Aug. 2, 1932. G. SOUCEK 1,869,922

LUMINOUS SIGNALING DEVICE

Filed Sept. 15, 1930

Fig. 1.

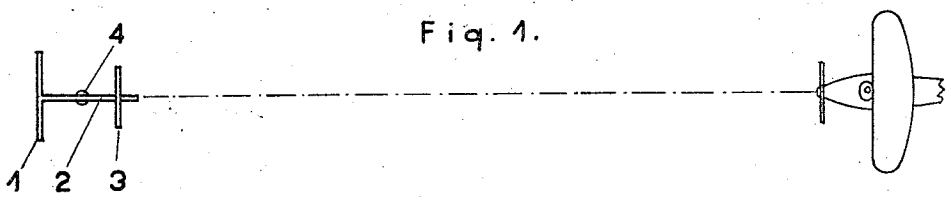
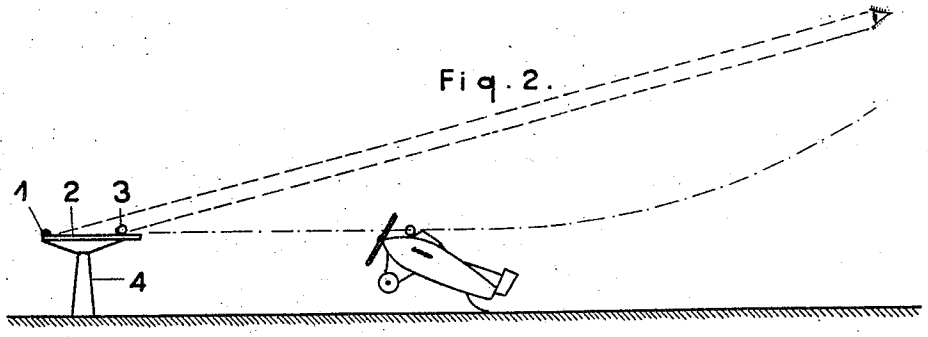


Fig. 2.



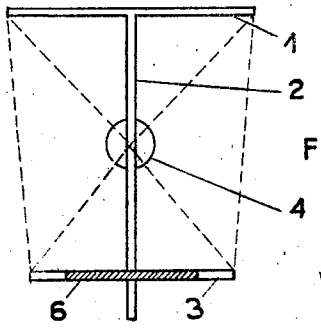
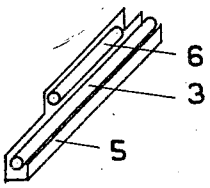


Fig. 3.

Fig. 6.



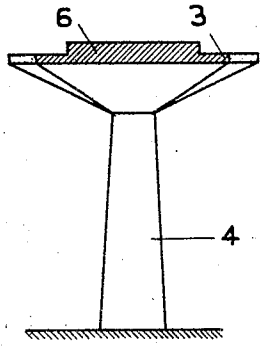


Fig. 4.

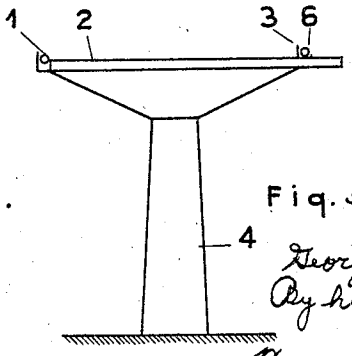


Fig. 5.

Inventor
George Soucek
By his attorneys,
Baldwin & Wight

Patented Aug. 2, 1932 1,869,922

UNITED STATES PATENT OFFICE

GEORGE SOUČEK, OF PRAGUE-LETNANY, CZECHOSLOVAKIA

LUMINOUS SIGNALING DEVICE

Application filed September 15, 1930. Serial No. 482,103.

At the present time, the type of luminous signaling device for securing safe landing of airplanes at night employs a successive row of lights located in the aviation course in the direction of landing, the row of lights being preferably arranged so that in the height from which a smooth landing is possible, only the front or first row of lights is fully visible from the airplane at such height when flying in the right direction.

The object of the present invention is to improve the said device in such a manner that the lights are not arranged in simple rows but are combined to form the international aviation mark, i. e. the figure T, disposed flatwise parallel with the plane of landing and the center line of which extends towards the direction of landing. The present invention chiefly relates to a special construction permitting quite smooth and safe landing of airplanes on the aviation course.

In the accompanying drawing illustrating the invention:

Figure 1 is a diagram in plan, of the signal and an aeroplane about to land;

Figure 2 is a diagram of the parts of Figure 1 in side elevation;

Figure 3 is an enlarged plan view of the signal;

Figure 4 is a vertical section of the signal-supporting pillar;

Figure 5 is an enlarged side elevation of the said pillar and

Figure 6 is a detail perspective of the green line or light structure.

The light lines are of such intensity as to be visible from a great distance and are arranged in the shape of the international mark, figure T, as best shown in Figure 3. Said light lines consist of or are formed of incandescent lamps or of Geissler tubes 1 and 2, of intensive red color. The center line 2, adjacent to the free end, is crossed by a line 3 of different color, for instance, green. This arrangement of light lines, tubes or lamps is disposed on a pillar or support 4 which is preferably stationary and serves at the same time for the mounting of an electric transformer. The said lines always lie with the center line 2 of said mark T extending toward the direction of landing and at such a height that a smooth landing is possible.

The light lines, tubes or lamps are located in casings 5 so that spraying of rays of light is avoided and the lights are visible from the front but covered at the rear, as detailed in Figure 6.

The aviator even from a long distance observes this luminous signaling device and if he intends to land he steers the airplane into the direction of the center line 2 of the mark T in which direction he causes the airplane to sink and observes the shortening of the center line or axis 2 of this mark T (Fig. 2). At the same time the front green line of tube 3 is observed in parallelism with the rear red line and as soon as it covers the latter it will be realized that the airplane has already descended to the desired distance from ground and the aviator may safely land.

In order to see also directly at landing that the airplane declines from the right direction of landing the aviator maintains the airplane in the theoretical axis 2 of the mark T (Fig. 1) by observing the ends of the rear red line 1 spread symmetrically with the front green line 3, provided he lands correctly in the direction of the said axis.

To enable the aviator to distinguish more clearly the intervals of sinking, the center portion of the front green line 3 is elevated at 6, so that it first partially covers and then fully covers the center portion of the rear red line 1 with the exception of the ends of the latter. After this stage is reached, the green line 3 fully covers the red line 1 and the aviator realizes that he may safely land.

Although the height of airplanes varies the height of the signaling device may be standardized, to which end an indication board is adapted to be located in airplanes which designates in metres the height of the green line 3 from ground in relation to the height of the airplane when upon ground.

Besides the main international aviation mark T any desired marks may be arranged substantially in the plane of said letter e. g. letter marks, much smaller and of any colour for the purpose of local designation of the

place of landing, e. g. for the designation Prague or Chicago or various abbreviations indicating a martial or civil aviation course or the like. These marks are visible naturally at great height only.

What I claim is:

A luminous signaling device for aiding safe landing of aeroplanes comprising illuminated lines arranged in the form of figure T with its axis or center line in the direction of landing, substantially parallel with the surface of the plane of landing and at such a height above ground that a smooth landing is possible, and an illuminated line of different color crossing the said center line adjacent its free end, the said cross line having an elevated center portion operating during descent to cover first the center of the rear cross line and then the whole thereof with the exception of its ends, thereby indicating the height for smooth landing.

In testimony whereof I have affixed my signature.

GEORGE SOUČEK.