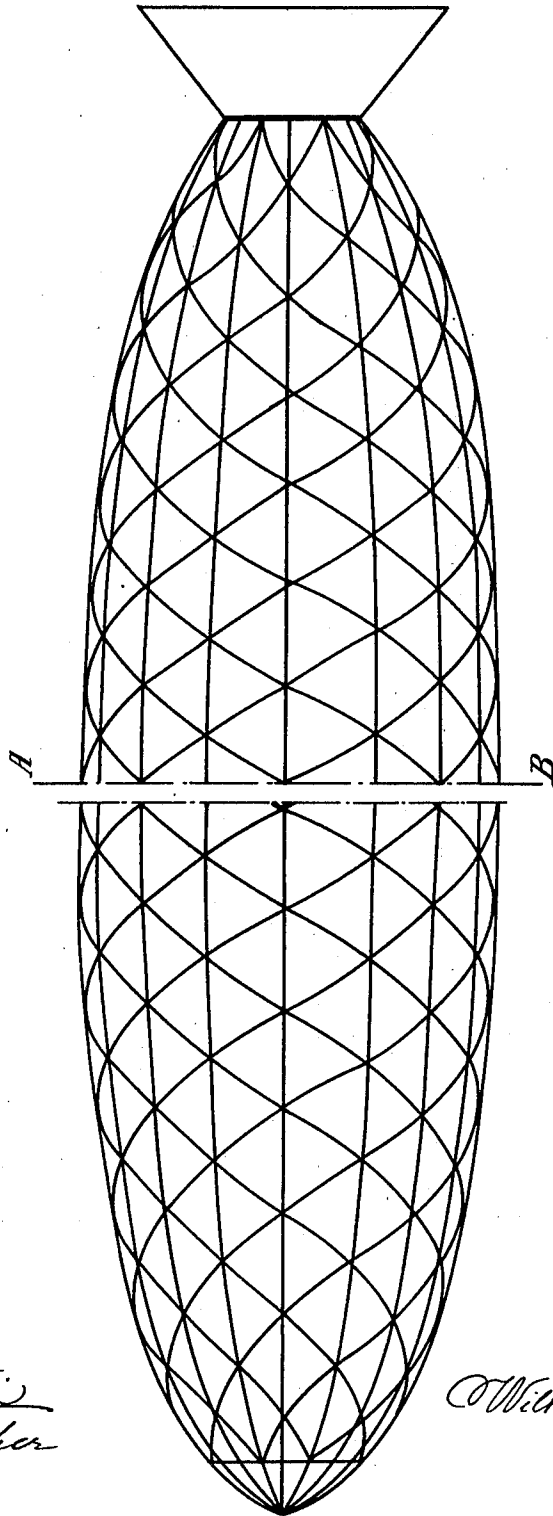


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STIFFENING SKELETON FOR BALLOON COVERINGS.
APPLICATION FILED AUG. 14, 1909.

974,434.

Patented Nov. 1, 1910.
2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
Éduard Veitz
Richard Fischer

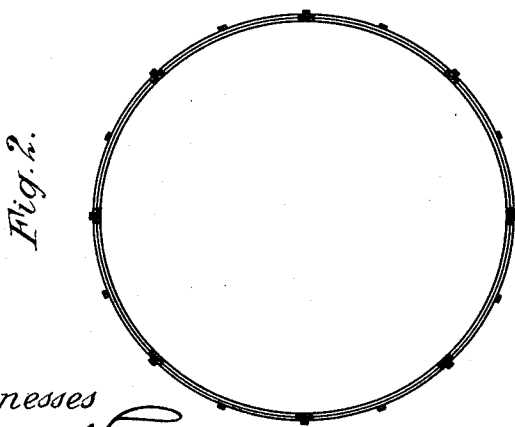
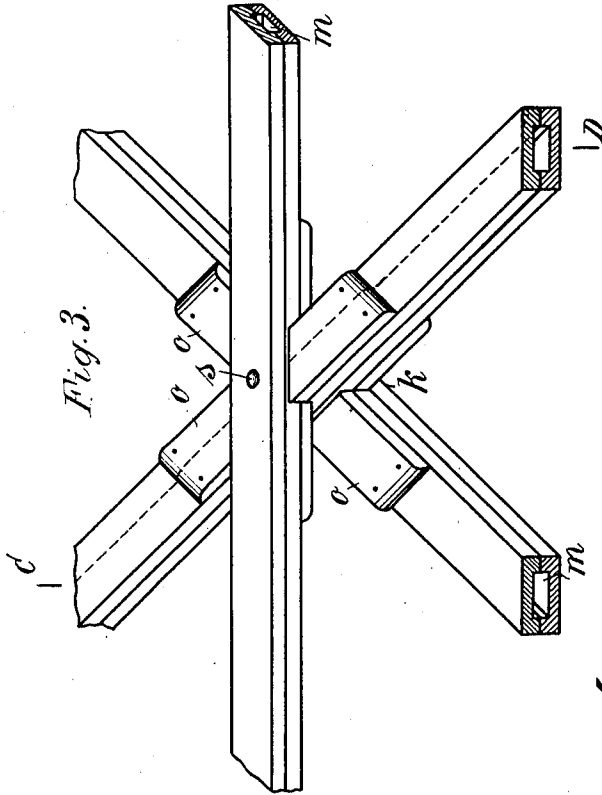
Inventor
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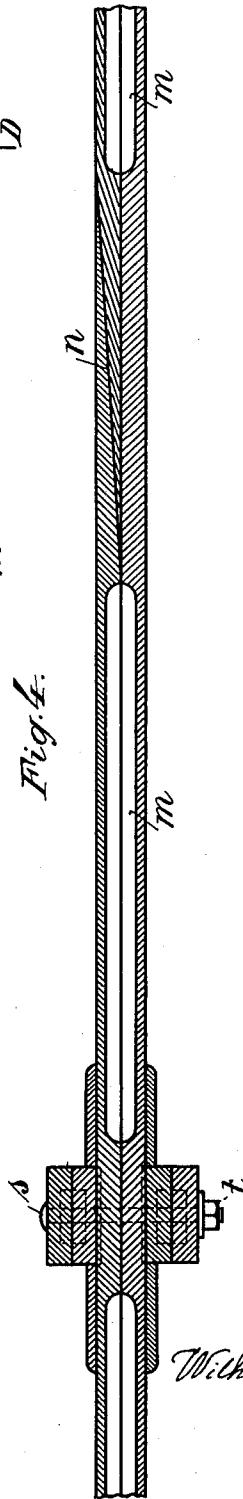
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UNITED STATES PATENT OFFICE.

WILHELM RETTIG, OF BERLIN, GERMANY.

STIFFENING-SKELETON FOR BALLOON-COVERINGS.

974,434.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed August 14, 1909. Serial No. 512,790.

To all whom it may concern:

Be it known that I, WILHELM RETTIG, a subject of the King of Bavaria, residing in Berlin, German Empire, have invented new and useful Improvements in Stiffening-Skeletons for Balloon-Coverings, of which the following is a specification.

This invention relates to a rigid balloon covering which offers great resistance to interior and exterior strain, is sufficiently resilient to prevent breakage on striking solid bodies, and does neither generate nor conduct electricity. The covering is intended to be applied to the outer rigid shell which incloses a number of gas bags and which is not changed in shape by a change of volume of said bags.

In the accompanying drawing: Figure 1 is a side elevation of a balloon provided with my improved covering; Fig. 2 is a cross section on line A—B, Fig. 1; Fig. 3 a detail of the joint, and Fig. 4 a longitudinal section through one of the rods, on line C—D, Fig. 3.

The skeleton is composed essentially of a series of wooden rods which are so arranged and connected that they form a continuous reticulated convex body with intervening triangular meshes. The rods are made partly hollow, as at *m*, each rod being composed of a suitable number of lengths having beveled ends *n*, which are glued together. At their joints and at their points of intersection the rods are made solid, as

shown, so that increased strength at these points is insured. With the shape of balloon represented in the drawing, the skeleton comprises a first series of curved longitudinal rods and two additional series of curved transverse spiral rods extending in opposite directions. In this way three rods meet at each point of intersection, while triangular open spaces or meshes are formed between the rods. In order to increase the durability at the joints, the two transverse series of rods as well as the longitudinal rods are here provided with shoes or blocks *o*, that flank the superposed rods, while a bolt *s*, carrying a nut *t*, passes centrally through each joint.

A balloon skeleton made according to my invention possesses great strength and lightness, does not expand or contract under atmospheric influences, may be constructed at comparatively low cost by unskilled labor, and is of great simplicity.

I claim:

A balloon skeleton comprising a number of wooden rods that cross each other to form intervening triangular meshes, and shoes at the joints of some of said rods that engage the superposed rods.

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

WILHELM RETTIG.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.