

Parachutes for Model Planes

A novel method of staging parachute descents with model aircraft

ANY model plane which can be crashed without permanent damage to itself may be used for experimenting with parachute descents. It is best to use a very light plane—the writer has found his "spar" type indoor model constructed mainly of balsa spars and thin paper most successful.

Fuselage type machines may be used equally well if they are light enough to crash safely. The wings of the machine should be attached by rubber bands or light wire clips, so that they will be displaced instead of broken by bad landings. It is surprising what a lot can be done without serious damage to these light machines.

The method of crashing consists of dropping off the rear end of the undercarriage at the desired moment. This makes the undercarriage swing forward, causing a rapid nose dive to "destruction," a "fatal accident" being averted by the parachute, which, released at the same time, glides slowly down in safety.

The undercarriage of the machine should be modified or constructed as at Fig. 1. This is the only part of the machine liable to sustain bad damage, and so should be made as simple and springy as possible.

It can be bent up from piano wire, the wheels being made from light tinplate or aluminium and attached to the ends of an aluminium or piano wire axle. It is best to use thin iron wire for the side frames, and a tube made by rolling aluminium foil around a piece of wire may be used for the axle; the wheels are then fitted by pins inserted in the ends of the tubular axle.

This type of undercarriage, though much more easily bent out of shape than a piano wire one, is very easy to repair, as the wire is soft and does not spring. The front attachment, from which the undercarriage hangs, is extended on either side of the

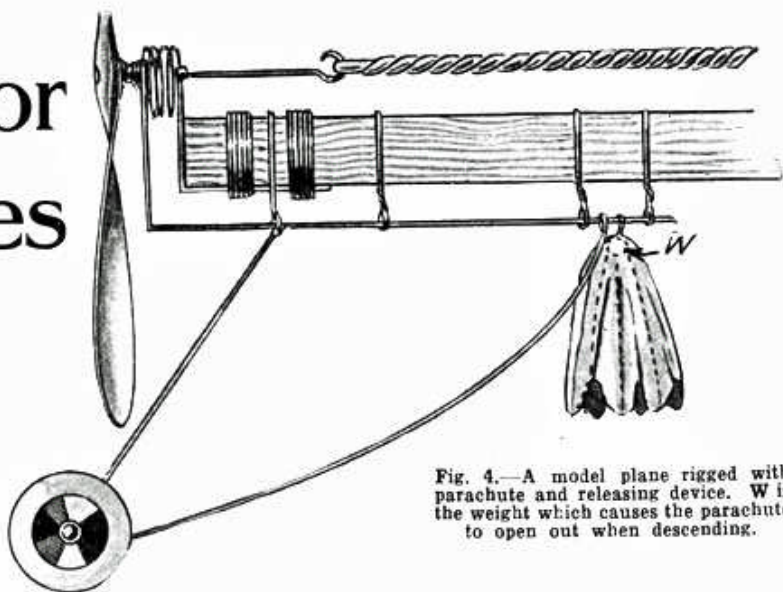


Fig. 4.—A model plane rigged with parachute and releasing device. W is the weight which causes the parachute to open out when descending.

fuselage for a spar machine to give sufficient rigidity for stable flight.

The parachute envelope should be made very neatly and lightly from finest silk, with thin silk threads, fixed with traces of glue, for the attachment of the plasticine weight, Fig. 2. The weight is provided with a wire ring by which to hang the parachute on to the plane. A hole is made in the centre of the envelope for the ring to pass through.

To make the release gear the propeller must be removed, a spring being interposed between it and its bearing. This spring, made of piano wire, must be of such strength that it is just completely compressed when the elastic motor is fully wound.

Between the end of the spring and the propeller, the propeller shaft passes through a ring on the end of the bent release rod, Fig. 3. This rod, of iron wire, passes through three rings fixed to the fuselage, the end two—those nearest the tail—of which should be close to the centre of gravity of the model.

All is now ready for a trial. The rubber is wound, compressing the spring and pushing the release rod backwards. Just before the release rod enters the last ring below the fuselage, the undercarriage ring is hooked on to the end of it, and then the ring on the parachute weight is threaded through the hole in the parachute and hooked on to the rod. The winding is then completed and the release rod passed through its last hook.

The model is placed on the ground and the propeller released. It rises in the ordinary way, though somewhat

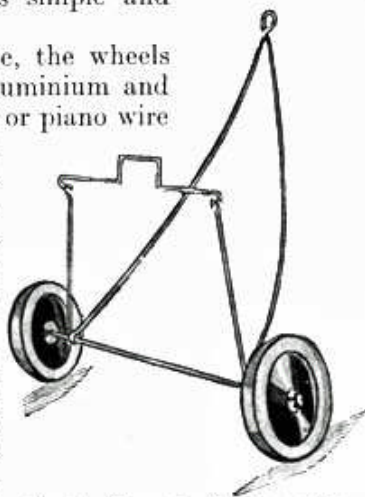


Fig. 1.—Shape for the wire undercarriage of a "stick"-type model plane used for parachute descents.

MODEL PLANES

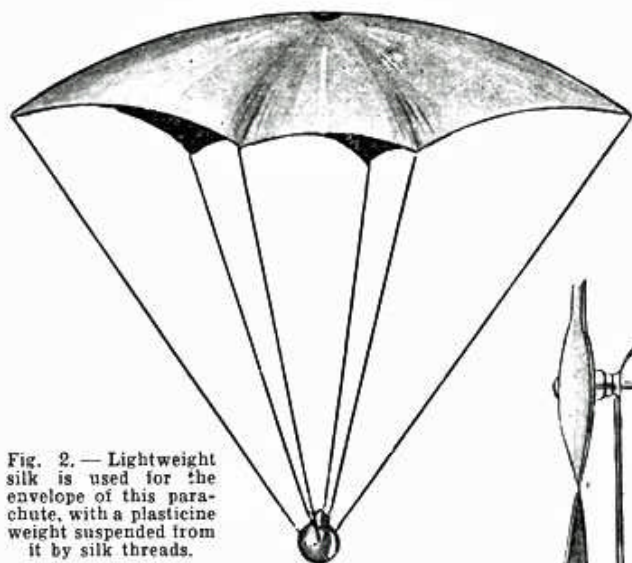


Fig. 2.— Lightweight silk is used for the envelope of this parachute, with a plasticine weight suspended from it by silk threads.

slowly on account of the small extra weight of the parachute, and begins its flight.

All the while the screw is running the spring is pushing it and the release rod forward until, at a time depending on the position of the two end rings, the parachute and rear-undercarriage are released, causing the machine

to dive and the parachute to open and slowly descend.

The arrangement described can easily be modified to suit various models. No sizes have been given for the releasing mechanism, as they depend almost entirely on the type of machine being used.

Because the propeller of a model plane used in making these parachute descents is liable to get badly knocked about in landing, you should use a metal airscrew in place of the usual wooden one.

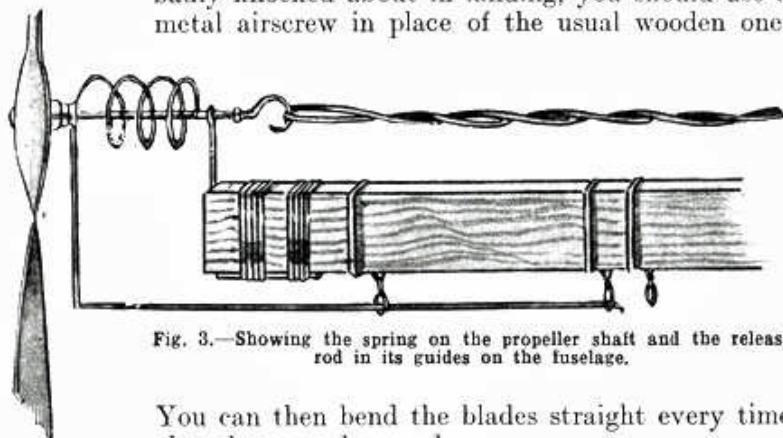


Fig. 3.—Showing the spring on the propeller shaft and the release rod in its guides on the fuselage.

You can then bend the blades straight every time they become damaged.

Metal propellers can be made from any flat sheet of tinplate—an old cigarette tin, for instance, and may be two, three or four bladed.