

H. A. WALKER.
Steam-Engine.

No. 217,656.

Patented July 15, 1879.

Fig: 1.

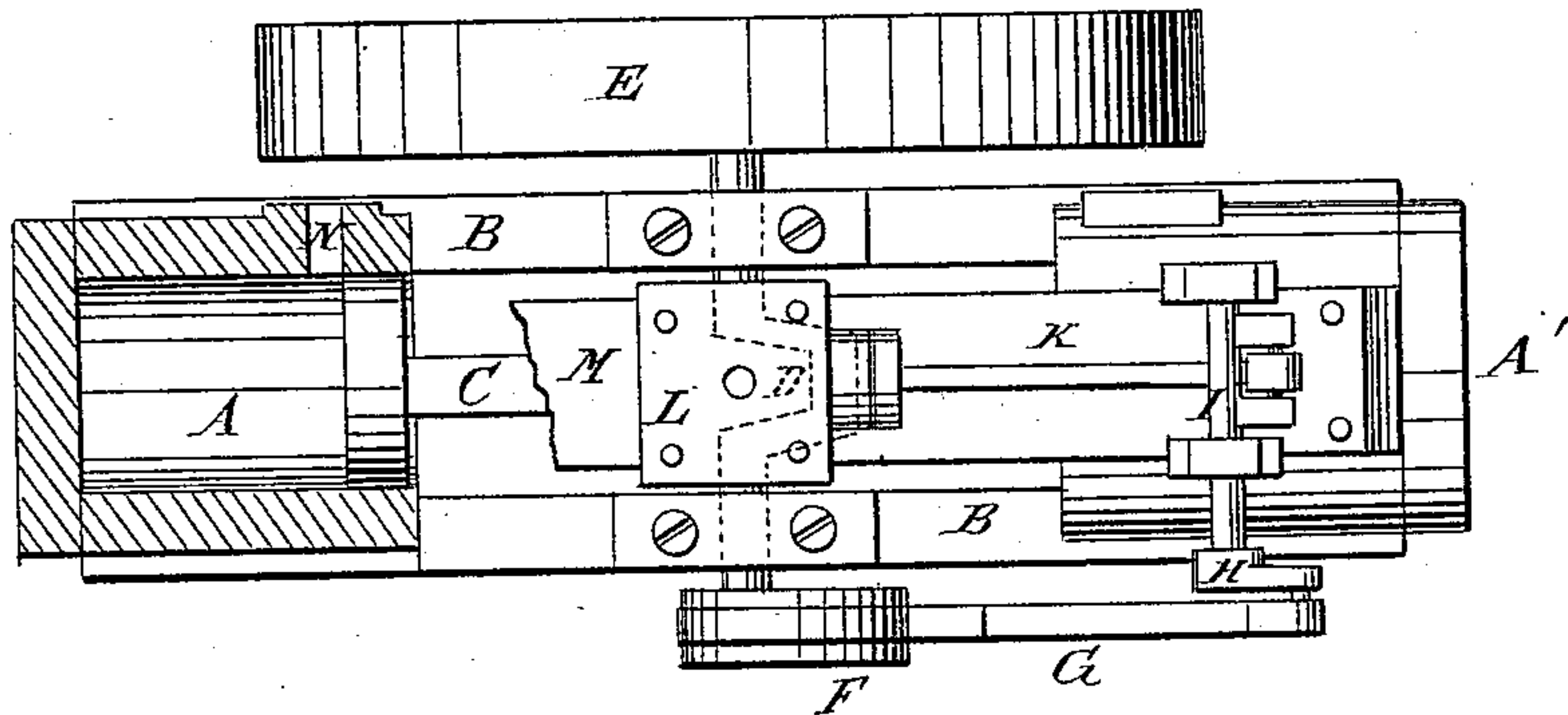
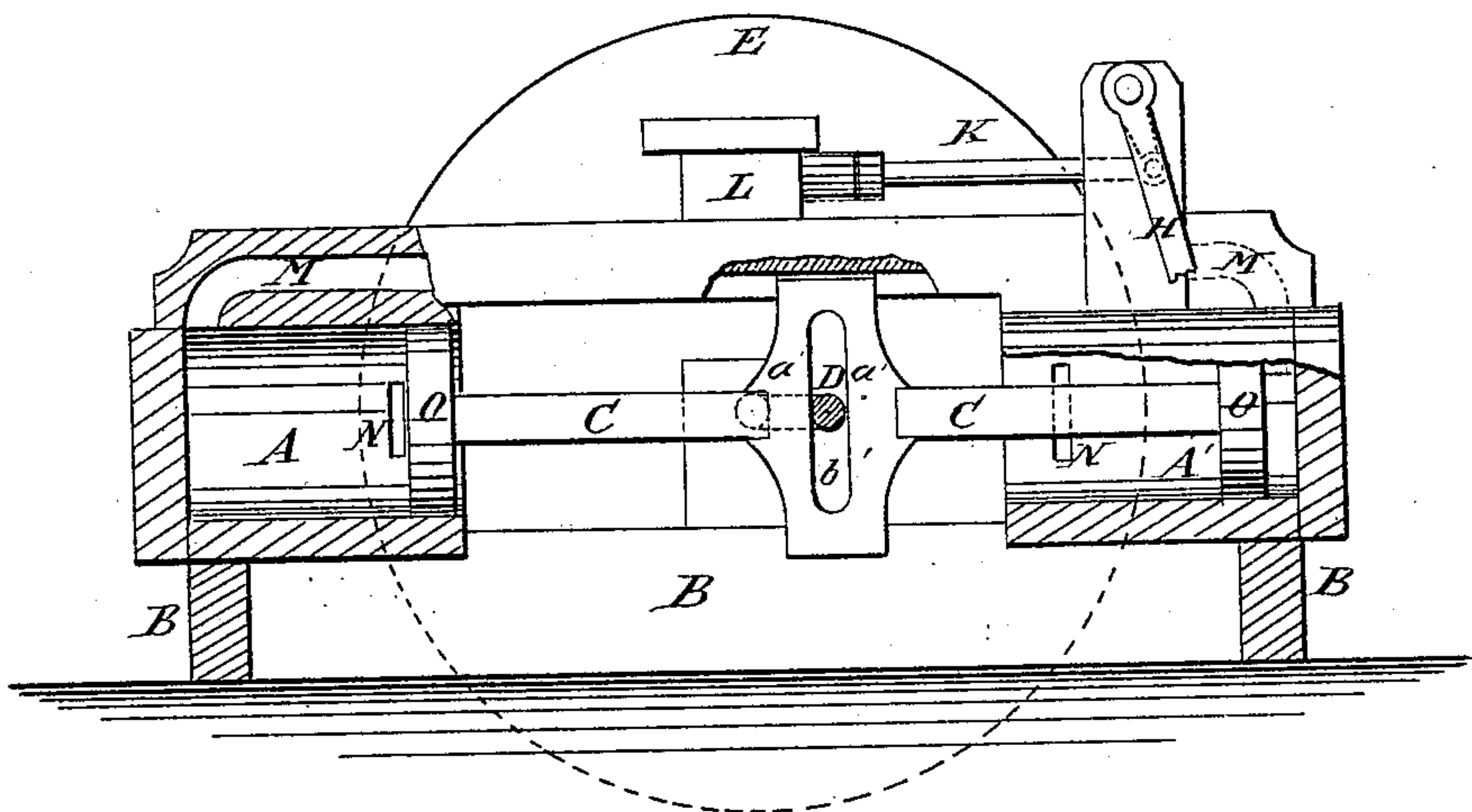


Fig: 2.



WITNESSES:

Chas. Nida
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UNITED STATES PATENT OFFICE.

HENRY A. WALKER, OF CHARLOTTE, NORTH CAROLINA.

IMPROVEMENT IN STEAM-ENGINES.

Specification forming part of Letters Patent No. **217,656**, dated July 15, 1879; application filed May 13, 1879.

To all whom it may concern:

Be it known that I, HENRY ALLISON WALKER, of Charlotte, in the county of Mecklenburg and State of North Carolina, have invented a new and Improved Steam-Engine, of which the following is a specification.

Figure 1 is a plan of the engine, partly in section. Fig. 2 is a side elevation of the same, partly in section.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an improved piston-connection with the driving-wheel shaft of an engine and cylinders open at the ends, through which the piston-rod passes, so that no stuffing-boxes will be required, and the loss of power by friction be consequently reduced, and the dead steam will escape without back-pressure.

The invention consists of the two like cylinders A A', set opposite each other on a frame, B, and having the ends opposite each other, through which the piston-rods pass, open to the full diameter of the cylinder.

It further consists of the two piston-rods C C, with T-shaped heads *a' a'*, united above and below, so as to form an opening or slot, *b'*, between them, in which is inclosed the crank-pin D.

The crank-shaft is U-shaped, and carries on one end the driving-pulley E, and on the other an eccentric, F, for controlling the movement of the steam-valve through rod G, crank H,

and rods I and K, to the latter of which the valve is attached within the steam-chest L, through which the steam enters and passes through pipes M M to the cylinders.

N N represent the exhaust-ports of the engine.

Between the T-heads of the piston-rods, at their points of contact, are placed slips of wood or metal, that may be replaced with thicker or thinner ones to take up the wear between the rods and the crank-pin, and the heads are preferably faced with brass or other metal riveted on or otherwise secured.

The piston-rods, being bolted together, form in effect one continuous rod, supported at each end by a piston, O, and hence require no stuffing-box to steady them.

By this device the pistons are made to transmit their power.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The within-described engine, consisting of cylinders A A', piston-rods C C, crank-pin D, crank-shaft carrying driving-wheel E and eccentric F, rod G, crank H, rods I and K, steam-chest L, pipes M M, exhaust-ports N N, pistons O O, and valve, constructed substantially as herein shown and described.

HENRY ALLISON WALKER.

Witnesses:

JOHN R. ERWIN,
JOHN A. YOUNG.