(No Model.)

W. A. BROWN.

MOTIVE POWER.

No. 332,231. Patented Dec. 15, 1885.

Fig. 1.

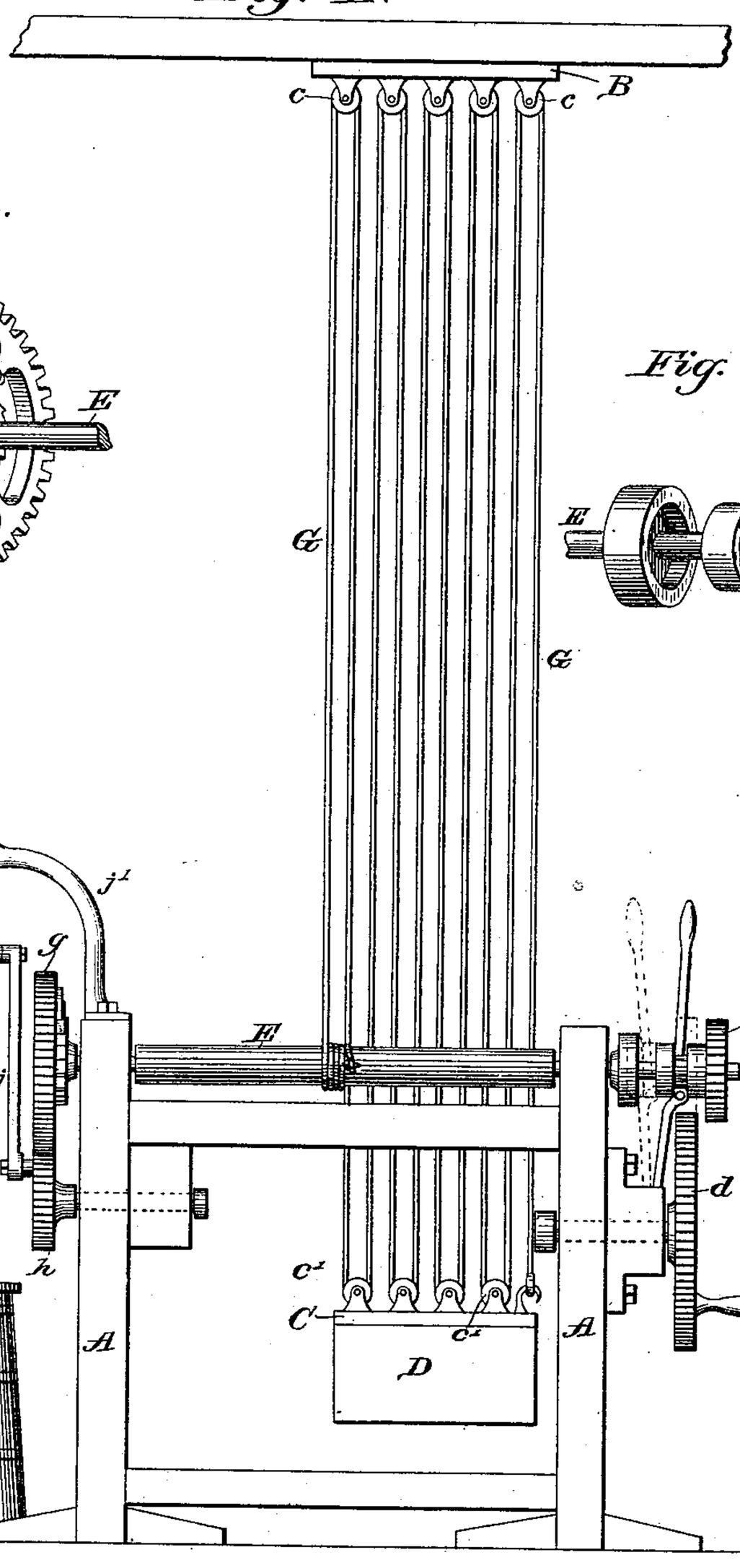


Fig. 2.

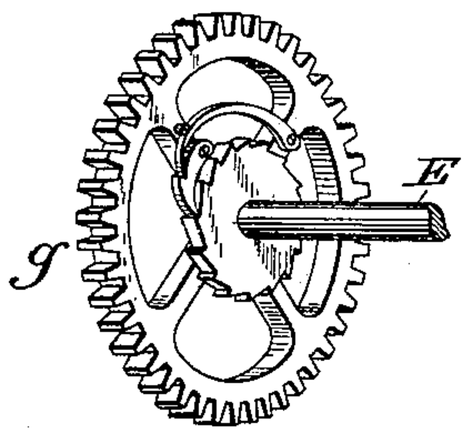
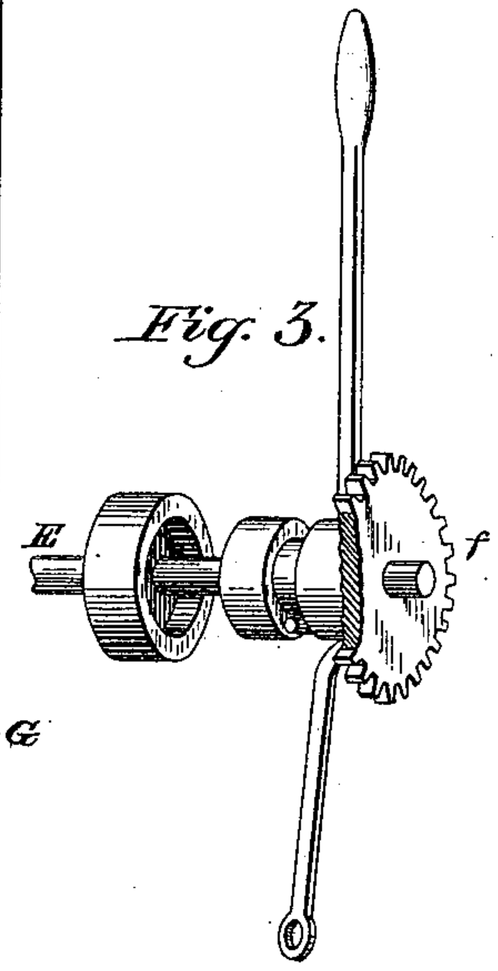


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM A. BROWN, OF TERRELL, TEXAS, ASSIGNOR OF ONE-HALF TO JAMES A. HICKS AND JOHN S. WYCHE, OF SAME PLACE.

MOTIVE POWER.

SPECIFICATION forming part of Letters Patent No. 332,231, dated December 15, 1885.

Application filed October 31, 1885. Serial No. 181,494. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BROWN, a citizen of the United States, residing at Terrell, in the county of Kaufman and State of Texas, have invented a new and useful Improvement in Motive Powers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved motive power for churns and sewing-machines; and it consists in the peculiar construction and combination of parts, as will be hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved motor. Fig. 2 illustrates the connection of the gear-wheel *g* with the windlass or drum. Fig. 3 illustrates the connection of the gear-wheel *f* with said windlass or drum.

Like letters are used to indicate corresponding parts in the several figures.

Referring to the drawings, A designates the frame of the machine. At the top of the frame is journaled a rod, E, which serves the function of a windlass or drum. A cord or rope is wrapped at one end around the windlass E, and passes upward over and through a pulley, *c*, attached to a block, B, which may be secured to the ceiling of the room. This block is provided with a series of these pulleys, *c*, arranged at equal distances apart. A weight, D, which may be a box of sand or a stone, is provided on its upper face with a block, C, carrying a series of pulleys, *c'*. The rope G passes through the first one of the series of pulleys *c* of the block B, and then down through the pulley *c'* of the weight D, upward again to the second one of the pulleys *c* at the ceiling, and so on alternately downward and upward through each of the pulleys *c' c*, the end of the rope being fastened to the block B. It will be understood that as the rope G is wound on the windlass E it draws the weight D gradually upward to the ceiling. When this is done, the motor may then be started to operate either a churn or sewing-machine, as will be hereinafter explained. On one end of the windlass E is located a gear-wheel, *f*, which is loose on the windlass, the latter being provided with a friction-clutch of any improved construction, the gear-wheel *f* being adapted to be thrown into engagement with the friction-clutch when it is desired to wind the rope G on the windlass. A gear-wheel, *d*, engages with the gear-wheel *f* when the latter is brought into engagement with the friction-clutch, and is provided with an operating-handle, *e*, by which the gear-wheel *d* is caused to mesh with the gear *f*, to rotate the windlass E and wind the rope thereon. At the other end of the windlass E is provided a gear-wheel, *g*, which is loose on the windlass, and is provided with a pawl-and-ratchet connection with the windlass, so as to turn therewith when operated in one direction and remain motionless when the windlass is operated in the reverse direction. A gear-wheel, *h*, meshes with the gear *g*, and is provided with a crank-rod, *j*, which connects with the churn-dasher *i*.

k designates a churn, and *j'* a rod attached to the main frame A, and curved outward and provided with an eye or loop, through which passes the upper end of the dasher *i*. The rod *j'* serves to keep the dasher in position.

The operation of my invention is as follows: To set the motor in motion, the gear-wheel *f* is thrown into engagement with the friction-clutch on the windlass E, this action causing the gear-wheel to engage also with the gear *d*. The operating-rod E may then be turned to rotate the windlass and cause the rope G to be wound thereon. By the winding of the rope on the windlass it is drawn through the respective pulleys *c c'*, and as the winding is continued the weight D is drawn upward until it reaches the ceiling. While this has been going on the gear *g* does not turn with the windlass, but remains motionless.

To start the machine, the gear *f* is thrown out of engagement with the gear *d*, and when this is done it is loose on the windlass, so as not to turn therewith. The weight D now begins to act on the rope G, causing it to be drawn through the respective pulleys *c c'*, and unwinding it from the windlass E. The unwinding action of the windlass causes it to revolve with more or less rapidity in the reverse direction to that of the winding action; consequently the gear *g* is caused to turn with the windlass

E, and, meshing with the gear *h*, effects the necessary reciprocating movement to the churn-dasher.

When it is desired to apply the motor for running a sewing-machine, the crank-rod *j* is removed and the shaft on which the gear *h* turns is connected with the driving-shaft of a sewing-machine; or, in lieu of this mode of connection, I may substitute any suitable arrangement or multiplying gear to increase the rapidity of movement of the sewing-machine.

I do not desire to lay claim to anything shown herein which pertains to the construction of the churn; neither do I wish to limit myself to any particular purpose to which the motor can be applied.

I have shown the gears *f g* as loose on the windlass E, and provided, respectively, with a clutch and pawl and ratchet connection with the same; but these modes of connection are old in themselves; hence I lay no claim herein thereto. However, I do not wish to be limited to these devices for retaining the gears *f g* tightly on the shaft or windlass, as any other device known to mechanics may be substituted therefor.

My motor furnishes a cheap and efficient power, the descent of the weight once being sufficient to do an ordinary churning. The parts cannot work out of order, and by reason of the extreme simplicity in the arrangement and construction there will be very little wear on the machine.

Having described my invention, I claim—

1. In a motor, the frame, in combination with a windlass or drum, a rope adapted to be wound thereon, a pulley-block, B, provided with a series of pulleys, a weight, D, also provided with pulleys, the rope being passed through the respective pulleys, devices for winding the windlass, and mechanism for transmitting the movement of the windlass while the rope is being unwound, as set forth.

2. In a motor, the main frame A, provided with a windlass or drum, E, a gear-wheel, *f*, loose on the windlass, devices for retaining said gear-wheel tight, as desired, a gear-wheel, *g*, also loose on the windlass, and provided with mechanism for holding it from turning when the windlass is worked in one direction and causing it to turn therewith when the windlass is operated in the reverse direction, a rope adapted to be wound and unwound on the windlass, and a weight connecting with the free end of the rope, as set forth.

3. In a motor, the main frame A, provided with a drum or windlass, E, a gear-wheel, *f*, on one end of the windlass, devices for operating the gear-wheel to wind up the windlass, a gear, *g*, on the other end thereof, a rope, G, wound at one end around the windlass, a pulley-block, B, provided with pulleys *c*, and a weight, D, provided with pulleys *c'*, the rope being passed through the respective pulleys alternately up and down, so as to connect the weight with the pulley-block, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

W. A. BROWN.

Witnesses:
T. L. STANFIELD,
W. P. WILLIAMS.