2 Sheets—sheet 1.

W. R. Swinnerton,

Mechanical Movement.

No. 74,952. Patented Feb. 25, 1868.

Fig. 2.

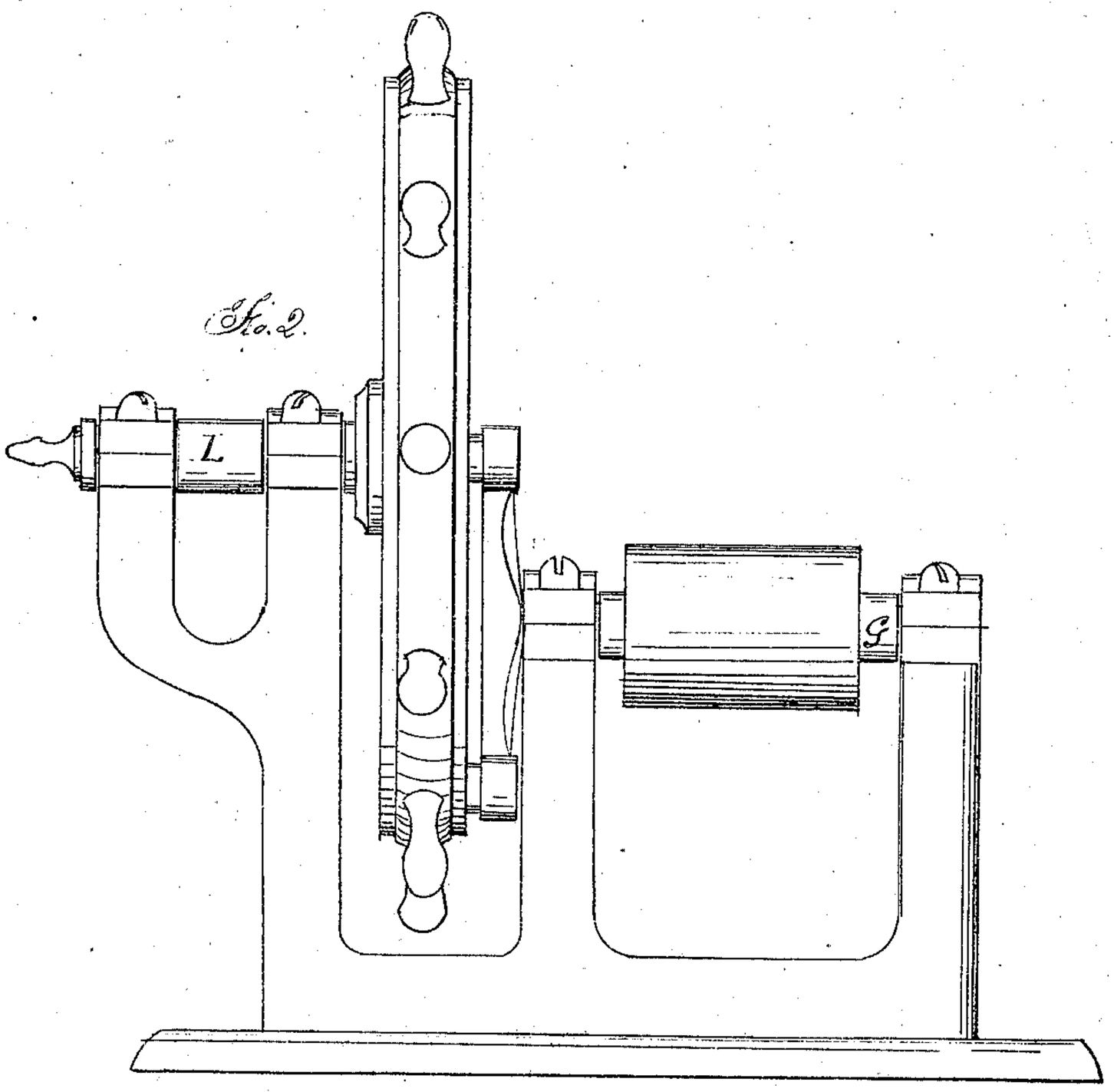
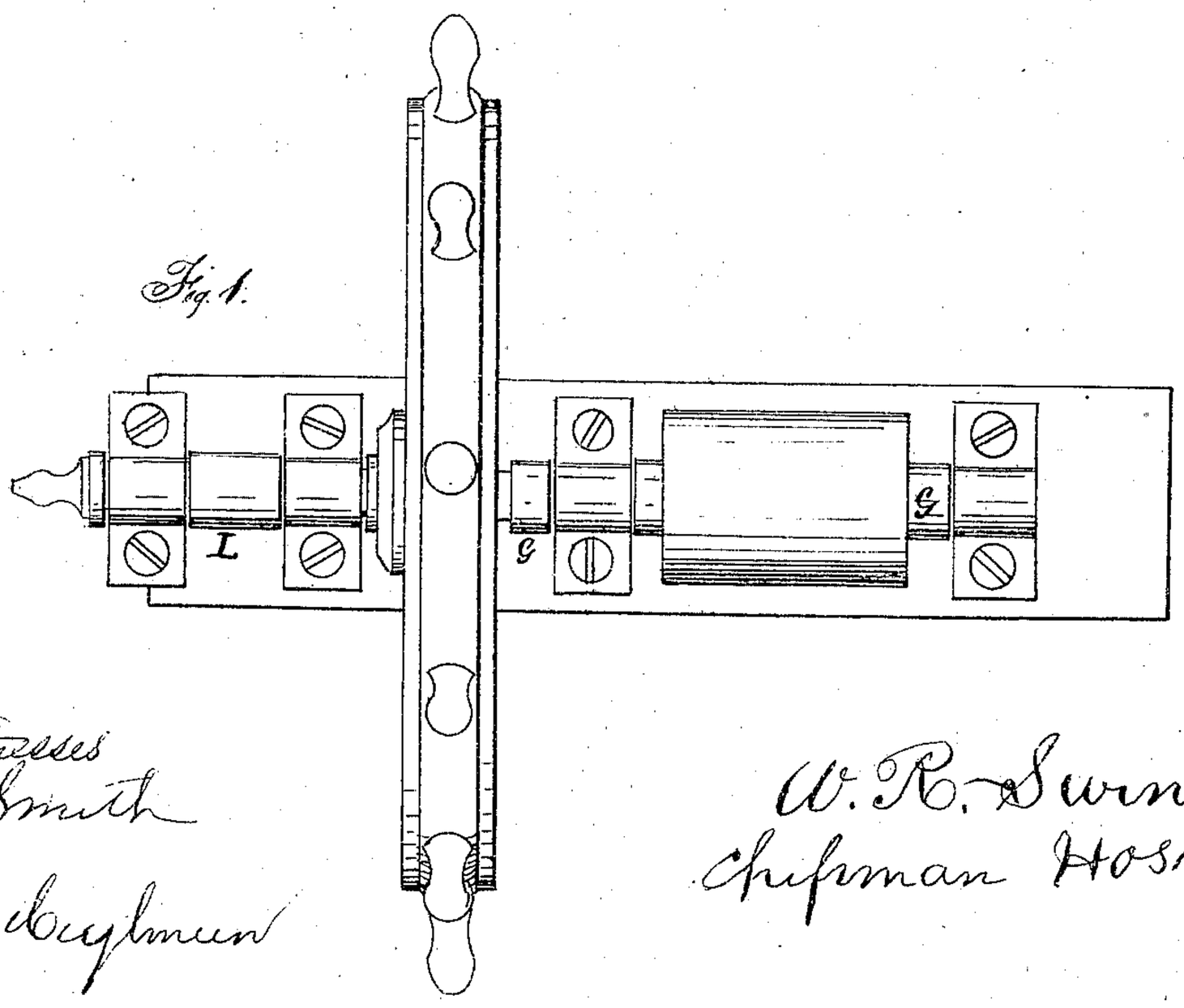


Fig. 1.



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2 Sheets—sheet 2.

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Fig. 3.

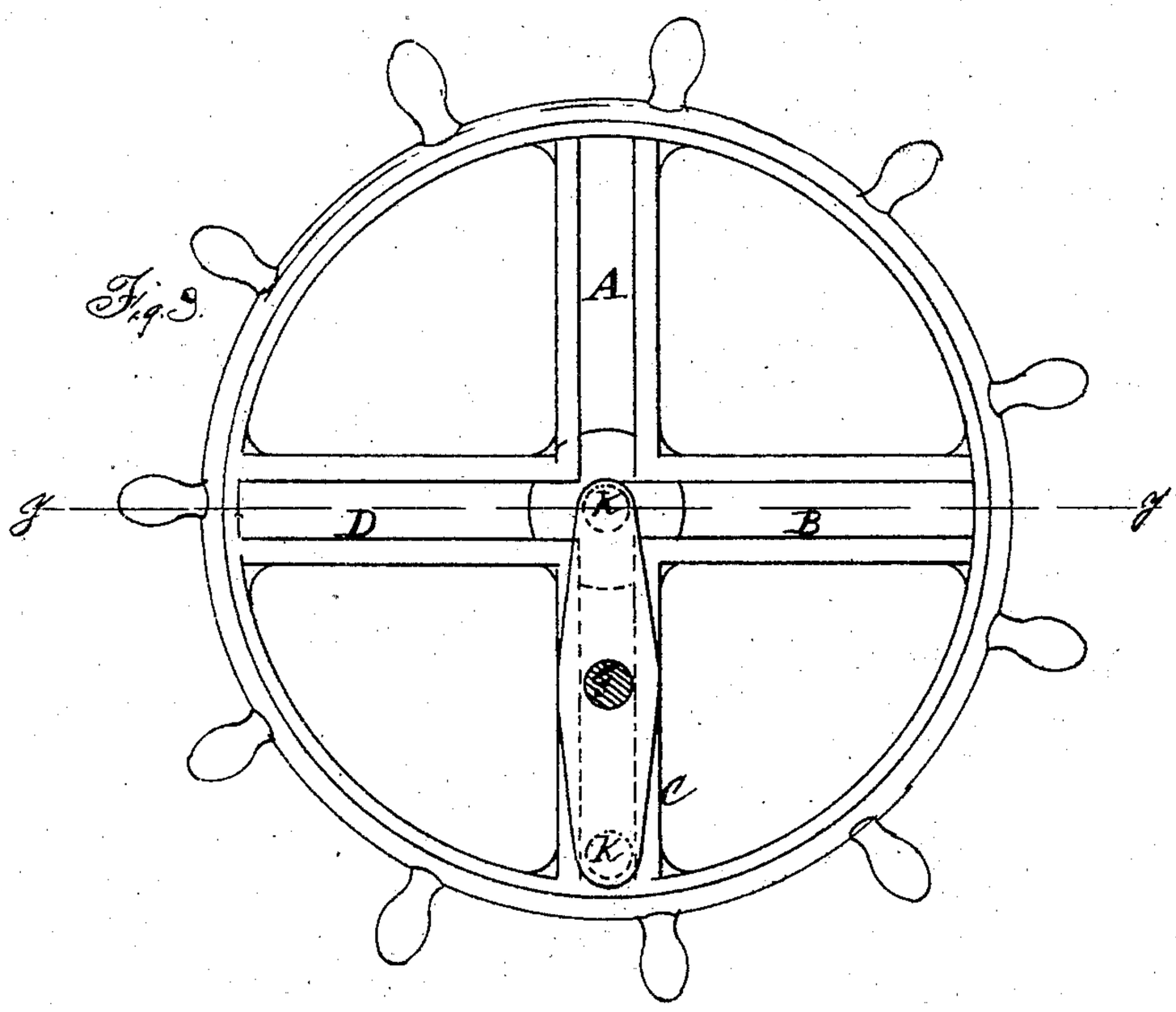
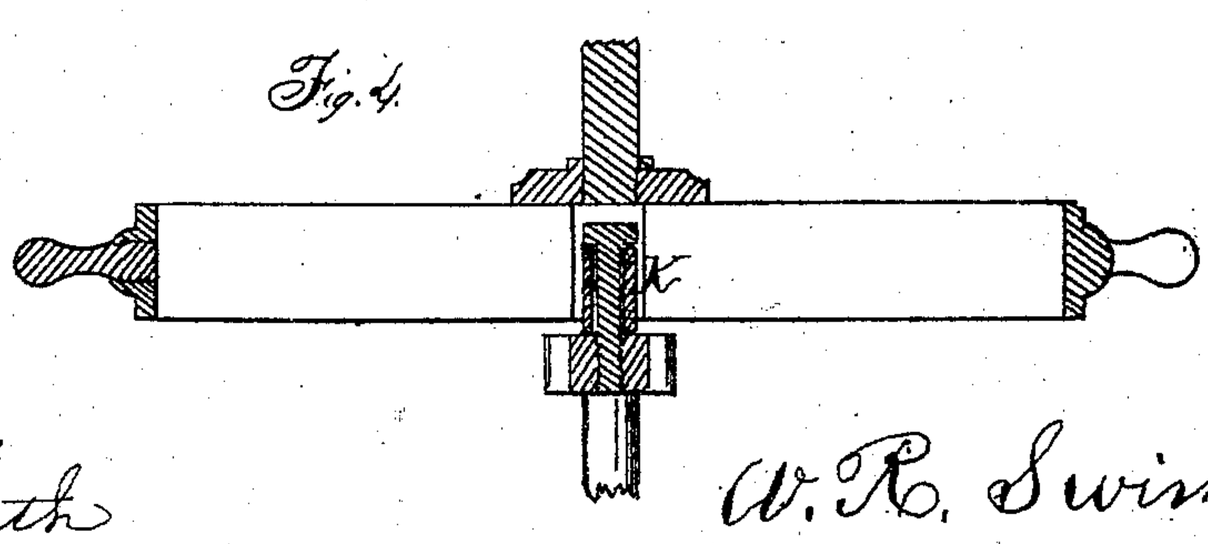


Fig. 4.



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United States Patent Office.

WILLIAM R. SWINNERTON, OF PEORIA, ILLINOIS.

Letters Patent No. 74,952, *dated February* 25, 1868.

IMPROVEMENT IN MECHANICAL MOVEMENT.

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

TO WHOM IT MAY CONCERN:

Be it known that I, WILLIAM R. SWINNERTON, of Peoria; in the county of Peoria, and State of Illinois, have invented a new and valuable Improvement in Mechanical Movements; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1 is a plan view.

Figure 2 is a side view.

Figure 3 is a wheel, with the lever attached, and

Figure 4 is a cross-section of fig. 3 at the line *y y*.

The nature of my invention consists in providing means in mechanical movements by which two revolutions are obtained for the working-shaft to a single revolution of the main shaft, and this is accomplished without the agency of cogs, belts, or drums.

Figure 3, of the drawings, represents a wheel, with handles on the periphery thereof, and it has four slotted arms, which for convenience I have marked A, B, C, and D. The letter E, on said last-mentioned figure, is a lever, firmly fastened at its centre to the working-shaft of the machine, marked G. This lever E has two arms, covered with anti-friction rollers. The arms are shown by the letter K on fig. 3, and one arm and anti-friction roller are shown by the same letter on fig. 4. The disk, marked H, on fig. 3, represents an enlargement of the end of the main shaft L, where it is united to the wheel, but the front part of the wheel, at its centre, is left open in the manner shown in fig. 3.

The wheel and shafts of my device, and the relative position of the shafts to each other, are well represented by fig. 2 of the drawings. Letter L, I call the main shaft, and letter G the working-shaft. Each of said shafts rests and revolves in arbors, as shown on the drawings, and they are placed in position in such manner that shaft G shall be distant from shaft L about one-fourth the diameter of the wheel inside the rim.

My device operates as follows, to wit: The motive-power is applied either to the wheel or main shaft, causing the wheel and main shaft to revolve. Suppose, when the wheel commences its revolutions, one arm, K, on the lever E, is in the open space in the centre of the wheel, the other arm K is near the rim of the wheel in slot C. The revolution of the wheel gradually brings the last-mentioned arm from the slot C to the centre of the wheel, while the other moves on its roller up the slot B. This movement is repeated by one arm passing up slot A, and the other up slot D, alternately, thus making four half circles. Now, as the working-shaft G is attached to the centre of the lever E, it follows that two revolutions are performed by said shaft while the wheel and main shaft are performing one.

The advantages of my device are, first, it provides means for accelerating speed in machinery, which are novel to mankind and eminently useful; second, it saves a vast amount of friction in working machinery; third, it provides for overcoming to a very great extent the difficulty of "dead-points" in machinery; fourth, it adds to the leverage of machinery fully twenty-five per cent., thus making it possible for one hundred pounds of steam to do the work which one hundred and twenty-five pounds have done when applied by any device heretofore known or used; fifth, it is exceedingly simple and cheap in construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The lever E, with its arms K, and all equivalents of the same, constructed and operating substantially as and for the purposes specified.

2. In combination with lever E, I claim the slotted wheel as described, and the shafts L and G constructed and operating substantially as set forth.

3. I claim the mode of adjustment and arrangement of the shafts L and G, herein set forth, in such manner that their relative distance from each other shall correspond to about one-fourth the diameter of the wheel.

4. I claim the combination and arrangement of the various parts herein described and shown, for the purpose of producing accelerated speed in machinery.

WM. R. SWINNERTON.

Witnesses:

J. C. SMITH,

B. H. WOOLMAN.