April 14, 1925. 1,533,912

F. HEISS

DEVICE TO LESSEN THE VELOCITY OF FALL OF SAMPLES THROWN OUT OF FLYING MACHINES

Filed June 9, 1924

Fig. 1

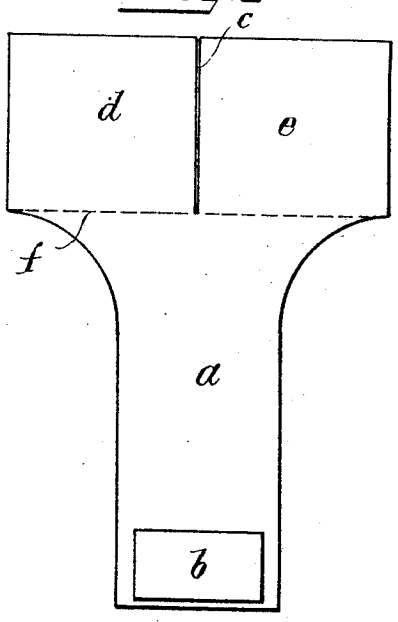


Fig. 2

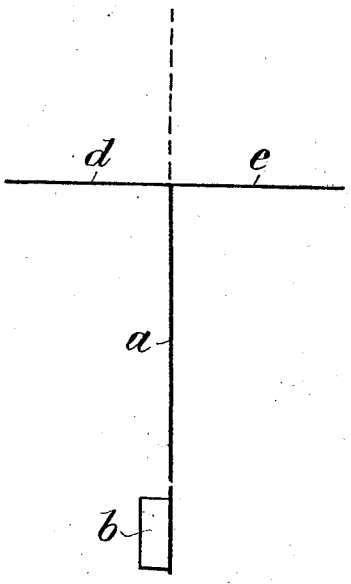


Fig. 4

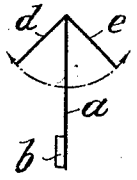


Fig. 5

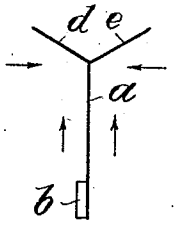
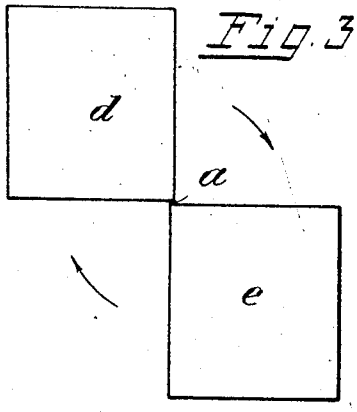


Fig. 3



Inventor:

Friedrich Heiss

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UNITED STATES PATENT OFFICE.

FRIEDRICH HEISS, OF MUNICH, GERMANY.

DEVICE TO LESSEN THE VELOCITY OF FALL OF SAMPLES THROWN OUT OF FLYING MACHINES.

Application filed June 9, 1924. Serial No. 718,995.

To all whom it may concern:

Be it known that I, FRIEDRICH HEISS, citizen of Germany, residing at Munich, Bavaria, Germany, have invented certain new and useful Improvements in Devices to Lessen the Velocity of Fall of Samples Thrown Out of Flying Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention here described is a device to lessen the velocity of fall and to determine the direction of the fall of articles thrown from flying-machines, towers, etc., for purposes of advertisement. Sample specimens of goods, e. g. cigarettes, chocolate, biscuits, and so on, can by this device be thrown in considerable quantities from flying-machines, towers, etc., and then sink slowly. At the same time the device to which they are attached makes them clearly visible from a distance, and in general they attract attention. The articles and samples thrown out form presents to the recipients, who thus are enabled to become acquainted with the quality of the wares and, by means of suitable inscriptions, with the name of the firm and its other products.

The device consists of a sheet of paper or similar material, to the tapering or narrower end of which the article to be thrown out is attached. At the upper end it is furnished with slanting surfaces which work like screw-blades and impart a rotatory motion to the object falling, so that it revolves round a vertical axis. The resistance of the air exercises a retarding effect upon the speed of the rotation, and upon the speed of the fall as well.

Figs. 1–5 show the device in its essentials. Fig. 1 is a section of the paper while it is still flat.

Fig. 2 is a vertical section of the same, in which the flaps have been bent down at right angles to form screw-blades. Fig. 3 shows the same from above. Figs. 4–5 show in diagrammatic outline the various movements of the device in flying after it has been thrown out.

The sheet A is formed of strong paper or similar material, and the article B is attached to it at the lower end, while the part of the sheet where it grows wider is divided in the middle by the vertical cut or slit C, so that two screw-blades or wings, D and E, are formed. The latter are then laid over the fold F in opposite directions, so that they lie flat upon the middle part or stem of the sheet. These wings detach themselves from the stem when the device is thrown out owing to the resistance of the air (Fig. 4), and in falling take up the position indicated in Fig. 5. The wings being thus directed in an upward and slanting position, a rotatory motion is imparted to the device. This, however, is retarded by the resistance of the air acting on the middle and stem of the paper. In this manner an even velocity of fall is attained, and fluttering or zig-zagging is avoided.

The size of the sheet of paper and the proportions of the wings to the stem must be determined in accordance with the weight of the sample to be attached. The latter can be enclosed in a cardboard box, or in a bag of light, strong, or even waterproof paper, and is then struck or pasted to the lower end of the stem. The right speed of rotation and fall is obtained by adjusting the size of the paper and its parts, and remains constant during the fall. The device can be packed with the wings flat against the stem, so that they only expand after the device has been thrown out, and consequently even large quantities of the device can be carried in little space. When it is thrown out the wings expand at once and inevitably, owing to the flow of air between them and the stem. Through the upwards pressure of the air and the sideways thrust on the slanting glides D and E, a rotatory motion is effected, shown in Fig. 3, and the device with the article attached sinks slowly downwards.

There is no need for the wings to be square or right-angled, in fact an artistic form can be given to the device, and this, when executed in gaily-coloured paper, heightens the effectiveness of the article in question for advertising purposes.

What I claim is:

1. A device to retard the velocity of fall of articles thrown out of flying-machines, specified as consisting of a sheet of paper or similar material, to the lower end of which the article can be attached, while the upper end is formed into two screw-blades, by which a rotatory motion round a vertical axis

is imparted as the device falls, and this rotation hindered by the resistance of the air to the rotating stem of the device.

2. A device, after claim 1, specified as consisting of a sheet of paper or similar material, the upper and broader end of which is divided by a vertical cut or slit in the middle, and thereby forms two flaps or wings which are folded in opposite directions and form screw-blades.

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

FRIEDRICH HEISS.

Witnesses:

A. DEBEELD,

ALEXIS PHILIPOFF.