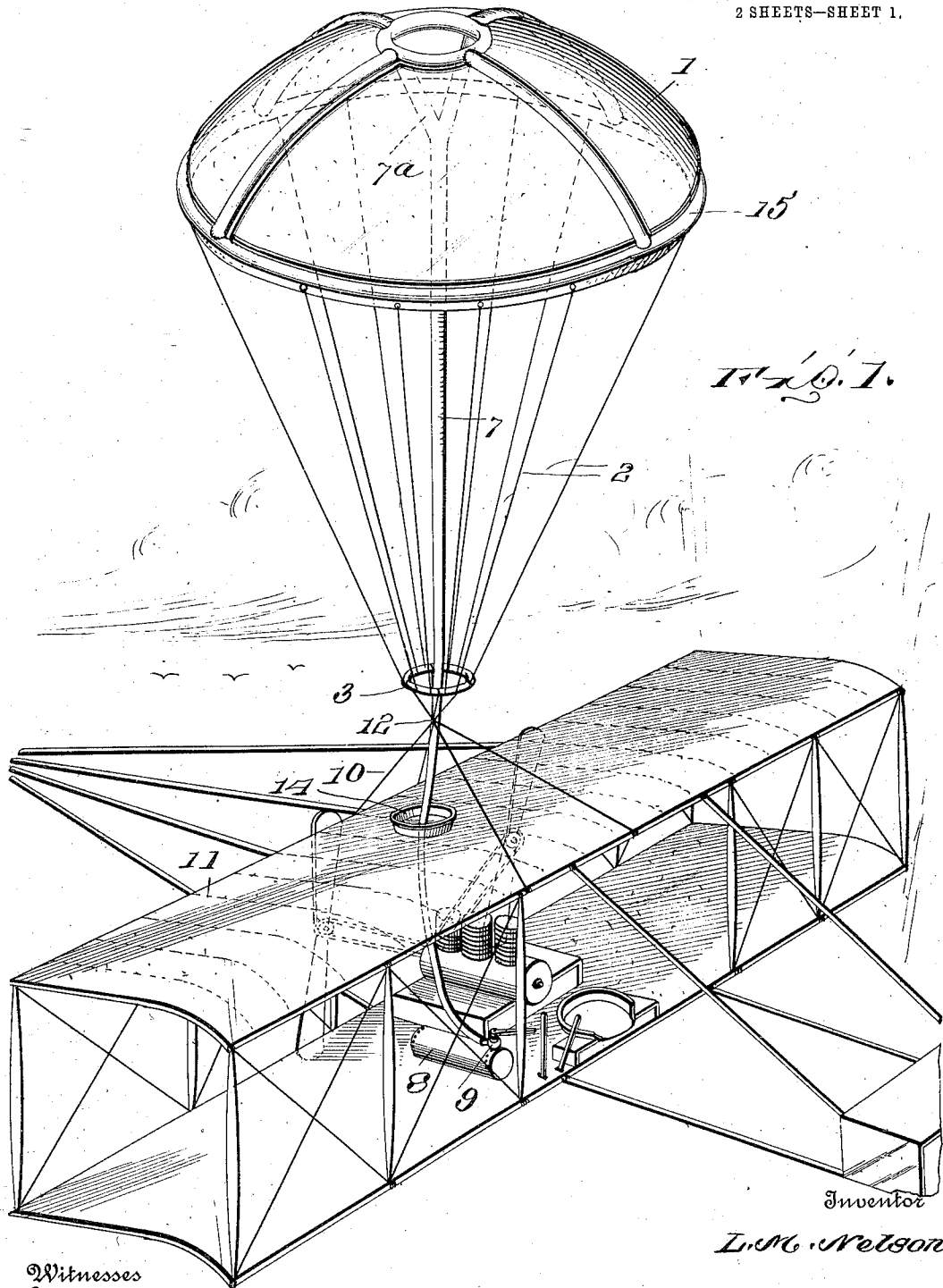


L. M. NELSON.
PARACHUTE.
APPLICATION FILED JAN. 14, 1911.

1,019,271.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.



Witnesses
W. E. Woodson
Juana M. Fallin

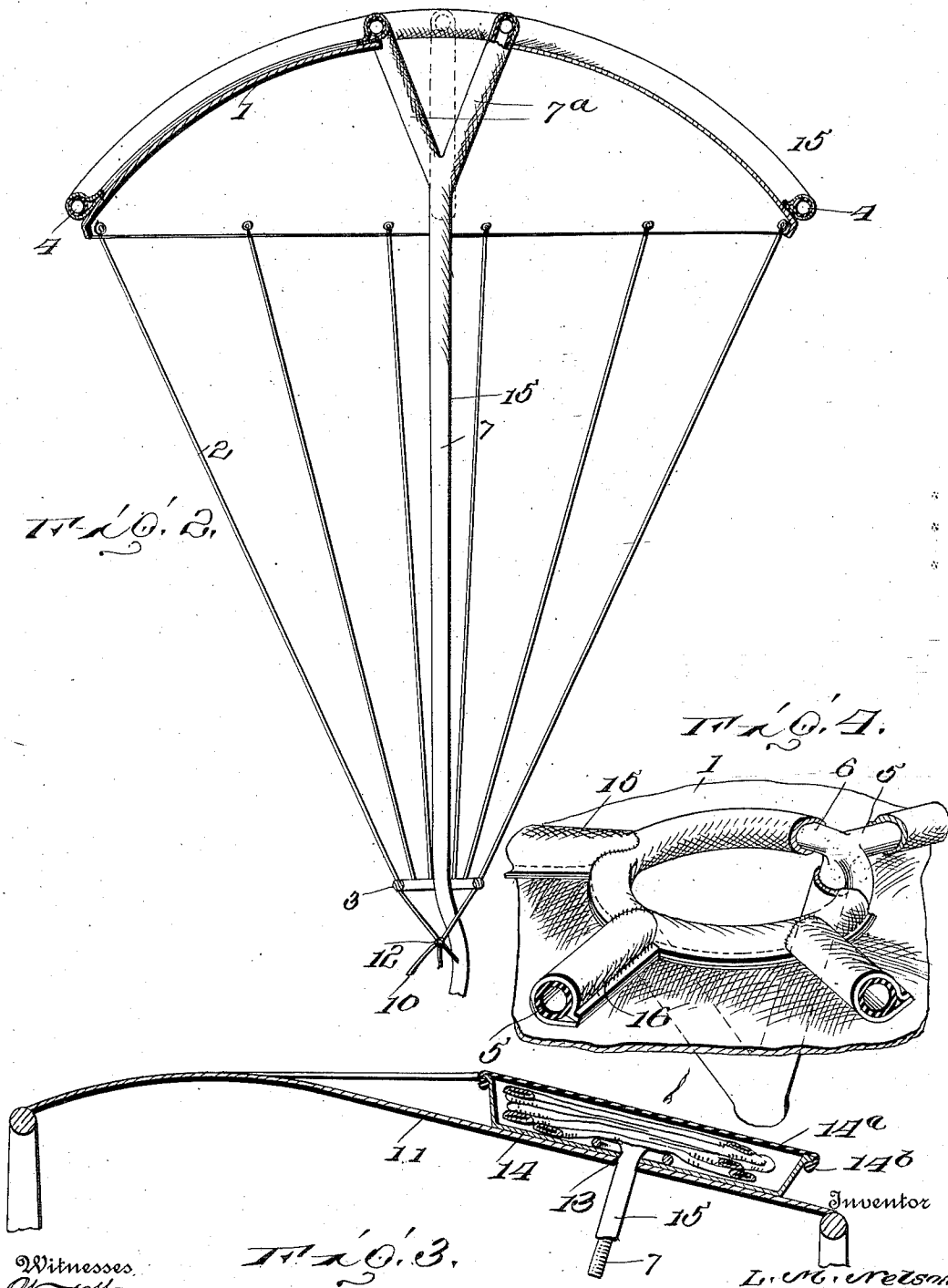
By *W. E. Woodson* Attorneys.

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Witnesses.
W. H. Hudson.

Juana M. Fallin.

By

L. M. Nelson
Attorneys.

UNITED STATES PATENT OFFICE.

LOUIS M. NELSON, OF PENNINGTON, NEW JERSEY.

PARACHUTE.

1,019,271.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed January 14, 1911. Serial No. 602,668.

To all whom it may concern:

Be it known that I, LOUIS M. NELSON, citizen of the United States, residing at Pennington, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Parachutes, of which the following is a specification.

This invention comprehends certain new and useful improvements in aeronautics, and relates particularly to parachutes.

It is well known that up to the present time in the development of the art of aerial navigation, the practice of aviation has been attended with imminent danger and has often resulted in fatalities, owing to the fact that no means have heretofore been provided for successfully retarding the descent of the operator, after he has once lost control of his machine. This has been particularly true with aeroplanes.

With a knowledge of these conditions, it is the primary object of my invention to provide an improved parachute which may be so carried on the person, or so connected to the flying machine or air-ship, particularly the former, that it may be instantly and positively spread to an operative position, when required for use, and held distended by inflation means, so as to effectually retard the descent or fall of the aviator, either apart from or with his machine, and thereby render it possible to make a safe descent, in case of an accident, or should for any reason the operator lose control of his machine.

With this and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements, and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view illustrating one application of my invention; Fig. 2 is a longitudinal sectional view thereof in operative or distended condition; Fig. 3 is a detail sectional view illustrating how the device is packed or stowed away when not required for use, while at the same time being in readiness for instant operation; and, Fig. 4 is a fragmentary perspective view, with parts in section, illustrating one of the preferred ways of securing the inflation tubes

to the body of flexible material that forms the main part of the parachute.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

It is to be understood that in the manufacture of my improved safety appliance, I may make use of any of the ordinary parachute constructions which embody a skin or body portion of some suitable textile fabric, a series of suspension cords or ropes connected to the preferably circular edge thereof, and a suspension ring to which the lower ends of said cords are connected in any approved way. So far, then, as these parts are concerned, the accompanying drawings illustrate merely conventional forms of textile body portion 1, suspension cords 2, and suspension ring 3.

In carrying out my invention I secure to the body portion 1, at or near the margin thereof, an inflatable ring 4 of some air tight substance or material capable of successfully withstanding the necessary inflation, such as rubber or oiled silk, and I join to said ring, preferably at equidistant points, any desired number of substantially radial transversely extending tubes 5 that are also inflatable, the outer ends of the tubes 5 being joined in any desired way to the ring 4, and the inner ends of said tubes 5 being connected in any desired way to an upper and preferably smaller inflatable ring 6. In order to supply the framework thus produced with inflating fluid, such as air, or hydrogen gas, I connect to the ring 6, preferably at diametrically opposite points, the forked upper end of a feed tube 7, said feed tube, in the operative condition of the parachute, being disposed substantially centrally therein and leading down to a supply drum or cylinder 8 to which the lower end of the feed tube 7 is suitably connected. The communication between the source of supply 8 and the feed tube 7 is controlled by a valve 9 which is preferably in the form of an ordinary hand-operated turn-cock, which may be instantly opened and closed.

While my improved parachute or safety aerial appliance may be carried in any desired way, according to the particular use to which it is to be put, I have shown the same, for the purposes of illustration, as connected to an aeroplane. In the present embodiment of the invention, the parachute is con-

5 nected by any desired number of cords 10
to the upper plane 11 of an aeroplane of
the biplane type, the common point of con-
nection of said cords 10 being located at the
10 actual center of gravity of the machine and
above the upper plane 11 in spaced relation
thereto, said point of common connection,
designated 12, being also located underneath
and coincident with the central axis of the
suspension ring or hoop 3.

15 As the parts are all flexible and compress-
sible, they may be stowed away, when not
required for use, within a relatively small
space, and I have shown in the present in-
stance, for this purpose, a pan or receptacle
14 secured to the upper plane 11 at the trans-
verse center and preferably near the rear
edge thereof, where it will not offer any ap-
preciable resistance to the forward move-
20 ment of the machine. In the preferred man-
ner of packing the parts in this receptacle
14, the suspension hoop 3 is first placed there-
in, the suspension cords or ropes 2 are then
carefully laid in the receptacle in such a
25 manner that they may be readily withdrawn
therefrom without becoming entangled, and
the body portion 1 with its inflatable frame-
work is then carefully placed in the recep-
tacle, the feed tube 7 being folded as near to
30 the top of the folded parts as possible,
whereby it may be quickly distended and
shot up to its full length so as to carry the
other parts with it when the inflating fluid
or gas is admitted therein. The feed tube
35 7, as best illustrated in Fig. 3, extends down-
wardly through an opening 13 formed in the
bottom of the receptacle 14. In order to pro-
tect the parts from the elements or from de-
terioration by atmospheric conditions when
40 not in use, the receptacle 14 is provided with
a cover 14^a, preferably composed of rubber,
capable of distension and formed with a
relatively heavy bead 14^b, adapted to be
stretched over the marginal flange of the re-
45 ceptacle so as to hold the cover in place.

50 In the practical operation of the device,
whenever the same is required for use, it is
only necessary for the operator to turn the
handle of the valve 9, whereupon the inflat-
ing fluid will instantly pass into the then de-
flated feed tube 7, the tube will be instantly
inflated and the parachute will be shot up
and almost instantly distended, the cover
14^a being, of course, removed by this opera-

tion. It will thus be seen that by my in- 55
vention there is always at hand a device
which will insure the safety of the operator
and one that can instantly be brought into
commission when required and in a very
simple manner without the manipulation of 60
any parts except the valve 9 of the supply
drum. After being once distended by the
inflation of its framework, it is of course
manifest that the parachute will be kept in
a distended condition by atmospheric pres- 65
sure alone; but if desired it is clear that hy-
drogen gas may be used as the inflating
fluid, in order to assist in the aerostatic
buoyancy of the device.

70 While the invention is not limited to any
manner of attaching the tubes to the body
portion of the parachute, I prefer to house
all of the tubes, including the feed tube 7,
in textile sheathings or casings, the same
being designated 15. The sheathings of the 75
tubes 4, 5 and 6 may be stitched to the body
portion 1, as best illustrated in Fig. 4, and
not only serve as the means for connecting
the tubes to the body portion, but also, even
80 including the sheathing for the tube 7, serve
to reinforce and protect the tubes, not only
from deterioration by the action of the ele-
ments, but from undue distension and conse-
quent rupture.

85 Having thus described the invention, what
is claimed as new is:

A collapsible parachute, a receptacle de-
signed to contain said parachute in collapsed
condition, the receptacle being open at its
top, a distensible cover formed with a mar- 90
ginal bead by which it is designed to be
stretched over and removably secured to the
receptacle to cover the same and the recep-
tacle being of a size to contain the parachute
in the collapsed and deflated condition of 95
the latter, the parachute including an in-
flatable frame, and means leading into the
receptacle for inflating said frame, whereby
to forcibly remove the cover from the recep-
tacle and to raise the parachute therefrom 100
into distended condition.

In testimony whereof, I affix my signature
in presence of two witnesses.

LOUIS M. NELSON. [L.S.]

Witnesses:

W. N. WOODSON,
FREDERICK S. STITT.