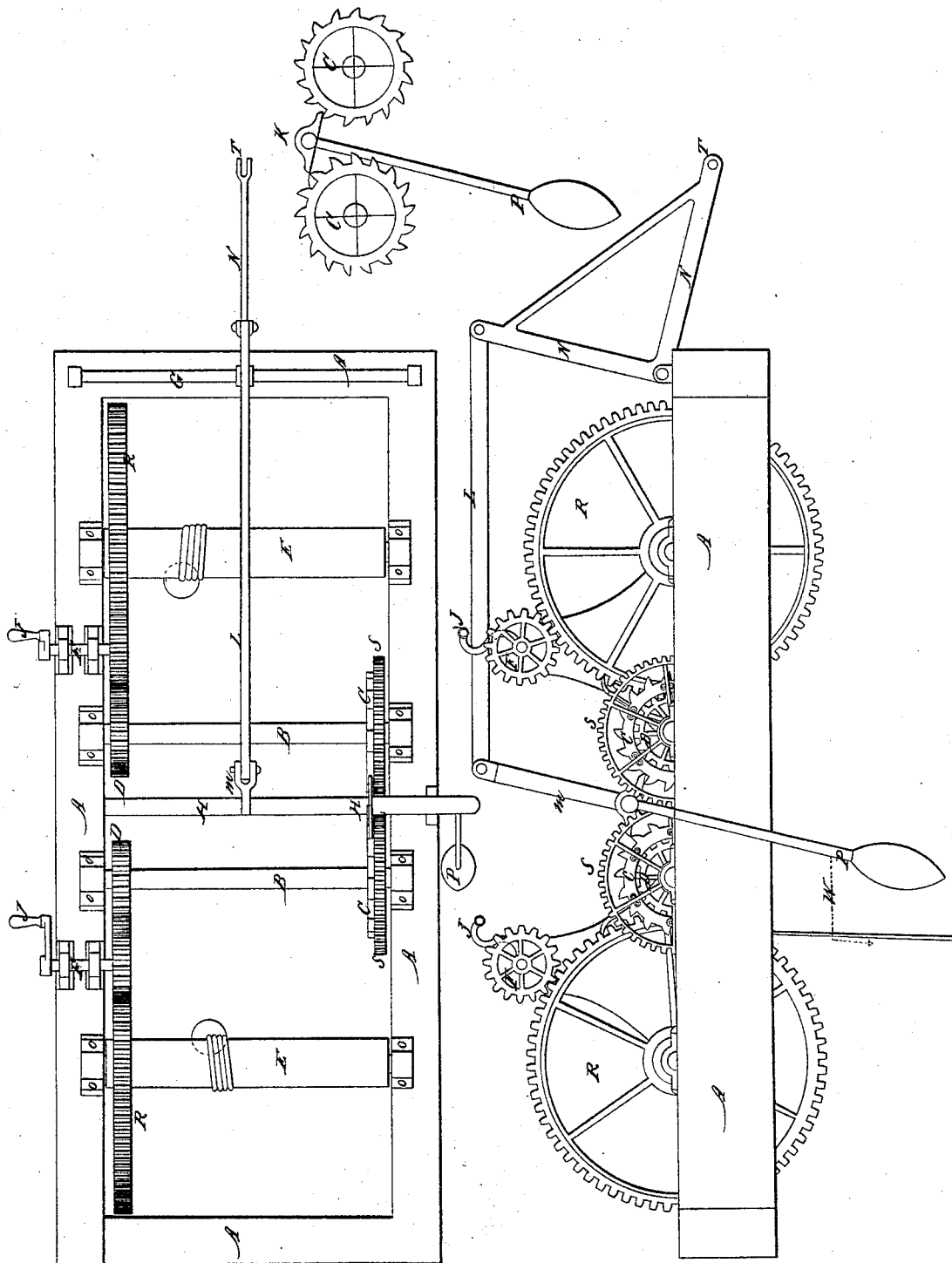


*C. Willson,  
Converting Motion.*

*N<sup>o</sup> 1356.*

*Patented Oct. 5, 1839.*



# UNITED STATES PATENT OFFICE.

CHRISTIAN WILLSON, OF BEDFORD, NEW YORK.

## MODE OF CONVERTING A ROTARY INTO A DOUBLE-ACTING RECIPROCATING MOTION.

Specification of Letters Patent No. 1,356, dated October 5, 1839; Antedated April 5, 1839.

*To all whom it may concern:*

Be it known that I, CHRISTIAN WILLSON, of the town of Bedford, county of Westchester, and State of New York, have invented a new and useful Machine for Converting a Rotary into a Double-Acting Reciprocating Motion or other Purposes; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same and its operation.

It consists of a frame five feet in length, twenty inches in width, and seven inches in depth and marked A A A A in the drawing. This frame lies level; upon it at an equal distance from each end are placed two shafts marked B, B. Upon each of these close to the end,) is placed a cog wheel marked S, S,  $12\frac{3}{4}$  inches in diameter, and these shafts are so placed (in the center of the frame) that these cog wheels work together. Upon the same shafts and close to each of the cog wheels is placed a jet or mortise wheel 12 inches in diameter marked C, C, and upon the other end of each of these shafts is placed a cog wheel D, D, four inches in diameter. Upon each side of these center shafts and at a proper distance from them is placed another shaft marked E, E, two inches in diameter, each having a cog wheel upon them 17 inches in diameter marked R, R, which are placed so as to work in the small cog wheels upon the center shafts.

The jet wheels are so placed upon the center shafts that a line drawn parallel with the upper surface of a jet on one wheel will strike the center of the space between the two jets upon the other. Between the two jet wheels and nearly at the top of them another shaft passes marked, H, having nearly at the end and directly over the jet wheels a short lever bolted crosswise marked K, upon the under side of it by which they are connected together the jets acting alternately upon each end of the lever. The two

outer shafts are cast iron E, E; upon these the ropes are wound to which the weights are attached. The weights are wound up by means of a small cog wheel placed upon a shaft—each marked F, F, and raised nearly to the top of each of the large wheels R, R, and meshing in them the end of these shafts projecting out far enough to put a crank on marked I. In the middle of the shaft marked H is an arm or lever placed upright marked M. Across one end of the frame (and raised about six inches) is placed another shaft marked G. In the middle of this shaft are two arms marked N, N, one is placed upright—and the other extending out beyond the edge so as to form the right angle.

The two arms placed upright are connected together by a rod marked L passing from one to the other and fastened in the top of each. T shows where it may be attached to a churn or any machine it may be applied to.

Upon the end of the shaft marked H and outside of the frame is placed a pendulum marked P by which the motion is regulated.

W is a cord by which the machine is stopped or started at pleasure.

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

The herein described mode of converting a rotary into a double acting reciprocating motion by means of two cogged, jetted, or mortise wheels marked C, C, moving in opposite direction and acting alternately with their teeth upon the pin or lever marked K fastened upon the shaft marked H so as to communicate a double acting motion to the lever placed upon the shaft the whole being combined and operating in the manner herein set forth.

CHRISTIAN WILLSON.

Witnesses:

THOMAS H. RAYMOND,  
JOHN CLARK.