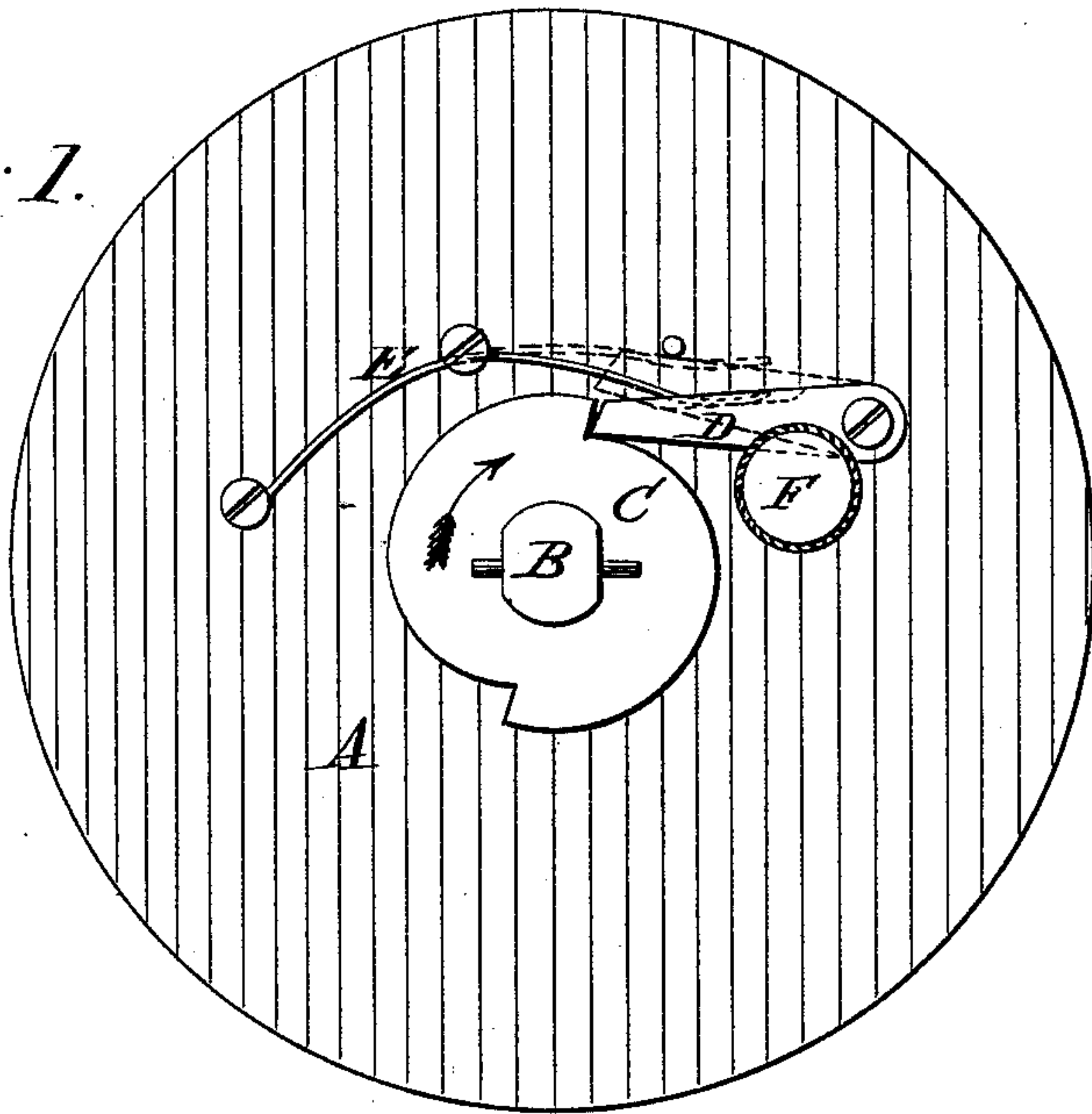


J. V. MORTON.  
Balance-Wheels.

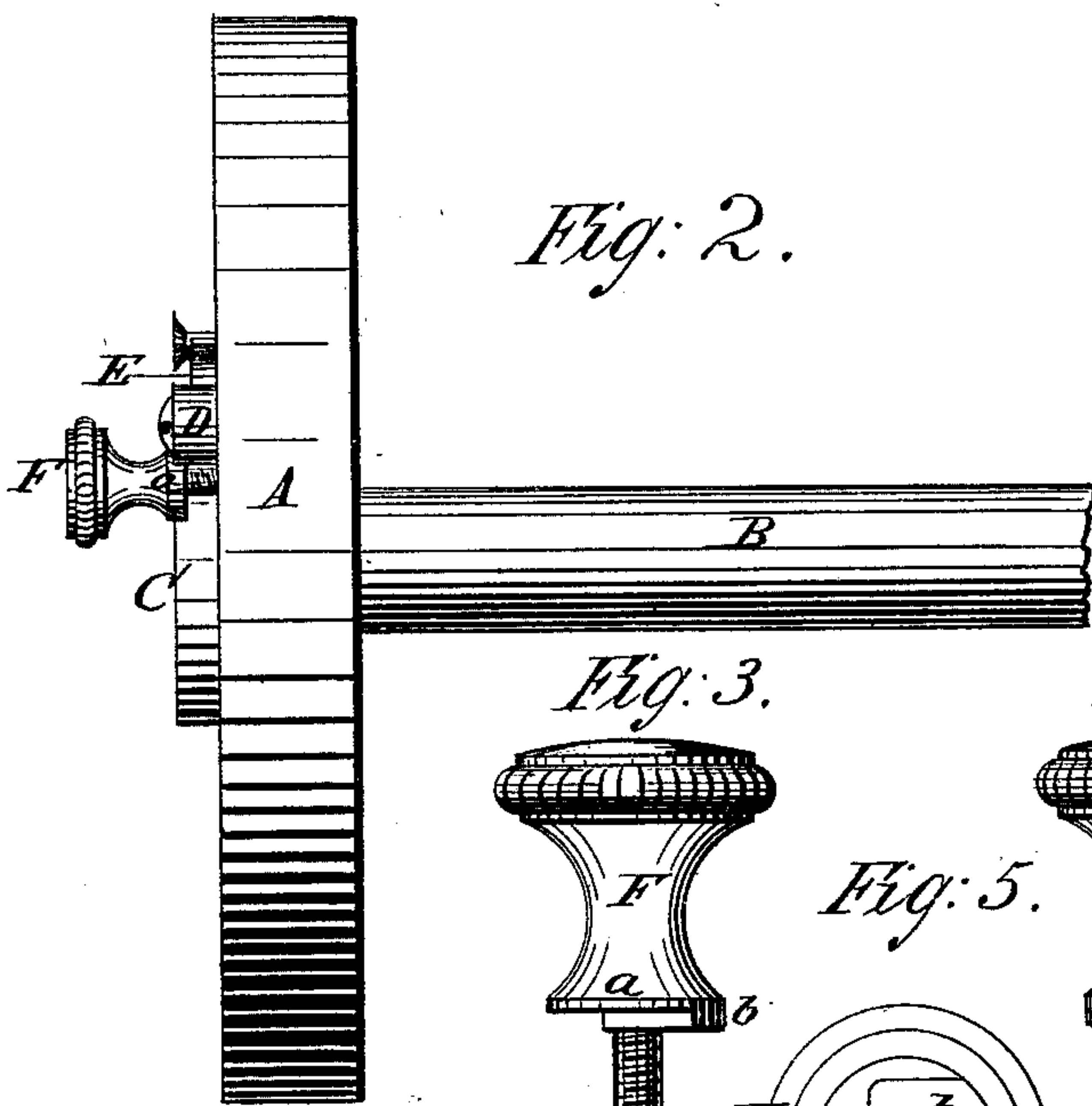
No. 218,555.

Patented Aug. 12, 1879.

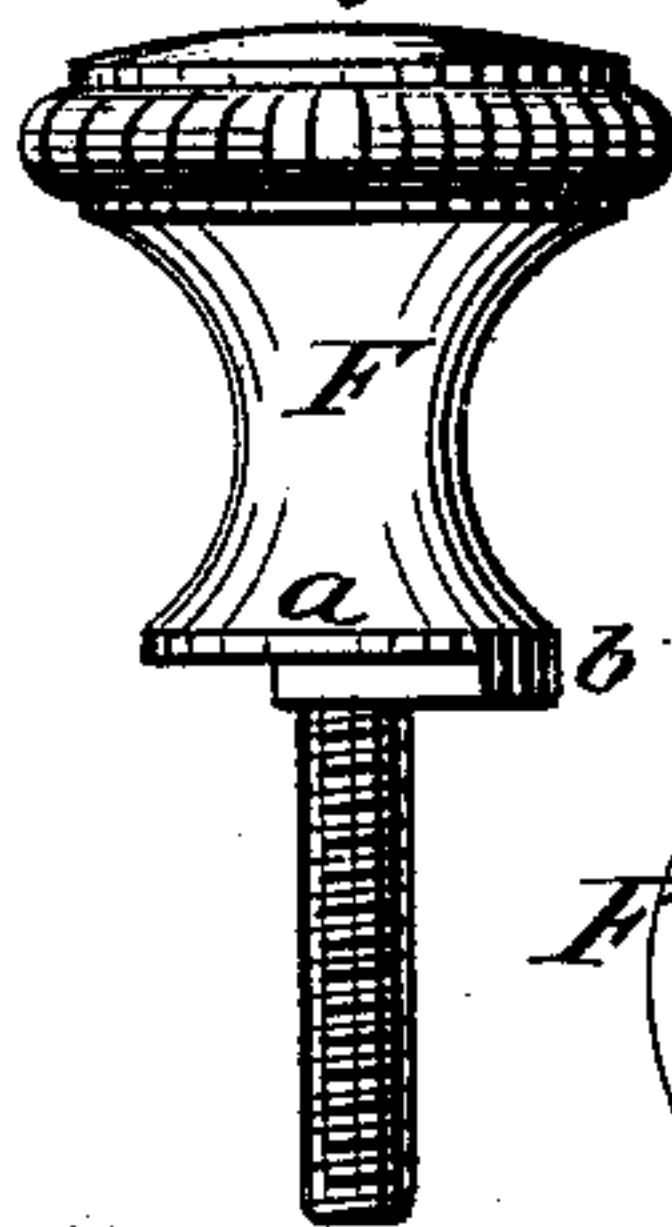
*Fig: 1.*



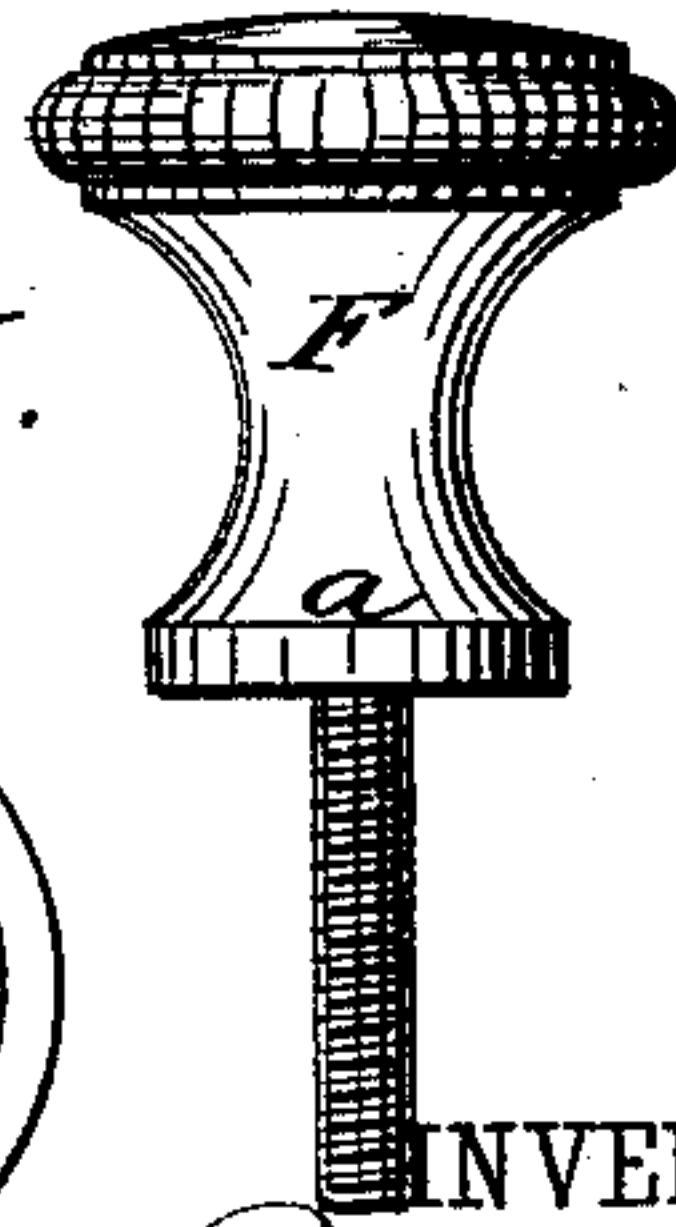
*Fig: 2.*



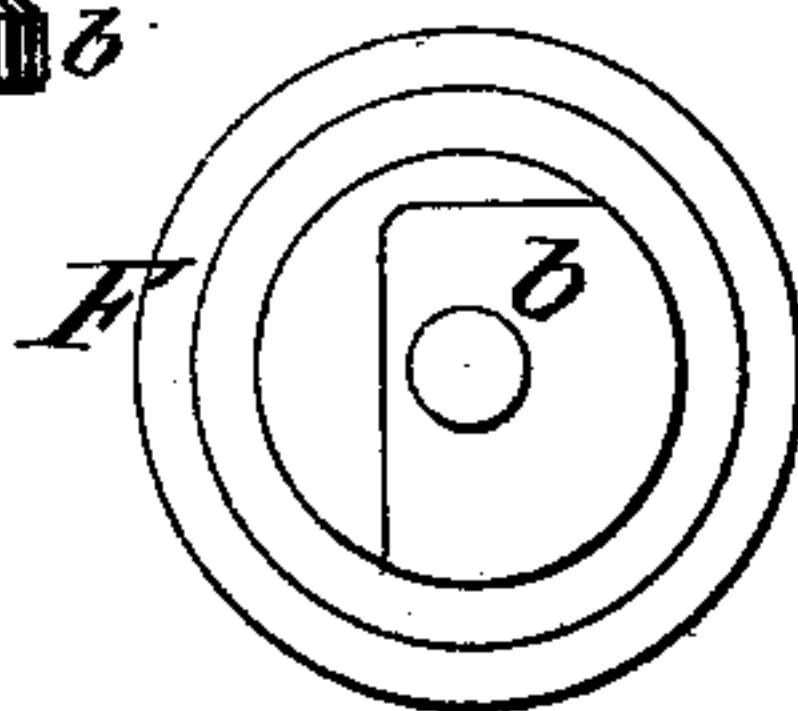
*Fig: 3.*



*Fig: 4.*



*Fig: 5.*



WITNESSES:

*Achilles Schehl.*  
*C. Sedgwick*

INVENTOR:

*J. V. Morton*  
BY *Mumford*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOSEPH V. MORTON, OF WINCHESTER, KENTUCKY.

## IMPROVEMENT IN BALANCE-WHEELS.

Specification forming part of Letters Patent No. **218,555**, dated August 12, 1879; application filed February 7, 1879.

*To all whom it may concern:*

Be it known that I, JOSEPH V. MORTON, of Winchester, in the county of Clarke and State of Kentucky, have invented a new and Improved Balance-Wheel, of which the following is a specification.

The object of this invention is to connect the balance-wheel with the band-wheel shaft in such a way that when the wheel is moved in the direction for operating the machine the shaft is engaged, and communicates the motion through the belt-wheel; but when the wheel's motion is reversed the shaft is released, remaining stationary, and, further, the arrangement permits the wheel to move in either direction without engaging the shaft.

The invention will first be described in connection with the drawings, and then specifically pointed out in the claim.

In the accompanying drawings, Figure 1 shows a front view of the wheel on the shaft, with the improvements in position. Fig. 2 is an edge view of the same; and Figs. 3, 4, and 5 represent the device for disconnecting the shaft and wheel.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the balance-wheel, placed loosely on the band-wheel shaft B. Fixed to the shaft, close up against the balance-wheel, is a ratchet-wheel, C.

D is a pawl pivoted at one end to the face of the wheel, on the same side as the ratchet, and with its free end resting on the edge of the ratchet, where it is retained by the spring E, fastened to the face of the wheel, with its free end resting in a groove (indicated by dotted lines) in the upper side of the pawl.

When the wheel is rotated in the direction of the arrow, Fig. 1, the ratchet and pawl en-

gage, and thus the rotary motion is communicated to the shaft; but when the motion of the wheel is reversed the pawl is disengaged, and the result is that the wheel moves independently, while the shaft remains stationary.

The device for disconnecting the balance-wheel and shaft entirely consists of the screw F, entered into the face of the wheel immediately under the pawl. The shoulder *a* of this screw is cut away underneath, so as to form on one side a cam, *b*, while the part cut away rests against the pawl and holds it to the wheel. When the side cut away is next to the pawl the latter rests upon the ratchet-wheel; but when it is wished to disengage the wheel from the shaft entirely the screw is turned so that the cam will lift the pawl from the ratchet, as indicated by the dotted lines, Fig. 1. This allows the wheel to be rotated in either direction, the shaft remaining stationary.

This invention is specially applicable to the running mechanism of sewing-machines, where a backward movement of the band-wheel and shaft is to be avoided if possible, and where, too, in winding bobbins it is desirable to run the balance-wheel independently of the band-wheel.

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

The screw F, provided with cam *b*, in combination with pawl D, whereby the said pawl can be lifted from the ratchet-wheel, and the balance-wheel thus allowed to rotate in either direction independently of the shaft B, substantially as described.

JOSEPH VENABLE MORTON.

Witnesses:

W. H. ECTON,  
RICHARD FRENCH.