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E. UDET

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AERIAL ADVERTISING AND APPARATUS

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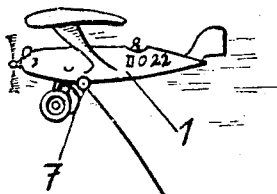
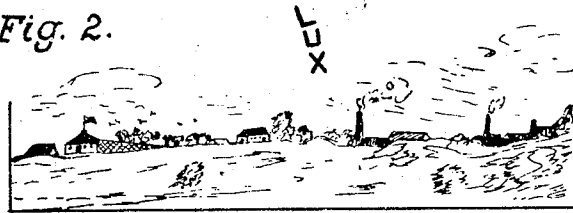


Fig. 2.



2

4

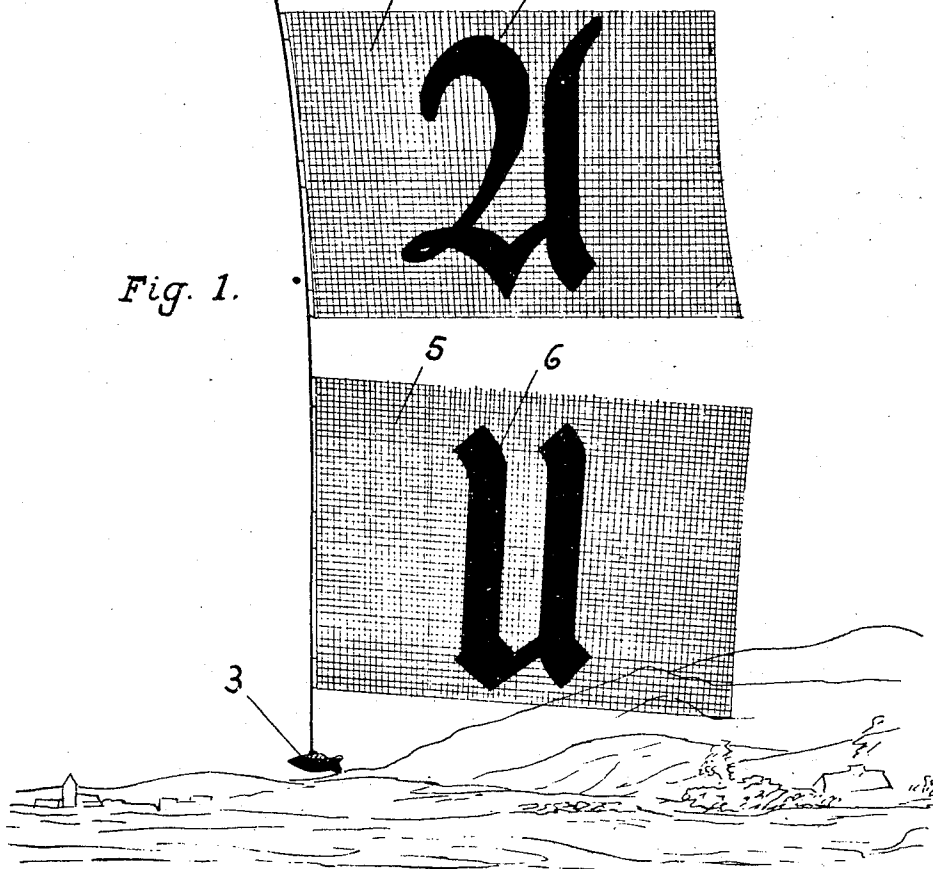
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Fig. 1.

5

6

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AERIAL ADVERTISING AND APPARATUS

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The invention is concerned with the display of advertisements and the like by unfurling a sheet or sheets carried by a motor-driven aircraft, so that the announcement is exhibited against the sky, that is to say with the sky as a background, the sheet being one which is in no way stiffened by framework.

According to my invention the sheets are lowered, substantially vertically, and are carried in this state, instead of streaming out to the rear in the manner of banners, as was heretofore usual.

This method of display is to a large extent independent of atmospheric conditions, and even of the time of day, as the advertisements can be made luminous, or can be illuminated. The aircraft is able to traverse a very large area with the advertisements, and the announcements on the sheets can be made of practically any desired size allowed by the area of the sheets, which are kept well extended or spread while the machine is travelling. The cable carrying the sheet or sheets can, if desired, be lowered to within a comparatively short distance of the earth without requiring the machine to descend below a safe altitude. The advertisements are prominently and strikingly displayed in the field of view of pedestrians, and an extraordinarily large field of display is obtainable by causing the machine to travel in a spiral path. Legibility is not adversely affected by strong sunlight, or by rolling or banking of the machine, and the optical effect is very striking, as the advertisement appears to the casual observer to be floating freely, without connection to the remote machine.

The advertisements can be easily changed, by changing the sheet or sheets, and this can be done either on the ground or in the air. This is a feature rendering the invention useful for certain signalling purposes, as for example for signalling between aircraft flying in squadrons. No particular training is required for this method of advertisement or signal display, neither is it necessary to use any particular type of aircraft, or special appliances on the aircraft, except perhaps a winch or its equivalent, for dealing with the cable. It has been strikingly demonstrated

that the amount of power required for dragging the cable is small, so there is generally no need for using specially powerful machines. The advertisement appliances required are not expensive, and are not subjected to excessive wear.

I am aware that it has heretofore been proposed to use kite and balloons for displaying advertisements in or on stiff frames suspended therefrom, for example advertisements in opaque characters on netting within frames. It has also been proposed to attach an advertisement flag to a frame fixed above or behind the elevator of an aeroplane, in the propeller stream, where of course the size of the advertisement is strictly limited, and the same can only be displayed at the altitude at which the machine flies.

The invention is illustrated in the annexed drawings in which Fig. 1 represents diagrammatically an aircraft in flight, with an advertisement composed of two characters suspended therefrom according to our method. Fig. 2 is a view illustrating the effect of this advertising method, when viewed from a distance, the advertisement displayed in this case being the word "Lux".

In Fig. 1, 1 represents an aeroplane, from which a cable 2 is suspended, the point of attachment of the cable being near the center of gravity, and the cable being preferably sufficiently thin to be practically invisible against the sky, from a distance. At the lower end of the cable there is a stream-lined weight 3 serving as a loading means therefor. To the cable 2 there are attached the left hand edges of two advertisement sheets 4, 5, one above the other, these sheets being for example of network or gauze, without any stiffening which prevents their folding or furling. The advertisement characters 6 may be painted on the sheets, or may be made separately, and be attached to the sheets by any convenient means. It will of course be understood that characters or designs of any kind may thus be displayed. We may use luminous paint or composition for the advertisements, so that they are visible at night without requiring illumination by a search-

light or other means. On the aeroplane there is a winch 7 for the cable.

The machine takes off with the cable wound on the winch drum, together with the foldable sheets 4, 5. At a suitable altitude the weight 3 is cast off, and the cable lowered, the sheets 4, 5 being in due course unfolded, and spreading out aft. The netting or gauze is invisible at a distance, against the sky, so that the characters appear to be floating freely in the atmosphere, as illustrated in Fig. 2.

Instead of an aeroplane I may use a motor-driven airship.

What I claim is:

1. The method of aerial advertising which consists in suspending from motor driven aircraft a substantially vertical disposed cable device with a flexible and readily furlable sheet bearing visible announcing or advertising material and attached along one edge to said device and towing the same through the air at sufficient speed to cause the unfolding and extension of the sheet by the airstream for exhibiting the visible announcements in a vertical plane.

2. The method of aerial advertising which consists in supporting from motor driven aircraft with a substantial clearance and in a vertical plane a flexible furlable sheet bearing advertisement or announcement material thereon which is visible when the sheet is extended and towing the same through the air at sufficient speed relatively to the air to cause the unfolding and extension of the vertical sheet by the airstream and the display of said advertisement or announcement material.

3. An apparatus for aerial advertising including a cable reel attached to a motor driven aircraft and one elongated cable, a weight on the free end of the cable, said cable being adapted to be vertically suspended from the craft, a flexible sheet of extensive area attached to the cable along one edge and adapted to be readily folded or furled, said sheet bearing announcement or advertisement material which is visible when the sheet is extended so that with the cable unreeled during movement of the craft through the air the sheet is automatically extended and spread out by the airstream in a vertical plane and the announcement or advertisement material displayed.

4. An apparatus for aerial advertising including a motor driven aircraft having a cable device with a weight on the free end of the cable, said cable being adapted to be freely let out in a vertical plane and pulled in and an extended surface of soft and unstiffened sheet material fixed to the cable device only at one edge thereof and adapted to be readily folded or furled, said surface bearing advertisement or announcement material in contrast with the surface itself whereby with the weighted cable let out from the craft and the same towed through the air at suffi-

cient speed relatively to the air said surface is caused to be unfolded and spread out by the airstream in a vertical plane for exhibition of the advertisements or announcements thereon.

5. An apparatus of the character set forth in claim 3 wherein there are at least two sheets which are fixed to the cable device in spaced relation, each of said sheets bearing a part of the announcement or advertisement.

6. An apparatus of the character set forth in claim 3 wherein the sheet bearing the announcement or advertisement material is transparent while the letters or characters of the announcement or advertising material are luminous.

7. An apparatus of the character set forth in claim 4 wherein the sheet bearing the advertisement or announcement material is of transparent character and the latter is opaque.

8. In combination, a motor driven aircraft, a cable adapted to be lowered from the said aircraft means connecting the cable with the aircraft, a loading means suspended at the free end of the said cable, a soft, foldable fabric of large surface having only one edge attached to the cable and adapted to be unfolded in the airstream in a vertical plane when lowered from the aircraft, said fabric being essentially invisible when seen at a distance against the horizon, but carrying an easily distinguished character which does not disturb the folding or unfolding of the fabric surface.

9. Apparatus for aerial advertising, consisting of a motor driven aeroplane, a long supporting cable with one end connected with the aircraft and its other end carrying a load-weight, a soft and foldable fabric of large surface being attached at only one edge to the cable above the load, the cable and fabric being adapted to be lowered from or retracted into the aircraft and adapted to be towed through the air in a vertical plane from the aircraft, the fabric surface carrying letters or characters that do not disturb the retraction into the fuselage of the fabric, said letters being distinctly readable while said fabric is floating through the air in an unfolded condition and at a considerable distance from the aircraft.

10. An apparatus of the character set forth in claim 8 wherein the soft foldable fabric bearing the letters or characters consists of a fine network of gauze and the letters or characters are formed of independently made opaque material attached thereto.

In testimony whereof, I have signed my name to this specification.

ERNST UDET.