H. J. F. ROSE.

OPEN AIR SHELTER.

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1,171,346.

Witnesses:

A. C. Goudge
L. Sumner

INVENTOR:

H. J. F. Rose
To all whom it may concern:

Be it known that I, Henry John Fox Rose, a subject of the King of England, residing at Chesham, Buckinghamshire, have invented certain new and useful Improvements in or Applicable to Open-Air Shelters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to rotary open air shelters for consumptive or for other purposes where open air without draft is required for automatically protecting the patients from wind and weather, without curtailing the admission of fresh air.

According to my invention I construct a house of shelter in a circular or polygonal form, with a segmental movable screen suspended from braced arms attached to a casting mounted on a vertical pivot fixed to the center of a roof beam. The roof is constructed with a heavy timber across the center to which is firmly secured a shaft on which a pivot is formed at the top, and projecting above the center of the roof. A casting is provided with a conical socket to fit the pivot at its upper end and a ball bearing encircling the shaft at the base allows the casting to revolve freely in a vertical position. To one side of the casting is bolted a wind vane and also a set of arms which extend over the roof without touching it and have their ends forged to shape to bolt to a semi-circular wind screen, which covers half or more of the opening around the body. The screen is thus suspended from the rigid central bearing and turns with the least wind pressure on the vane without the screen touching the body. In case the wind pressure is heavy enough on the lower portion of the screen to force it into contact with the body I place a roller on a vertical spindle at the bottom of the screen so that when forced inward it bears on the circular edge of the covering board on the body; normally it does not touch.

In order to enable my invention to be fully understood I will describe the same with reference to the accompanying drawings in which similar letters refer to similar parts.

Figure 1 is an elevation of a shelter embodying my invention; Fig. 2 is a plan view of the same; Fig. 3 is an enlarged sectional elevation of the moving parts; Fig. 4 is an elevation of a modified form of shelter constructed according to my invention; Fig. 5 is a plan of same; Fig. 6 shows a constructional detail drawn to a larger scale.

a is the body of the shelter either circular or polygonal with walls about half the height of the whole.

w are doors, b is a semicircular screen attached to the arms and f is a continuation of the upper ring of screen frame, c is the roof fixed to the frame, d, d are posts connected by bars at the top and bottom to form the frame supporting the roof.

e is an iron casting formed hollow up the middle to receive a pivot k, which fits into a plate e bolted to the casting e which is provided with a ball bearing l at the lower end of the pivot shaft. To this casting is bolted the wind vane f and the arms g are stiffened by the braces h which are hooked through the cap e and bolted to the arms g.

A covering board m is fixed to the top of the walls and has an outer circular edge against which rollers n bear.

i is a heavy timber forming the central roof support and is bolted to the frame. Iron plates j, j are fixed on the upper and under side holding the shaft k in a central and rigid position. The casting e is carried by this shaft which has a pivot formed on the top to fit the recess on the top of the casting e and is kept true by the ball bearing l fixed to the bottom of the casting e. The weight of the casting, the vane f, the arms g and the screen b are carried by the pivot on the top of the shaft k and these parts revolve freely around the same.

Fig. 4 shows an elevation and Fig. 5 a plan of a modification in design in which the mechanism or moving parts are the same, but the body of the shelter is open all around from floor to roof which is supported by fixed frame posts a, d and the screen b is extended down to the floor and forms a complete circle, the upper portion of the screen frame b, b under the vane being left open about half-way around and as low as desired; a door is provided in the screen as shown at q Fig. 5.

Fig. 6 shows a portion of the screen b and a piece of the covering board m. n is a roller on the vertical spindle o which passes through the lower member of the screen frame b and is secured thereto by the nut p; it is shown in its normal position opposite
the vane and clear of the circular edge of
the cover board \( m \). Should the wind
pressure be sufficient to force in the bottom of
the screen the roller \( n \) bears on the circular
edge of \( m \) and prevents the screen rubbing
against the frame. If the design shown in
Fig. 4 is used the covering board \( m \) is se-
cured to the floor to serve as a track for the
roller \( n \).

10 It will be seen from the drawings and de-
scription that shelters constructed on this
principle provide protection for the patient
from wind and weather automatically, by
the action of the wind itself, the screen
changing its position with the change in the
direction of the wind. If desired the frame
can be left entirely open down to the floor
and a semi-circular screen made to reach
the floor and revolve around it.

20 What I claim and desire to secure by Let-
ters Patent of the United States of Amer-
ica is:—

1. In an open air shelter the combination
of a fixed body portion having openings at
the sides, a wind screen pivotally supported
from the center of the roof of the structure
and a vane so set and attached with respect
to the screen that when operated upon by
the wind it causes the sheltering portion of
said screen to be moved into such a position
as to shelter the interior of the structure
substantially as described.

2. In an open air shelter the combination
of a fixed body portion having openings at
the sides, means for supporting a vertical
pivot shaft at the center of the roof, a part
adapted to rotate upon the said shaft, means
in connection with the said part for carry-
ing a screen and other means in connection
with the said part for carrying a wind vane
substantially as and for the purposes de-
scribed.

3. In an open air shelter the combination
of a fixed body portion having openings at
the sides, means for supporting a vertical
pivot shaft at the center of the roof, a part
adapted to rotate upon the said shaft, means
in connection with the said part for carry-
ing a screen and other means in connection
with the said part for carrying a wind vane
substantially as and for the purposes des-
scribed.

4. In an open air shelter the combination
of a substantially circular body portion hav-
ing openings at the sides, means for support-
ing a vertical pivot at the center of the roof,
a framework rotatable about said pivot, a
screen with an open portion connected to the
said framework and a wind vane carried by
the said framework and so set with respect to
the screen as to cause the open portion there-
of to be automatically directed away from
the wind substantially as described.

In testimony whereof, I affix my signa-
ture, in presence of two witnesses.

HENRY JOHN FOX ROSE.

Witnesses:
A. E. VIDAL,
O. J. WORTH.

Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents,
Washington, D. C.”