

R. ALEXANDER-KATZ.  
SHELTER FOR DIRIGIBLE BALLOONS, AIRSHIPS, AND THE LIKE.  
APPLICATION FILED SEPT. 29, 1909.

1,036,532.

Patented Aug. 27, 1912.

2 SHEETS—SHEET 1.

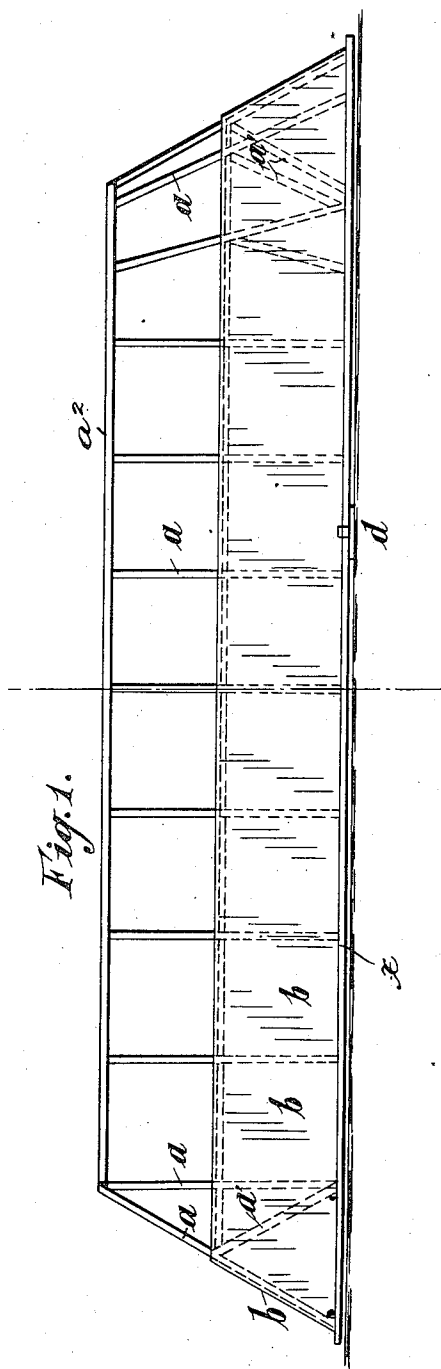
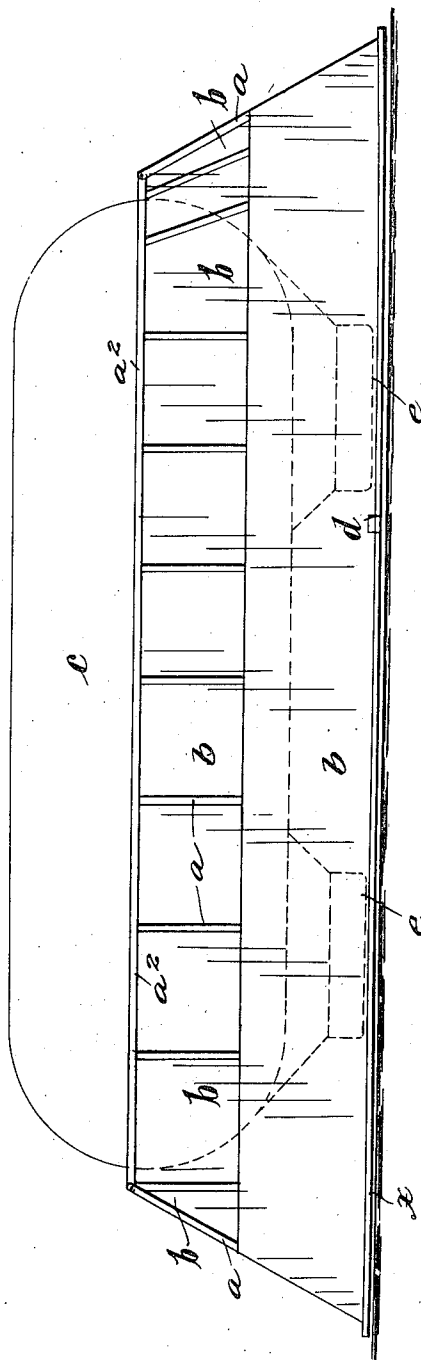


Fig. 3.



Witnesses

*A. Morrill*

*S. Ford*

Inventor

*Richard Alexander Katz*

by

*H. H. Hudson*

Attorney

R. ALEXANDER-KATZ.

SHELTER FOR DIRIGIBLE BALLOONS, AIRSHIPS, AND THE LIKE.

APPLICATION FILED SEPT. 29, 1909.

1,036,532.

Patented Aug. 27, 1912.

2 SHEETS—SHEET 2.

Fig. 2.

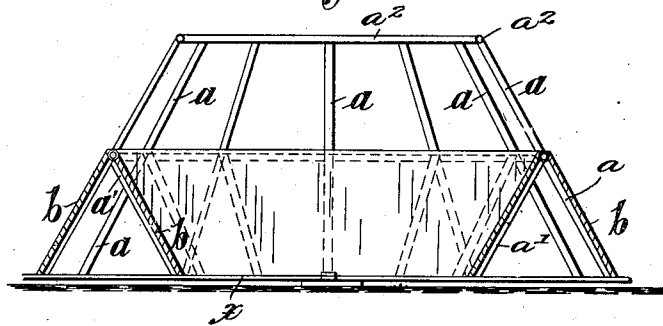
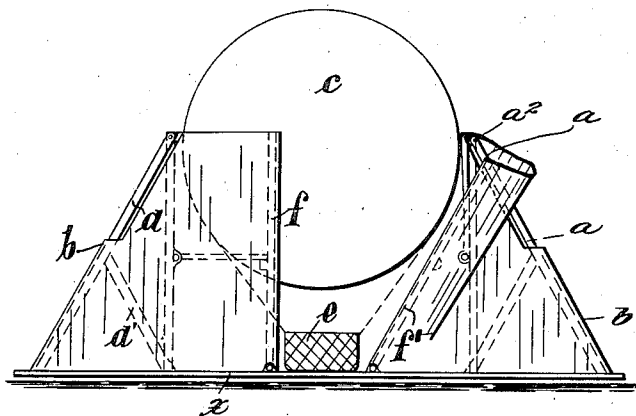


Fig. 4.



Witnesses  
*Amorill*  
*S. Ford*

Inventor  
*Richard Alexander-Katz*  
by *W. H. H. H.*  
Attorney

# UNITED STATES PATENT OFFICE.

RICHARD ALEXANDER-KATZ, OF BERLIN, GERMANY.

SHELTER FOR DIRIGIBLE BALLOONS, AIRSHIPS, AND THE LIKE.

1,036,532.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed September 29, 1909. Serial No. 520,195.

*To all whom it may concern:*

Be it known that I, RICHARD ALEXANDER-KATZ, a subject of the German Emperor, residing at Berlin, in the German Empire, have invented a certain new and useful Shelter for Dirigible Balloons, Airships, and the Like, of which the following is a specification.

The object of this invention is to provide a temporary balloon shelter or inclosure which can be easily erected and dismantled.

A further object is to provide a shelter for this purpose that has no actual roof, the upper part of the balloon or air-ship itself forming such roof, while the side walls surround or inclose the balloon in the form of inclined tent-walls, made for example of linen, balloon material or the like and adapted to be placed very close to said balloon.

A further object is to provide a shelter wherein the balloon is anchored or moored to the earth within the tent-walls or may be secured to the latter; or can be partly attached to the tent-walls in such a manner as to pull them near thereto and partly anchored to the ground within the interior of the shelter.

A yet further object is to provide a shelter mounted on a flat staging of woodwork, metal or other material which forms the floor of it and is adapted to be rotated on wheels about a point which lies considerably nearer the front than the rear of the balloon, so that wind pressure bearing against said rear part, which comprises more than half the area of the balloon shelter, always holds the whole shelter up toward the wind, so that the front of the balloon constantly faces the direction from which the wind is blowing.

An embodiment of the invention is shown in the annexed drawing, in which—

Figure 1 is a longitudinal elevation of the shelter or inclosure, the upper portions of the walls being shown as lowered, in order to form closed tents. Fig. 2 is a cross-section of the shelter, showing also its rounded front. Fig. 3 is a side elevation of the shelter showing the side walls fully extended and a balloon inclosed thereby. Fig. 4 is an end-view of the shelter with the balloon therein, part of the end wall being shown in its normal, closed position, and the other part being folded back to make an opening.

X represents a base plate or floor of suit-

able length and width on which is erected a plurality of inwardly inclined bars  $a$  of iron, steel, wood or other desirable material connected together at their upper ends by a horizontal bar or series of bars  $a^2$  to form a U-shape frame conforming in plan to the contour of the largest horizontal section of a balloon which the edifice is intended to shelter, one end of the frame being open through which the balloon may enter horizontally, the height of the bars  $a^2$  being substantially coincident with the horizontal plane of the largest portion of the balloon when properly housed in the edifice. Within the frame formed by the upwardly and inwardly inclined bars are additional bars  $a'$  which incline upwardly and outwardly from the base plate X upon which they are mounted so as to meet the bars  $a$  about midway of their lengths where the two sets of bars are secured to each other. The space between the lower halves of the bars  $a$  and the bars  $a'$  is inclosed by the tent-like covering  $b$ , the inner wall of which may be raised from the bars  $a'$  and brought up against the upper halves of the bars  $a$ . In the raised position of the inner wall, the covering closes also the space between the upper portions of the bars  $a$  forming an inclosure extending to the horizontal bars  $a^2$  as in Fig. 3. In the lowered position of the inner wall, the inclosure forms in effect an inverted U-shaped tent as shown in Fig. 2 running all the way around the marginal edge of the base plate. A suitable number of additional bars  $a$   $a'$  are provided to complete the structure at the open end of the edifice after the balloon is housed therein.

$d$  is the pivot about which the entire shelter can be rotated; in which case, the base plate or floor is carried on rollers, casters, or equivalents.

In Fig. 3,  $c$  designates the balloon,  $b$  the shelter wall, and  $d$  the aforesaid pivot.

In Fig. 4,  $c$  is the balloon,  $e$  the car thereof,  $f$   $f'$  the movable sections forming the doors, of which  $f'$  is shown as folded down laterally.

When the balloon is not in the shelter, the latter forms a long, closed tent, the ground plan of which shows two parallel longitudinal tents which are connected at one or both ends by curved tents. The said tents can be used by the crew or attendants or they may serve for the reception of any

materials such as the envelop of the balloon, etc., and they are so constructed that the interior walls can be drawn up; in this condition they close the upper portions of the shelter tent-walls and form the balloon shed or inclosure open at the top. At the rear of the shelter, the tent frame can be folded back on both sides so that the balloon can be readily guided into said shelter, whereupon the folded back sections can be re-erected and rigidly secured.

The improved shelter, which requires no roof for the air-ship, is not intended as a permanent inclosure for the inflated air-ship, but to rapidly shelter same in a shed, the construction of which consumes little time and involves inconsiderable cost, such a shelter sufficing to secure the balloon before high wind arises and to prevent it from breaking away from its anchors. The rotatability of the shelter being of such a nature as to automatically direct the same toward the wind, increases the security and usefulness of such a device, and it has the further advantage that the aeronaut can forward the shelter in advance to the place determined upon for the descent, so that it may be prepared there ready for his arrival. If there are several balloons of a similar type a number of such shelters can be kept in reserve ready for despatch at different places and be brought to the expected place of descent in answer to a telephonic or telegraphic message. The tents as such are not permanent structures, and are only tents when the balloon is out of housing edifice and the hinged flaps previously fastened against the upper part of the frame have been lowered inwardly as shown in Figs. —1— and —2—. The shelter further serves for keeping off curious and unauthorized people. An ascent may be effected directly from the interior of the shelter, without it being necessary to move the air-ship outside of the same.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A shelter for balloons comprising a housing edifice open at the top and conforming at its upper edge approximately to the contour of the largest horizontal cross-section of the balloon which it is adapted to shelter.

2. A shelter for balloons comprising a

housing edifice open at the top and conforming approximately to the contour of the largest horizontal cross-section of the balloon which it is adapted to shelter, said housing having flexible walls.

3. A shelter for dirigible balloons comprising a housing edifice open at the top and consisting of a frame and flexible inclosing walls, the opening in the top being of approximately the same area as that of the largest horizontal cross section of a balloon which the shelter is adapted to receive.

4. A shelter for balloons comprising a housing edifice open at the top, conforming approximately to the contour of the largest horizontal cross-section of the balloon which it is adapted to shelter, the upper portion of the housing being foldable inwardly and downwardly to form with the lower portion a tent.

5. A shelter for balloons comprising a downwardly flaring housing edifice having an opening in its top conforming approximately in size and shape to the size and shape of a balloon at its largest horizontal cross-section, the upper portion of the housing being foldable inwardly and downwardly to form a tent running around the base thereof.

6. A shelter for dirigible balloons comprising a rotary base having its axis of rotation eccentric thereto, side walls rising from the base forming a housing edifice open at the top conforming approximately to the contour of the largest horizontal cross-section of the balloon which it is adapted to shelter.

7. A shelter for dirigible balloons comprising a rotary base having its axis of rotation eccentric thereto, side walls rising from the base forming a housing edifice open at the top conforming approximately to the contour of the largest horizontal cross-section of the balloon which it is adapted to shelter, portions of the wall farthest from the axis being separable to form an opening therethrough for the passage of a balloon.

In witness whereof I have signed this specification in the presence of two witnesses.

RICHARD ALEXANDER-KATZ.

Witnesses:

HENRY HASPER,  
WOLDEMAR HAUPT.