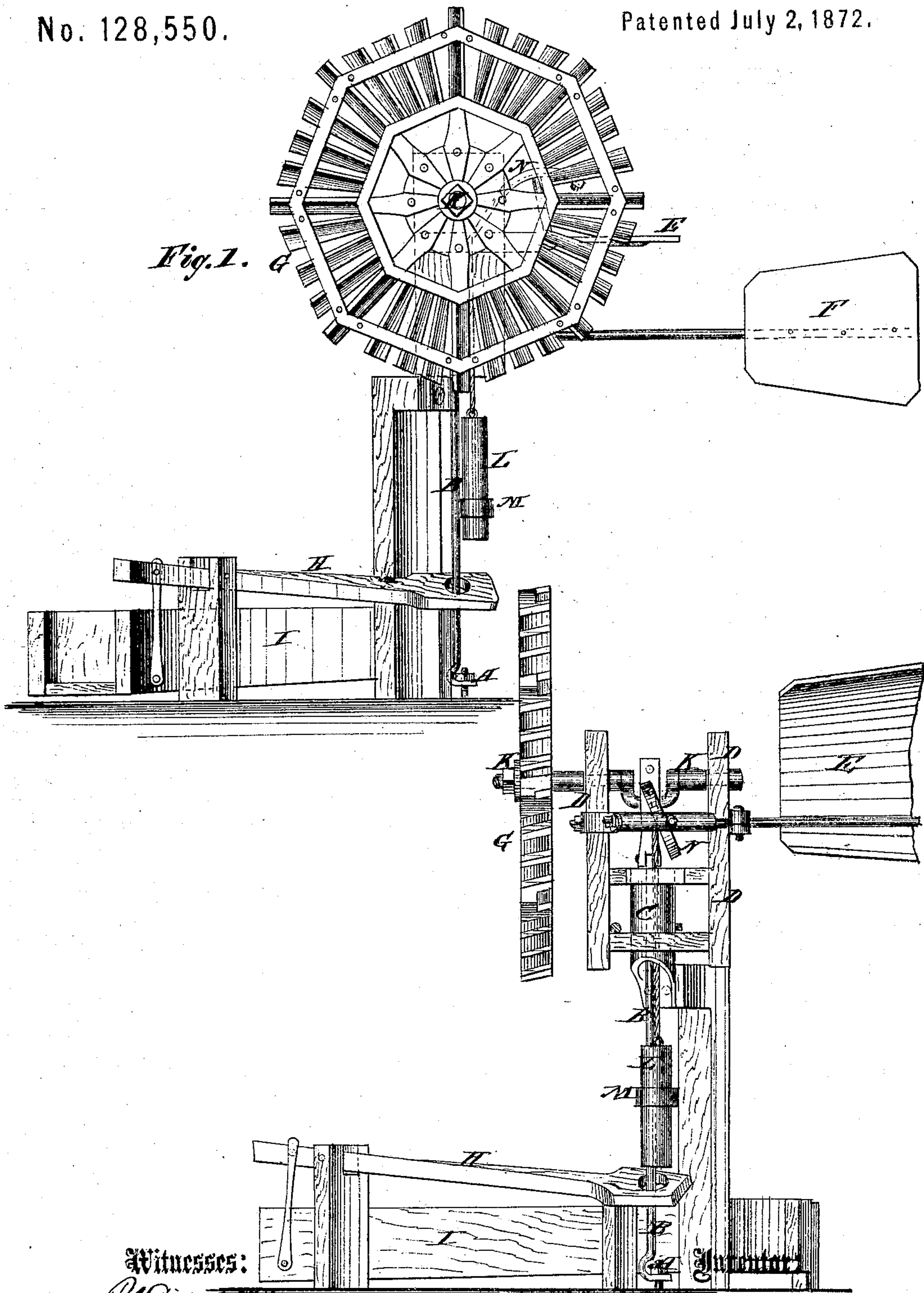


O. B. KNAPP.
Wind-Mill.

No. 128,550.

Patented July 2, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

OVETT B. KNAPP, OF BRANDON, WISCONSIN.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 128,550, dated July 2, 1872.

Specification describing a new and useful Improvement in Windmills, invented by OVETT B. KNAPP, of Brandon, county of Fond du Lac and State of Wisconsin.

My invention consists of a windmill, with a tail for keeping the wheel to the wind, with apparatus for automatically turning said tail to take the wind or not when it is desired to start or stop the mill, and another tail for turning the wheel edgewise to the wind when it is to be stopped. It also consists of a peculiar arrangement of the automatic shifting apparatus for the principal tail, which will be described.

Figure 1 is a front elevation of the machine, and Fig. 2 is a side elevation.

A is the swivel, by which the connecting-rod is connected to the pump or other machinery. B is the pitman or connecting-rod. C is the hollow axis. D is the top frame, in which the crank-shaft is journaled and which revolves on the hollow axis C. E is the tail-vane. F is the side vane. G is the wind-wheel. H is the lever for raising the weight. I is the water-trough, actuating lever H. K is the crank-shaft. L is the weight. M is the guard, attached to the connecting-rod to keep the cord and weight in place. N is a lever, attached to the side of the shaft of the tail-vane E, from which the weight is suspended.

The swivel A is at the lower end of the connecting-rod instead of the upper end, as it is now arranged in other mills. The advantage of this arrangement, in connection with the guard m, consists of this: The cord, wire, or chains will not get twisted around the connecting-rod, as it will when the swivel is at the upper end.

The tail-vane E is maintained in a vertical position by the weight L when the machine is

to be kept in labor, but when the weight is lifted the wind, acting on the larger area above the axis, turns it down, so as not to be affected by the wind, and then the force of the latter on the side vane F will turn the wind-wheel edgewise to the wind and stop the machine. The wind-wheel is turned into the wind again by the weight being let fall and turning the tail-vane E in an upright position. The side vane F acts as a regulator to the motion of the wheel. By turning it quartering to the wind and in connection with the tail-vane E, cord and weight L, and lever N, the mill is stopped and started at will. The tail-vane E, cord, and weight are so arranged that in a heavy wind or gale the vane E yields to the lateral pressure and the side vane F turns the wheel out of the wind. The lever H raises the weight L by the weight of the water in the trough I when it becomes full, and as the water is used out the weight goes down and sets the machine in motion again. The guard M, in connection with the swivel A, holds the cords and weights in place and prevents them from winding around the connecting-rod, as is the case with most other mills.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of vanes E F and pendant weight L, arranged as and for the purpose described.

2. The pivoted water-trough I, lever H, connecting-rod B, and weight L, combined and arranged substantially as specified.

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Witnesses:

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