PATENTS.

Applicant: J. ALSTON No. 16208

Invention: MOTION CHARGING GEAR Date: 8 : 4 03

APPLICATION—

Received with COM. specification and fee (10s.) paid ... 8 : 4 : 03

Accepted, : : Acknowledged, 14 : 4 : 03 Gazetted, 30 : 4 : 03
21

COMPLETE SPECIFICATION (if left subsequently)—

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Specification, £ : 4/- Drawings, £ : 1/-

LETTERS PATENT—

Memorandum and form *re* issue posted to H. Hughes 1 : 4 : 03

Issue applied for and fee (£2) paid ... ... 20 : 4 : 03

Prepared, 27 : 7 : 03 Issued to H. Hughes 4 : 8 : 03

Advice to the Governor with No. 41106. Receipt 15/8/03

FEES FOR SECOND AND THIRD TERMS—

Reminder sent to H. Hughes 13 : 4 06 Fee (£5) paid, : :

Reminder sent to : : Fee (£10) paid, : :

MEMORANDA.

[3,000/8/1903—1215

VOID.

NEW ZEALAND.

The Patents , Designs, and Trade Marks Act, 1889.

COMPLETE SPECIFICATION.

" AN IMPROVED MOTION CHANGING GEAR FOR WINDMILLS".

I, JAMES ALSTON of Maffra Street, South Melbourne, in the State of V ictoria, Commonwealth of Australia, Windmill manufacturer, do hereby declare the nature of my invention for :-

" AN IMPROVED MOTION CHANGING GEAR FOR WINDMILLS".

and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement.-

MY INVENTION RELATES to that class of wind mills in which the wind wheel by motion change gear changes the rotary motion of the wind wheel to a vertical reciprocating pump rod.

But in order that my invention may be better understood I will now refer to the accompanying sheet of drawings which are to be taken as part of this specification and read herewith.

FIGURE 1 shews a perspective view of the whole of the apparatus combined.

FIGURE 2 represents an elevation of a crank hereinafter described.

FIGURE 3 shews a toothed wheel having two crank pin holes therein.

Similar letters of reference indicate similar or corresponding parts where they occur in the several views.-

On reference to the drawings it will be seen that A is the wind mill wheel sleeve which turns upon the outer end of the shaft B , the inner end of which is supported to portion of the frame C. Through the frame C is a vertical passageway or hole the top of which is at C 2 .

On the inner end of the sleeve A is a toothed pinion D . This gears into the toothed wheel E secured to the overhanging end of the countershaft F. In the toothed wheel E, for the adjustment of the stroke of the pump rod (hereinafter described) are two or more crank pin holes G , radially arranged.

The intermediate portion of the shaft F rotates in a bearing T intergral with or detachable from the frame C . The other end of the said shaft overhangs and to the overhanging portion is secured the crank arm H .

The said crank arm H is so secured to the shaft F that the crank pin holes G 1 , radially arranged therein, are in the same plane as the crank pin holes G in the toothed wheel E . Not only are

they in the same plane but they also correspond in number.

Into the crank pin holes G and G.1 are placed the inner ends of crank pins J and J 1 respectively At their outer ends these pins enter the lower ends of connecting rods K and K 1 . They are preferably locked into the connecting rods by the locking screws L and L 1 .

The upper ends of the said connecting rods K and K k have holes therein which pass over the outer ends of the cross shaft M . Each of the said connecting rods is preferably secured to the said cross shaft by locking screws N and N 1 respectively.

Between the two connecting rods aforesaid a and pivotted to the said cross shaft M are the travelling ends of guide rods O and O 1 . These at their other ends are pivotted to a cross pin P secured to an extension of the frame C, and act in the same manner towards the cross shaft M as a guide thereto.

Between the two guide rods aforesaid and also surrounding the said cross shaft M is a sleeve Q. To this sleeve is secured the upper end R of the pump rod. Above this is situated a lubricator box S from which oil is conducted to the said sleeve and to the guide rods.

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 :-

1st. In an improved motion changing gear for windmills a cross shaft above a hole in the frame, said cross shaft having a sleeve on the middle thereof , in combination with one end of a guide rod each side of the said sleeve, one end of a connecting rod outside each guide rod, the other end of said guide rod being pivotted to a cross pin secured to an extension of the frame all as and for the purposes hereinbefore described and as illustrated in the drawings.

2nd. In an improved motion changing gear for windmills two connecting rods the lower ends of which are pivotted to crank pins, the inner ends of said crank pins working loosely within crank pin holes in a crank arm and toothed wheel respectively in combination with a countershaft said countershaft having an intermediate portion rotating in a bearing, all as and for the purposes hereinbefore described and as illustrated in the drawings.

3rd. In an improved motion changing gear for windmills a cross shaft having the top end of connecting rods locked at each of its ends, guide rods pivotted to said cross shaft inside said connecting rods, a sleeve between said guide rods, which sleeve has at the top thereof a lubricator box and at the bottom thereof a pump rod, said pump rod passing through a hole in the frame, the lower end of said connecting rods being pivotted to crank pins all as and for the purposes hereinbefore described and as illustrated in the drawings.

4th. In an improved motion changing gear for windmills a countershaft having an intermediate portion rotating in a bearing integral with or detachable from a frame having a vertical passageway or hole there through, overhanging portions at each end of the said shaft, in combination with a toothed wheel on one end of said countershaft having therein two or more crank pinholes, radially arranged, and on the other end a crank arm having two or more holes therein said holes being in alignment with those before described and as illustrated in the drawings.

5th. An improved motion changing gear for windmills consisting of a wind wheel sleeve having a toothed pinion thereon driving a toothed wheel secured to an overhanging shaft, said wheel having therein two or more radially arranged crank pin holes, the intermediate portion of the said overhanging shaft rotating within a bearing on the wind wheel frame, in combination with a crank arm secured to an extended overhanging portion of the aforesaid shaft and having therein

radially arranged crank pin holes in a similar plane to those aforesaid, the lower ends of connecting rods attached to the outer ends of crank pins, the inner ends of which crank pins are within the toothed wheel and crank arm respectively, the upper end of said connecting rods being secured to the outer ends of a cross shaft, guide rods pivotted to said cross shaft and to an extension of the frame, a sleeve pivotted to said cross shaft between the said guide rods to the bottom of which sleeve is attached the upper portion of the pump rod and to the top of said sleeve a lubricator box all as and for the purposes hereinbefore described and as illustrated in the drawings.

Dated this 8th day of April 1903.

Henry Hughes
Agent for the Applicant

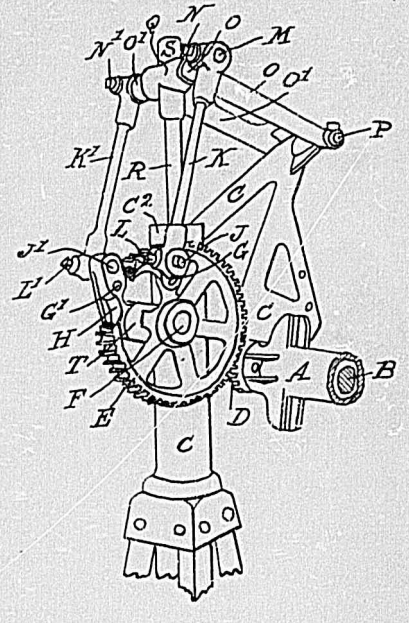


Fig. 1.

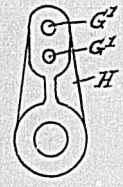


Fig. 2.

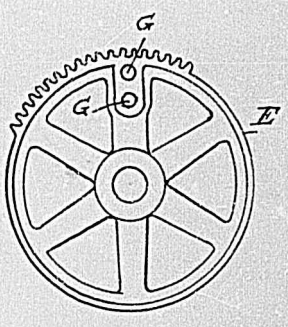


Fig. 3.

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