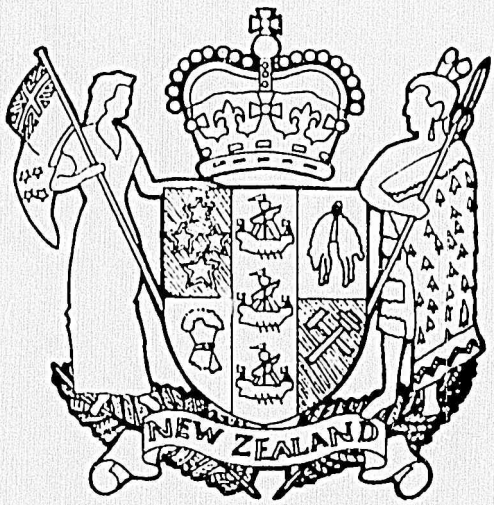


NEW ZEALAND

PATENT SPECIFICATION

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NEW ZEALAND

"THE PATENTS DESIGNS AND TRADE MARKS ACT, 1911"

COMPLETE SPECIFICATION

Copy to accompany

"Improved Windmill"

I WILLIAM MC EWEN of Waiuku in the Provincial District of Auckland and Dominion of New Zealand, Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :-

The object of this invention is to provide a self oiling and easy running form of windmill, and one in which the working parts can be easily and quickly adjusted and replaced.

According to this invention the windmill is constructed with an oil-reservoir which surrounds and is secured to a vertical tubular casing adapted to be mounted by any suitable means so as to be horizontally revolvable on the upper end of a tower. The shaft on which the sails or wind-motor are mounted passes through the reservoir, the sails or wind-motor being outside the latter. On the wind-motor shaft and within the reservoir are toothed pinions meshing with gear-wheels mounted on the inside of the reservoir-walls. Driving-rods, one from each of the gear-wheels, are connected at their upper ends, either directly or indirectly, to a plunger working in the tubular casing, so that the rotary motion of the gear-wheels causes the aforesaid plunger to operate vertically within the casing.

The usual pump-plunger for elevating water is connected by a rod or rods to the plunger working in the casing, and is operated simultaneously therewith. In order to render the mill self-oiling the reservoir is filled with oil to the level of the lower side of the wind-motor shaft, and openings are provided in the tubular casing above the oil-level, in order that oil thrown upwards by the movement of the working-parts will enter the casing and lubricate same internally.

Referring to the drawings in conjunction with which the invention will be more particularly described.

Figure 1 is a sectional elevation through the line X-X Figure 2 and

Figure 2 is a sectional elevation through the line Y-Y Figure 1.

The reservoir 1 which is preferably made in two portions, is secured around the tubular casing 2 which is adapted to be horizontally revolvably mounted on a tower by any suitable means. Through the walls of the reservoir 1 passes the shaft 3 which carries outside the reservoir the wind motor or sails (not shown).

Secured on the shaft 3 within the reservoir 1 are pinions 4 each of which meshes with one of a pair of toothed gear wheels 5 mounted on the inside of the reservoir walls.

To each of the wheels 5 is connected a driving rod 6, the latter being connected at their upper ends by a cross spindle 7, which preferably is connected by a rod 8 to a plunger 9 in the casing 2, but said spindle 7 may be mounted on the upper end of the plunger 9 if required, the latter being lengthened when this is desirable.

To the lower end of the plunger 9 is connected a rod 10 which may be connected either to the pump plunger or the rod of same.

The reservoir 1 is filled with oil to the level of the lower side of the shaft 3, and the parts that do not enter the oil are lubricated by the oil thrown up by the movement of the working parts, holes 11 in the casing 2 above the oil level permitting oil to enter the casing for the purpose of lubricating the plunger 9.

The reservoir 1 is provided with an opening 12 and lip 13 below same, to facilitate the feeding of oil into the reservoir 1.

The rotary motion imparted to the shaft 3 by the wind motor or sails mounted thereon, is transmitted by the pinions 4 to the gear wheels 5, which through the driving rods 6 cause vertical motion to be imparted to the plunger 9 working in the casing 2, and also to the rod 10 connected to the plunger 9.

The plunger 9 and casing 2 both of which may be of any suitable length, do not take any part in the actual pumping operations, they merely serving as guides to the rods 6 and 10.

The tail and other necessary parts of the mill not herein described, can be of any known design and construction.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is :-

First A Windmill having an oil reservoir secured around a revolvable tubular casing; a driving shaft mounted through said reservoir; a plunger in said casing connected to the pump plunger operated by the mill; and gearing between said driving shaft and the plunger within said casing as described and illustrated.

Second In a windmill a horizontal driving shaft; pinions on said shaft; gear wheels meshing with said pinions; driving rods operated by said gear wheels,

and transmitting vertical movement through a guide plunger and connecting rods, to the pump plunger as described and illustrated.

Third In a windmill an oil reservoir secured around a revolvable tubular casing, said casing having openings therein above the oil level in the reservoir as described and illustrated.

Fourth The improved windmill constructed as herein described with reference to the accompanying drawings.

Dated at Auckland this 30th. day of April 1917.

WILLIAM MC EWEN,
by his Attorney,
W M Dasley

Certified to be a true copy,
W M Dasley
Attorney.

Fig. 1

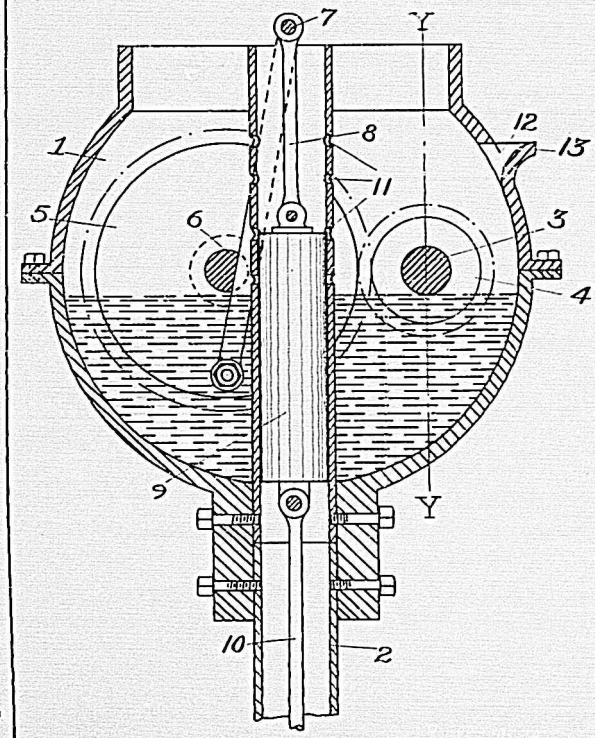
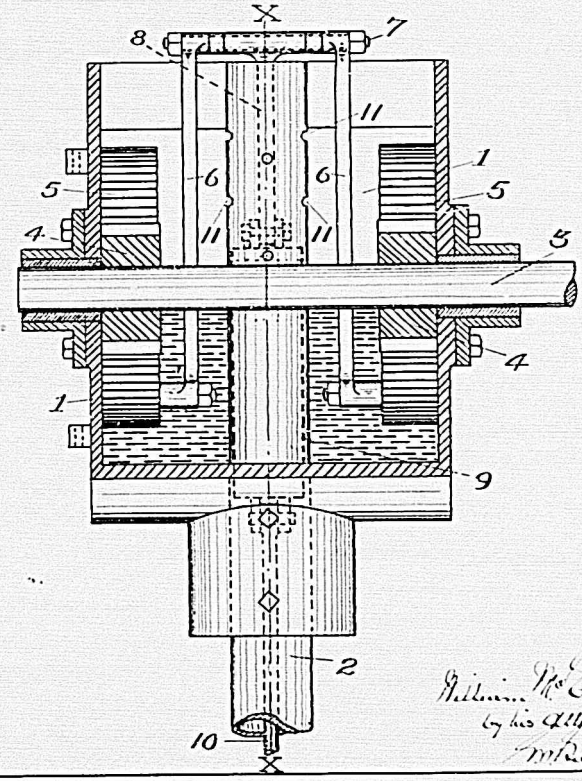


Fig. 2



William McEwen
by his Attorney
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