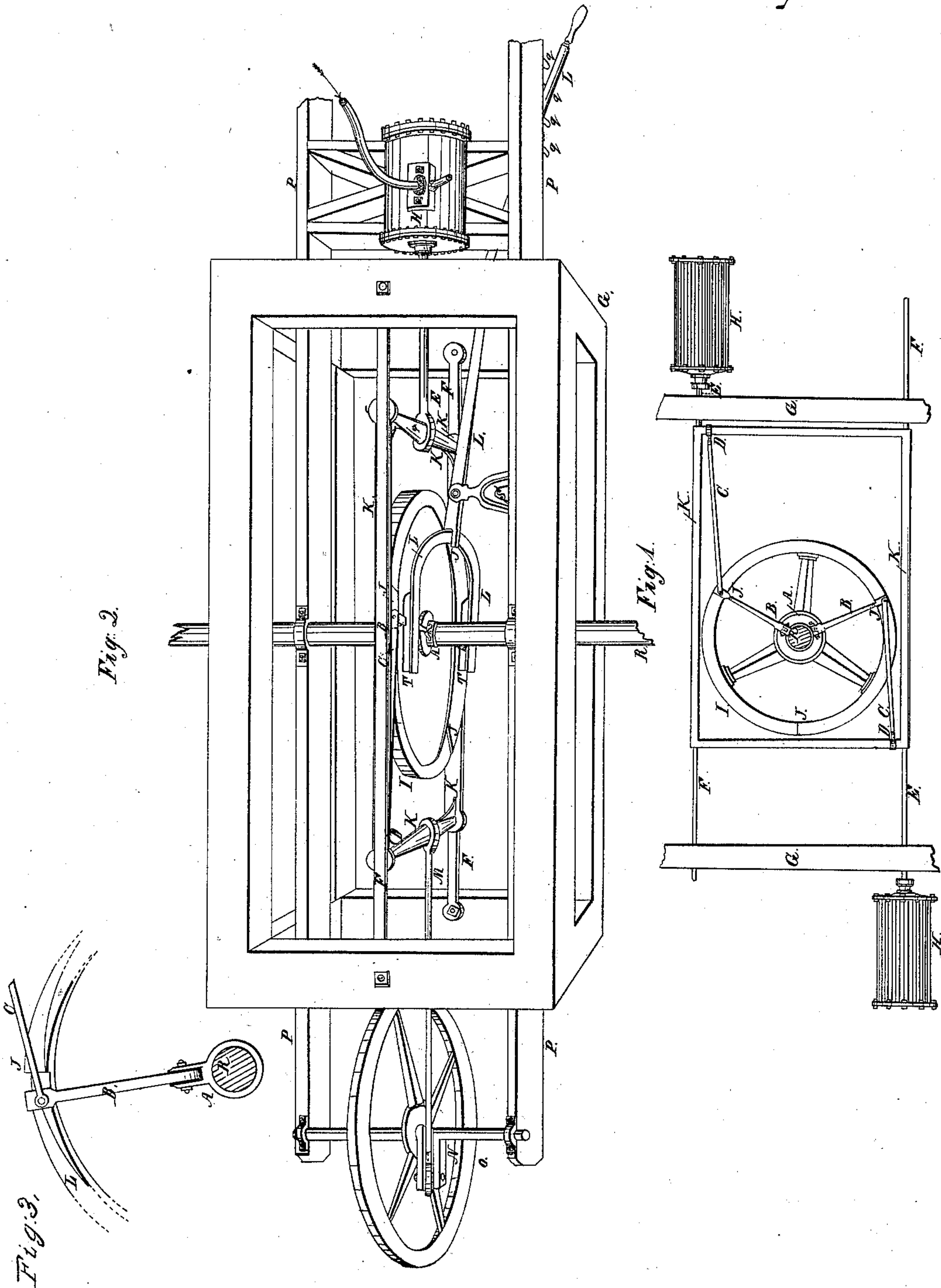


Bouton & Perry,
Reciprocating Steam Engine,
No 2,753, *Patented Aug. 18. 1842*



UNITED STATES PATENT OFFICE.

ALEXANDER M. BOUTON AND ANDREW PERRY, OF NEWARK, NEW JERSEY.

MODE OF CHANGING RECIPROCATING INTO ROTARY MOTION FOR STEAM-ENGINES AND OTHER PURPOSES.

Specification of Letters Patent No. 2,753, dated August 18, 1842.

To all whom it may concern:

Be it known that we, ALEXANDER M. BOUTON and ANDREW PERRY, of Newark, county of Essex, State of New Jersey, have invented a new and Improved Mode of Applying Power Obtained by Steam Engines and Boilers; and we do hereby declare that the following is a full and exact description thereof.

The nature of our invention consists in our applying power by a certain combination of levers upon the edge or circumference of a wheel which is hung upon the main shaft or axle used to propel a steam boat or other main axles for driving machinery in the room and place of an ordinary crank by which mode we conceive that we gain power and save weight.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

We use a wheel to describe the circle that is made by an ordinary crank motion. Upon the edge of said wheel there is applied a lever, said lever being attached to main axle by a narrow belt as shown at A in the accompanying drawings, the belt passing around said axle or shaft receiving the lever B between the two ends forming a joint, by which joint the lever may be moved a short distance from the edge or rim of the wheel and accommodate itself to the incline plane or notch J formed on the rim or edge of the wheel, or rather a succession of inclined planes three J J J more or less—which inclined planes terminate at each end in the form of one half of a circular wedge split in two lengthwise the same being cut in or fastened on the rim of said wheel—the thick end of said wedge forming a prominence sufficient for the thickness of lever B, as shown in sectional drawing No. 3. Now the end of said lever (that moves in and out by the action of inclined plane together with a spring hereafter described) is also attached to lever C, which lever extends to crosshead D, crosshead D D being the two ends of an iron frame moved by one or more pistons—the levers B and B—C, C, all made to pull on the circumference of the wheel alternately or one can be made to push and the other pull when there is but one piston employed, if required. The length of stroke or piston may be governed by crank N—and balance wheel

as shown in largest drawing. On each side of the wheel may be placed levers B and B in connection with levers C and C by which means the main shaft and waterwheels may be reversed when required without reversing piston or change of motion by placing the inclined planes or cutting the same in an opposite direction on the other edge of said wheel bringing both square projections on which the levers B and B pull—in a direct line opposite of each other so that all four levers B and B two on a side in connection with levers C and C four of each shall exactly fit at the shoulders causing the wheel when said levers are all in place to be immovable. And then by throwing out either pair of said levers the wheel may be put in motion by the engine—either pair of levers being shifted to and from the wheel at pleasure causing the wheel to move in either direction. The two levers C and C not shown in the small drawing being the same in construction should be attached to the unoccupied corners of iron frame R R making one lever C at each and every corner. Now the two levers B B are acted upon by two springs, one at each lever, as shown in largest drawing below letter B within staple T, staple T being fast at each end to lever L L, lever L extending out by cylinder H, as shown in largest drawing, the end of which is seen at q q q q; L, the fulcrum on which the said lever rests is shown at S. The largest drawing represents the method of using one engine and piston, but the smallest drawing two engines and pistons. In the largest drawing the iron frame moves on bars of steel or ways to guide the same. In the small drawing there is no balance wheel shown to regulate the valves and length of piston—which should be attached to one of the iron rods F. Rod F extending through bar or timber G—to guide the same together with the pistons E and E—cylinder H No. 1. Piston E is represented as being in the cylinder the opposite piston E—as being out at the same time. The lever B at the bottom of the wheel is now in a position to be drawn by piston E with the assistance of lever C—bringing up both levers B and B at the same angle as now seen on the other side of the shaft R, the uppermost lever C doing no labor in going back to catch over incline plane J—by which method one or the other

levers B are constantly pulling alternately upon the projections J J J which keeps the wheel in constant motion by moving the frame on which the levers are attached.

5 What we claim as our invention and desire to secure by Letters Patent is—

The combination of the levers B and C as shown in the drawings in combination with the wheel having notches cut on its rim and

the arrangement of parts for pressing the 10 levers into the notches for the purpose and in the manner specified.

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Witnesses:

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