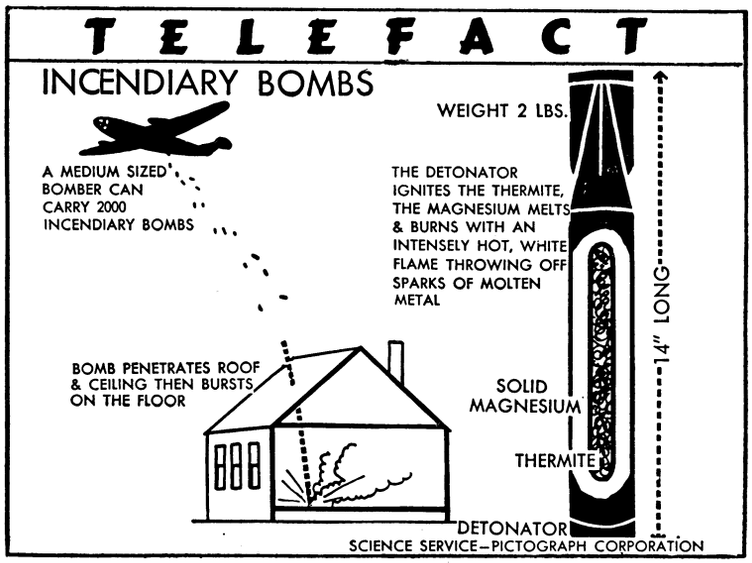

AERONAUTICS

Amusement Park Airplane Ride May Launch Big Aircraft

Suggestion Made By British Inventor That Device Be Used as Gigantic Sling Shot To Catapult Planes

SOMEWHAT modified, the familiar amusement park device, in which the customers are whirled around in airplane-like cars attached to cables, may prove of use in launching heavily loaded bombing planes. The idea is that an arrangement such as this be used as a gigantic sling-shot, the plane swung around and around until it gains sufficient speed, then released to go on its way.

This suggestion by an English inventor, P. B. Shead, is described in a recent issue of a British aviation weekly (*Flight,* Jan. 23).

It is one of various arrangements that have been proposed to give a plane extra lift at the takeoff. Much more power is required to get it off the ground than to maintain it in flight. That means that a plane able to take to the air with a heavy load has power to spare when under way.

To overcome this, double airplanes have been employed. That is, a light plane, with a relatively heavy load, rides piggy-back on a bigger, more powerful plane. When in the air, the light plane breaks away, to continue on its flight, while the big one returns to its base. Catapults, familiar for launching planes from ships, have also been used on land, to give the plane the extra push at the start.

As proposed by Mr. Shead, a long captive wing is pivoted to a tower. In this wing is a powerful gasoline engine, with propellor, to drive it around.

When not in use, the end of this captive wing touches the ground. The plane to be launched is fastened to it, and its engines, with those on the wing, start swinging it around. When enough speed is attained, the plane lets go, the centrifugal force giving it a good start.

The writer in *Flight* comments on the idea as follows:

"At first sight the idea seems, quite frankly, to be fantastic. 'What,' one immediately asks, 'will happen to the aircraft when flung off the merry-go-round tangentially?' The inventor argues that as the long captive wing is revolving comparatively slowly, centrifugal force will not be excessive, and anyway, the aircraft is banked to approximately the correct angle for the speed and radius of turn. The intention is that a large wind indicator should be mounted on the top of the tower so that the pilot can pull his release just before the aircraft is turning into the wind.

"It may be, of course, that an outward skid is desirable at the instant of release. One would imagine that, since the aeroplane is mounted at the tip of the captive wing, the latter would tend to rise sharply when relieved of the weight of the aircraft, so that there might well be risk of collision. As Mr. Shead has made provision for tail surfaces for the captive wing, and has mounted it on the tower by a universal joint, arrangements could presumably be made for decreasing the angle of incidence of the captive wing at the moment when the separation occurred.

"As for the mechanical details, the intention is that the engines of the captive wing should be aero engines (in the working model they are represented by an electric motor). They could be mounted in tandem and this is actually represented in the model. Pipe lines would lead from the tower to the engines, and there is an automatic device which throttles down the engines at the instant of separation. The captive wing then glides to the ground along its spiral path, and when the wheels touch, the engines are automatically switched off.

"Mr. Shead points out that as the cradle on the captive wing is close to the ground, a ramp can be provided which will make it possible to get the next aircraft loaded-on very quickly, so that the possible frequency of launch should be fairly high. This would be important if bombers were being launched. Another advantage claimed is that different types could be launched."

Science News Letter, March 29, 1941

Effective natural *camouflage* is bestowed on the tiger, whose striped coat blends with jungle grasses in sun and shadow.