

No. 676,610.

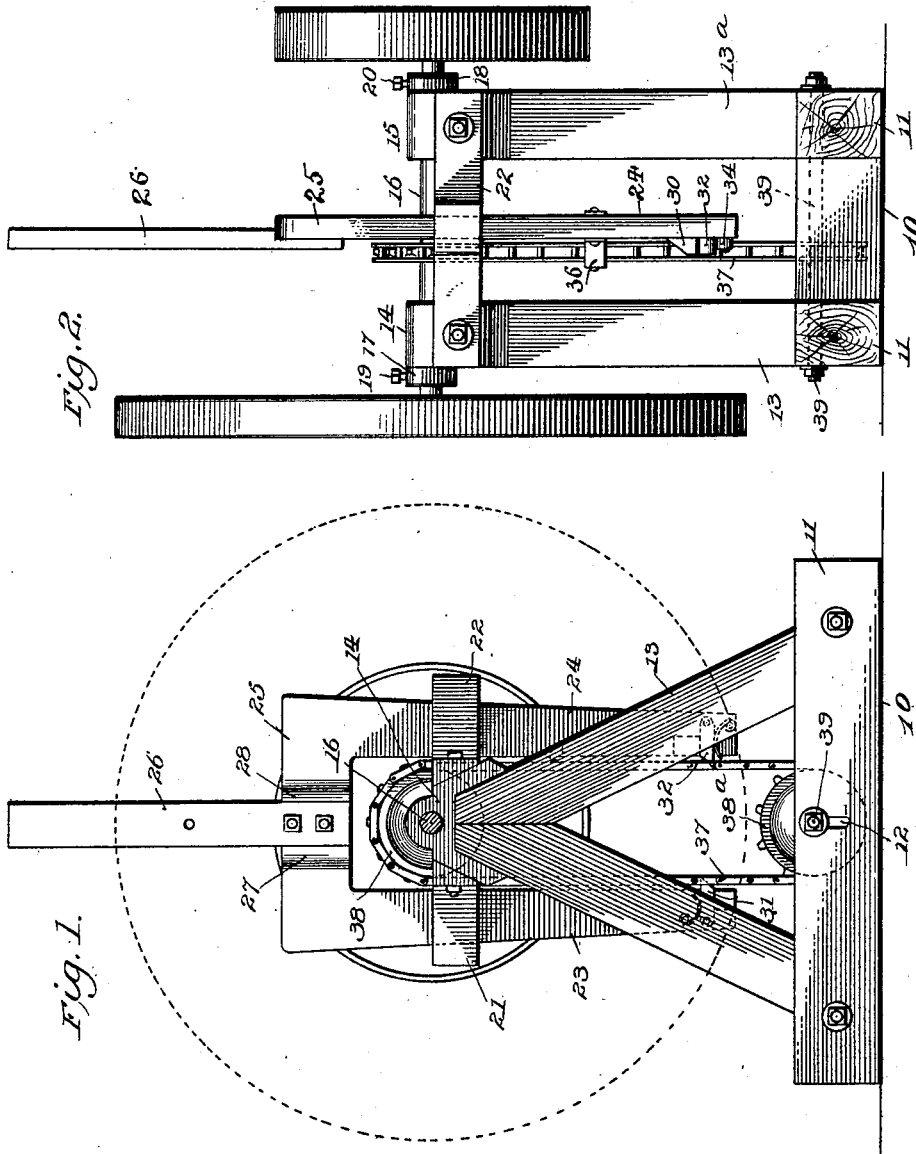
Patented June 18, 1901.

E. OREDALEN.
MACHINE GEARING.

(Application filed Jan. 5, 1900.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses:

Harry S. Roberts
B. J. Dunk

Inventor:

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By Victor J. Evans.
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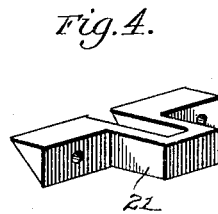
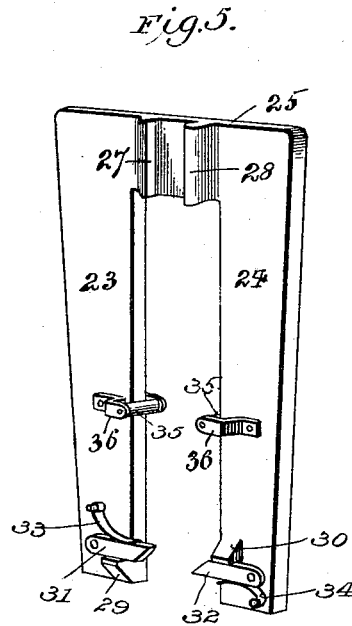
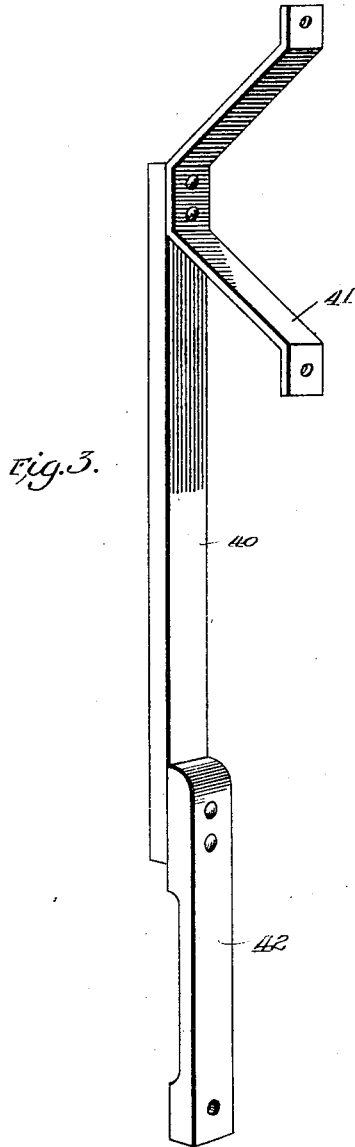
Patented June 18, 1901.

E. OREDALEN.
MACHINE GEARING.

(Application filed Jan. 5, 1900.)

2 Sheets—Sheet 2.

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD OREDALEN, OF SPRINGCREEK, MINNESOTA.

MACHINE-GEARING.

SPECIFICATION forming part of Letters Patent No. 676,610, dated June 18, 1901.

Application filed January 5, 1900. Serial No. 475. (No model.)

To all whom it may concern:

Be it known that I, EDWARD OREDALEN, a citizen of the United States, residing at Springcreek, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Machine-Gearing, of which the following is a specification.

My invention relates to machine-gearing, but more particularly to that used to drive machines for cleaning or separating grain and for cream-separators, butter-workers, grindstones, and electric dynamos or in small shops where it is found desirable to convert a reciprocating motion to a rotary motion to run light machinery.

My invention is particularly adapted to be arranged to a windmill through the medium of the pitman thereof; and it consists in the parts and combinations of parts, all of which will be specifically described hereinafter, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view of a device constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the pitman connection. Fig. 4 is a detail view of a cross-head guide; and Fig. 5 is a similar view of the cross-head and depending arms, showing the engaging dogs or pawls and chain-guides in their relative position.

Referring now to the drawings by reference-numerals, 10 designates a substantially rectangular base-frame, the side sills 11 of which are slotted vertically at 12, the purpose of which will be apparent hereinafter.

From each sill 11 projects a triangular support 13 and 13^a, respectively, comprising two standards, which meet at their upper ends and are engaged by the bearings 14 and 15, carrying the transversely-arranged shaft 16, which is securely but rotatably held in place by collars 17 and 18, keyed thereto by set-screws 19 and 20. On one end of this shaft is keyed a fly-wheel, while the other end carries a drive-pulley, whereby power can be communicated to the machine to be driven.

Secured to the bearings 14 and 15, one on each side, are the guides 21 and 22 to retain the depending arms 23 and 24 of the cross-head 25 in relative position, said guides be-

ing slotted intermediate their ends to retain said arms. A rod or bar 26 projects from the said cross-head 25 and is held against any lateral displacement by two parallel ribs or lugs 27 and 28. Lugs 29 and 30 are cast or otherwise secured to the respective arms of the cross-head and form stops for the oppositely and alternately operating dogs or pawls 31 and 32, which are normally held against the bearing-surfaces of said stops by the springs 33 and 34. The oppositely-located guide-rollers 35, mounted in the brackets 36 on the depending arms of the cross-head 25, are designed to hold the chain 37 in operative engagement with the dogs just described, said chain engaging the teeth on the sprocket 38, rigidly secured to the shaft 16 and passing around the loosely-secured side sprocket 38^a on the counter-shaft 39, adjustably secured in the slots 12 in the sills 11, whereby the tension of said chain may be regulated. A supplemental pitman 40 is adapted to be secured to the pitman of the wind-wheel (not shown) by means of the cleat 41 and to the bar 26 by a cleat 42 through the medium of a wrist-pin or any other suitable connection, whereby the device can be operated.

In the practical operation of my invention the device is connected to the pitman of the wind-wheel or other reciprocating engine, and the cross-head and depending arms will be operated back and forth in the guides 21 and 22. The downstroke will cause the dog 31 to engage the links of the chain, and thereby communicate a rotary motion to the shaft 16, on which the fly-wheel and drive-pulley are mounted. As soon as the pitman reaches the limit of its stroke the dog 32 will operate-ly engage one of the links of the chain, and the upstroke will continue to operate the chain, so that a continuous rotary motion will be imparted to the shaft 16 as long as the engine to which it is geared is in operation.

While I have described this device as particularly adapted to a wind-engine, it is obvious that any other power may be used, and I reserve the right to utilize this invention for any purpose for which it may be adapted without departing from the spirit thereof.

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

1. The combination, with a frame; of a counter-shaft mounted in the frame, a sprocket-wheel mounted on the counter-shaft, shaft-bearings mounted on the frame, guides having
5 slots and secured to the frame, a drive-shaft mounted in the shaft-bearings, a sprocket-wheel fixed on the drive-shaft, a cross-head
10 having depending arms provided with lugs, and reciprocating in the guides, the spring-dogs pivoted to the arms and seating against
15 the lugs, and a chain connecting the sprocket-wheels, and passing between the dogs so as to be engaged by the latter.

2. The combination, with a frame; of a counter-shaft mounted in the frame, a sprocket-wheel mounted on the counter-shaft, shaft-bearings mounted on the frame, guides having

slots and secured to the frame, a drive-shaft mounted in the shaft-bearings, a sprocket-wheel fixed on the drive-shaft, a cross-head
20 having depending arms provided with lugs, and reciprocating in the guides, the spring-dogs pivoted to the depending arms and seating against the lugs, brackets secured to the
25 depending arms, guide-rollers mounted in the brackets, and a chain connecting the sprocket-wheels, and passing between the dogs, so as to be engaged by the latter.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD OREDALEN.

Witnesses:

B. J. BORLANG,
A. B. BORLANG.