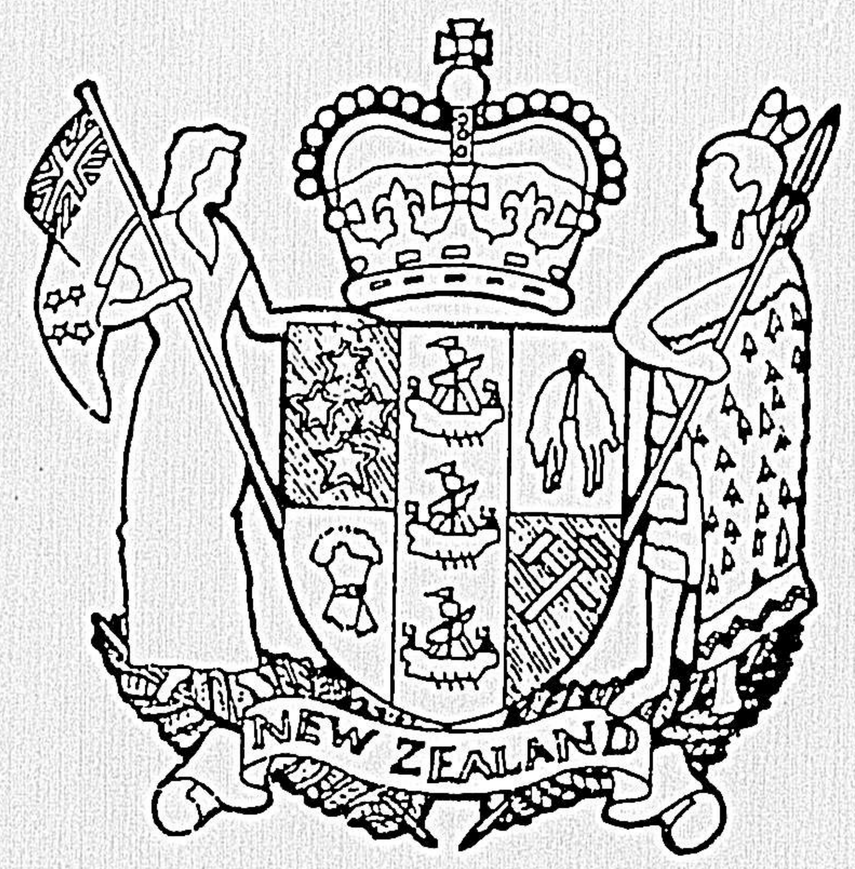


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PATENT SPECIFICATION

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"The Patents, Designs and Trade Marks Act 1911"

COMPLETE SPECIFICATION

No. 45556
22nd March 1921.

"IMPROVED AUTOMATIC WINDMILL CONTROL"

I, FRANCIS WILLIAM SHACKLETON, of Normanby, in the Dominion of New Zealand, Farmer, 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:-

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This invention has been devised in order to provide improved and simple means whereby a windmill may be automatically controlled so as to be put into and out of gear by the operation of the usual gear control pull with which windmills are generally provided.

The control devised is adapted to be operated by the well known method under which the control is actuated by the overflow of water from the tank into which it is pumped by the windmill, and in its operation to draw on the control pull when the tank is full and overflows and then to release such pull after a predetermined time so that the windmill may go back into gear.

The invention consists in the combination with the ordinary control-pull, of a bucket that is suspended thereon and formed with a small outlet in its bottom, and in the combination therewith of an overflow-pipe from the tank that leads downwards into such bucket. The bucket is made of such a capacity that when filled, its weight is sufficient to pull the windmill out of gear so that the pumping and the overflow ceases. The water in the bucket then leaks slowly through the outlet and reduced the suspended weight until the control-gear takes charge and swings the gear into operation again. The said bucket is provided with a guard surrounding the outlet to prevent the lodgment of any grit in the hole that would serve to block it. In use also the bucket is preferably suspended within the top of the well from which the water is being pumped, so that the overflow from the tank will find its way back into the well and thus be saved.

The invention is illustrated in the accompanying sketch drawing in which only those parts with which it is concerned are shewn.

A represents the usual overhead tank into which the water is pumped by the windmill. B is the usual pull wire or rope employed in most windmills for operating the gear and by a downward pull on which the gear is thrown out and

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by the release of which it is allowed to go back into gear on the well known principle of operation and construction.

In this invention an overflow pipe C is arranged to lead out of the tank A from a point close to its top and then vertically downward back into the well or sump from which the water is drawn by the pump. The pull B is also continued downward into the top of such well or sump and on its bottom end a bucket D is hung and so positioned as to have the bottom end of the overflow pipe C entering it. This bucket is made with a small outlet E in its bottom that is always kept open and which outlet is surrounded on the inside of the bucket by a guard F that will keep it clear from solid matter or dirt that might be delivered into the bucket.

The overflow from the tank is thus delivered first into the bucket D, and as the rate of inflow into the bucket is greater than the outflow through the outlet E, the bucket will fill. The capacity of the bucket is made such that the weight, when filled, is sufficient to effect the pull on the wire B necessary to throw the windmill out of gear. It then remains out of gear until enough water escapes from the bucket to lighten it to the required extent to allow the gear control to act. Should the tank be still full, overflow will immediately re-commence so that the bucket is again filled to draw the gear out of action. The water escaping from the bucket will fall back into the well or sump so that the use of the apparatus will not involve any waste of water.

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:-

1. Windmill control means consisting in the combination with the usual gear control pull, of a bucket suspended thereon and formed with a small outlet in its bottom, and with the elevated tank into which the windmill pump delivers the water, of an overflow pipe leading downward from near

its top and opening at its bottom into the suspended bucket, substantially as specified.

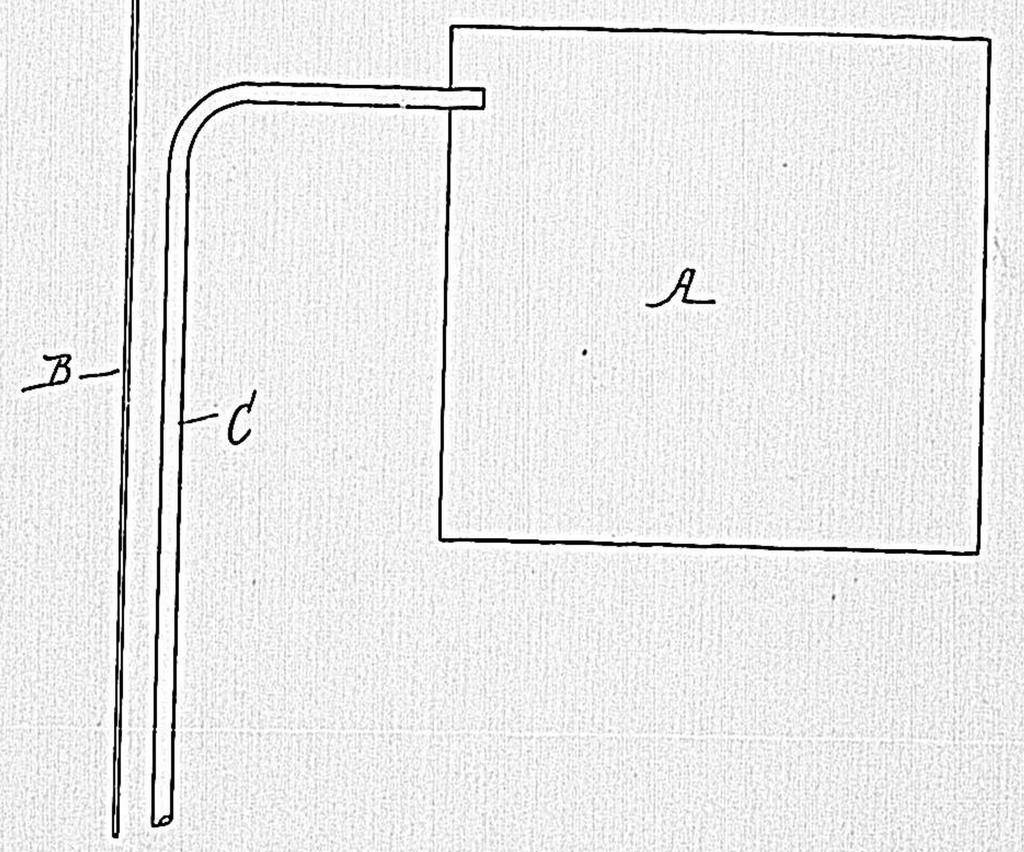
2. In the windmill control means described in claim 1, forming the bucket outlet with a guard around it upon the inside of the bucket, substantially as and for the purpose specified.

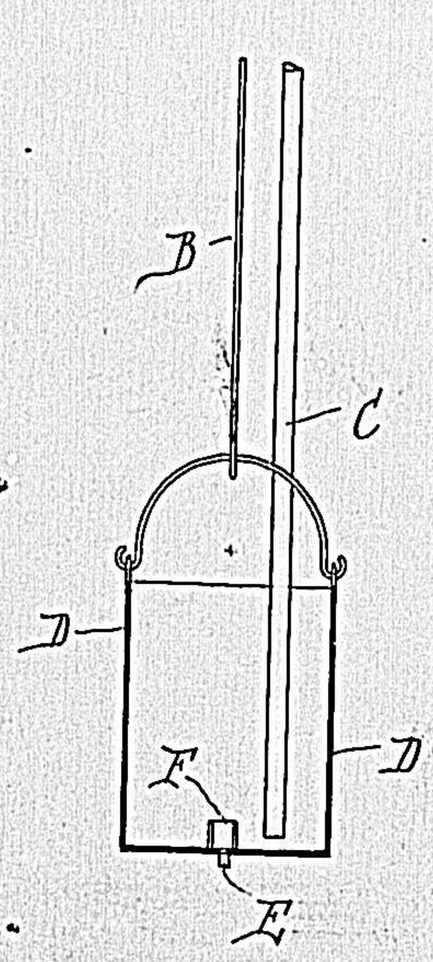
3. The means for the automatic control of windmills constructed, arranged and operating substantially as herein described and explained and as illustrated in the accompanying drawings.

Dated at Wellington this 20th day of December 1921.

HENRY HUGHES, LTD.
per W. Alexander
AGENT FOR THE APPLICANT

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HENRY HUGHES, LTD.
per H Alexander
AGENT FOR THE APPLICANT

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