

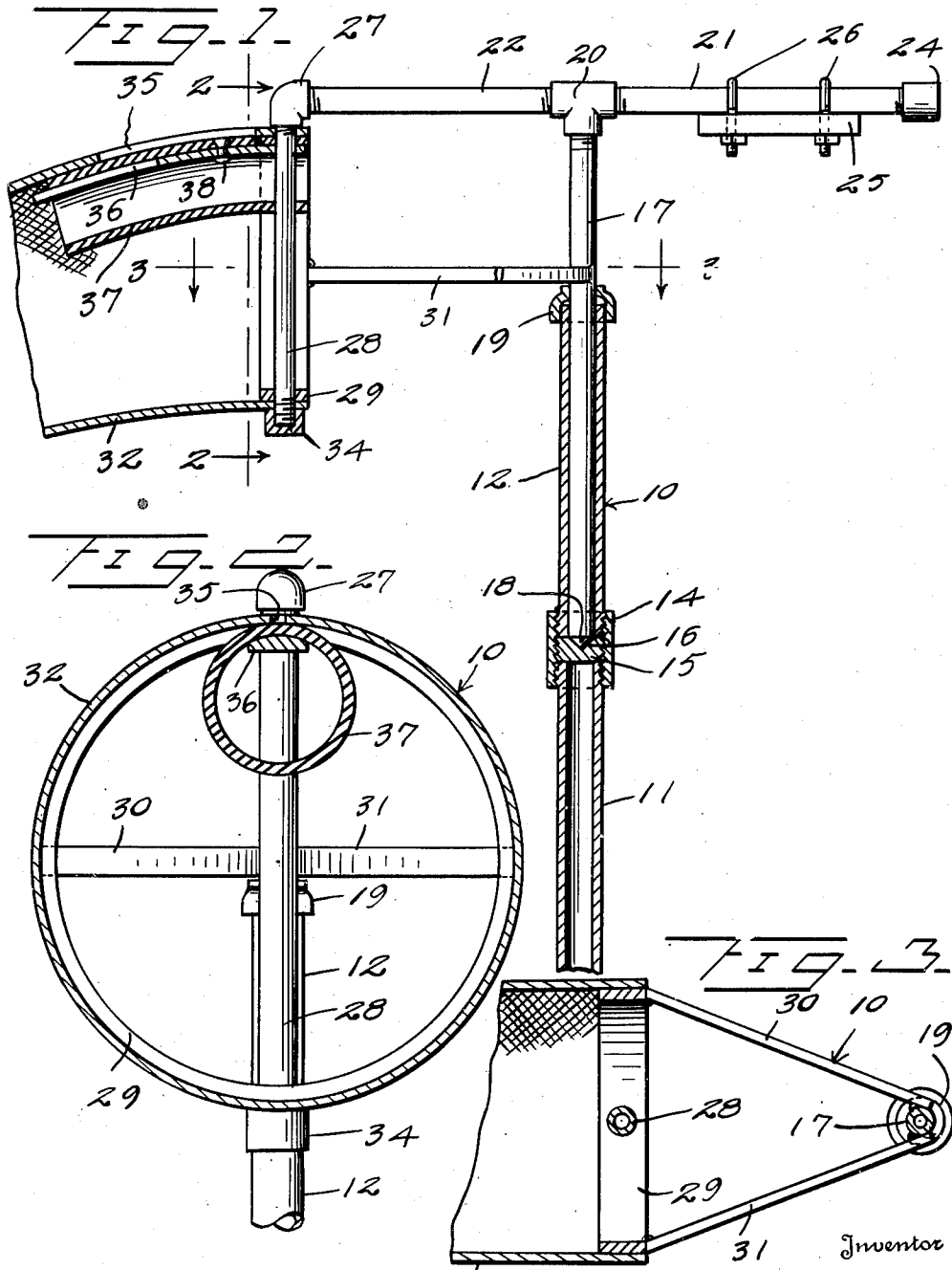
April 19, 1949.

J. G. FINDLATER

2,467,374

WINDSOCK APPARATUS

Filed Aug. 23, 1946



J. G. Findlater

By Kimmel & Crowell
Attorneys

UNITED STATES PATENT OFFICE

2,467,374

WINDSOCK APPARATUS

John G. Findlater, Baker, Mont.

Application August 23, 1946, Serial No. 692,433

6 Claims. (Cl. 73—188)

1

This invention relates to an improved windsock and apparatus for supporting the windsock.

An object of this invention is to provide an improved windsock and supporting apparatus having an inner sock and an outer sock supported in a horizontal spaced relation to the pivot point of the sock assembly, the inner sock engaging a rigid member which is rigidly connected to the pivot point whereby the turning force of the outer sock is transmitted to the inner sock and rigid member for rotating the assembly into the wind.

Another object of this invention is to provide a windsock having an outer sock and an inner sock, the outer sock having a slit therein which is opened by the wind and closed by the inner sock when the wind velocity is low to provide a windsock sensitive to winds of low velocity and so constructed that high wind velocities will not tear the inner or outer socks.

Another object of this invention is to provide an improved windsock wherein the pivot rod substantially floats on an oil film thereby presenting the minimum of resistance to the turning force of the sock.

Still another object of this invention is to provide an improved windsock support having an adjustable balance weight for balancing the weight of the sock to exclude the binding of the pivot thereof.

Yet another object of this invention is to provide a windsock of the kind to be hereinafter described which may be readily made of stock material without the necessity of having many particular machined parts which contribute so much to the cost of such an article.

To the foregoing objects, and others which may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, but it is to be understood that changes, variations, and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a fragmentary side elevation of my windsock assembly, partly broken away and partly in section.

Figure 2 is a vertical section taken on the line 2—2 of Figure 1.

Figure 3 is a horizontal section taken on the line 3—3 of Figure 1.

Referring to the drawings, the numeral 10 designates a windsock assembly constructed according to an embodiment of my invention. The

2

assembly 10 includes a pair of tubular supporting members 11 and 12 fixed together in vertical alignment by a sleeve coupling 14. A bearing 15 is fixed between the adjacent ends of the pipes 11 and 12 within the sleeve 14 and is formed with an upwardly opening conical seat 16. The supporting members 11 and 12 may be fastened at their lower end to any suitable base for a windsock, such as a hangar roof or in the ground on an airport.

A pipe or rod 17 is rotatably mounted in the upper pipe 12, being formed at its lower end with a conical point 18 engageable in the bearing seat 16. The rod 17 is adapted to fit loosely into the support 12 and friction between these members may be greatly reduced by filling the tube 12 with a light oil before inserting the rod 17 whereupon the rod 17 will be supported in a substantial film of oil. To prevent dirt and dust from getting into the tube 12, a dome shaped annular cover 19 is fixed about the rod 17 above the end of the tube 12 and overlies the upper edge of the tube 12.

A T pipe fitting 20 is secured on the upper end of the rod 17 having a rod or pipe 21 extending from one side and a second rod or pipe 22 extending in the opposite direction. The end of the pipe 21 is closed with an end fitting 24 and a counter-weight 25 is slidably supported on the pipe 21 by U bolts 26 engaging about the pipe 21 and into the weight 25.

An elbow 27 is fixed on the outer end of the pipe 22 and a short length of pipe or rod 28 is fixed in the elbow 27 in such a manner that it extends downwardly at right angles to the pipe 22 and parallel to the pipe or rod 17.

A flat ring 29 is carried by the supporting pipe 28, the pipe 28 extending diametrically through the ring 29. The ring 29 may be loose on the pipe 28 and is held against turning relative to the support 28 by a pair of arms 30 and 31 which are fixed at one end to opposite sides of the ring 29 and at their other end to the pipe or rod 17.

A windsock 32 made of fabric or other suitable material is fixed to the periphery of the ring 29 and extends outwardly in a direction opposite from the supporting arms 30 and 31. A nut or end fitting 34 is fitted on the lower end of the pipe 28 for holding the ring 29 and the windsock 32 thereon. The windsock 32 is formed with a rearwardly extending slit 35 on its upper side near the front end for the purpose to be described hereinafter.

A brace 36 made of flat metal or other suitable rigid material is fixed on the rod 28 near the upper end thereof within the sock 32 and extends

rearwardly and downwardly having a contour similar to that of the upper edge of the windsock 32 in a normal flying position.

A short length of resilient tubing 37 which may be made of rubber or other suitable material, having a certain degree of rigidity, is carried by the rod 28 and brace 36 within the windsock 32. The member 37 is of a reduced diameter being smaller than one half of the diameter of the windsock 32. The member 37 is adapted to be positioned adjacent the upper inner edge of the windsock 32 to cover the slit 35 when the windsock 32 is supported on the member 37 in a low wind. The member 37 is fixed to the brace 36 by a rivet 38 or other suitable fastening device. This inner member may be made of metal, if desired, and need not be a complete circle.

In the operation of this windsock assembly, when a slight wind is blowing the windsock 32 droops in such a manner that the slit 35 lies on the member 37 thereby closing the opening there-through and the windsock 32 closes the outer end of the member 37 and its own shortened outer end, thereby presenting a tube with a closed end to the wind, this being more sensitive to winds of low velocity than an open ended sleeve. The wind, when tending to turn the rod 17, causes the windsock 32 to engage the upper side of the member 37 which may partially roll due to the friction between the member 37 and the windsock 32, thereby providing an increased lever arm for turning the windsock 32 about the tube 12, the lever arm being the length of the rod 22 plus one-half the length of the sleeve 37. In the construction of windsocks heretofore a sensitive windsock would be susceptible to much damage in winds of a high velocity. By the construction of a windsock as herein described, the windsock will be sensitive to low winds and able to withstand high winds with little or no damage. A high wind entering the ring 28 will raise the windsock 32 in such a manner that the upper edge thereof will be raised from the sleeve 37 thereby opening the slit 35 so the wind may pass readily through the sleeve 37, the windsock 32 and slit 35 having little resistance thereby precluding the probability of damage to the windsock 32. The sleeve 37, windsock 32 and opening 35 constituting a valve formed by the association of these elements being dependent upon the wind condition for the operation thereof to obtain the result described.

The weight 25 is calculated to counterbalance the weight of the windsock 32 and its correlated parts on the arm 22, in such a manner that the cross arm 22 plus 21, will be substantially balanced in the average wind condition for a particular location. While the weight 25 is shown here fastened to the arm 21, it may, when desired, be removed and lead, sand or other suitable material be fixed within the arm 21.

I do not mean to confine myself to the exact details of construction herein disclosed but claim all variations falling within the purview of the appended claims.

What I claim is:

1. A windsock assembly comprising a T-shaped support, a downwardly extending rod on the terminal end of one cross arm of said support, a ring carried by said rod, said rod extending diametrically across said ring, a windsock fixed to the periphery of said ring and extending therefrom, a resilient tubular member carried by said ring and extending into said sock, said member being of a diameter substantially smaller than

said ring and said sock, an elongated brace fixed on said rod near the upper end thereof within said ring engaging said tubular member for supporting said member near the upper edge of said ring adjacent said sock, said sock formed with an elongated longitudinal slit therein above said tubular member whereby one end of said member and said sock will be closed by said sock in a low wind condition and in a high wind the wind may pass through said tubular member, said member and said slit.

2. A windsock assembly comprising a ring, a windsock fixed at one end thereof to the periphery of said ring, said sock formed with a rearwardly extending elongated slit at said one end, a resilient tubular member of reduced diameter on said ring extending into said windsock adjacent said slit, a downwardly and rearwardly extending brace on said ring for supporting said member, and means rotatably supporting said ring.

3. In a windsock assembly, an elongated windsock, a ring frame for said sock, said windsock having a rearwardly extending slit in the front end thereof on the upper side, and a rearwardly and downwardly extending resilient tubular member secured on said frame and extending into said windsock for covering said slit in certain positions of said windsock.

4. A windsock assembly comprising an open ended flexible sock, a supporting frame for one end of said sock, said sock formed with an opening on the upper side thereof adjacent said frame, and a member carried by said frame and extending into said sock for closing said opening in the substantially dependent disposition of said sock thereover.

5. A windsock assembly comprising a flexible sock open at the front end thereof, a supporting frame for the front end of said sock, said sock formed with an opening on the upper side of the front end, a downwardly and rearwardly inclined member secured to said frame and extending into said sock for closing said opening in the dependent disposition of said sock thereover in a low wind condition and permitting the passage of air through said opening in the raised disposition of said sock in a high wind condition.

6. In a wind direction indicating device a flexible tubular member open at the forward end thereof, a supporting frame for the front end of said member, said member formed with an opening therethrough intermediate the length thereof, a downwardly and rearwardly inclined member on said frame for closing said opening in the dependent disposition of said first member thereover in a low wind condition and being spaced therefrom permitting the passage of air through said opening in the raised disposition of said first member in a high wind condition.

JOHN G. FINDLATER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
751,514	Hunt	Feb. 9, 1904
993,800	Shotwell	May 30, 1911
1,579,034	Roberts	Mar. 30, 1926
1,736,109	Barton	Nov. 19, 1929

FOREIGN PATENTS

Number	Country	Date
517,786	Great Britain	Feb. 8, 1940