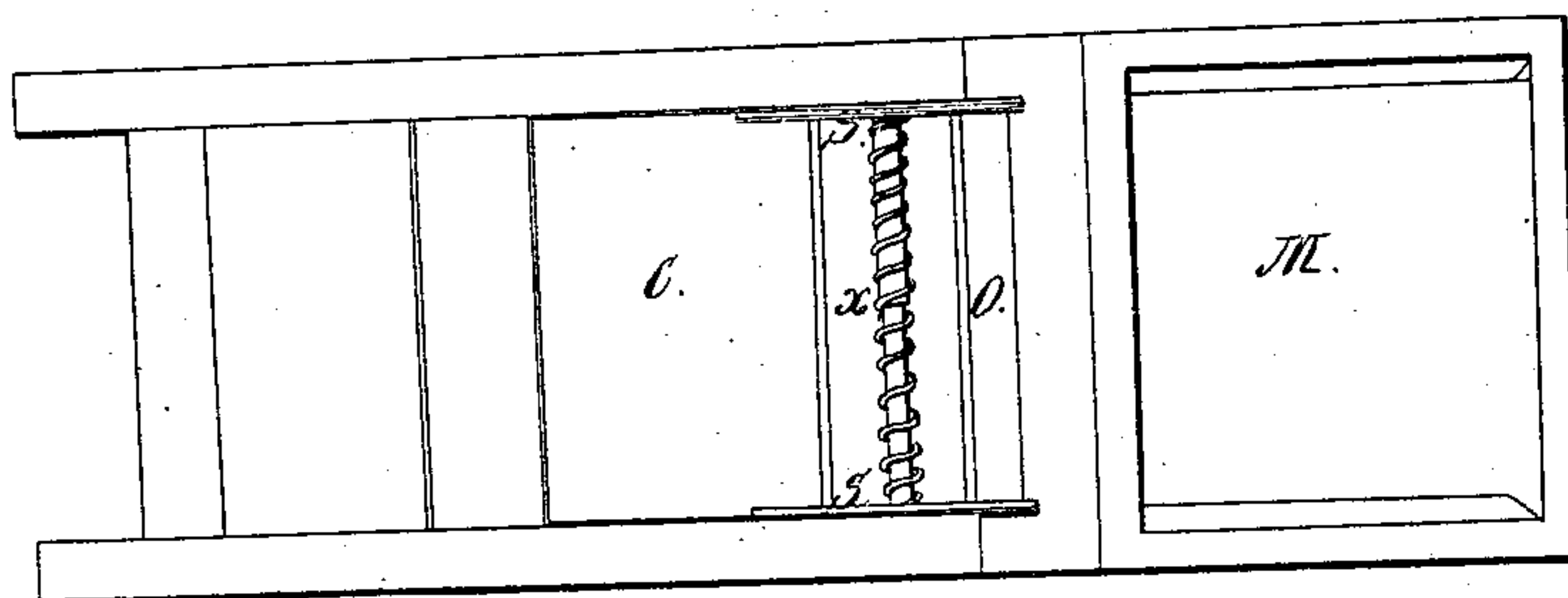
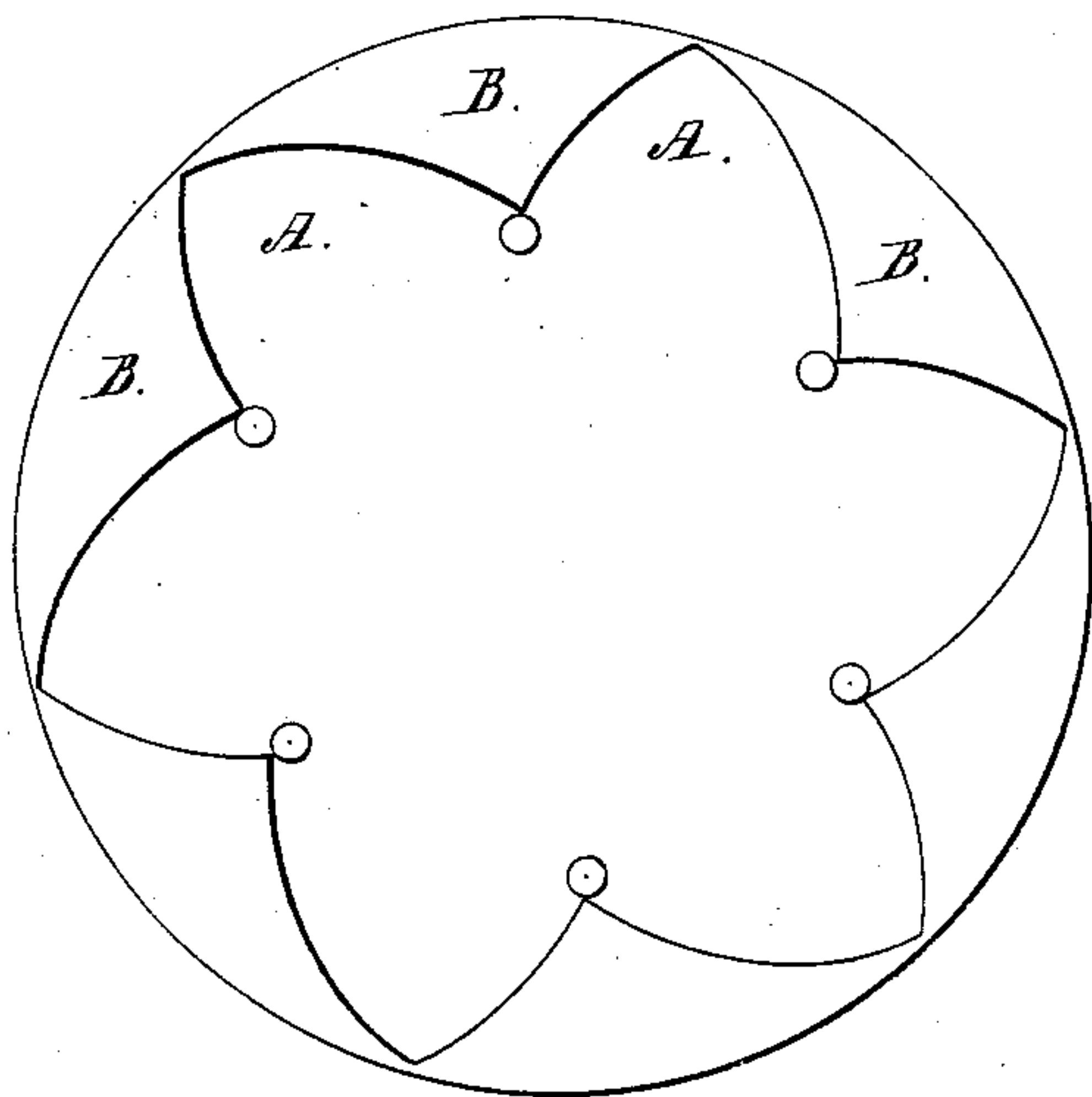
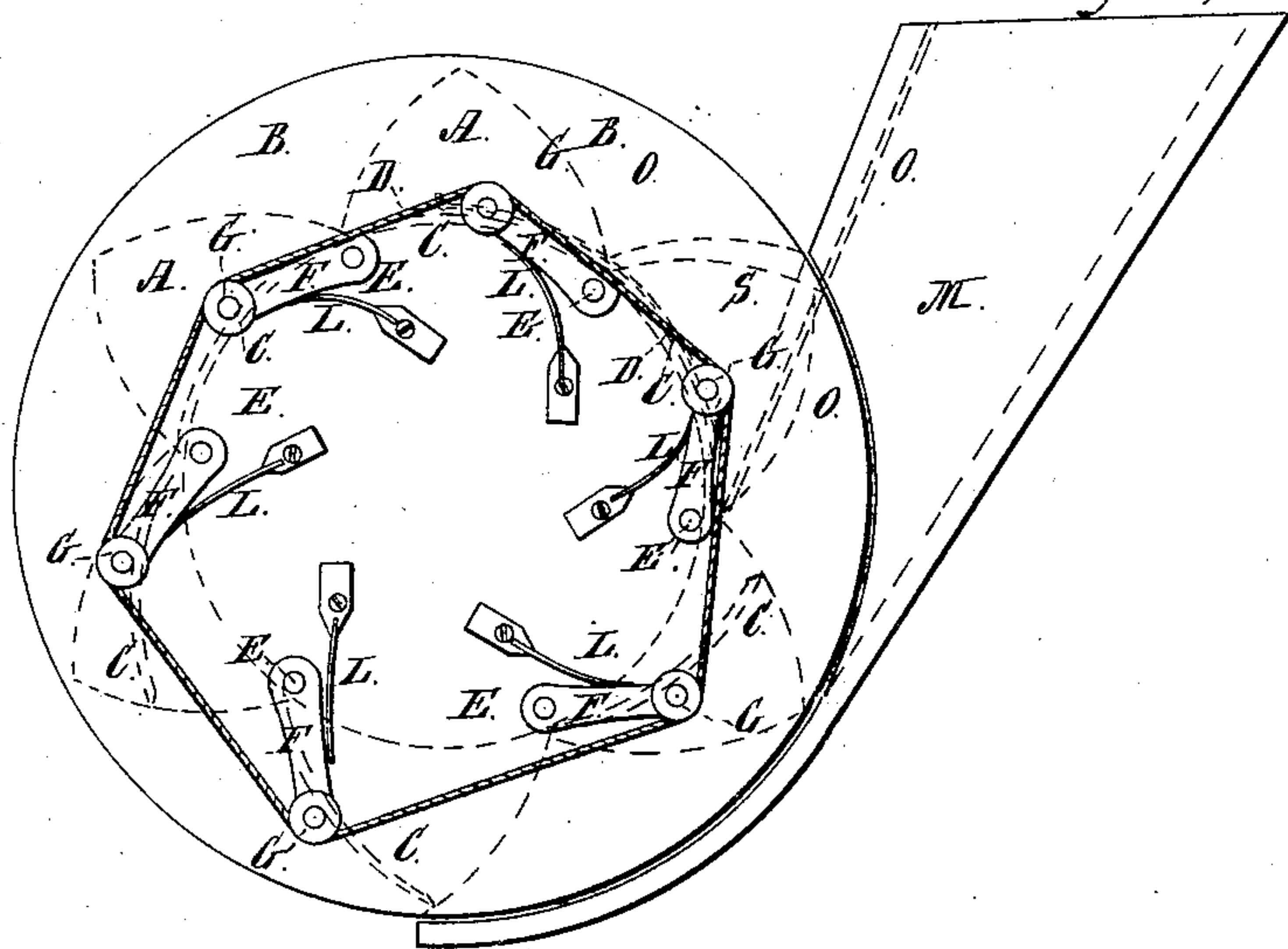


W. M. Wheeler,
Water Wheel.

N^o 13280.

Patented July 17, 1855.



UNITED STATES PATENT OFFICE.

W. M. WHEELER, OF UPTON, MASSACHUSETTS.

WATER-WHEEL.

Specification of Letters Patent No. 13,280, dated July 17, 1855.

To all whom it may concern:

Be it known that I, WILLARD M. WHEELER, of Upton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Water-Wheels; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

To construct a wheel with my improvements I make the body of the wheel with the rims to support the buckets solid and firm, the rims having spaces A A for the buckets to play in and the parts B, B, made thick enough to sustain the buckets with the pressure of the water on them. The buckets C, C, I make curved, so as to fit on to the body of the wheel when closed, as at D, D, and hang them by pivots E, E, at one edge, so as to swing in the spaces A A, the pivots having a bearing in the rims and on one side of the wheel passing through the rim and are fitted to receive the arms F, F, which are so arranged as to close the bucket when pressed or moved toward the center or shaft of the wheel or friction rolls at their outer ends G, G. Around these pulleys I place an endless chain or band which I make just long enough to allow the buckets receiving the action of the water in the flume to be open and hold the others all or nearly all closed. Under the arms F, F, I place the springs L, L, to partially open the buckets as they enter the flume M, which I make after most any of the usual methods, fitting the sides and bottom to the rims extending the bottom under the lowest part of the wheel. To the upper part of the flume I attach the guard O, fitting down between the

rims to the body of the wheel and having a lip extending up over the wheel rather more than the width of the bucket in the guard O. I fit the slides S, S, with a spring α to press them out against the rims to keep a tight joint. These slides S, S, are made large enough to cover one of the spaces A A at each side and prevent the water rising around and over the guard O. The rest of the wheel and adjacent parts will be varied according to circumstances of place and work and are on that account not further described.

The operation is as follows: The buckets after passing the guard O are opened a little by the springs L. The water catches in the bucket, throwing it clear open, which action closes the bucket that has just passed out of the flume and rising out of the water preventing all lift of the water or in case of back water leaving the wheel perfectly free to run, and in some cases I place the bucket entirely under the surface of the water, thus using every inch of the fall of the best advantage.

What I claim as new and desire to secure by Letters Patent is—

1. I claim closing the buckets by means of the band or chain in connection with the arms and springs operating as described.

2. I claim the guard with its slides operating in the manner and for the purposes above described or any other substantially the same.

In witness whereof I have hereunto set my hand.

W. M. WHEELER.

In presence of—

L. R. ROCKWOOD,
JAS. G. ARNOLD.