

No. 702,116.

Patented June 10, 1902.

P. SPINDLER.
FABRIC SCOURING ATTACHMENT FOR LOOMS.

(Application filed Jan. 16, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

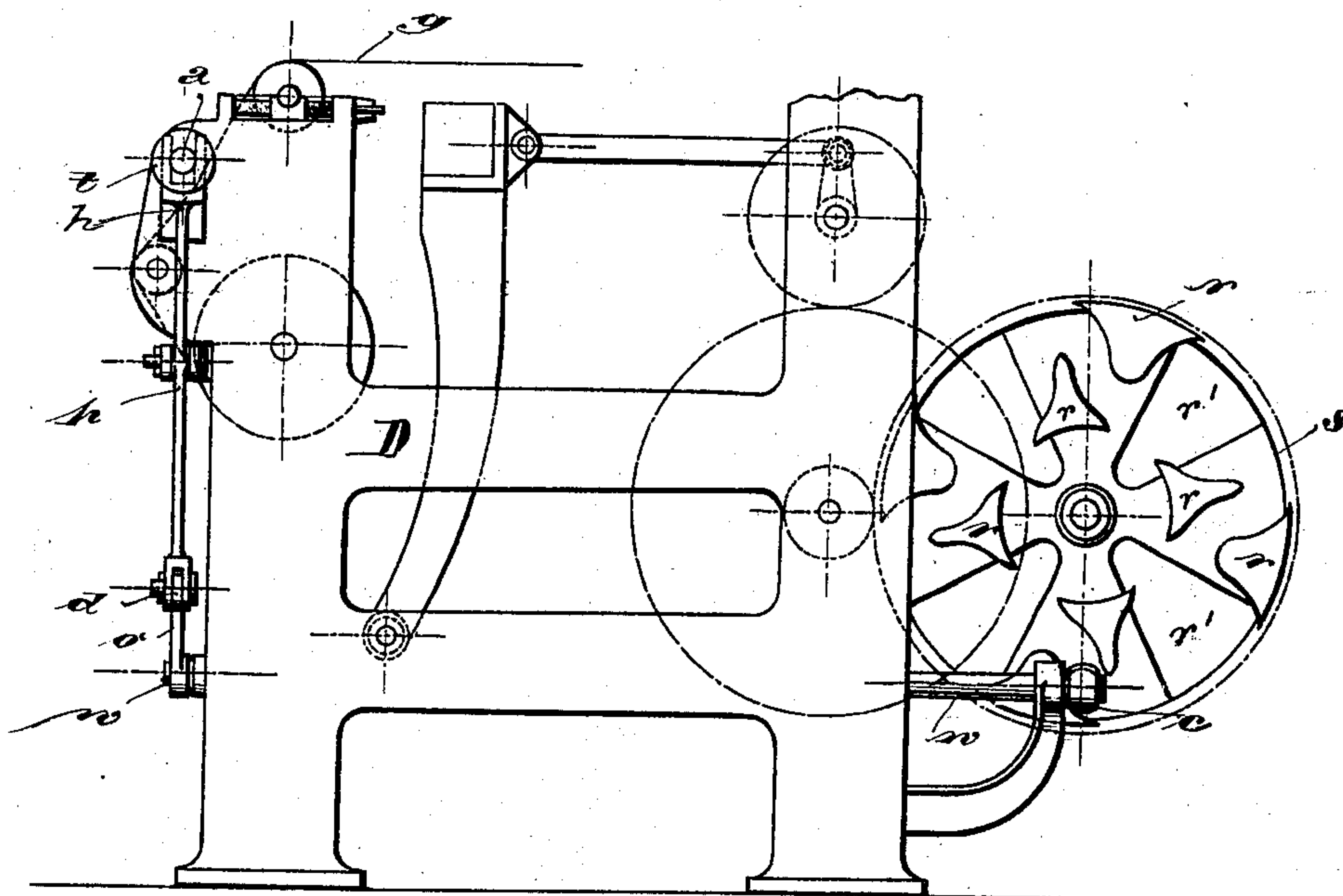
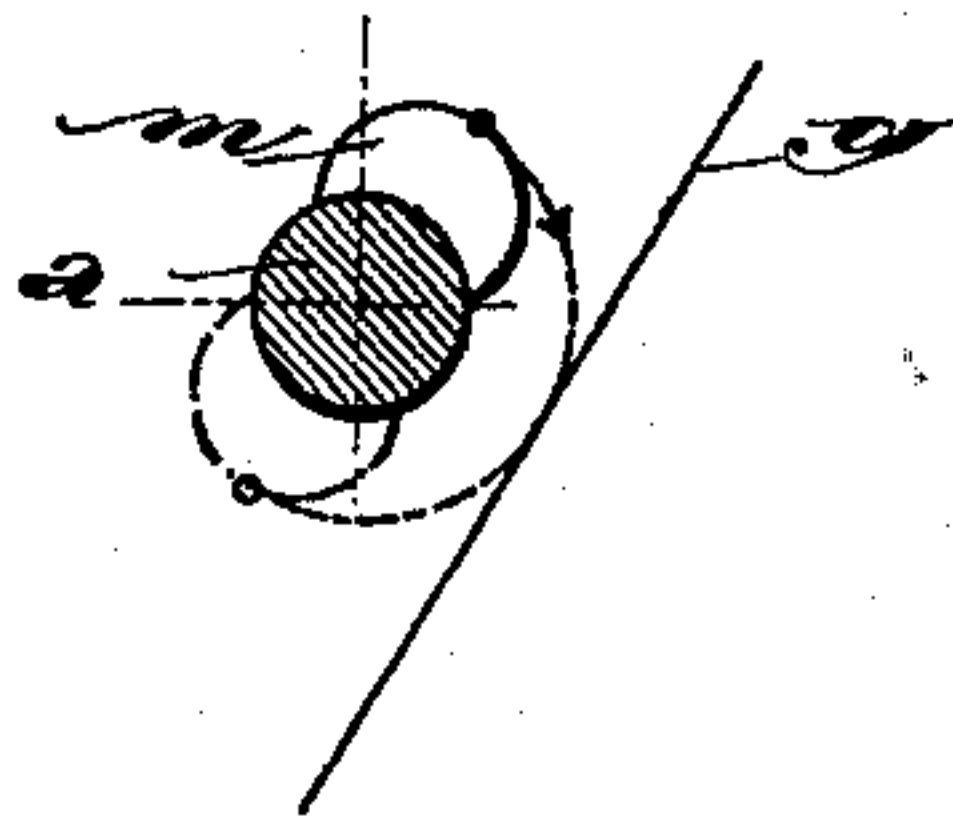


Fig. 5.



Witnesses:
Arthur Lunge.
Edward Ray.

Inventor:
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Fig. 2.

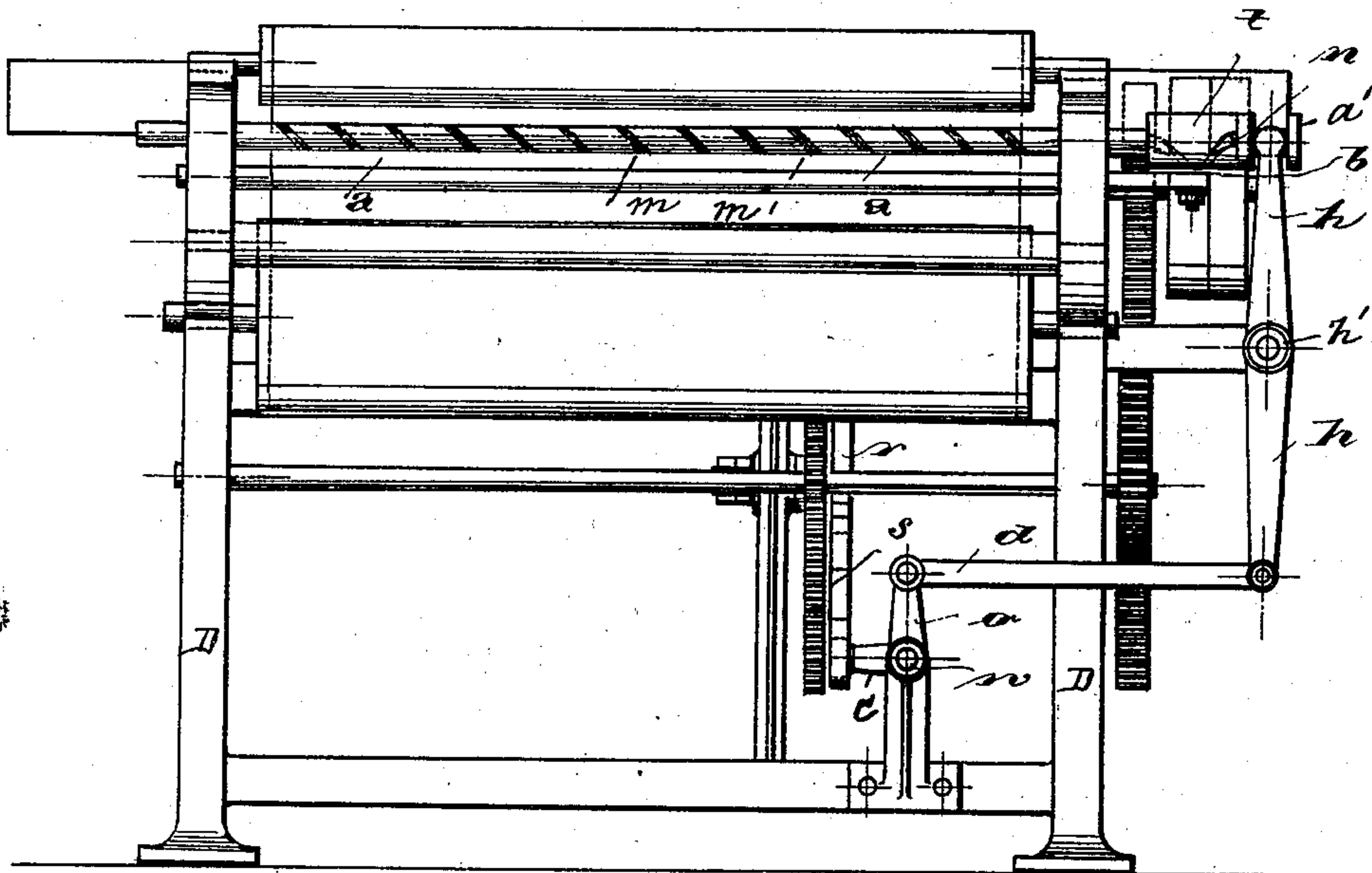


Fig. 4.

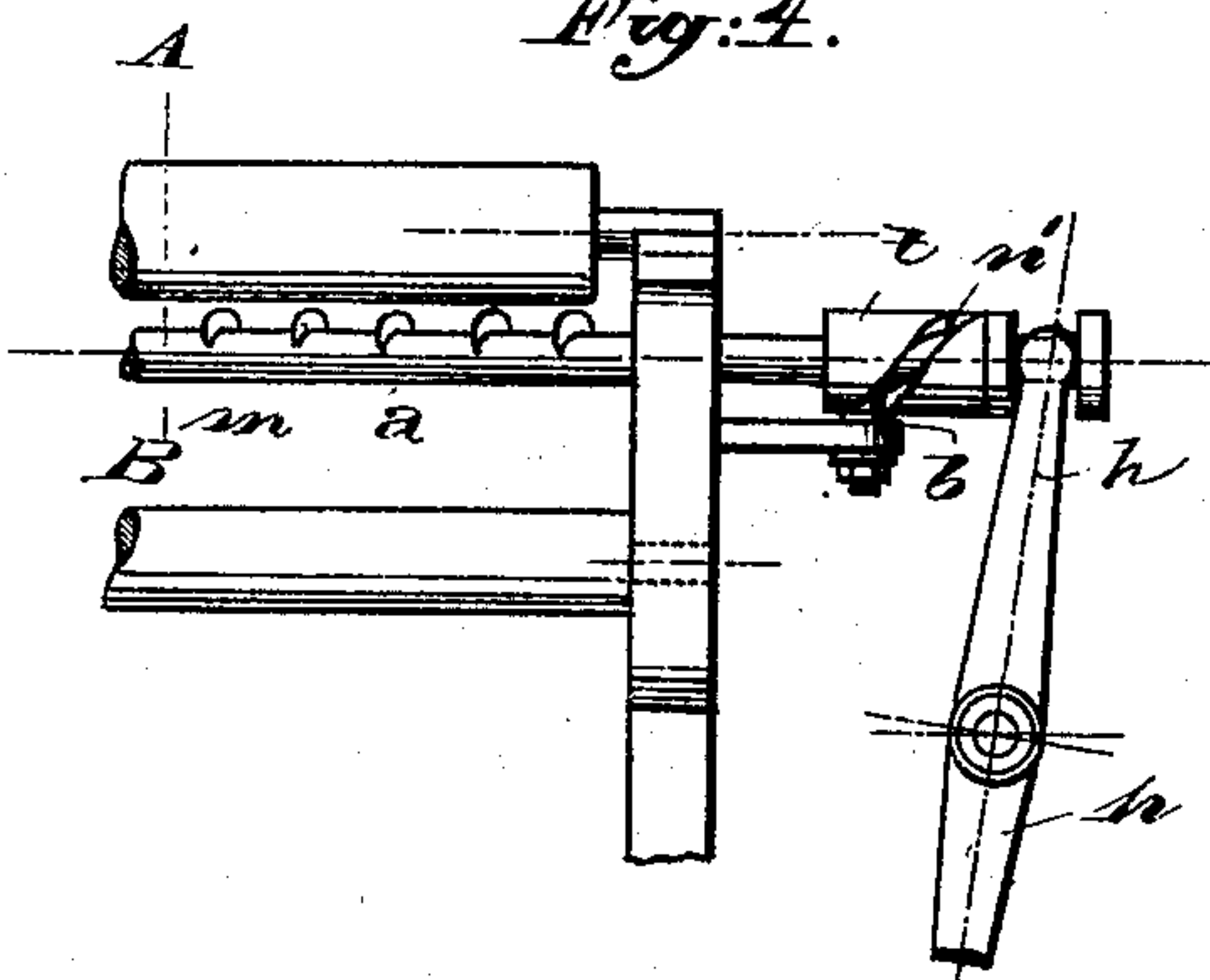
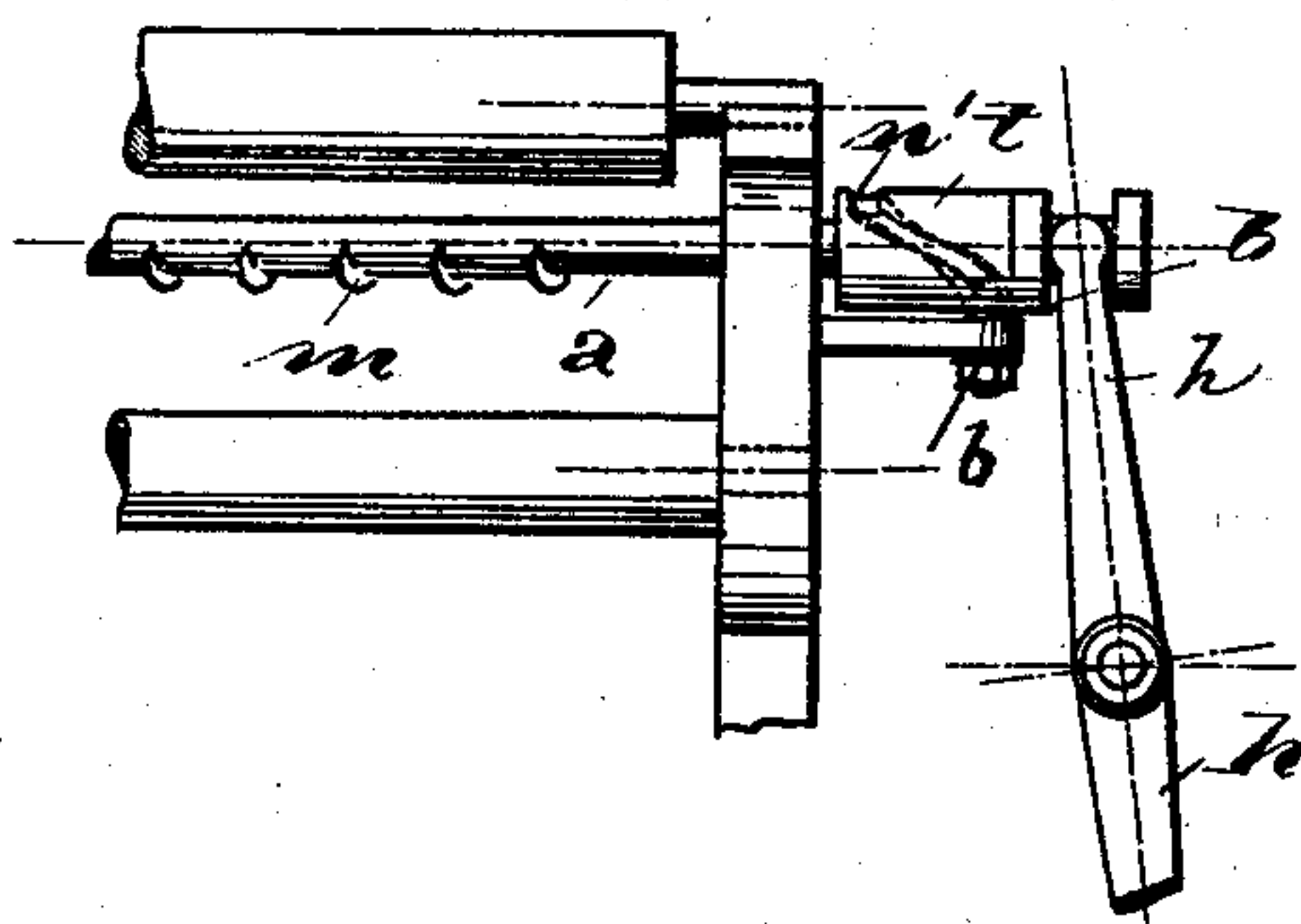


Fig. 5.



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UNITED STATES PATENT OFFICE.

PAUL SPINDLER, OF HILDEN, GERMANY.

FABRIC-SCOURING ATTACHMENT FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 702,116, dated June 10, 1902.

Application filed January 16, 1902. Serial No. 89,957. (No model.)

To all whom it may concern:

Be it known that I, PAUL SPINDLER, a citizen of the German Empire, and a resident of Hilden, Rhineland, Germany, have invented certain new and useful Improvements in Fabric-Scouring Attachments for Looms, of which the following is a specification.

This invention relates to a loom attachment for scouring fabrics in which the scouring-blades are moved in a direction diagonal to the warp and weft, so that an effective scouring, without injury to the fabric, is effected.

In the accompanying drawings, Figure 1 is a side elevation of my improved scouring attachment for looms; Fig. 2, a front elevation. Figs. 3 and 4 are details of a modification of the cam and adjoining parts; and Fig. 5 an enlarged cross-section on line A B, Fig. 4.

The letter D represents the frame of the loom, in which is hung an axially-reciprocating rock-shaft *a*, carrying the scouring-blades *m*. The drawings show a number of such blades arranged along the shaft; but in lieu thereof I may use a single blade of a length to extend over the entire width of the fabric *g*. The shape of the blades and their arrangement may be modified at pleasure, a spiral arrangement being, however, preferred.

The shaft *a* may be rocked and simultaneously reciprocated by suitable means. As illustrated, it carries a cam *t*, having either a double spiral groove *n*, as in Fig. 2, or a single spiral groove *n'*, as in Figs. 3 and 4, which is engaged by a fixed pin *b*. The end of the shaft is provided with a collar *a'*, between which and cam *t* it is grasped by the forked end of a lever *h*, turning on fulcrum *h'*. The other end of lever *h* is connected by rods *d* and *o* to a rock-shaft *w*. This shaft receives intermittent oscillating motion from

power-pulley *s*, having fixed or removable projections *r* and intervening cam-groove *r'*. The groove *r'* is engaged by one end of a lever *c*, fast on shaft *w*.

By means of the cam-groove *r'* the lever *c* is vibrated in such a manner as to dwell between the vibrations and to impart through the parts *c*, *w*, *o*, *d*, and *h* a corresponding intermittent reciprocating motion to shaft *a*. As such shaft is thus reciprocated it is simultaneously rocked by the engagement of pin *b* with the groove of cam *t*.

What I claim is—

1. A scouring attachment for looms consisting of a shaft carrying a scouring-blade, means for imparting a rocking movement to the shaft, and means for imparting an axially-reciprocating movement to the shaft, substantially as specified.

2. A scouring attachment for looms consisting of a shaft carrying a scouring-blade, a cam fitted upon the shaft, a pin engaging the cam, a power-pulley, and means for imparting an axially-reciprocating movement from said pulley to the shaft, substantially as specified.

3. A scouring attachment for looms consisting of a shaft carrying a scouring-blade, a cam fitted upon the shaft, a pin engaging the cam, a power-pulley having a cam-groove, a lever engaging the same, a rock-shaft connected to the lever, and means for operatively connecting the rock-shaft with the shaft, substantially as specified.

Signed by me at Dusseldorf, Germany, this 2d day of January, 1902.

PAUL SPINDLER.

Witnesses:

WILLIAM ESSENWEIN,
PETER LIEBER.