

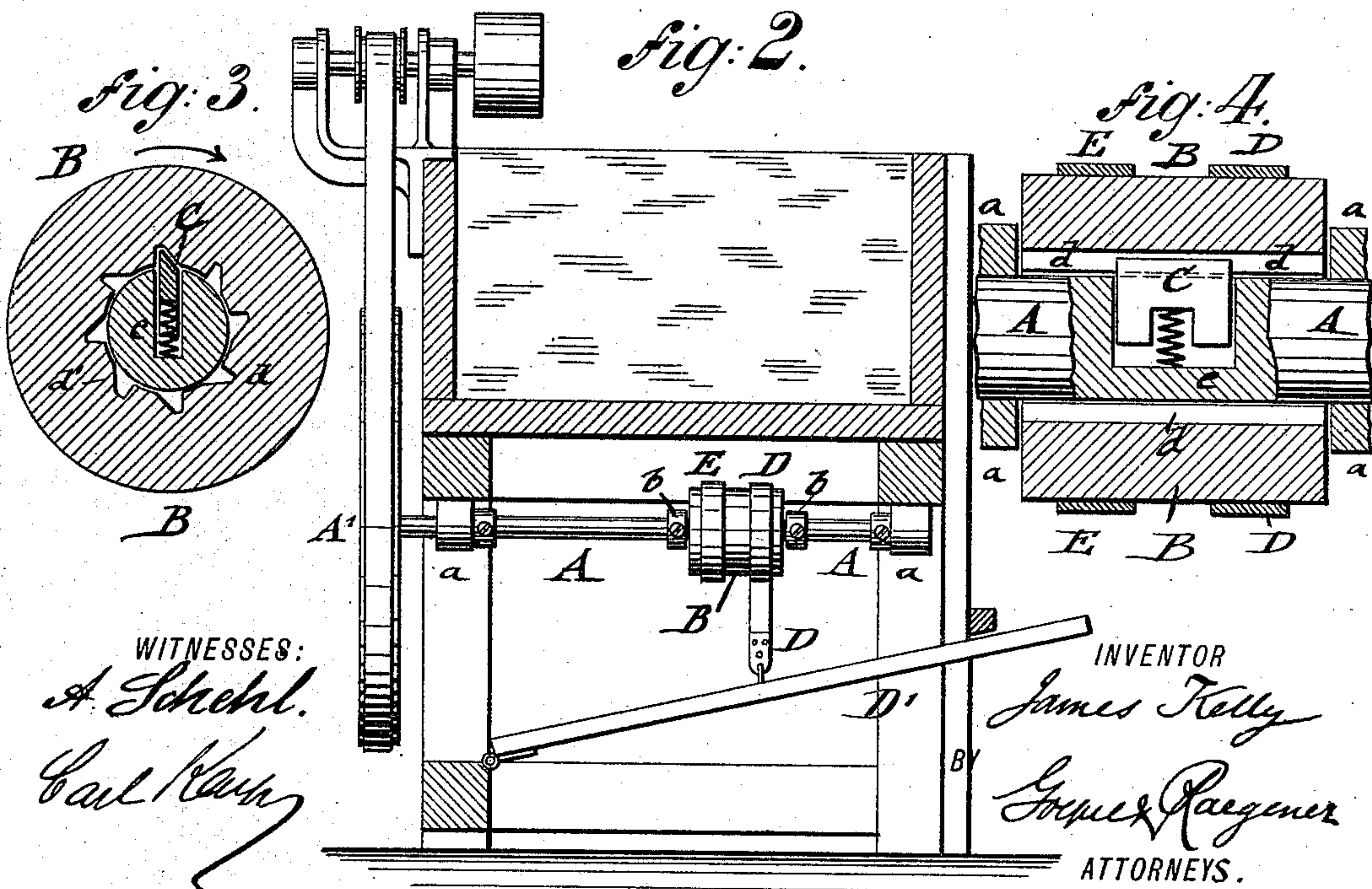
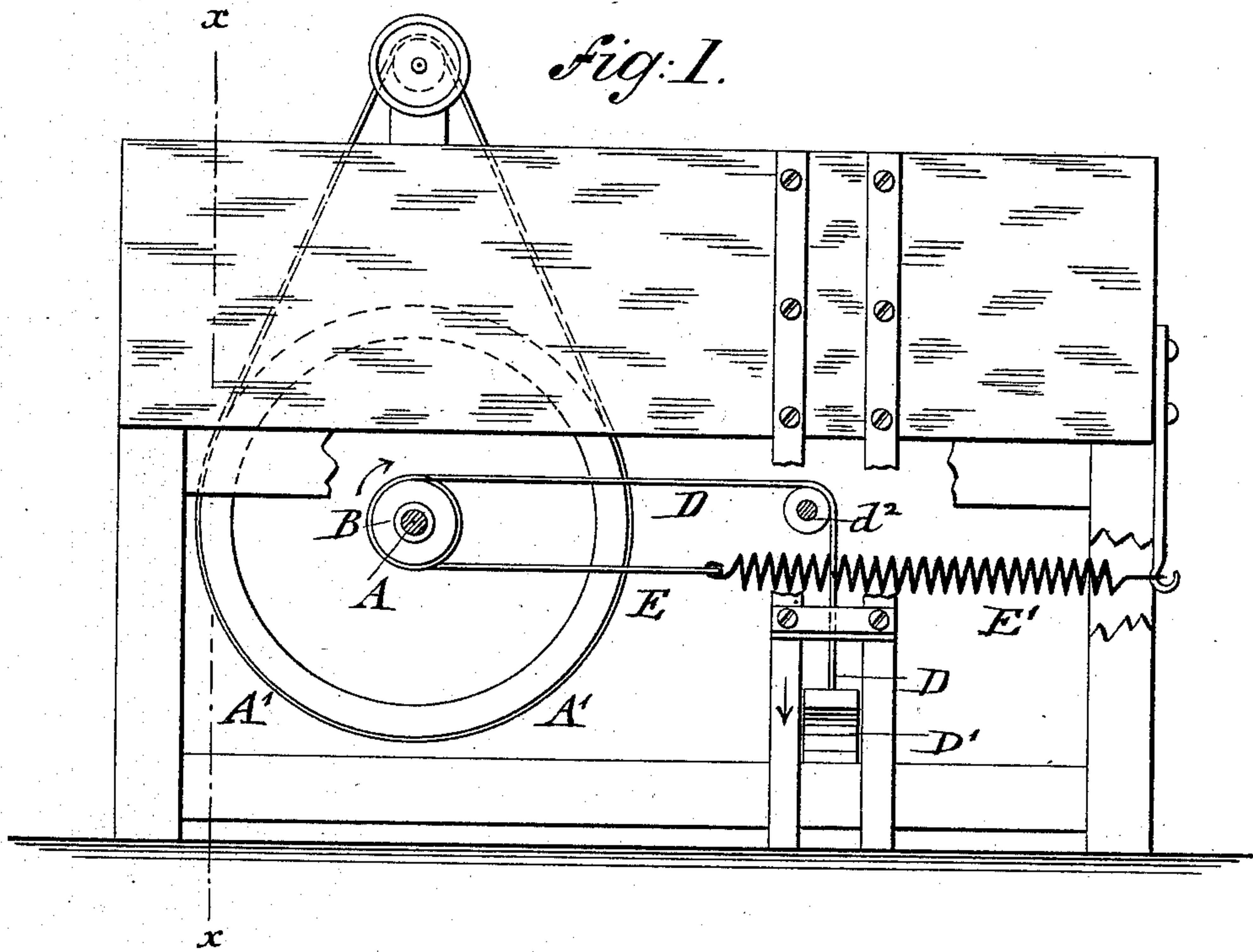
(No Model.)

J. KELLY.

FOOT POWER.

No. 412,711.

Patented Oct. 8, 1889.





# UNITED STATES PATENT OFFICE.

JAMES KELLY, OF NEWPORT, RHODE ISLAND, ASSIGNOR TO ADOLPH VON SCHADE, OF SAME PLACE.

## FOOT-POWER.

SPECIFICATION forming part of Letters Patent No. 412,711, dated October 8, 1889.

Application filed February 13, 1889. Serial No. 299,719. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES KELLY, of Newport, in the county of Newport and State of Rhode Island, a citizen of the United States, have invented certain new and useful Improvements in Foot-Powers, of which the following is a specification.

This invention has reference to an improved treadle-actuated foot-power for driving light machinery—such as bottle-washing machines, lathes, &c.—which is operated in an easy and convenient manner and of simple and reliable construction; and the invention consists of a treadle-actuated foot-power, on the main shaft of which is supported a loose sleeve provided with interior ratchet-teeth, and recesses that are engaged by a spring-actuated pawl set into a socket or recess of the shaft, so that the pawl turns the main shaft when the sleeve is turned in one direction, but clearing said recesses when the sleeve is turned in the opposite direction. To the sleeve are attached two belts, which are wound in opposite direction around the sleeve, the ends of said belts being attached, respectively, to an actuating-treadle and a strong spiral spring, which latter produces the unwinding of the spring-actuated belt and the rewinding of the treadle-belt when the treadle is released, while a fly-wheel on the driving-shaft keeps up the continuous rotary motion of the same.

In the accompanying drawings, Figure 1 represents a front elevation of my improved foot-power, shown partly in section and with other parts broken away. Fig. 2 is a vertical transverse section of the same on line *x x*, Fig. 1; and Figs. 3 and 4 are respectively a vertical transverse section and a vertical longitudinal section of the ratchet-sleeve and pawl-connection with the main shaft, said figures being drawn on a larger scale.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the main driving-shaft of a lathe, bottle-washing, or other light machine which is operated by foot-power. The main shaft A is supported in suitable bearings *a a* of the machine, and provided with a fly-wheel A', which serves as

a pulley for transmitting motion from the shaft by a belt to the spindle of the lathe, bottle-washing, or other machine.

On the driving-shaft A is arranged between two fixed collars *b b* a sleeve B, which turns loosely thereon. The sleeve B is provided internally with ratchet-teeth *d*, which serve to engage a spring-actuated pawl C, that is guided in a radial recess *e*, located in the shaft within the sleeve. To the exterior of the sleeve are attached two belts D and E, the belt D being guided over a pulley *d'* and attached at its opposite end to a hinged treadle D', while the belt E is wound in opposite direction to the belt D around the sleeve B, and attached at its opposite end to one end of a strong spiral spring E', the other end of which is applied to a fixed hook of the frame of the machine, as shown clearly in Fig. 1.

When the treadle D' is depressed by the foot, the belt D is unwound from the sleeve B and the latter and the shaft A turned in the direction of the arrows, Figs. 1 and 3, as the pawl engages one of the interior teeth of the sleeve and carries the shaft A along, turning the same on its axis. At the same time the belt E is wound upon the sleeve B against the tension of the spring E'. As soon as the pressure of the foot on the treadle is released the spring E' produces the unwinding of the belt E, the turning of the sleeve B in the opposite direction without being engaged by the pawl, and the winding up of the belt D, without, however, carrying the shaft along as the pawl C is forced by the interior teeth of the sleeve B into the recess *e* of the shaft. The winding up of the belt D also raises the treadle again, ready to be lowered by the next motion of the foot when the shaft is turned as before, by the engagement of one of the recesses *d* at the interior of the sleeve B with the pawl C. During the time when the sleeve is moved over the shaft by the action of the spring-actuated belt E rotary motion of the shaft is kept up by the momentum of the fly-wheel, which serves to keep up the regular motion of the shaft until by the next depression of the treadle a positive rotary motion is again imparted to the shaft.



The alternating action of the treadle and spiral spring, acting, respectively, on the belts D and E, imparts intermittent rotary motion to the shaft, while the fly-wheel keeps up the continuous rotary motion of the shaft in the same direction. The spiral spring facilitates the working of the foot-power and facilitates considerably the operation of the same.

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

The combination of a main shaft, a spring-actuated pawl located in a recess of the same, a sleeve on said driving-shaft provided with interior ratchet-teeth, belts attached to said

sleeve and wound in opposite direction around the same, a hinged actuating-treadle attached to the opposite end of one of the belts, and a spiral spring attached to the opposite end of the other belt, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JAMES KELLY.

Witnesses:

CHARLES ERNEST GÜNTHER,  
ADOLPH VON SCHADE.