A. D. BLACK.

MOTORS FOR SEWING-MACHINES.

No. 190,664. Patented May 15, 1877.

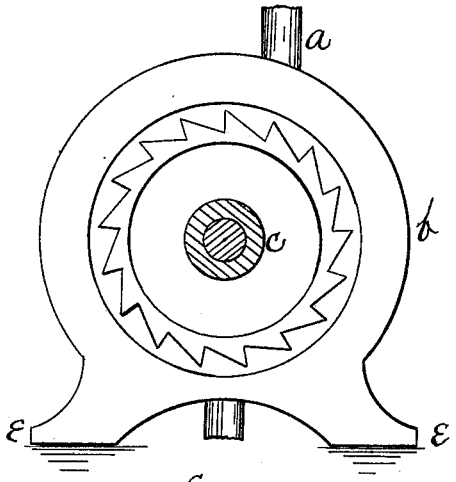

fig. 1.

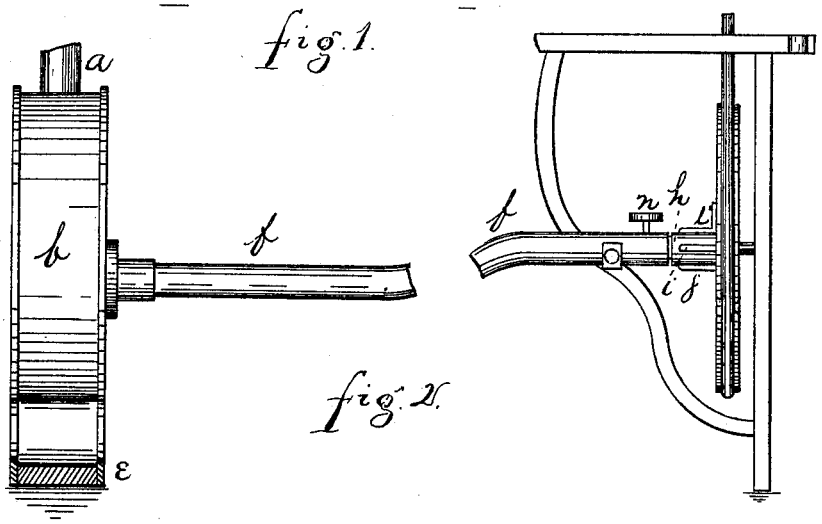

fig. 2.

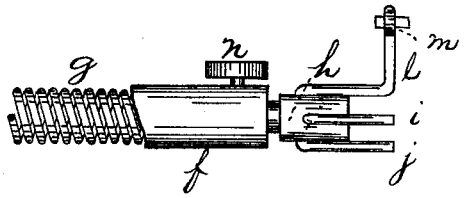

fig. 3.

WITNESSES.

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ALBERT D. BLACK, OF PORTLAND, MAINE.

IMPROVEMENT IN MOTORS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **190,664**, dated May 15, 1877; application filed December 11, 1876.

To all whom it may concern:

Be it known that I, ALBERT D. BLACK, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 shows the wheel. Fig. 2 shows side view of wheel-box and flexible pipe leading to sewing-machine. Fig. 3 shows the head *h* and piece of the coiled wire.

The purpose of my invention is to provide a new and improved device for driving a sewing-machine by water or steam. My device contemplates a connection with a faucet where a small pressure exists sufficient for the purpose of driving the machine, or a connection with any water pressure or power which may be convenient or at hand in a house or dwelling.

In the drawings, *a* shows the pipe through which the water is led into the box *b* and on to the wheel. Within the box is any convenient form of overshot water-wheel revolving on the shaft *c*, having bearings in the sides of the box. The box is provided with a base, *e*, so that it may be screwed down to a floor or table, or other support, and thus secured in position and held firmly while the wheel within is revolving.

f is a flexible tube or pipe, which is secured to a sleeve which surrounds one end of the wheel-shaft where it projects through the side of the box *b*. Within this flexible tube is a coiled wire, *g*. This wire is rigidly connected with the end of the wheel-shaft, which is inclosed within the flexible tube before referred to, and revolves with said shaft. On the outer end of this coiled wire is fixed a head, *h*, which is the means I provide for connecting the coiled wire to the hubs of the wheel of the sewing-machine. To this end I provide the head with projecting parts *i j* to pass between the spokes of the wheel of the sewing-machine, and tightly clasp the hub. In addition to this I provide the bent piece *l*, which has an eye, *m*, in the end of the same. This eye is to receive a bolt or screw, by which the head *h* is screwed to the wheel.

The part *l* is made of length sufficient to extend to the place on the wheel-spoke where the treadle-lever is screwed to the wheel.

When using my device the treadle-lever is unfastened from the wheel, and the piece *l* is screwed to the wheel in its plae. When this device is screwed to the wheel the revolution of the wire *g* is communicated to the shaft of the machine, and it is thus driven by the water flowing upon the wheel. *n* is a brake working through the outer end of the tube *f*, in order to stop the revolution of the wire when desired.

A proper metal ring may be fitted to the end of the flexible tube for the screw to work in. The end of the tube next to the machine should be so secured as to prevent its revolution with the wire within it. To this end I attach a hook or holder to the back braces of the machine, and secure the tube therein by a set-screw, but not exerting pressure enough with the screw to stop the revolution of the coil-shaft.

My invention is not limited to the use of the water-wheel.

In cases when shafting is at hand my tube and coiled wire can be used by having two heads like *h*, one at each end of the wire, one to fasten to an end of the shafting, and the other to the wheel of the sewing-machine, as set forth.

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

1. The combination of the flexible tube *f*, having within it the coiled wire *g*, with the head *h*, having the parts *i j k*, and bent piece *l*, and brake *n*, as herein set forth, and for the purposes described.

2. The combination of the box *b*, the wheel, the pipe *a*, flexible tube *f*, coiled wire *g*, head *h*, with parts *i*, *j*, and *l*, to be attached to a sewing-machine, as herein set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

ALBERT D. BLACK.

Witnesses:

WM. HENRY CLIFFORD,

HERBERT G. BRIGGS.