

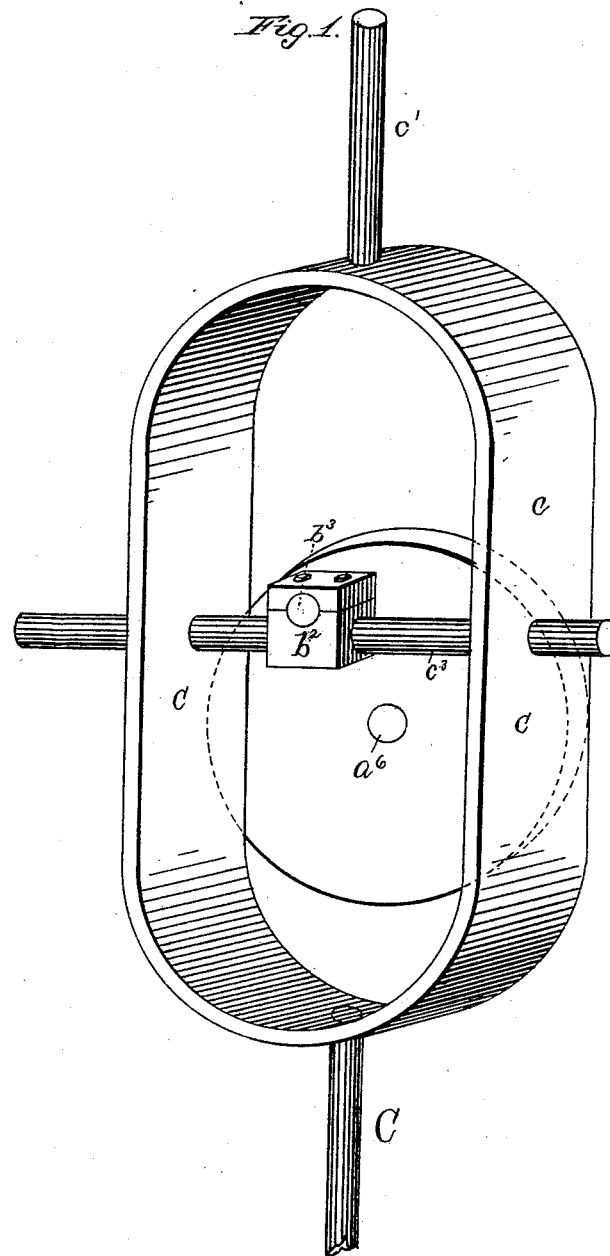
(No Model.)

3 Sheets—Sheet 1.

L. N. MERRIMAN.
MECHANICAL MOVEMENT.

No. 264,734.

Patented Sept. 19, 1882.



Witnesses:

J. B. Garner
W. L. D. Cairns

Inventor:
Lewis N. Merriman
W. A. Thom
his Attorney

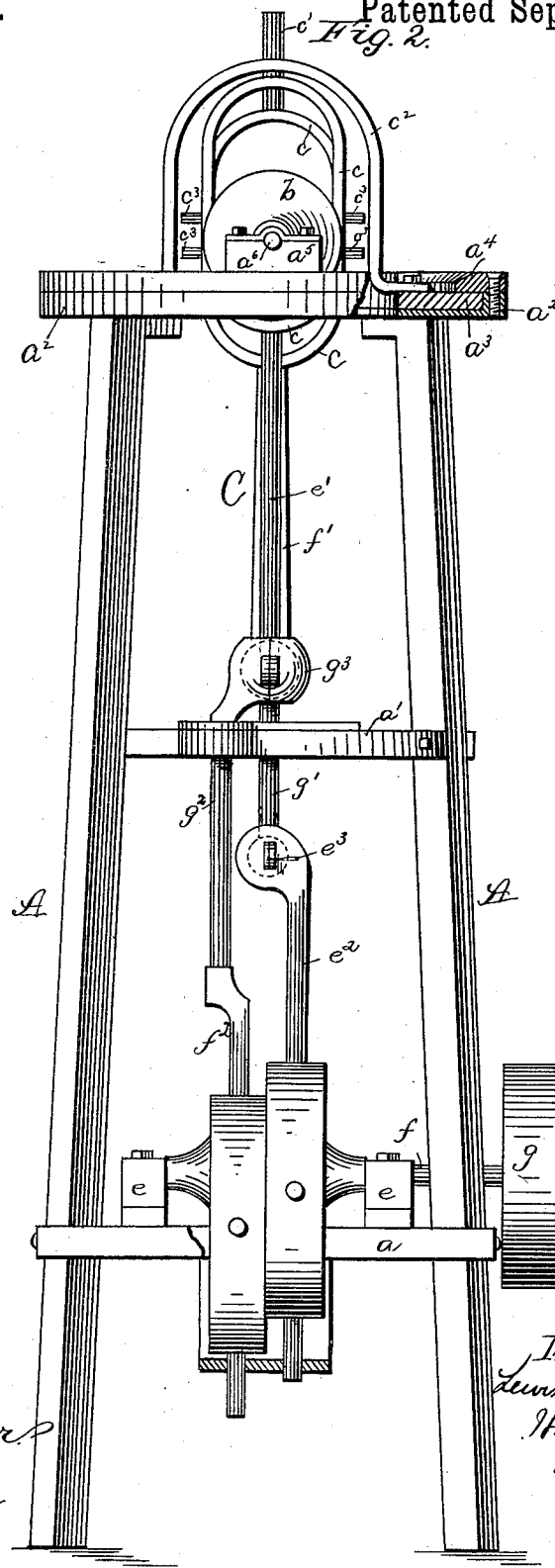
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3 Sheets—Sheet 2.

L. N. MERRIMAN.
MECHANICAL MOVEMENT.

No. 264,734.

Patented Sept. 19, 1882.



Witnesses:

J. W. Garner
W. S. D. Hume

Inventor:
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H. A. Linn
his Attorney

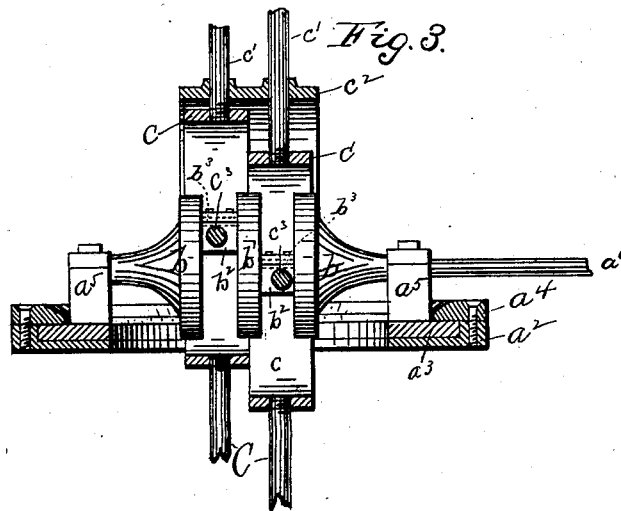
(No Model.)

3 Sheets—Sheet 3.

L. N. MERRIMAN.
MECHANICAL MOVEMENT.

No. 264,734.

Patented Sept. 19, 1882.



Witnesses:

J. B. Garner?
W. J. Osgood.

Inventor:
Lewis N. Merriman,
Harold A. Shaw,
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UNITED STATES PATENT OFFICE.

LEWIS N. MERRIMAN, OF DIXON, ILLINOIS.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 264,734, dated September 19, 1882.

Application filed March 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, LEWIS N. MERRIMAN, a citizen of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to devices for transmitting the motion of wind-wheel shafts to attached machinery, and for other purposes to which it may be found adapted; and it consists in the construction and arrangement of its several parts, as will be hereinafter fully set forth, and pointed out in the claim.

In the drawings, Figure 1 is a view in perspective of the link and journal-boxes; Fig. 2, a side elevation of the device applied to a windmill, and Fig. 3 a section of the upper portion of the device.

A A are the supporting-stanchions, having braces a' , as shown. To the top of the stanchions is secured the flat disk a^2 , upon which rest the fan-shaft a^6 and transmitting device, hereinafter to be described. Operating in an annular groove in the disk a^2 is the ring a^3 , having secured to its sides the bearings a^5 , in which is journaled the shaft a^6 , as shown. The ring a^3 is held in position by the keeper a^4 , which is bolted to the disk a^2 , as shown. Placed around the shaft a^6 are the circular shoulders b , between which is the intermediate shoulder, b' . Pivoted between the shoulders b and b' upon the pivot-pins b^3 , at points at right angles to each other from the center of the shaft, are the boxes b^2 . They are constructed in separate parts and secured together by stud-bolts or other suitable means.

C C are the connecting-rods. To their upper end are secured the elongated links c , which have upright pistons c' projecting from their upper ends and operating through a journal-arch, c^2 , which is bolted to the disk a^3 , as shown. Extending horizontally through boxes in the sides of the links c are actuating-shafts c^3 . They are secured through the journal-boxes b^2 . The shafts c^3 convert the revolving motion of the shoulders b b' and circular motion of the boxes b^2 , and transmit it to the links c , imparting to them a vertical

movement. In operating the shafts c^3 remain stationary in the boxes b^2 , but slide horizontally in the boxes in the sides of the links c . When in position the links c embrace the shoulders b , as shown. Secured to the braces a are the sills e , upon which is journaled the shaft f , which has keyed to its outer end the pulley g . The connecting-rods C C, which connect the shafts, are divided into upper sections, e' f' , and lower sections, e^2 f^2 , as shown. Formed in the section e' is the piston g' , which operates through a ball-and-socket joint, as shown, upon the end of the section f' and through a guide-hole in the brace a' . Its lower end forms a ball-and-socket connection, e^3 , with the section e^2 . Upon the lower end of the section f' is formed a ball, which has a vertical hole running through it, to permit the passage of the section e' , and it is embraced by a socket, g^3 , upon the upper end of the piston g^2 , which operates through a guide in the brace a' , as shown. Upon either end of the shaft a^6 is the wind-wheel, (not shown,) and upon the pulley g is placed a belt to connect it with the machinery to be driven. A crank may be used instead of the pulley, if desired.

In operation the actuating-shafts c^3 slide horizontally in the links and transmit to them the motion received from the revolving shoulders b and shaft a^6 .

By this construction and arrangement of the connecting-rods C C, shoulders b and b' , and boxes b^2 upon the shafts c^3 and f , I secure a device for transmitting and changing the direction of motion, in the operation of which there can be no dead-center upon either shaft, in which there is but a small amount of friction and of simple economical construction. As will be seen, the rods C C have no lateral motion, as is the case in connecting-rods of ordinary construction and operation. The arch c^2 prevents lateral strains upon the links, and consequent binding of the actuating-shaft c^3 in the link-boxes.

What I claim is—

In a mechanical movement, the combination, with the revolving disk a^3 , the vertical journal-arch c^2 , secured to said disk, the connecting-rods C, and elongated links c , provided with pistons c' , operating through boxes in

the top of the journal-arch c^2 , of the shaft a^6 ,
journaled upon the disk a^3 , provided with circular
shoulders $b b b'$, and boxes b^3 , through which
are secured horizontal bars c^3 , adapted to
5 slide through suitable apertures in the sides
of the links c , all arranged to operate substantially
as shown, and for the purposes set forth.

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

LEWIS N. MERRIMAN.

Witnesses:

LEWIS MERRIMAN,

RODERIC H. BOSWORTH.