G. H. WHITCHER.

Improvement in Rotary Steam-Engines.

No. 128,572. Patented July 2, 1872.

Fig. 1

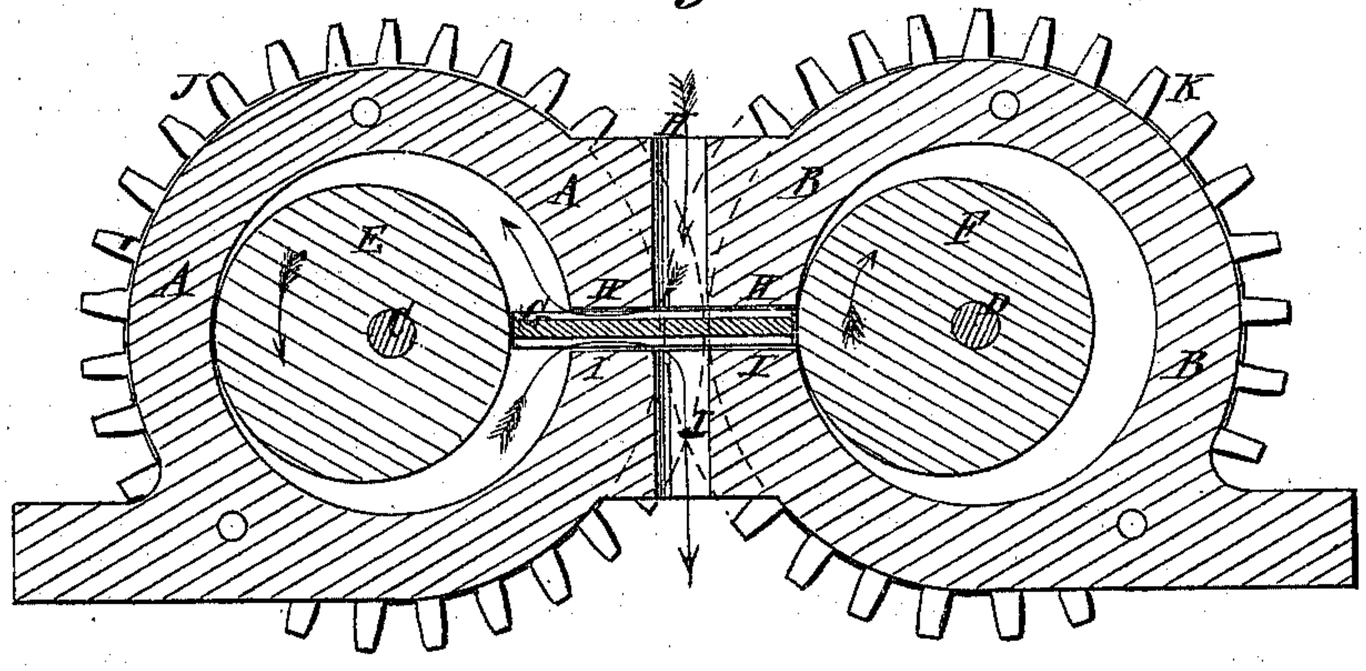


Fig. 1

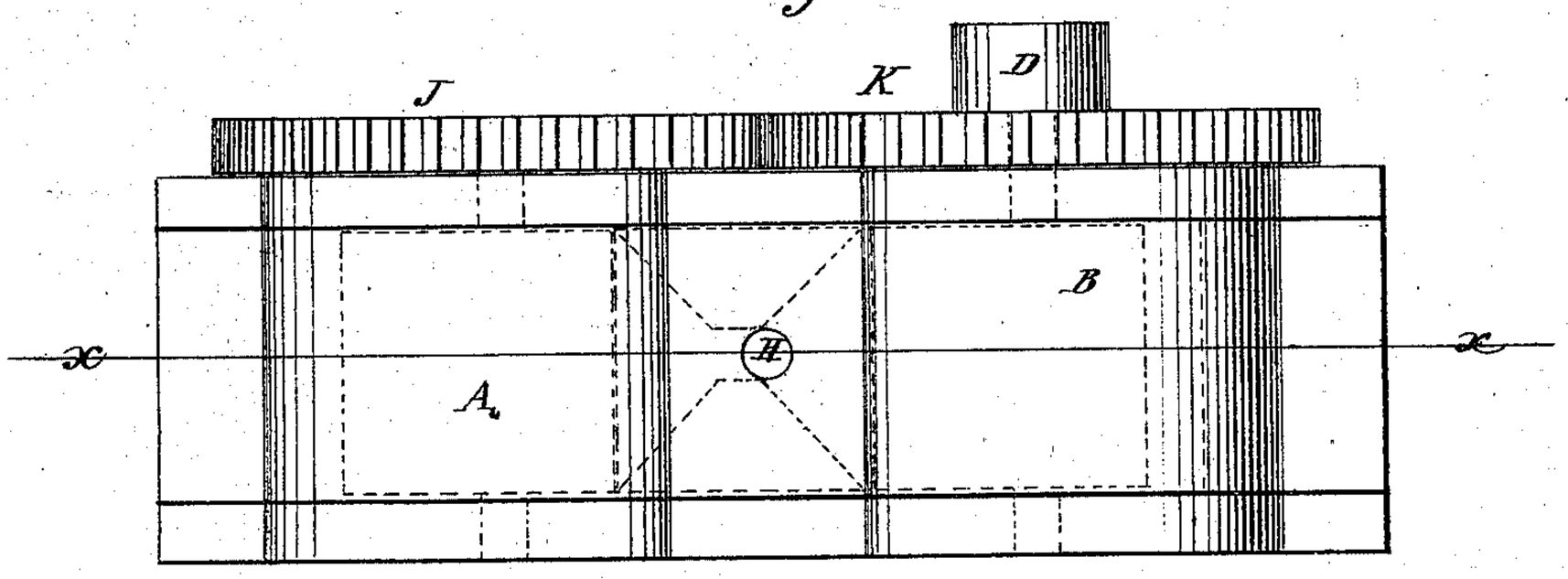


Fig. 3

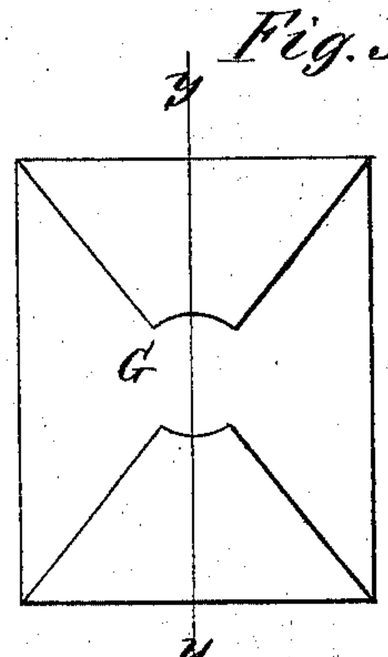
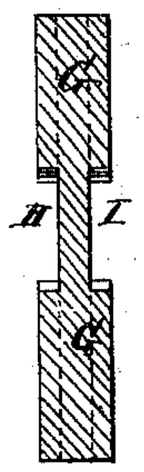


Fig. 4



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128,572

UNITED STATES PATENT OFFICE.

GEORGE H. WHITCHER, OF SOUTH BROOKLYN, NEW YORK.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. 128,572, dated July 2, 1872.

Specification describing a new and useful Improvement in Steam-Engines, invented by GEORGE H. WHITCHER, of South Brooklyn, in the county of Kings and State of New York.

Figure 1 is a detail section of my improved steam-engine taken through the line *x x*, Fig. 2. Fig. 2 is a top view of the same. Fig. 3 is a detail top view of the piston. Fig. 4 is a detail section of the same taken through the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved steam-engine, which shall be so constructed as to give a constant and steady motion, and which shall at the same time be simple in construction, reliable in operation, and economical in use, and which may also be used as a pump, if desired; and it consists in the construction and combination of the various parts of the engine, as hereinafter more fully described.

A and B are two steam-cylinders, which are placed side by side, and which I prefer to make solid with each other. C and D are shafts, which pass, respectively, through the centers of the cylinders A B. To the shafts C D, within the cylinders A B, are attached eccentric cylinders E F, which are made of such a size that their sides furthest from their axes may be always in contact with the inner surface of the cylinders A B, a crescent space being thus formed between the cylinders A B and the eccentric cylinders E F. The eccentric cylinders E F should be so arranged that the side of the one cylinder that is furthest from its axis may be at the ports while the corresponding part of the other cylinder may be furthest from said ports. G is a piston, which is placed in a slot in the adjacent sides of the cylinders A B, and which is made of such a length that its ends may always rest against the sides of the eccentric cylinders E F, so that the said piston may slide back and forth as the said eccentric cylinders revolve. H are the ingress, and I are the exhaust ports, which are branched and pass into the two cylinders A B upon the opposite sides of the piston G, said steam-passages being formed in the upper and lower sides of the piston G, as shown in Figs. 1, 3, and 4; or, if desired, said passages may be formed in the bodies of the cylinders A B. By this arrangement both the cylinders A B will be taking and exhausting steam at the same time and all the time, the one being at its point of greatest power when the other is at its point of least power. To the shafts C D, at one end of the cylinders A B, are attached gear-wheels J K, of exactly the same number of teeth, and of such a size that their teeth may mesh into each other, so as to insure the eccentric cylinders E F being always in the same relative position with respect to each other.

Power may be taken from either or both the shafts C D. If desired the cylinders A B, instead of being placed side by side, may be placed end to end, and may both be connected with the same shaft. In this case the piston G is made in two parts, which are connected with each other by a walking-beam, pivoted at its center to some suitable support, so that the two parts may operate in connection with the eccentrics E F as a single piston.

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

The rotary engine herein described, having cylinders A B and eccentric cylinders E F combined with a horizontal piston, G, provided with ports H I, all constructed, arranged, and operating as shown, and for the purpose set forth.

GEORGE H. WHITCHER.

Witnesses:

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