

T. S. LA FRANCE.
Rotary-Engines.

No. 149,664.

Patented April 14, 1874.

Fig. 1.

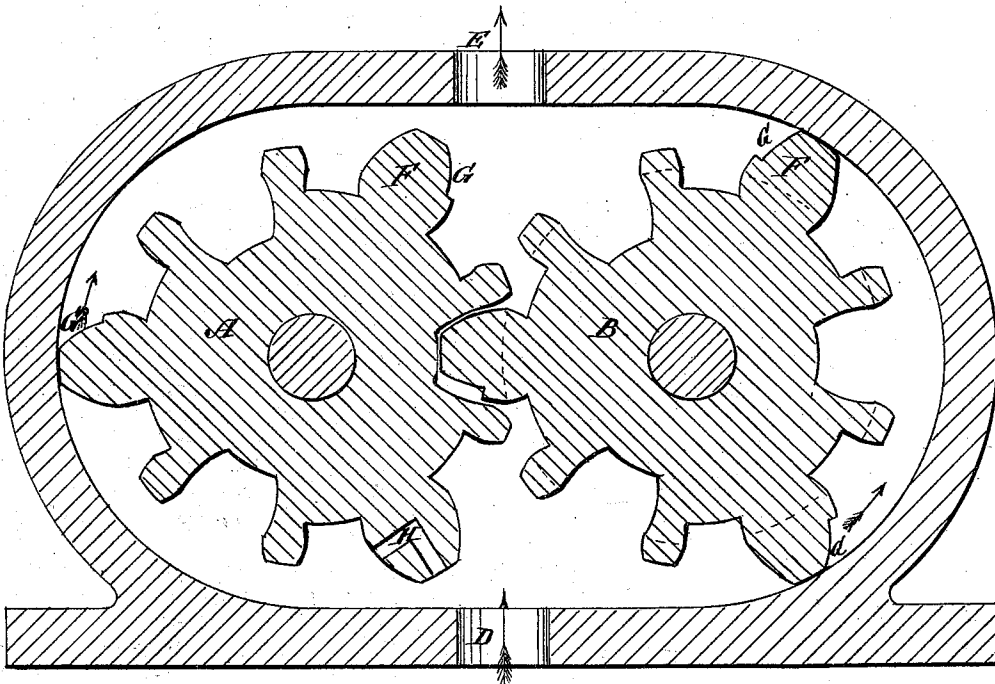


Fig. 2.

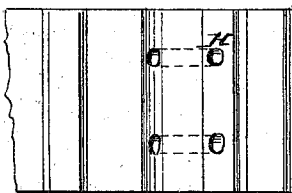
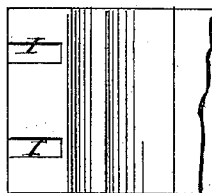


Fig. 3.



WITNESSES.

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TRUCKSON S. LA FRANCE, OF ELMIRA, NEW YORK.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. **149,664**, dated April 14, 1874; application filed January 24, 1874.

To all whom it may concern:

Be it known that I, TRUCKSON S. LA FRANCE, of Elmira, in the county of Chemung and State of New York, have invented a new and Improved Rotary Engine, of which the following is a specification:

My invention relates to that class of rotary steam engines and pumps in which two revolving cog-wheels are employed in a case with semicircular ends, the teeth of the wheels meshing together to cut off the passage between them; and the invention consists of constructions of the teeth whereby pressure is balanced on the cutting-off teeth to better advantage than in the ordinary arrangements, and water of condensed steam is allowed to escape at the starting of the engine.

Figure 1 is a sectional elevation of an engine constructed according to my invention, and Figs. 2 and 3 are details of some of the teeth.

Similar letters of reference indicate corresponding parts.

A and B represent the cog-wheels; C, the semicircular ends of the case, whereon they work to pass the steam or water; D, the induction and E the eduction ports. In order to let the steam in between the cogs when they mesh together, so as to act on both sides as much as possible, and thereby balance the action, so as to increase the effective leverage of the steam upon the outside of the wheels, I propose to cut away the large teeth F from the pitch-line to the end on one side or the other, as shown at G, so that as soon as the joint is prop-

erly made with the small cogs the steam is let in, so as to surround the cogs from the end to the pitch-line. When not so arranged the steam only enters gradually into one side of the notch, and then around to the other side, so that for a certain time the wheel is balanced, whereas by this plan, as soon as the pressure reaches the pitch-line from the bottom, it instantly passes around the point of the tooth to the joint at the other side, and thus instantly balances it. This may also be accomplished by holes H, formed in the teeth, as represented in Fig. 2, or by the notches I in one side, as in Fig. 3.

When the recessed form, Fig. 1, is employed, a considerable advantage is gained in respect of the saving of labor in finishing the surface, which is diminished in the proportion of the amount removed. By this mode of action the wheels are always out of balance, and thus pull steadier than when arranged in the ordinary way.

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

The combination of cog-wheels A B, each provided with the teeth F, or their described equivalents, cut away from the pitch-line to the end on one side, for balancing the pressure of steam, as described.

TRUCKSON S. LA FRANCE.

Witnesses:

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J. E. HAZARD.