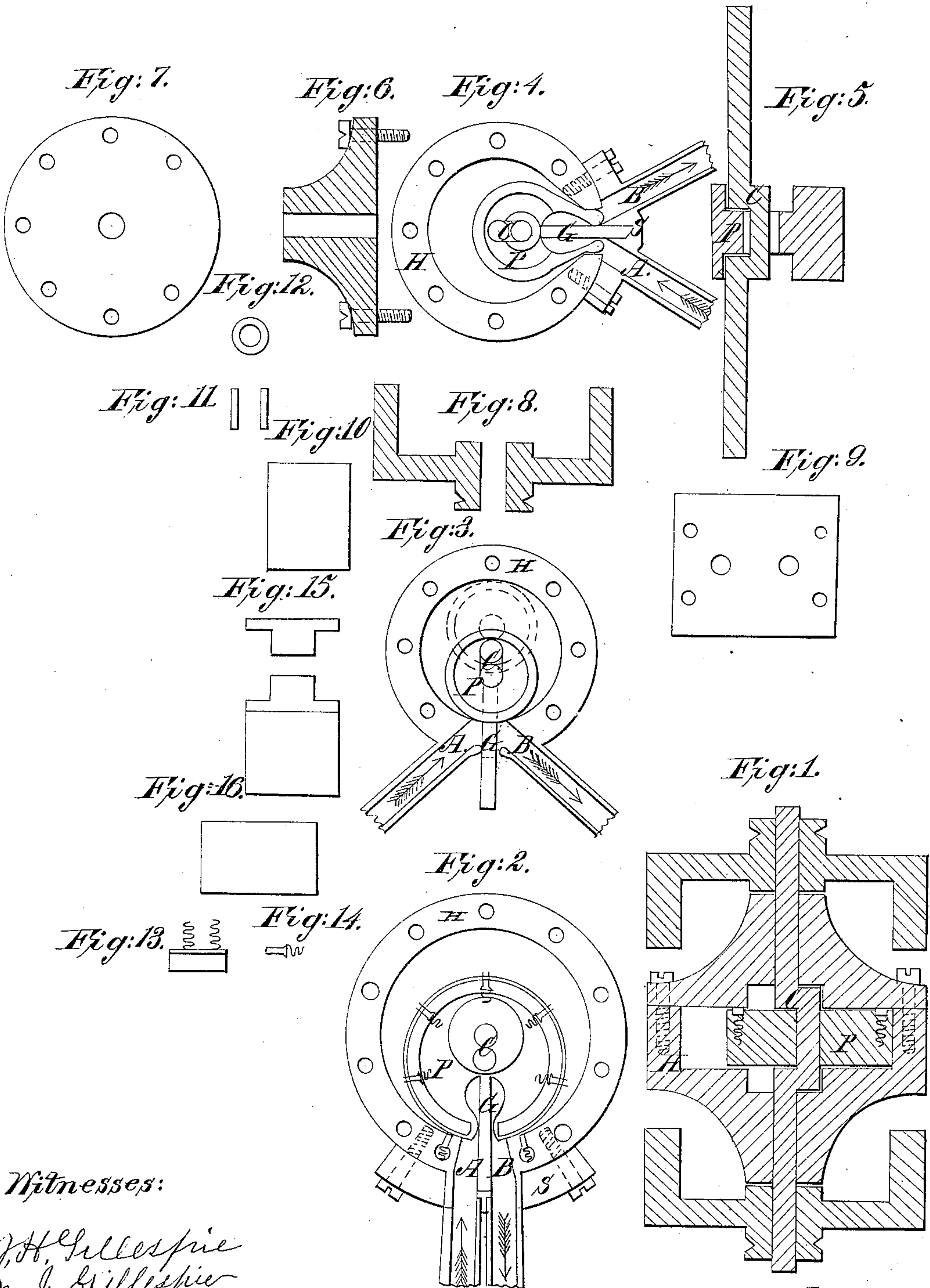


L. Carpenter,
Rotary Steam Engine.
N^o 68,602. Patented Sep. 10, 1867.



Witnesses:

W. H. Gillespie
M. J. Gillespie

Inventor:

Luman Carpenter.

United States Patent Office.

LUMAN CARPENTER, OF OSWEGO, NEW YORK.

Letters Patent No. 68,602, dated September 10, 1867.

IMPROVEMENT IN ROTARY STEAM ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LUMAN CARPENTER, of the city of Oswego, in the county of Oswego, and State of New York, have invented a new and useful Improvement on Steam Rotary Engines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective or side view.

Figure 2, longitudinal view.

Figures 3 and 4 are also longitudinal views, having the same general principles as figs. 2 and 3, but differing in form.

Figure 5 is a sectional view of the crank and piston of fig. 4.

Figure 6 is edge view of head of fig. 4.

Figure 7, inside view of cylinder-head of fig. 4.

Figure 8, sectional view of balance-wheel of fig. 4.

Figure 9 is a sectional view of steam-cap of fig. 4, in which the steam pipes are attached.

Figure 10 is a sectional view of division plate between pressure and exhaust steam of fig. 4.

Figure 11 is edge view of the box of fig. 4.

Figure 12 is an end view of the box of fig. 4.

Figure 13 is side view of packing of piston in fig. 2.

Figure 14 is end view of same.

Figure 15 is side view of piston and plate in fig. 3.

Figure 16 is side view of plate between supply and exhaust pipe of fig. 2.

The drawings are made on a scale of one-eighth of an inch to an inch. I construct my engines of the same material as is ordinarily used in the construction of steam engines. I describe fig. 4 as follows:

Steam is let into the engine by the steam pipe A. The engine is represented in the drawing at the dead-point, the steam being shut off by the wings of piston P. When the crank C commences to rotate the outer surface of the piston P comes in contact with the inner surface of the cylinder H, the end of the wings of the piston P at the same time sliding on the plate G towards the crank C, letting the steam into the space between the piston P and to the point where the piston P comes in contact with the inside surface of the cylinder H. As the crank C continues to rotate, a portion of the outer surface of the piston P is constantly in contact with a portion of the inner surface of the cylinder H, until it moves round to the starting point. As the crank C commences making another revolution the same as the first, the sliding of the wings of the piston P on the plate G opens the exhaust pipe B, and lets the steam escape. Thus the pressure of the steam upon the piston P causes a continuous rotary motion of the crank C. The dotted lines in fig. 3 show the position of the piston when the crank has made half a revolution. The plate G in fig. 4 is stationary, being firmly attached to the head of the cylinder H and the steam-cap S. The plate G in fig. 3 is movable, being firmly attached to the piston P, and sliding through an aperture between the two steam pipes A and B. The plate G in fig. 2 is stationary the same as in fig. 4. The height of the piston is the same as the inside of the cylinder H, thus preventing the steam from escaping between the piston P and heads of cylinder H. Fig. 2 is supplied with a packing-ring in the top of the piston P, an end view of which can be seen in the piston P of fig. 1. The outer surface of the piston P in fig. 2 is packed by plates inserted in the piston and forced out a little beyond the outer surface of the piston by spiral springs, as seen in the figure, and also the side view of fig. 13 and end view fig. 14. Two of the packings are placed in the cylinder H, near the supply and exhaust pipes A and B, to prevent the steam from escaping while the crank C passes the dead-point. In fig. 5 there is a cavity in the piston P for the crank C to revolve in, but in fig. 1 the cavity in which the crank revolves is in the heads of the cylinder H. This engine, by enlarging the supply and discharge pipes, can be used equally well for water-wheels and pumps.

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

The combination of the piston P with the plate G, crank C, and cylinder H, so as to produce a rotary motion, substantially as herein set forth.

LUMAN CARPENTER.

Witnesses:

CHAS. ANDELFINGER,
N. V. BURGESS.