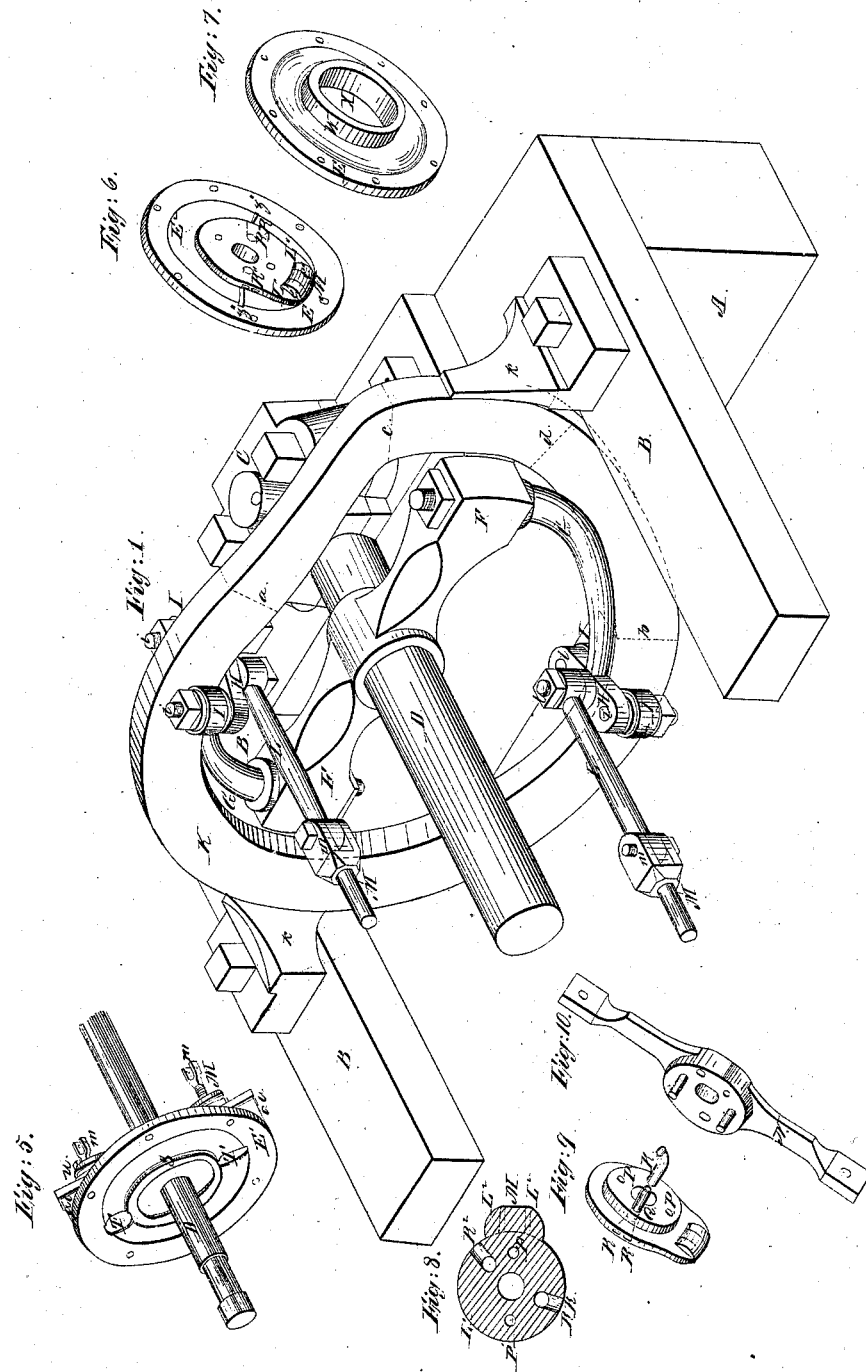


A. Pease.

Rotary Steam Engine.

No 3,429.

Patented Feb. 12, 1844.



UNITED STATES PATENT OFFICE.

ABRAM PEASE, OF LYONS, NEW YORK.

ROTARY STEAM-ENGINE.

Specification forming part of Letters Patent No. 3,429, dated February 12, 1844; Reissued September 5, 1846, No. 85.

To all whom it may concern:

Be it known that I, ABRAM PEASE, of LYONS, in the county of Wayne and State of New York, have invented a new and useful Improvement in Rotary Steam-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 (on Sheet 1) is an isometrical projection of that part of the engine which embraces the parts constituting my claim; Fig. 2 (on Sheet 2) a view of the engine complete, and Figs. 3 and 4 (also on Sheet 2) geometrical representations of details.

To enable others skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

Construction.—On the beams or sleepers A rests and is fastened the oblong frame B, on the top of the end or cross pieces of which frame, and in the middle of them, are placed the boxes C, secured by screws or bolts. In these boxes revolve the gudgeons of the main shaft D. Near one end of the said shaft is the revolving steam-cylinder E, furnished with its usual appendages, viz: the stationary plate, piston, apertures for admitting and letting-off steam, two or more slides and their connecting rods. The aforesaid parts being so well known, and their construction and application so well understood, it is deemed superfluous to enter here into a minute description of the same. Near the other end of the shaft D, and at right angles with it, are bolted the arms F, two or more in number according to the number of slides used. To the ends of these arms are attached the cranks G, by means of shoulders, screws and nuts; and are bent into a quarto-circular shape, gradually diminishing in thickness, and assuming (transversely) a square shape toward their extremities. Here they are furnished each with the transverse head-piece H, the ends of which are semicircularly shaped. Near these ends, at right angles with the head-pieces and in a direction receding from the axis of the main-shaft D, are fastened—by means of screws—the short shafts *i*, on

which the friction-rollers I revolve, which are kept in their places by means of nuts as shown on drawings. The length of the transverse head-pieces H, and the distance of the shafts *i* from each other, is governed by the thickness of the curved rim hereafter described and the diameter of the friction-rollers I.

Transversely with the main shaft, between the longitudinal frame-pieces B, and in a vertical position, is fixed the curved rim K. One-half of this rim (and somewhat more) stands perfectly vertical, when at *a* above, and at *b* below it recedes, in the direction from the cylinder E, to a distance of about one-seventh part of its own diameter, until it reaches the points *c* and *d*, where it resumes again a vertical direction. On each of its sides, nearly in the direction of its horizontal diameter, and on its periphery, it has protuberances *k*, which rest on the frame B, whereto it is fastened by screws or bolts. The above mentioned crank-heads or transverse head-pieces H have in their centers, on the sides opposite to where the shafts *i* and rollers I are placed, similar shafts *l*, which tend toward the axis of the main shaft. To these shafts are fixed the connecting or guide-rods L, in a parallel direction with the main-shaft, which, as their names indicate, connect with and guide the piston-rods M, by means of joints *m*, constructed in the usual manner.

Operation.—The steam having been admitted and the engine being in operation, the connecting rods L serve as guides or governors to the slide-rods M in the following manner. The arms F being bolted to the main-shaft D, must consequently revolve uniformly with the cylinder E; and equally so the cranks G, the friction rollers I embracing the stationary curved rim K, steady the connecting or guide-rods L in consequence of their being hung to shafts on the same head-pieces, to which are fastened the shafts *i* of the said friction-rollers. The deviation of part of the rim K from a vertical position, which direction the cranks with their appendages are compelled to follow, will, of course, cause each and every slide to open and close once during every revolution.

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

The method herein set forth of governing the connecting-rods L, which operate the
5 slides, viz: by attaching the said rods to the cranks G, connected with the arms F, in combination with the curved rim K, the

same being constructed and operating substantially as above described.

ABRAM PEASE.

Witnesses:

D. H. GRISWOLD,
CHAS. O. HOFFMAN.

[FIRST PRINTED 1913.]