C. H. PALMER.

Water Wheel Attachment for Sewing-Machines.

No. 136,452. Patented March 4, 1873.

Fig. 1.

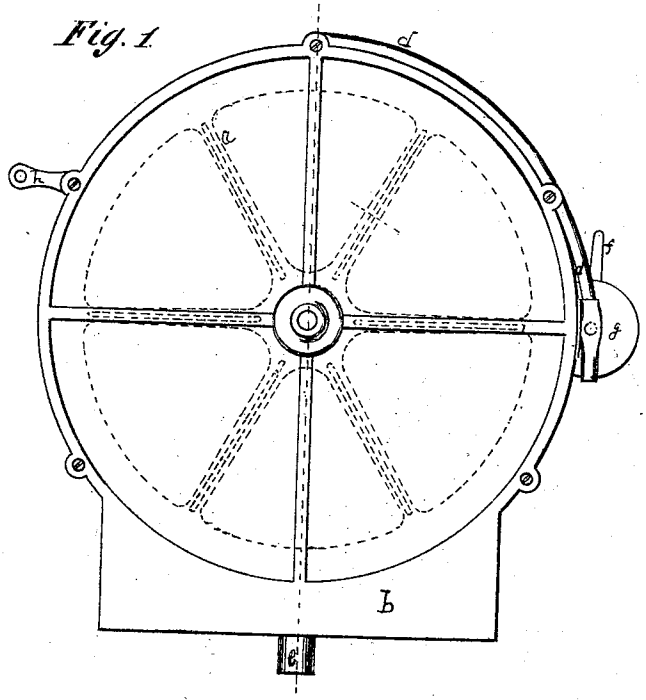

Fig. 2.

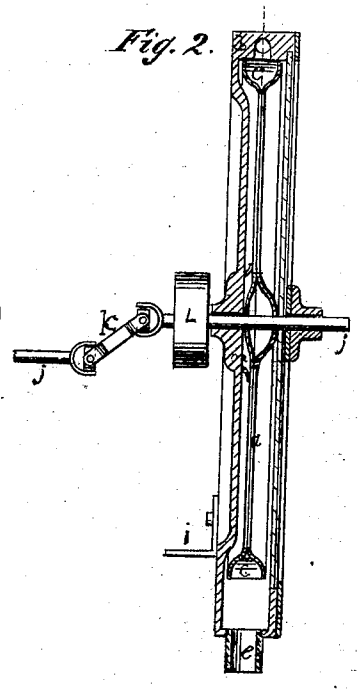

Fig. 3.

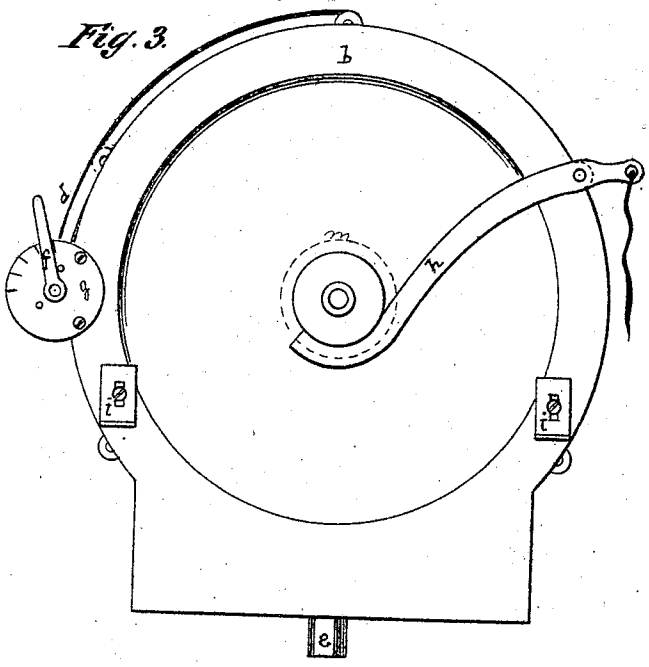

Fig. 4.

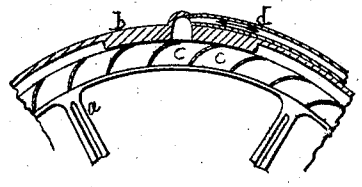

Fig. 5.

Witnesses:

Geo. H. Ramsay

Inventor:

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UNITED STATES PATENT OFFICE.

CHARLES H. PALMER, OF NEW YORK, N. Y., ASSIGNOR TO A. M. LORYEA OF PORTLAND CITY, OREGON.

IMPROVEMENT IN WATER-WHEEL ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **136,452**, dated March 4, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. PALMER, of the city, county, and State of New York, have invented certain Improvements in the Construction and Attachment of a Water-Wheel to Sewing-Machines for the purpose of driving said sewing-machines, all of which is clearly and fully set forth in the following specification, including the accompanying drawing and letters of reference thereon.

Figure 1 represents the outer side of the casing. The dotted lines seen through the casing represent the arms and rim of the wheel within. Fig. 3 represents the inner side of the apparatus where it is attached to the sewing-machine. Fig. 2 is a vertical transverse section in the line of axis. Fig. 4 is a vertical section at right angles to the line of axis, representing the point at which the water is admitted to the wheel.

b represents the casing in which wheel *a* is inclosed. This wheel is made of two metallic disks struck up into form by a die so as to expand the rim for the water-buckets *c c*. Cut out the metal between the arms and rib up the arms, as seen in cross-section, Fig. 5. These two disks may be united in any convenient manner. The casing, as seen in Fig. 4, is made to fit close as practicable to the wheel *a* several inches both in front and rear of the point at which the water strikes the wheel, for the purpose of preventing the escape of water backward, and thus counteract its own force. *d* is the feed-water pipe, and *e* is the place of exit. *f* is a lever affixed to the axis of an ordinary water-faucet, by which the water is let in or shut off from pipe *d;* and *g* is a dial with degrees marked thereon representing the comparative quantity of water required. *h* is a lever-brake to which a cord is attached, and connected with the treadle by which the operator's foot controls and arrests the motion of the machine by its friction upon brake-pulley L. *i i* are adjustable brackets by which the apparatus is attached to the sewing-machine. *j* is the axis and driving-shaft by which the power is transmitted to the sewing-machine. *k* is a double universal joint, whereby the two sections of shaft *j* are kept parallel, notwithstanding the two points of attachment may not be in line, thus obviating the necessity, which involves time and expense, of bringing the two points into line before being attached. *m* is a metallic disk struck up with a rim, and affixed to the inner side of casing *b* so as to prevent the drip of water at all points from entering the bearings of the driving-shaft, and thus prevent leakage.

What I claim as my invention is—

1. The wheel *a*, constructed substantially as described.

2. The index-dial *g* and water-faucet, in combination (or equivalent devices) with the wheel *a* and casing *b*, substantially as described.

3. The casing *b*, made to fit close to wheel *a* in front and rear of the point at which the water strikes the wheel, as set forth.

4. The circular disk *m* to prevent leakage, as set forth.

5. The brake *h*, in combination with the water-wheel shaft, operated substantially as and for the purpose described.

C. H. PALMER.

Witnesses:

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GEO. W. RAMSAY.