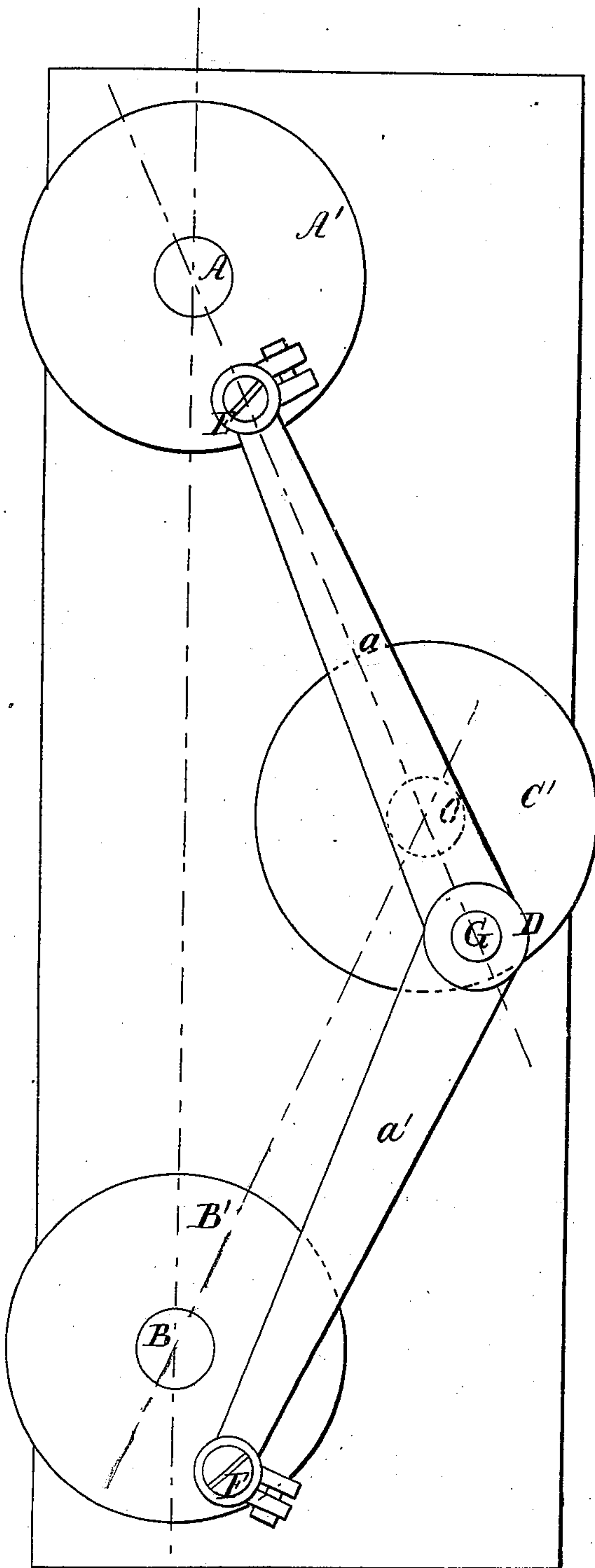


N. Read.

Mechanical Movement

N^o 93,004.

Patented Jul 27, 1869.



Witnesses:
Wm. Morgan
G. C. Cotton

Inventor.
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per M. M. M.
Attorney

United States Patent Office.

NELSON READ, OF WINCHENDON, MASSACHUSETTS.

Letters Patent No. 93,004, dated July 27, 1869.

IMPROVED MECHANICAL MOVEMENT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, NELSON READ, of Winchendon, in the county of Worcester, and State of Massachusetts, have invented a new and useful Improvement in Mechanical Motion; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, which represents a side view of my invention.

This invention relates to a new and useful improvement in means for transmitting motion from a rotary driving-shaft to two or more rotary counter-shafts.

The object of the invention is to prevent irregularity of motion, hitherto caused in crank-connections by the difficulty of the crank in passing the centres of the shafts.

A B C represent three shafts, which are parallel with each other, C being a driving-shaft, from which motion is communicated to A B.

These shafts have crank-pulleys A' B' C', on one end, and to the wrist-pins E F G of these crank-pulleys a curved or bent connecting-rod, D, is affixed.

This connecting-rod is curved or bent, so that its two arms, *a a'*, which are at opposite sides of the wrist-pin G, will form an oblique angle with each other, as shown in the drawing, and the wrist-pins E F G of the crank-pulleys A' B' C', when the rod D is attached to them, have such a position that the two arms of the connecting-rod cannot, both at the same

time, be in line with the shafts A B C. This will be fully understood by referring to the drawing, in which the arm *a* is shown in line with the shafts A C, while the other arm *a'* is out of line with the shafts B C; hence it will be seen that one arm will assist the other in passing centres, *a'* in the present position of the parts assisting *a* and *a*, when the position of the parts is reversed, assisting *a'*.

This invention is not confined in its application to the three shafts A B C, for two or more shafts may be connected with either arm of the connecting-rod D.

The invention is applicable to various purposes, such, for instance, as Singer's sewing-machine, in which the needle and shuttle-shafts are driven from a central shaft, corresponding to C, in the drawing, the needle and shuttle-shafts (corresponding to A B) being driven by gears from C.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The transmitting of motion from a driving-shaft, C, to two counter-shafts, A B, through the medium of the bent or curved connecting-rod D, made in one piece, and cranks or crank-pulleys A' B' C', arranged to operate in the manner substantially as shown and described.

NELSON READ.

Witnesses:

JAMES A. TRUE,
JOHN G. FOLSOM.