

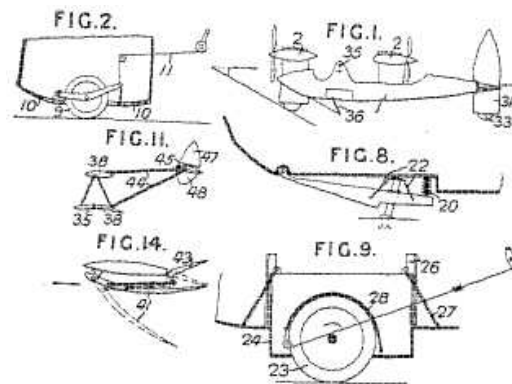
383,441. Aeroplanes.

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Dec. 3, 1931, No. 33502.

Convention date, Dec. 15, 1930.

[Class 4.]



An aeroplane comprises a fuselage pivoted about a transverse axis above its centre of gravity to a supporting surface provided with tail planes by which its incidence is maintained or varied. Various forms of alighting gear for use on land, water or snow are described. The supporting surface may carry motors and propellers and in some cases may have accommodation for a pilot so that it can be detached from the main fuselage and flown separately.

A fuselage 1, Fig. 1, having motors 2 is braced to a transverse axis 35 upon which a biplane cellule 38, Fig. 11, is pivoted. This cellule is connected by rods 44 to tail planes 45, 47, 48 under the control of the pilot.

Motors and propellers may be carried at the forward edge of the cellule. The axis 35 may be spring-supported and connections to the tail planes ensure automatic variation of incidence with variations of lift. An indicator is provided to indicate to the pilot the variations of lifting stress.

Alternatively a monoplane lifting surface may be used. Forward and rear landing gear is arranged well to the front and rear of the centre of gravity of the fuselage which has tail planes for controlling its attitude, the lower part 31 of the rudder carrying a landing wheel 33 for steering on land and itself acting as a water rudder when on water. Relative movement between these parts may be provided.

The landing gear is arranged to permit lateral tilting of the machine until the wing tips, or skids or floats carried thereby, contact with the ground, or water, the wing tips in the former case being made flexible and provided with metal surfaces to resist wear. Fig. 14 shows wing-tip skids 41

interconnected to ailerons 43 so as to move therewith. These ailerons are controlled manually or by a pendulum.

To permit the lateral tilting of the machine when landing a single track or a very narrow double track alighting gear is used or the fuselage is pivoted about a fore-and-aft axis to a double-track gear. The gear may be left behind at starting by forming the fore-and-aft pivot as an open fork. Fig. 8 shows a landing skid supported by a spring 20 and carrying a subsidiary skid supported by lighter springs 22. Fig. 9 shows a wheel 23 mounted in a frame 24 which can slide in guides 26 under control of springs 27. During heavy landing stresses the wheel and its frame rise completely into the main body which acts as a skid.

A brake band 28 is provided on the wheel. The front wheel brake control may be connected to the plane controls to cause the supporting planes to assume a negative angle of incidence when the brake is applied. Fig. 2 shows a casing 10 acting as a skid in which a wheel 9 is spring-supported, a cable 11 enabling the pilot to withdraw the wheel into the casing.

The fuselage may be provided with a ground support 36, Fig. 1, beneath its centre of gravity and this support, which is normally against the fuselage, may also act as an air or water brake. There may be two independently pivoted fuselages which may be detachable from the supporting planes and used as boats.



Fig. 10

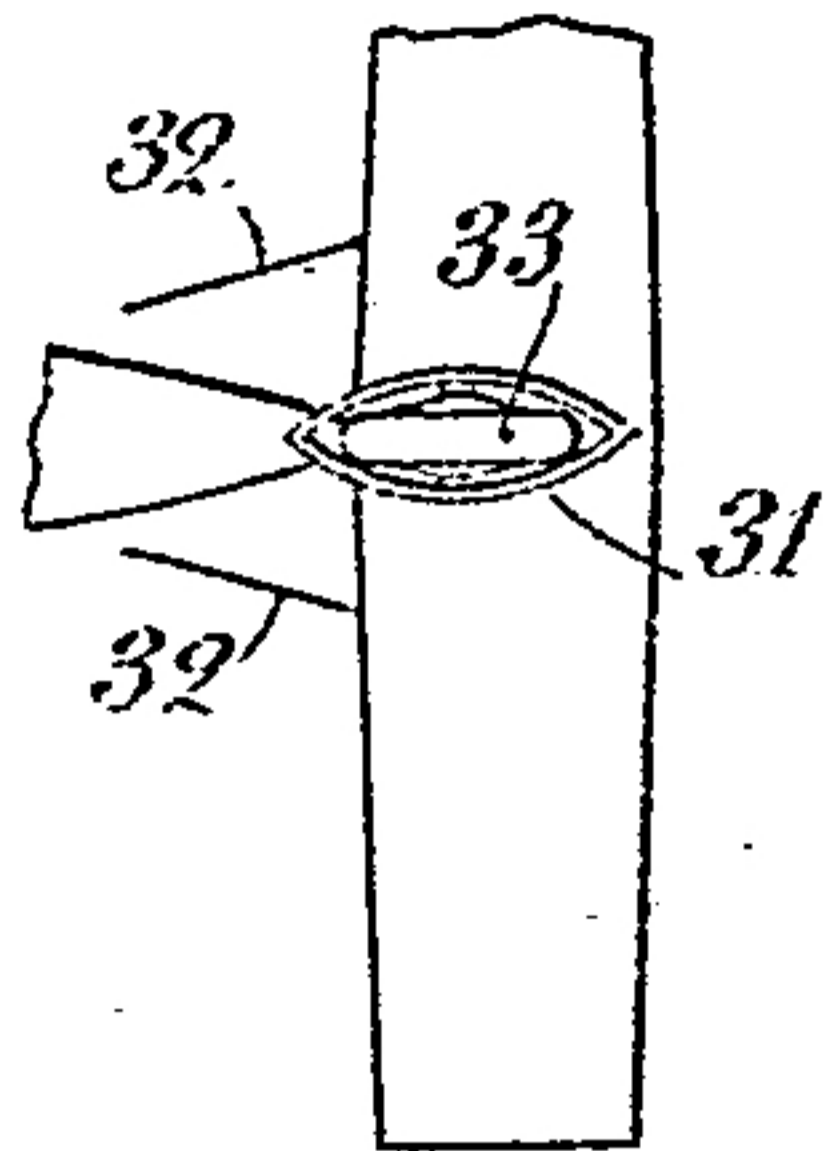


Fig. 2

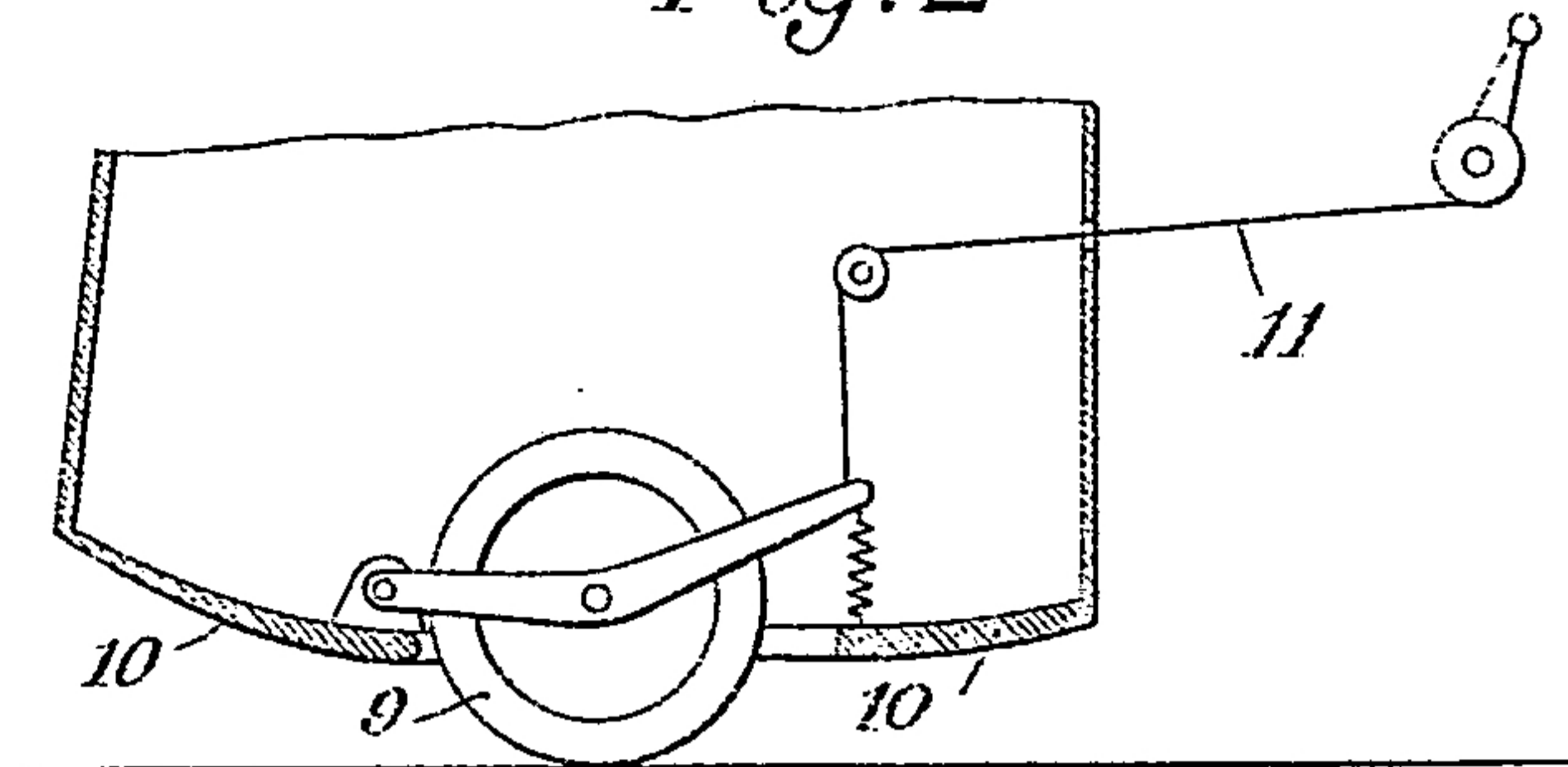


Fig. 5

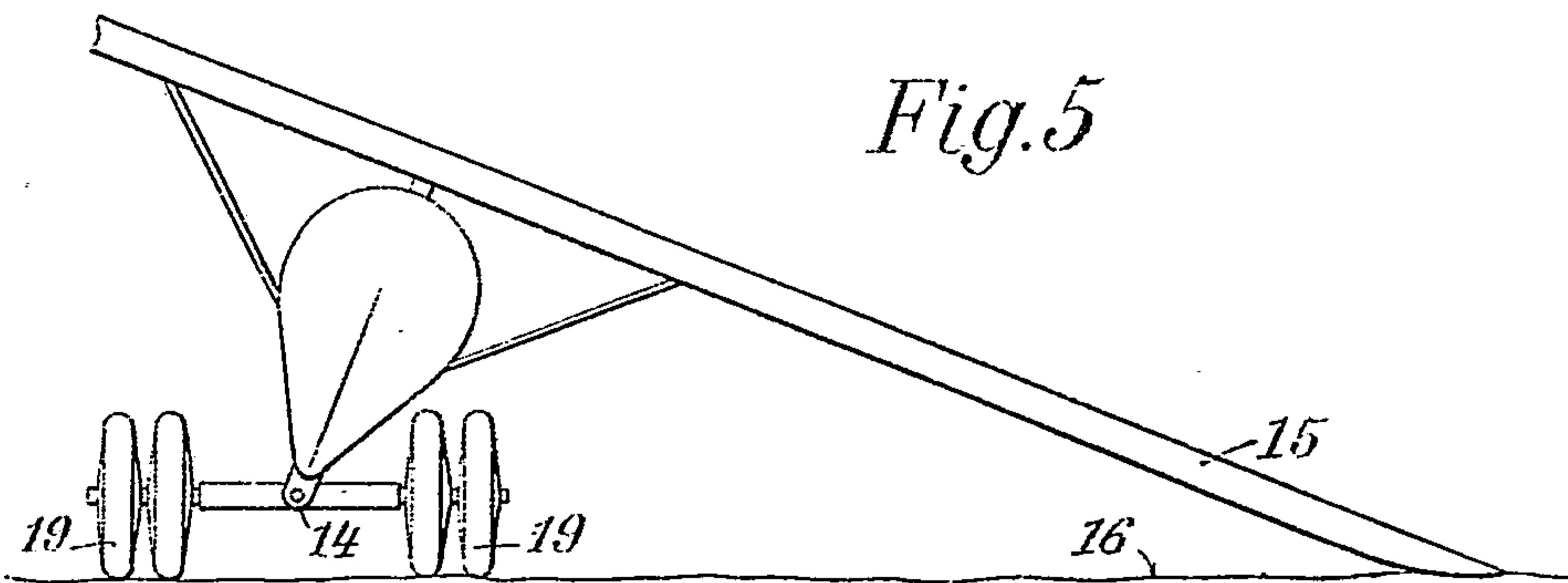


Fig. 6

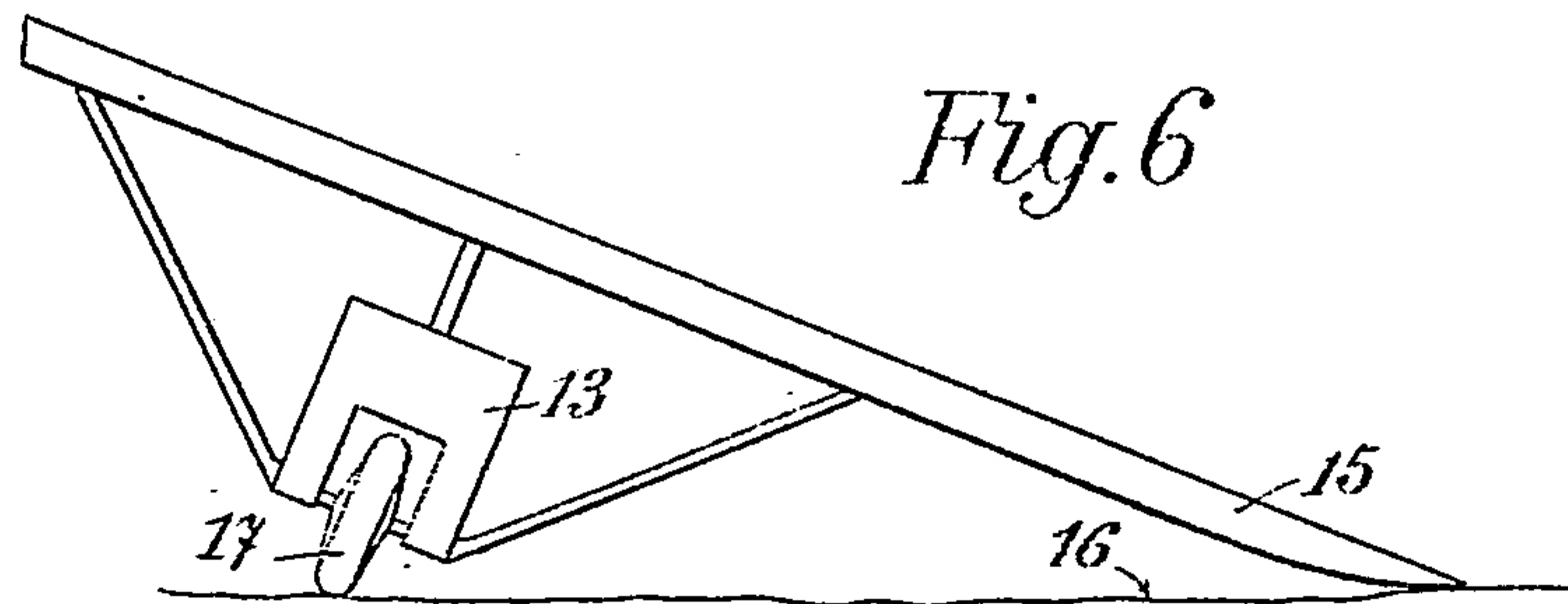


Fig. 7

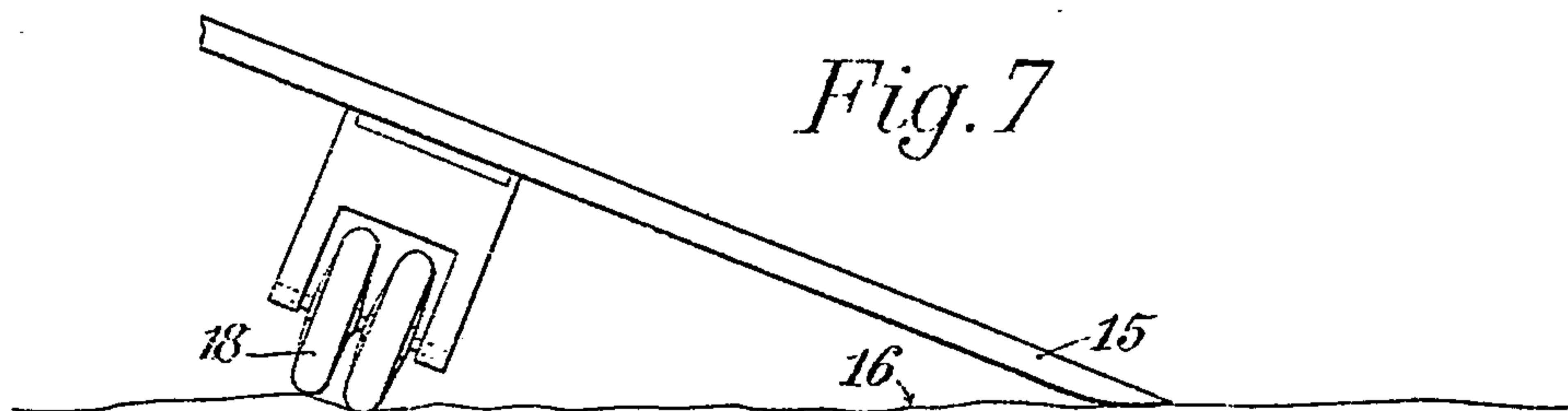


Fig.11

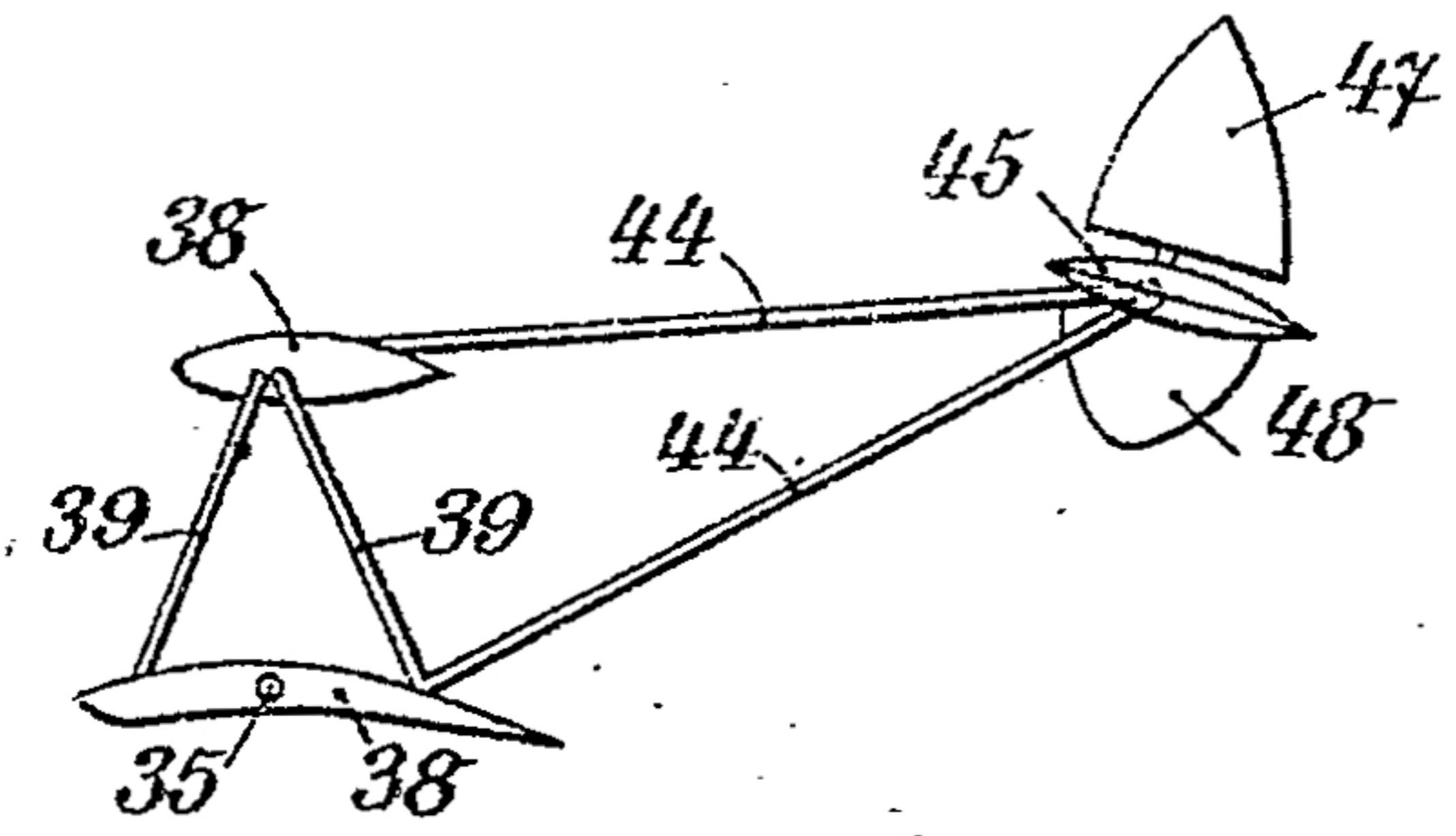


Fig.14

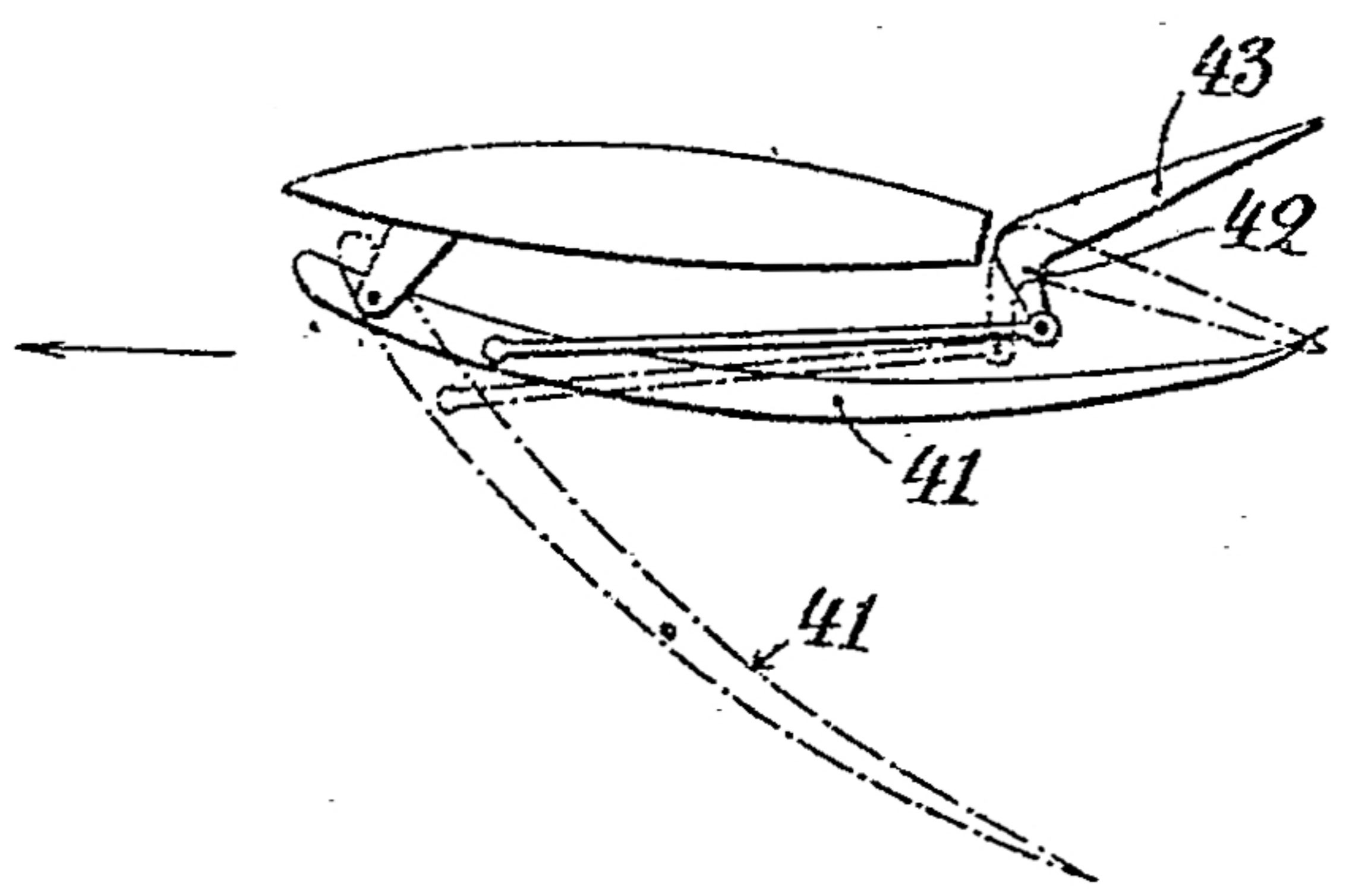


Fig.13

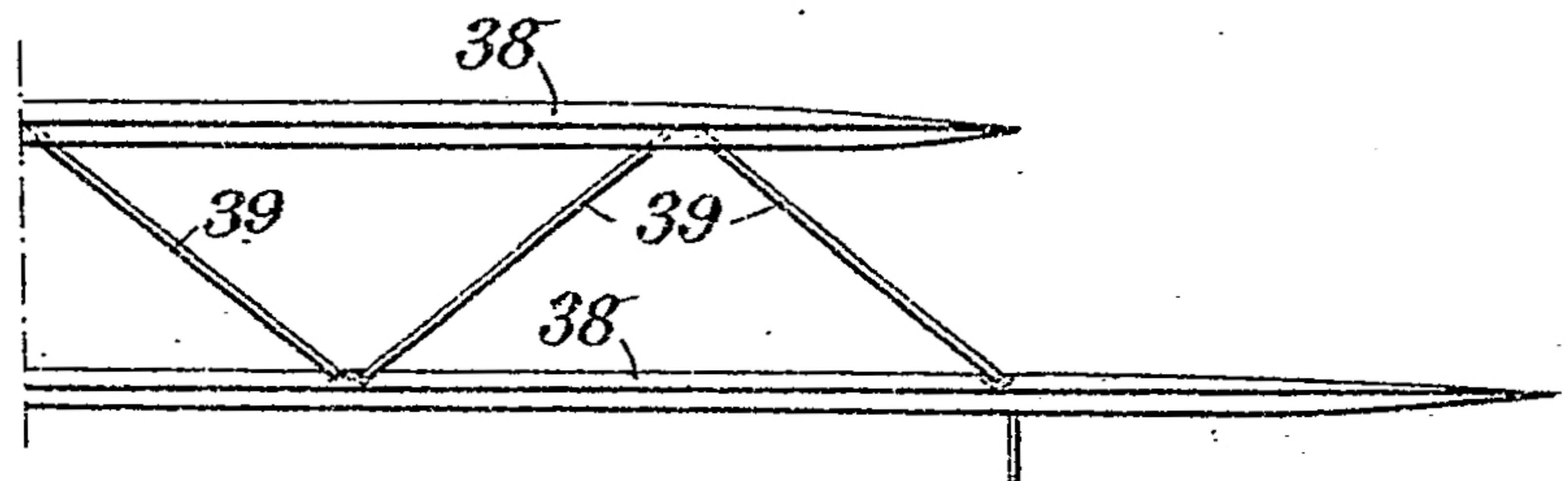
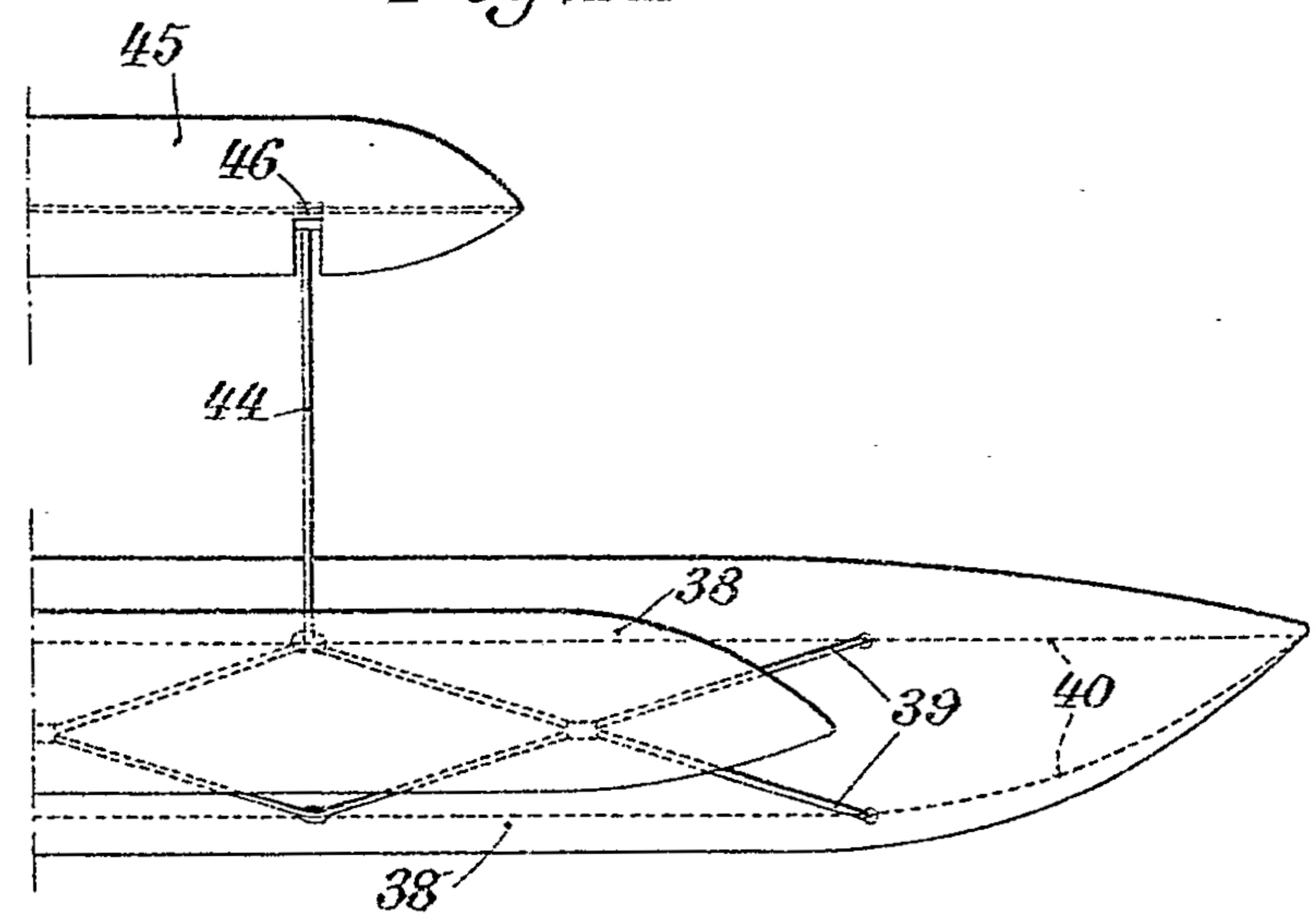


Fig.12



[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 17

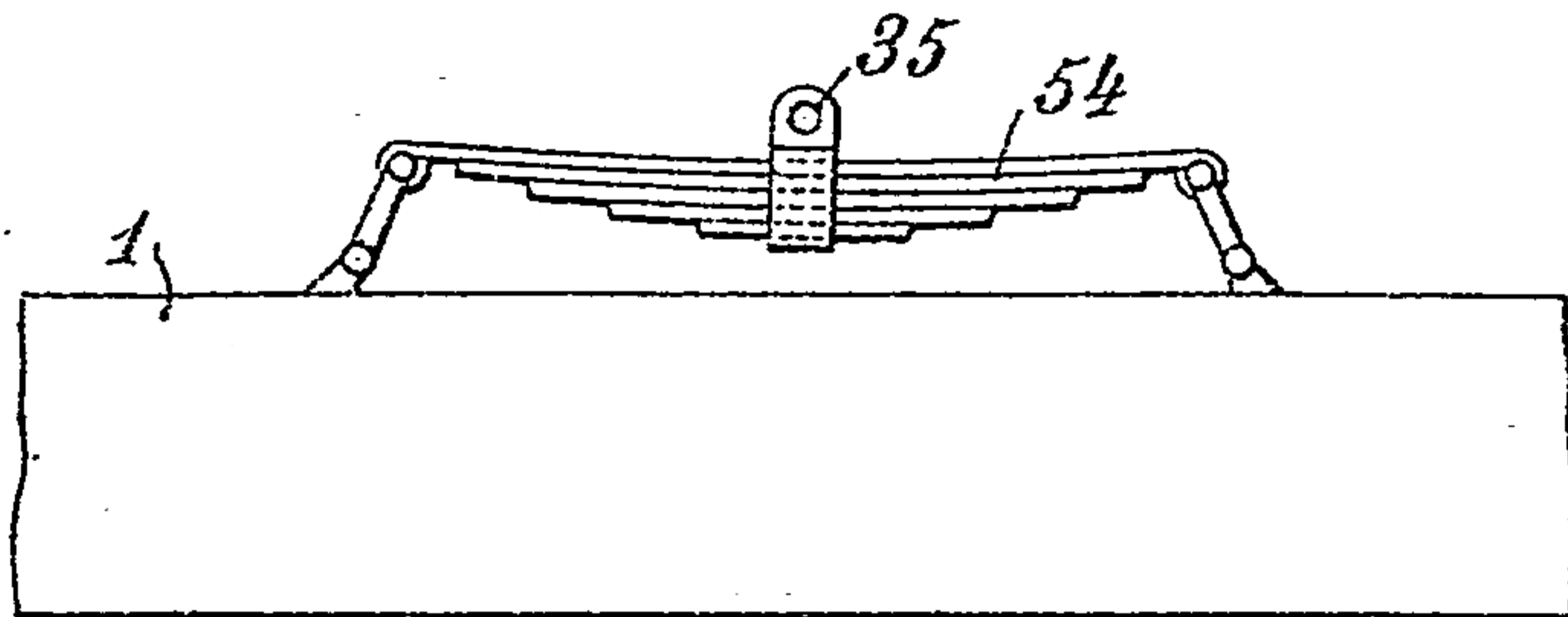


Fig. 15

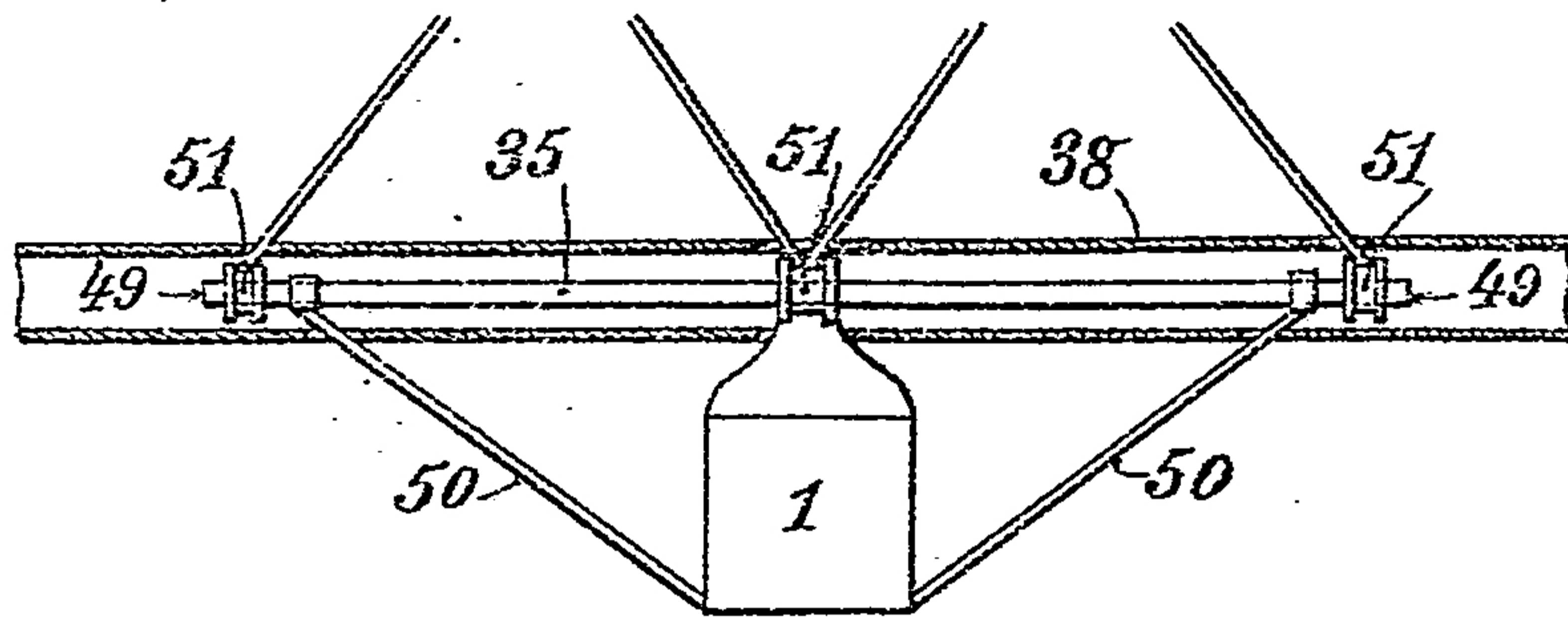


Fig. 16

