

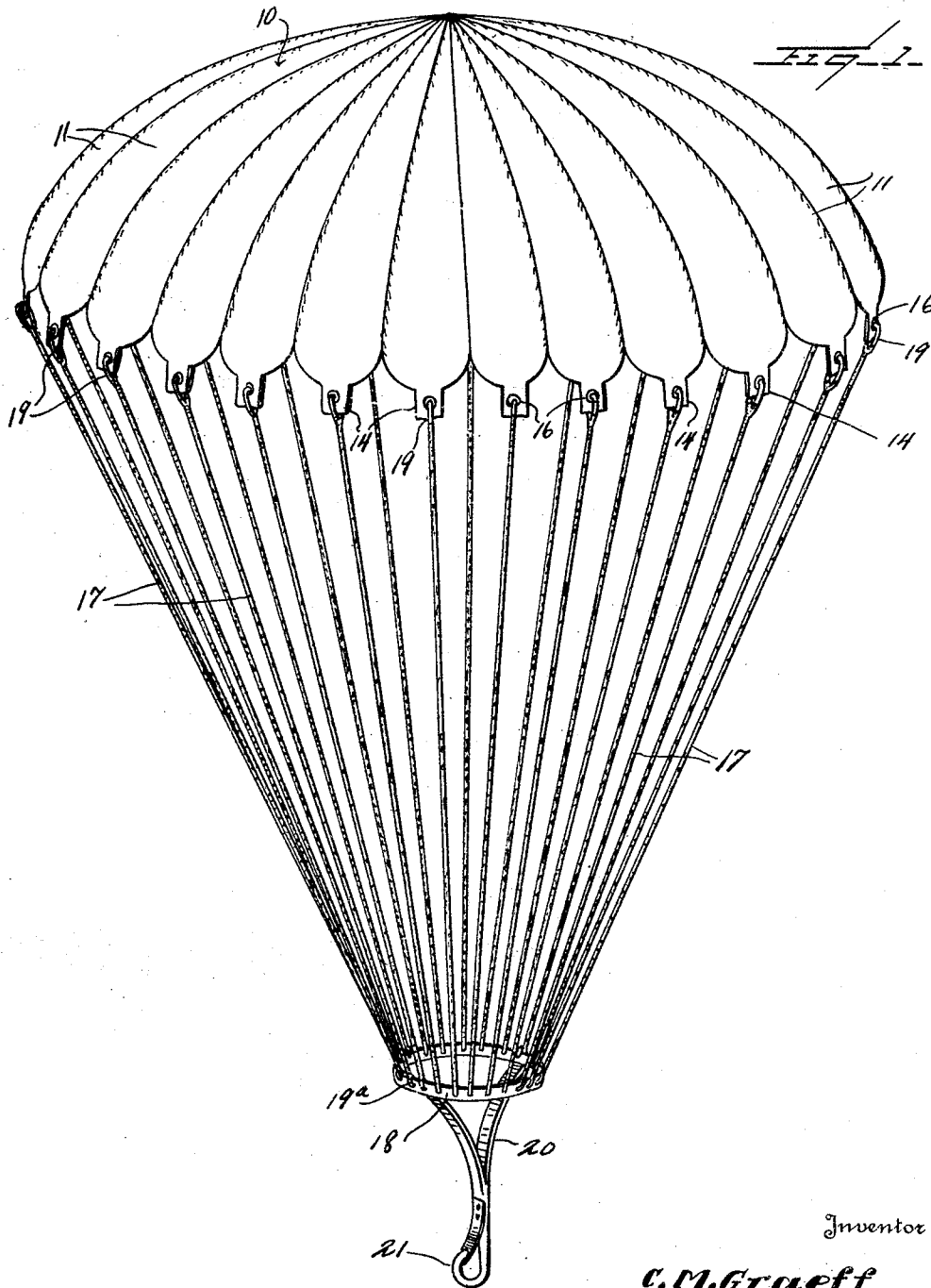
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C. M. GRAEFF

1,890,083

MAIL BAG PARACHUTE

Original Filed Dec. 12, 1929 3 Sheets-Sheet 1



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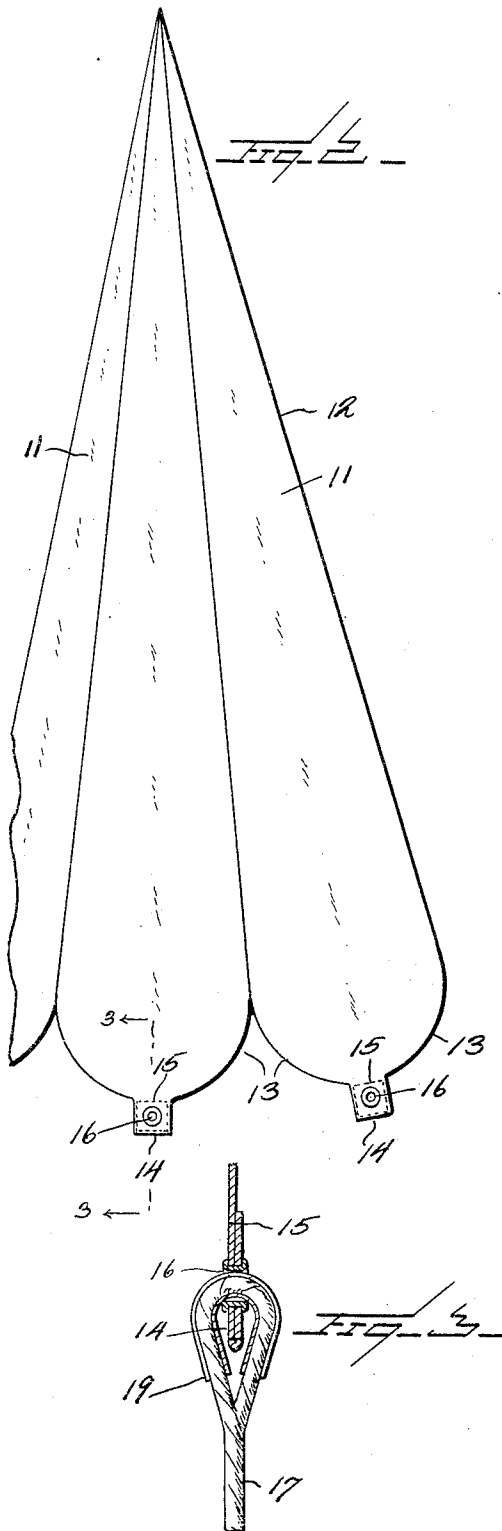
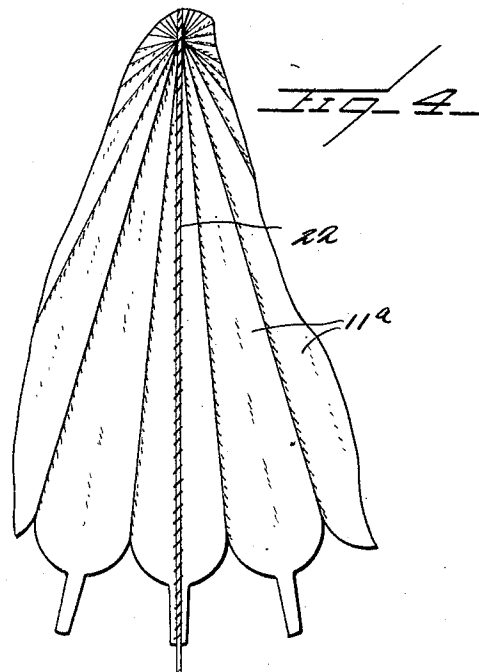
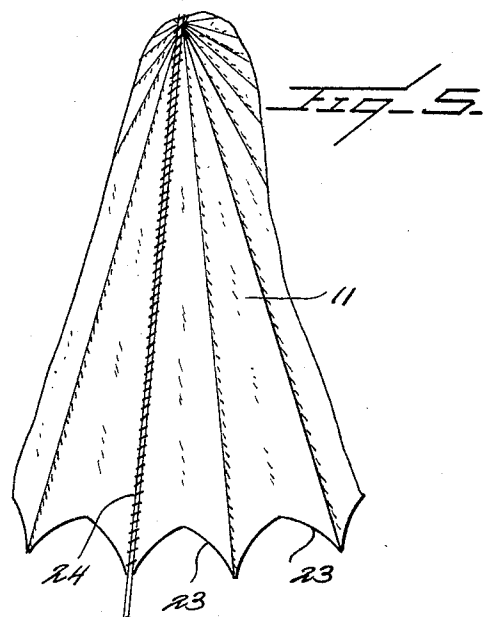
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MAIL BAG PARACHUTE

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3 Sheets-Sheet 2



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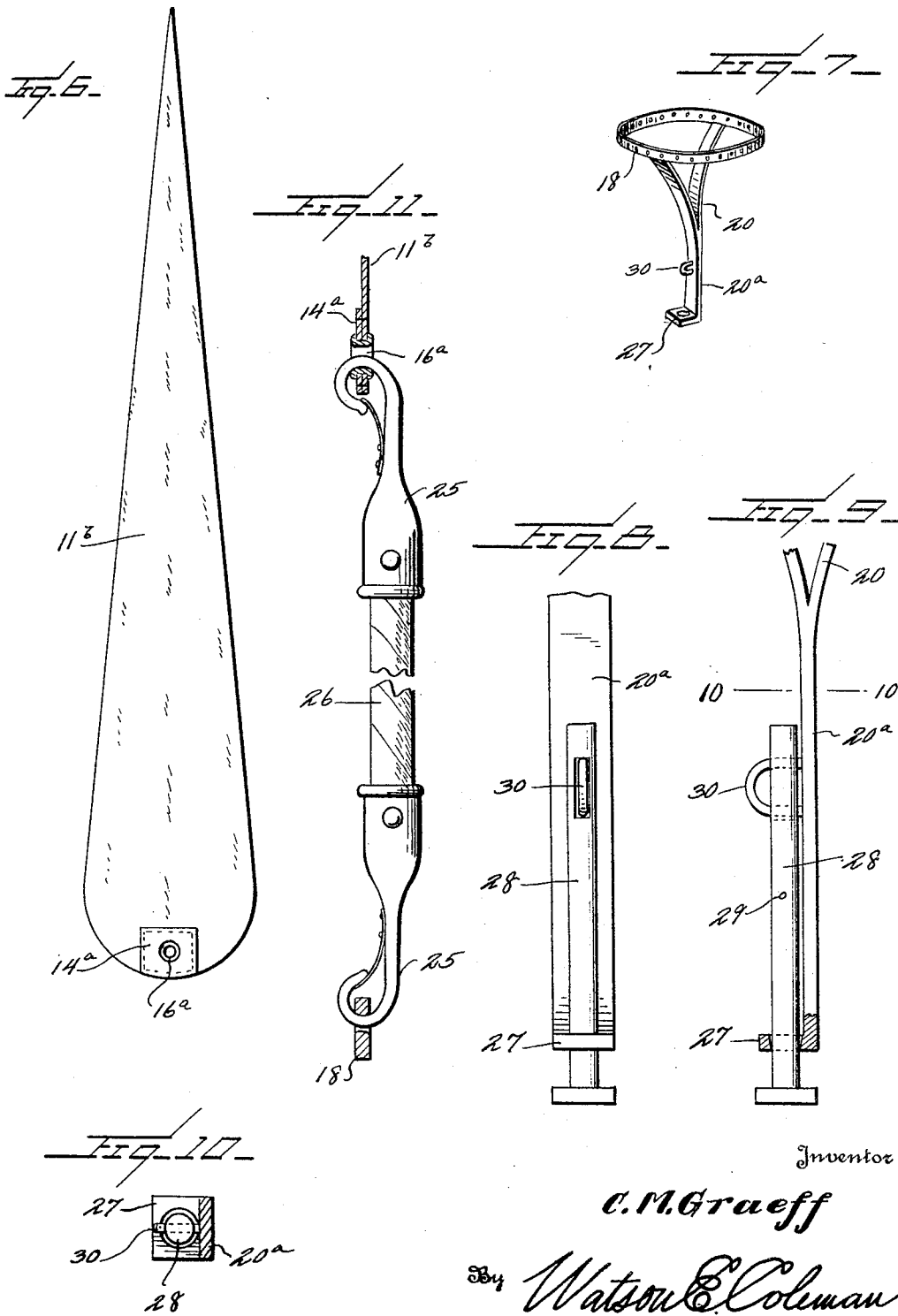
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MAIL BAG PARACHUTE

Original Filed Dec. 12, 1929

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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MAIL-BAG PARACHUTE

Application filed December 12, 1929, Serial No. 413,623. Renewed April 23, 1932.

This invention relates to parachutes and particularly to parachutes for landing mail from airplanes.

One of the objects of the present invention is to provide a parachute of such construction that it will open readily when dropped from the mail plane. Further to provide a parachute structure to which mail bags or containers may be readily attached or detached.

Another object is to so connect the cords from the parachute to the mail bag support that there will be no tendency to draw the edge of the parachute inward by the weight of the bag.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is an elevation of a parachute constructed in accordance with my invention;

Figure 2 is a fragmentary detailed view of the parachute showing the manner of its formation;

Figure 3 is an enlarged section on the line 3—3 of Figure 2, but showing the rope in place;

Figure 4 is a fragmentary plan view of a modification of the parachute;

Figure 5 is a like view to Figure 4, but showing a still further modification of the form of parachute sections;

Figure 6 is a plan view of a modified form of parachute section;

Figure 7 is a perspective view of a modified form of mail bag support;

Figure 8 is an elevation of the lower end of the bag support shown in Fig. 7 with the pin in place;

Fig. 9 is an elevation taken at right angles to Fig. 8 and partly in section;

Fig. 10 is a section on the line 10—10 of Figure 9;

Figure 11 is an elevation of one of the ring supporting ropes used in connection with the parachute section shown in Fig. 6, the figure showing in section the mail bag

supporting ring 18 and the lower end of the parachute section shown in Figure 6.

Referring to these drawings, and particularly to Figures 1 to 3, it will be seen that the parachute 10 is formed of a series of sections 11, each of these sections being of the same general character and each having the specific form shown in Figure 2. These sections in actual practice will have an overall length of about eight feet nine inches and a width at the widest part of about eighteen inches. Each of these sections or panels 11 has its lateral edges extending downward and outward from the upper tip end of the panel as at 12, then extending inward as at 13 to a distance of about nine inches from the widest part of the panel, then extended downward a distance of about six inches as at 14 to form a tab which is approximately three inches wide and which is capable of being folded back upon itself to form a double thickness. This double thickness is stitched as at 15 all around its margin and inserted in this stitched portion and stitched thereto is a ring or grommet 16.

The several panels 11 are stitched together around their margins down to the beginning of the inwardly convergent portions 13, thus leaving a series of flaps 16 extending loosely below the body portion of the parachute, these flaps being free. Connected to the extremities of these flaps are the cords 17 which extend down to a metallic ring 18 and are connected thereto. Preferably, though I do not wish to be limited to this, there is passed through each of the tabs 14 a horseshoe-shaped transversely curved shield 19, the upper end of the cord or rope 17 being formed to provide a loop disposed within said shield. This shield is preferably made of steel and the shield may be placed through the eyes or grommets 16 so that the rope will not be chafed on the eyes or grommets. The shield 19 in this case will rub against the metal eye and the rope will be thoroughly protected so that it cannot wear out.

The lower ends of the ropes or cords 17 are also formed preferably with loops passing through U-shaped shields 19^a; these in

turn being disposed loosely through perforations 20 formed in the metal ring 18. Attached to the ring 18, which ring is preferably about twelve inches in diameter, are metallic bands 20 (which might be of leather, webbing or any other suitable material) and which support the snap hook 21. This snap hook will preferably be made to provide one and one-half inch eye in which the rope or leather handle at one end of the mail bag will be engaged.

While I have illustrated a particular form of panel 11, I do not wish to be limited to this. In Figure 4, I show a form of panel designated 11^a which is approximately the same form as that shown in Figure 2 and having an elongated neck portion.

A quarter inch rope 22 may be attached to this panel by stitches along its entire length or otherwise and this rope extends down the middle of the panel and down the middle of the narrow neck at the lower end thereof. These ropes 22 may either be connected to the rings or ropes 17 in any desired manner or might be continued on down to the ring 18 and connected thereto, as shown in Figure 1. Of course, this construction of parachute tends to strengthen the parachute itself so that there is no danger of its wrapping or the ropes tearing loose.

In Figure 5, I show another form of parachute in which each section 11, instead of being formed with a narrowed lower end is cut away at its middle as at 23 so that the section instead of being spear-shaped is arrow-shaped. These sections may be stitched along their side edges to each other, as shown in Figure 5 and this will provide a parachute having a series of scallops or depending flaps extending around the lower edge of the parachute. To these flaps, the supporting ropes 17 will be engaged in any desired manner, as for instance, the manner heretofore described. In this form of the invention, the ropes 24 may also be sewed into the seams between the sections and these ropes may be continued down and engaged with the ring 18 in any desired manner. In this case, the ropes can be sewed right into the same.

The size of the parachutes will, of course, depend upon the average weight of the mail pouch with mail. If a parachute is 15 feet in diameter, there will be approximately thirty of the panels 11 or 11^a and such a parachute will take care of from seventy-five to one hundred pounds of mail matter dropped from an airplane.

The depending flaps at the margins of the parachute can be either half round or approximately triangular in shape as desired. The parachute can be made of silk, canvas or any other fabric.

In Figure 6, I show another form of parachute section which is designated 11^b. This is rounded at its lower end as is the para-

chute section shown in Figure 2, but instead of having a depending tab 14, a tab 14^a is provided which is bent back upon the body of the parachute section 11^b and is sewed thereto and held to the body by means of the grommet 16^a. The rope 17 with its shield 19 may be used in connection with this construction or not as desired. On the other hand, these parachute sections at their lower ends may be connected to the ring 18 previously described by means of double snap hooks 25 as illustrated in Figure 11, these snap hooks being operatively connected to and engaged with the ends of the rope sections 26. As illustrated in Figure 7, the frame for supporting the mail bag may consist of the hoop 18 as previously described, the downwardly extending convergent members 20 but need not support the snap hook shown in Figure 1.

In Figures 7, 8 and 9 is shown a latch whereby the mail bag may be held positively engaged and if desired locked to the parachute. To this end the lower end 20^a of the shank formed by the conjoined elements 20 shown in Figure 7 or the conjoined elements shown in Figure 1 is angularly bent as at 27 and apertured (see Figure 9.) Passing up through this aperture is the pin 28 having a head at its lower end and having a transverse pin 29 to prevent the pin 28 dropping downward entirely through the aperture in the lug 27. The upper end of this pin 28 is slotted for the passage of the hasp 30 projecting from the shank 20^a.

A padlock may be disposed through this hasp. It will be noted that the aperture in the lug 28 may be expanded so as to permit the pin to rock outward. When the pin is rocked outward, a strap of a mail bag may be passed over the pin and the pin may be then brought back into parallelism with the shank 20^a, engaged with the hasp and then engaged with the padlock inserted through the hasp.

It will be understood, of course, that this means of connecting the mail bag to the parachute may be used with any form of parachute which has been illustrated.

I do not wish to be limited to a parachute having a circular form as the parachute in plan might have other forms without departing from the spirit of the invention as defined in the appended claims.

The particular advantage in the form of the parachute described is that I have found in practice that a parachute having these depending flaps which are free at their side edges will open quicker than where the margin of the parachute is not provided with these flaps. Furthermore I have found that the parachute holds the air better.

I claim:—

1. A mail parachute for mail planes formed by a series of panels stitched to each other,

the panels being formed at their lower ends to provide a series of depending flaps, each flap at its lower end being formed to provide a folded over tab, a grommet disposed in said
5 folded over tab, ropes having their upper ends formed with loops to pass through said grommets, and metallic shields embracing said loops, an apertured ring through which said ropes extend, the lower ends of the
10 ropes having loops passing through the apertures of said ring, metallic shields embracing the loops and preventing chafing against ring, and means depending from said ring for detachably engaging the mail bag.

15 2. A parachute of the character described, having a plurality of downwardly extending convergent ropes, a ring with which said ropes are connected, the ring at its lower end having a depending shank, a mail bag latch
20 connected to said shank and adapted to detachably engage a portion of a mail bag, the latch comprising an angular lug at the lower end of the shank, a pin extending upward through said lug, and a hasp with which the
25 upper end of the lug is engaged, the hasp being adapted to engage a padlock.

3. A mail parachute comprising a parachute proper, the lower margin of the parachute being provided with a series of spaced
30 grommets, metallic members engaging through said grommets and engaging with a series of depending ropes, a ring, snap hooks at the lower ends of the ropes engage-
35 able with said ring, the ring having means whereby a mail bag may be supported therefrom.

In testimony whereof I hereunto affix my signature.

CHARLES M. GRAEFF.