No. 706,100. Patented Aug. 5, 1902.

H. L. PARKER.

METAL FOIL FABRIC.

(Application filed Aug. 6, 1901.)

(No Model.)

Fig 1

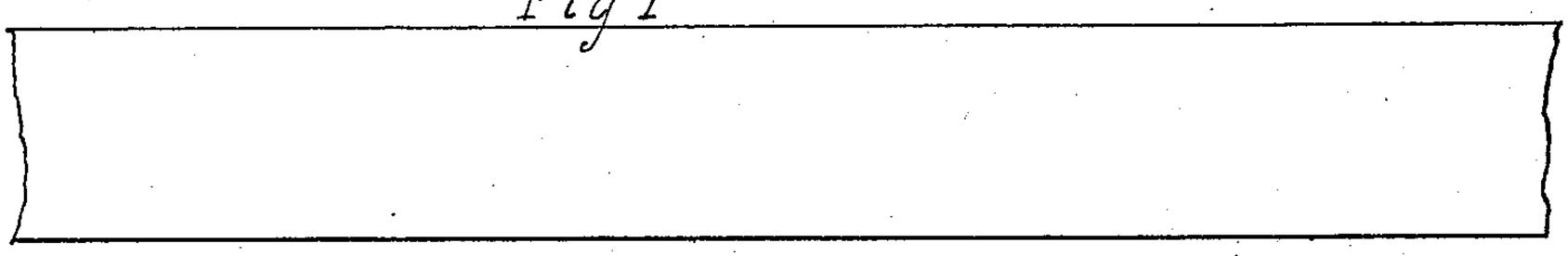


Fig 2

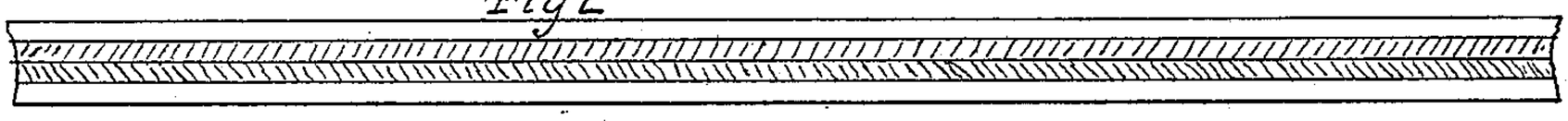
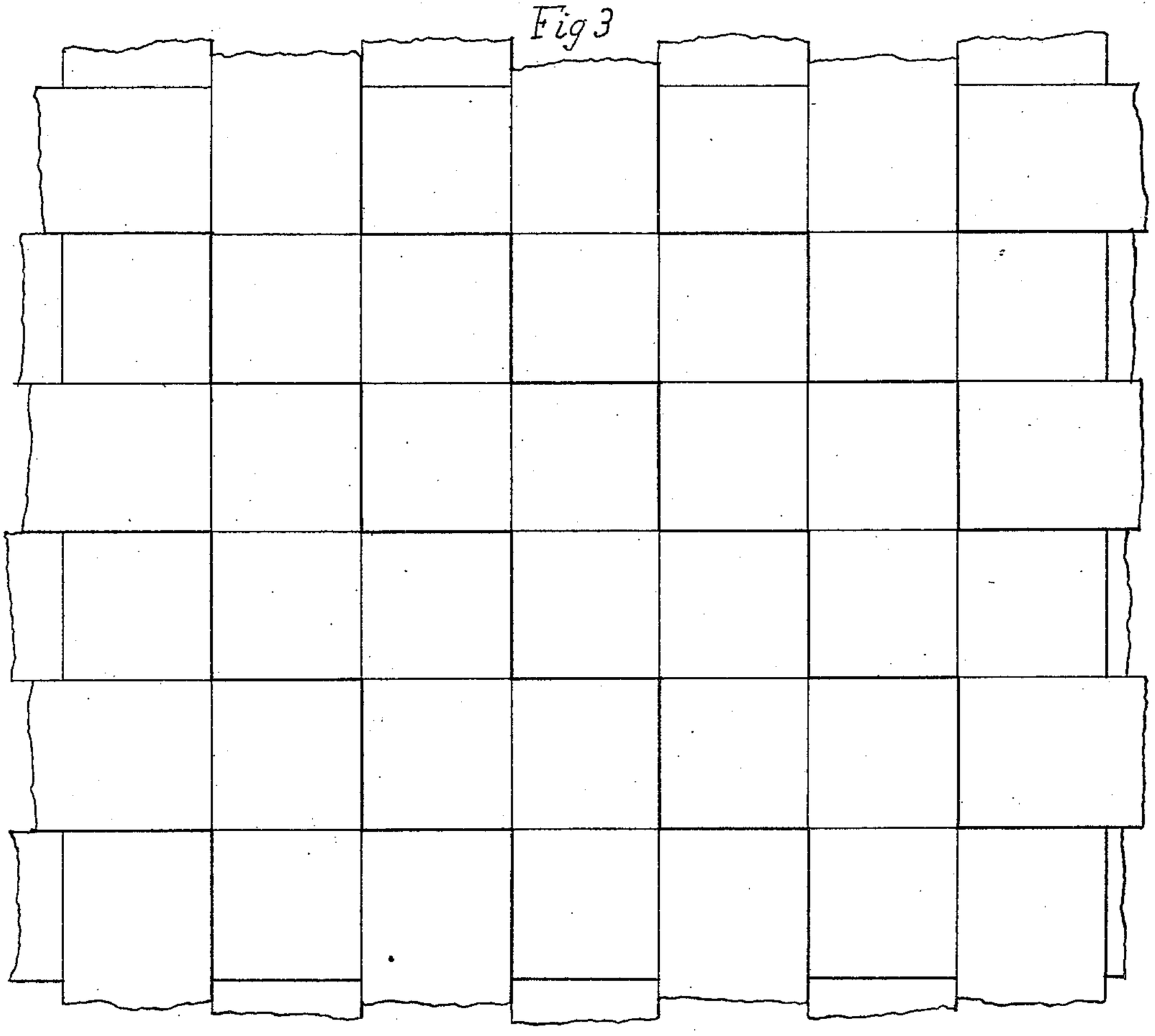


Fig 3



Witnesses
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HARRY L. PARKER, OF EL PASO, TEXAS.

METAL-FOIL FABRIC.

SPECIFICATION forming part of Letters Patent No. 706,100, dated August 5, 1902.

Application filed August 6, 1901. Serial No. 71,120. (No specimens.)

To all whom it may concern:

Be it known that I, HARRY L. PARKER, a citizen of the United States, residing at El Paso, in the county of El Paso and State of Texas, have invented a new and useful fabric adapted to the construction of balloons and other vessels which are made to hold gases lighter than air for the purpose of floating in and navigating the atmosphere, of which the following is a specification.

The ordinary materials used for such purposes usually consists of some textile fabric coated with an organic substance, such as oil or rubber, to render it impervious to the gases contained. These coatings, however, do this very imperfectly, because hydrogen seems to have the property of dissolving in the substance forming the coating, passing through it, and is lost by evaporation on the outside. My invention relates to a method for preventing this evaporation on the outside by a coating of one or more thicknesses of thin metal foil, tin-foil being preferable on account of the low cost and the pliable qualities possessed by it.

In the manufacture of cylindrical balloons it is desirable to construct the bag of light oiled silk or other suitable material in the ordinary way and inflate it inside of a similar bag of metal-foil cloth. My method for constructing this outer impermeable envelop of one continuous piece, so as to secure greater stability of the metal-foil coverings, is illustrated in the accompanying drawings. I prepare the materials for constructing the outer bag by taking cloth in long bands or ribbons of a convenient width, as in Figure 1. To these ribbons of cloth I apply by heat similar strips of metal foil by means of wax, paraffin, or other adhesive waterproof material, using hot rollers to press them firmly together. I then have the metal-foil cloth in long strips or ribbons, as shown in Fig. 2, in which the thickness is greatly exaggerated to better illustrate the different layers of metal foil and cloth. The first layer is of suitable waterproof cloth. The shaded layers represent the metal foil. The fourth layer of cloth may be added for greater strength, but is not essential. Having prepared strips and cut them into lengths according to the size of the bag desired, I weave them, as illustrated in Fig. 3, in a large loom constructed for that purpose. When the piece is properly woven, the oil-silk or other impervious material may be spread upon it, and the whole may then be sewed into a bag and the seams made gas-tight in the ordinary way. When the bag is inflated, the hydrogen gas will dissolve in the oil-silk and pass through it; but upon coming into contact with the metal foil it will not be able to evaporate. Thus the different layers will become saturated and no more hydrogen will dissolve.

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

A fabric consisting of strips of metal foil of one or more layers adhering to bands or ribbons made of a textile fabric, and woven, substantially as set forth.

HARRY L. PARKER.

Witnesses:
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