(No Model.)

P. F. JONTE.

MECHANICAL MOVEMENT.

No. 281,078. Patented July 10, 1883.

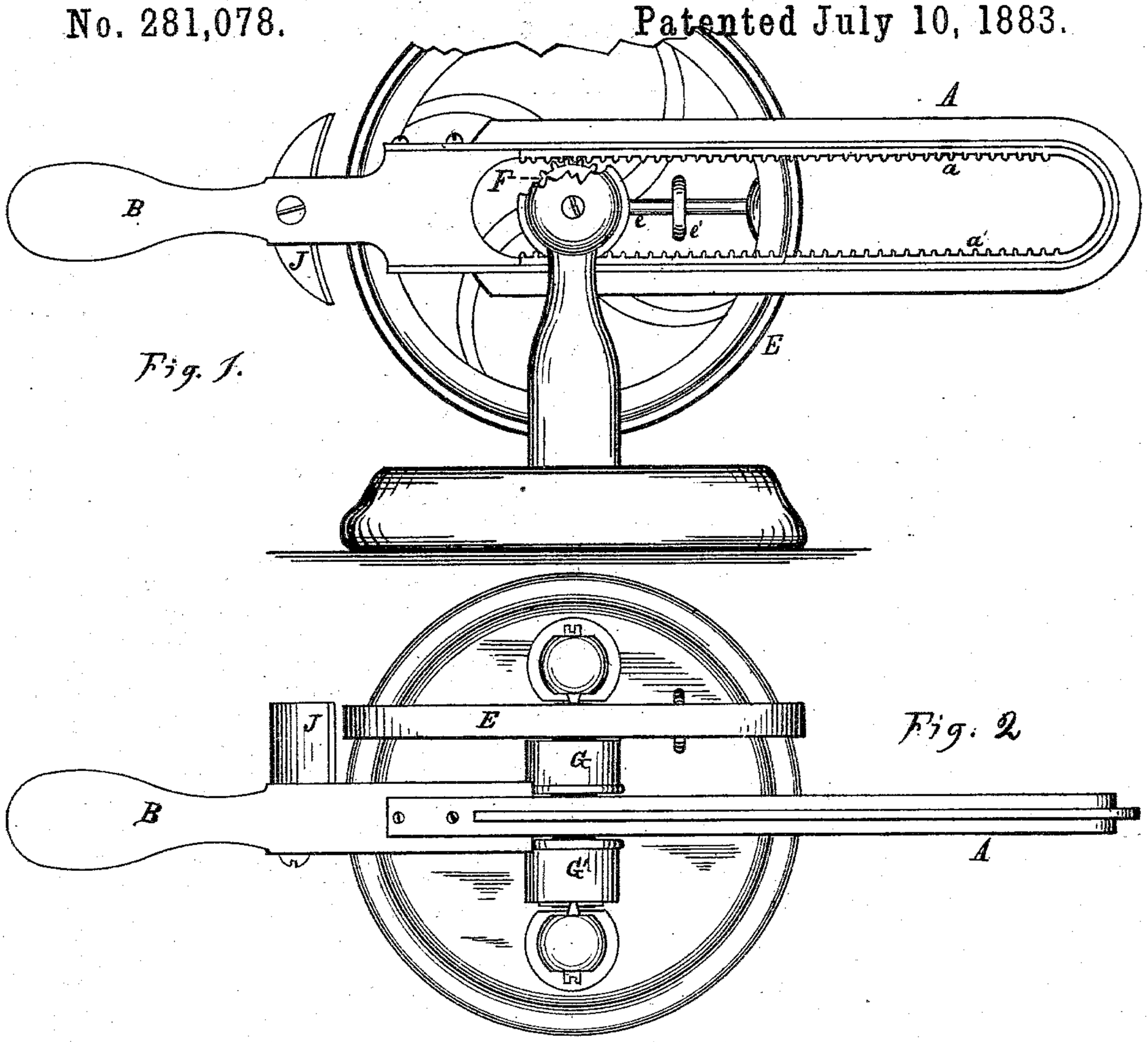

Fig. 1.

Fig. 2

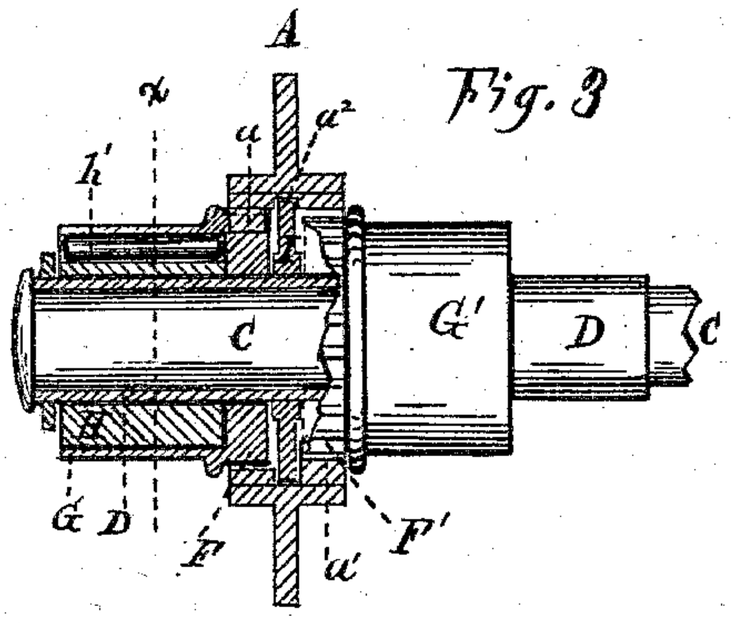

Fig. 3

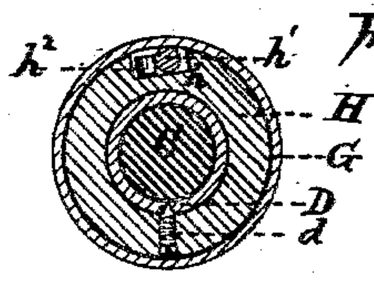

Fig. 4

Attest:

C. G. Miller

Joseph Williams

Inventor

Pierre F. Jonte

per T. Van Kannel

Atty

UNITED STATES PATENT OFFICE.

PIERRE F. JONTE, OF CINCINNATI, OHIO.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 281,078, dated July 10, 1883.

Application filed December 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, PIERRE F. JONTE, of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and Improved Mechanical Movement; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a side elevation. Fig. 2 is a plan of the same. Fig. 3 is an enlarged vertical section through the shaft longitudinally; and Fig. 4 is a transverse section of the pinion-sleeve, taken in line *x* of Fig. 3.

Similar letters of reference indicate like parts.

The nature of my invention relates to a mechanical movement which has for its object the transmission of a reciprocating into a continuous rotary motion. It is also provided with a brake attachment for stopping the motion, when required, by extending the stroke of the reciprocating arm, as will be more fully described hereinafter.

Among other features of importance may be mentioned that in this device the speed can be changed without stopping the machine, that the motion may be reversed when so desired, and that any required number of revolutions can be given the main shaft to one movement of the reciprocating arm.

My invention consists, mainly, of two pinions having their hubs formed into sleeves which receive in their interiors another sleeve or ring provided with a groove cut longitudinally, the bottom of which is made to incline with respect to the center, which groove receives a loose roller, which is held in engagement by a suitable spring, whereby the incline sleeve and the pinion-sleeve are held firmly together when actuated in one direction, and released from each other when the motion is reversed.

It further consists in having the reciprocating arm provided with two toothed racks placed on opposite sides of the shaft and engaging with the two pinions above mentioned; also, of a friction-roller rotating freely on the shaft and engaging with the reciprocating arm, which it holds in its working position.

In construction my invention is as follows: A is the reciprocating arm. B is the handle or point for the attachment of the actuating part. At *a a'* are toothed racks, which are either fastened securely to arm A, or made of the same piece, as may be desired. C is the main shaft to be rotated, is encircled by the hollow arbor D, and is a part and continuation of the fly-wheel E. At F F' is seen the toothed pinions which engage with toothed racks *a a'*. The pinions are a part of the pinion-sleeves G G'. Within these are seen the two incline sleeves H H', which are held to arbor D by set-screws *d*, and are provided with a wide groove, *h*, running longitudinally, having the lower side thereof inclined slightly with respect to the center, and each receives a loose hard roller, *h'*, having some play at the deepest part of the groove. A small spring, h^2, presses roller *h'* with slight force up the incline, tending to keep the same engaged with the two sleeves last mentioned. The friction-roller I rotates freely on the hollow arbor D and guides the action of the reciprocating arm A, engaging with it by its periphery entering grooves a^2, as seen in Fig. 3. The brake-block J is made to conform to the shape of the periphery of the fly-wheel E, and is permanently attached to arm A. The fly-wheel E is provided with a set-screw, *e*, surmounted by a disk, *e'*, whereby it may be fastened to shaft C.

In operation my invention is as follows: It will be observed that as the racks *a a'* are on opposite sides of the shaft the pinions are constantly moving in opposite directions. The inclines are made to dip both in one direction. As pinion F is moved forward the roller *h'* is forced up the incline by means of the spring, so that it makes a firm lock between pinion-sleeve G and incline sleeve H, thus carrying arbor D with it. At the same time pinion F' is moving in the opposite direction, loosening its roller, so that pinion-sleeve G' releases incline sleeve H', thus having no effect on D, to which both incline sleeves are firmly attached. On reversing the motion of the arm A the motions of both pinions are also reversed, and this causes G' to engage with H' and to move arbor D in a forward direction. Thus by actuating arm A backward and forward in greater or less degrees it produces in arbor D and shaft C a continuous rotary motion. When it is required to stop the motion of the machine, the arm A is moved forward to its full extent, when the brake-block J comes in contact

with fly-wheel E, stopping it by the friction resulting. When it is desired to have the shaft stand still while the fly-wheel is in motion, the screw *e* is loosened. It is only in this case that the arbor D is made use of. Should this feature be unnecessary, the incline sleeves H H′ may be fastened directly to shaft C.

Among other uses this device may be applied to is that of sewing-machines, wherein it displaces the ordinary crank, wheel, and belt. In this case the handle B is extended and attached by any suitable pivot-joint to the treadle, while arbor D is placed directly on the main shaft of the sewing-machine. In this case the device whereby the shaft C may be left at rest while wheel E is in motion becomes of special value, as in threading bobbins it is desirable not to run the sewing-machine, but only wheel E, which engages with the bobbin-winder.

To change the speed of this machine it is only necessary to pivot the pitman farther from or nearer to the center of motion of the treadle, which is equivalent to changing the stroke of arm A without changing the sweep of the treadle.

To reverse the motion of shaft C it is only necessary to remove incline sleeves H H′ and put them on in reverse positions, which will give a reverse result. By constructing one pinion larger than the other and setting the toothed racks correspondingly distant from the center a variable speed will be given arbor D at each alternate movement of arm A.

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

1. A mechanical movement wherein longitudinally-reciprocating arm A has toothed racks *a a′*, engaging with pinions F F′ of pinion-sleeves G G′ and incline sleeves H H′, lock-rollers *h′*, and springs h^2, as and for the purpose set forth.

2. The friction-roller I, in combination with longitudinally-reciprocating arm A, having racks *a a′*, pinions F F′, which mesh with said racks, pinion-sleeves G G′, incline sleeves H H′, lock-rollers *h′*, and springs h^2, substantially as set forth.

3. The brake-block J, attached to arm A, in combination with wheel E, receiving motion from shaft C, as herein described.

PIERRE F. JONTE.

Attest:

T. VAN KANNEL,

H. BEITENHAUS.