

G. P. WHITE.
ENGINE.

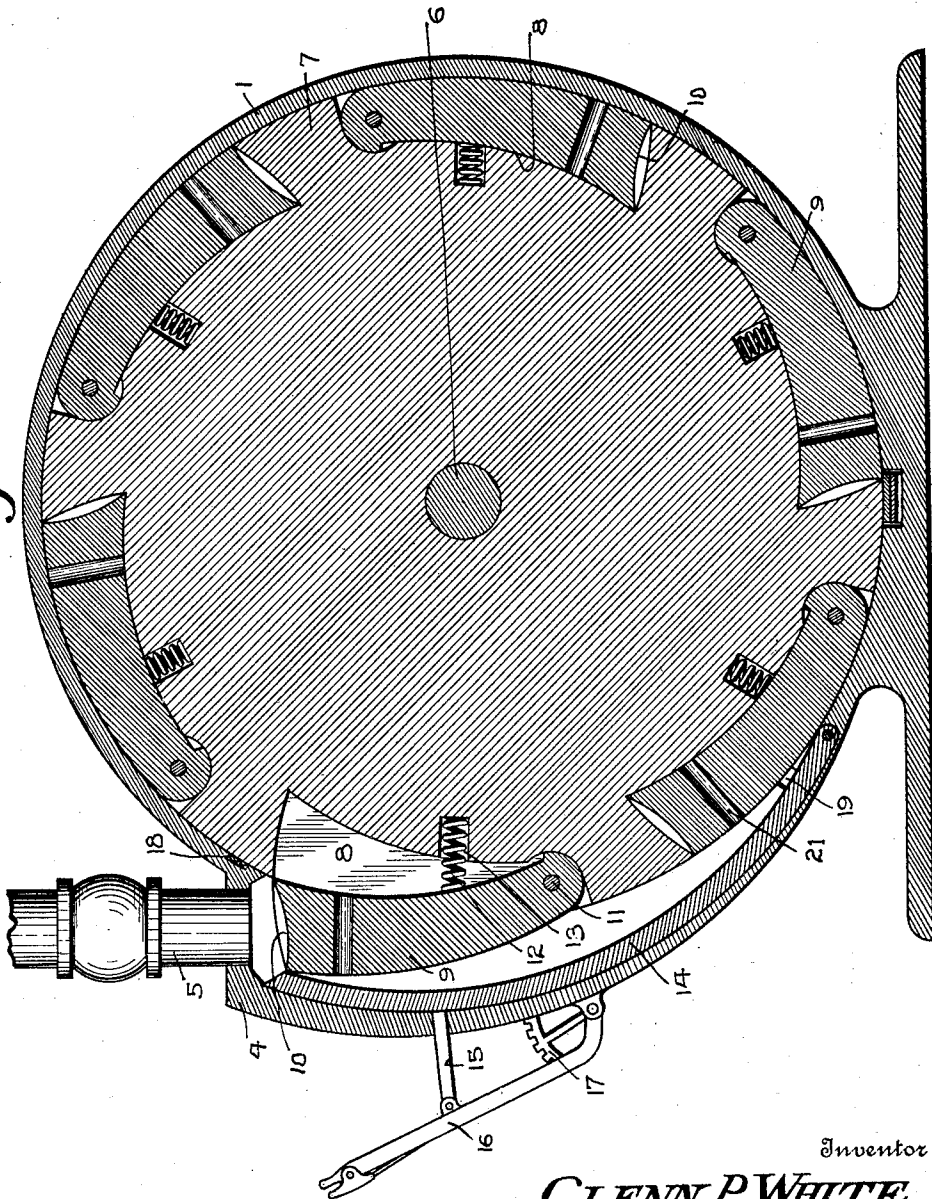
APPLICATION FILED JUNE 30, 1920.

1,389,466.

Patented Aug. 30, 1921.

2 SHEETS—SHEET 1.

Fig. 1.



Witness

J. R. Loring

Inventor

GLENN P. WHITE

By

C. A. Snow & Co.
Attorneys

G. P. WHITE.
ENGINE.
APPLICATION FILED JUNE 30, 1920.

1,389,466.

Patented Aug. 30, 1921.
2 SHEETS—SHEET 2,

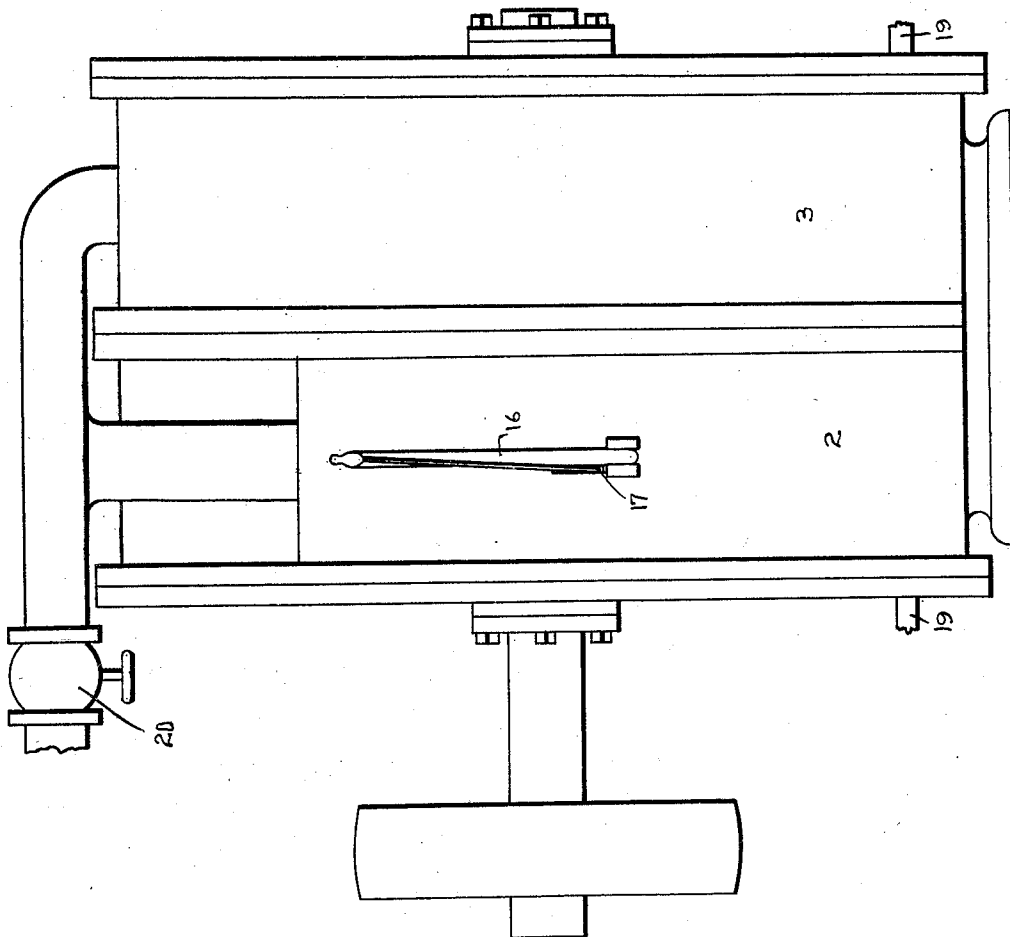


Fig. 2.

Witness

J. R. Tomlin

Inventor

GLENN P. WHITE

By

C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GLENN P. WHITE, OF ASHTABULA HARBOR, OHIO.

ENGINE.

1,389,466.

Specification of Letters Patent.

Patented Aug. 30, 1921.

Application filed June 30, 1920. Serial No. 393,046.

To all whom it may concern:

Be it known that I, GLENN P. WHITE, a citizen of the United States, residing at Ashtabula Harbor, in the county of Ashtabula and State of Ohio, have invented a new and useful Engine, of which the following is a specification.

This invention relates to rotary steam engines, one of its objects being to effect a considerable saving of steam by eliminating joints through which steam can escape.

A still further object is to provide simple means whereby the engine can be reversed and whereby the propelling power of the engine can be reduced at the will of the operator.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a transverse section through the engine.

Fig. 2 is a side elevation of the motor.

Referring to the figures by characters of reference 1 designates a stator which, in a reversible engine, is divided into two sections indicated at 2 and 3 in Fig. 2, each section being a duplicate of the other but the two sections being oppositely disposed. Formed upon the periphery of each of the sections is an eccentric projecting portion 4 into the large end portion of which opens a steam supply pipe 5.

A shaft 6 extends through the stator and secured to this shaft within each of the sections 2 and 3 is a rotor 7 provided with regularly spaced peripheral recesses 8. These recesses gradually increase in depth toward one end and mounted within each of the recesses is an arcuate piston 9 the free end of which is of greater thickness than the other end and is formed with a recess as shown at 10. The other end of each piston is mounted on a pivot pin 11 and arranged back of each piston is a spring 12 which tends to thrust the piston outwardly

against the wall of the stator. Each spring projects into a recess 13. When the pistons are pressed inwardly into the recesses 8 their outer faces are flush with the periphery of the rotor.

Pivotally mounted within the stator is an arcuate controlling blade 14 adapted, when in one extreme position, to bear snugly against the curved wall of the extension 4 and, when in its other extreme position, to fit singly against the periphery of the rotor. This blade or gate is connected by a pin 15 to a lever 16 mounted on the outer surface of the stator and by means of which the blade or gate 14 can be moved to either extreme position mentioned or to intermediate positions, a toothed segment 17 being provided for locking or holding the lever in any position to which it may be moved.

Suitable packing strips 18 can be provided in the inner wall of the stator adjacent the steam inlet and beyond the steam outlet or exhaust which, as shown in the drawings, is located adjacent the point where the cooperating surfaces of the rotor and stator come together. Each of these outlets has been indicated at 19.

As has heretofore been stated the members 2 and 3 of the stator are oppositely disposed and, obviously therefore, the two stators are likewise oppositely disposed. The supply of steam to the two stators can be controlled by a single valve or throttle 20. Obviously by thrusting inwardly on one of the levers 16 the gate or blade 14 controlled thereby will be pushed inwardly so as to bear against the periphery of the rotor and thus prevent the pistons from moving outwardly into position to receive the pressure entering the stator. Thus the power will be cut off from one of the rotors which will rotate freely with the rotor in the other section of the stator. Assuming that pressure is admitted to one of the stator sections in which the gate 14 is in its outer position as shown in Fig. 1, then the pistons as they arrive successively below the steam inlet will shift outwardly against the gate 14 and receive the full pressure of steam from the inlet. Consequently the rotor will be driven in a counter clockwise direction and as the other rotor has been cut off from the steam supply, it will travel therewith. Should it be desired to reverse the rotation of the motor the blade 14 in the driving portion of the motor is first shifted inwardly so that

the pistons cannot move outwardly into the line of pressure. The other blade which is carried by the other portion of the motor is then pulled outwardly so that the pistons
5 of the adjacent motor will receive pressure and cause the motor to rotate clockwise. In order to permit free movement of the pistons into their recesses openings 21 are extended through the pistons and constitute vents for
10 steam contained within the recesses 8.

What is claimed is:

15 In a rotary engine the combination with a stator having an eccentric extension on the periphery thereof provided with a pressure inlet and an exhaust port adjacent the respective ends thereof, and a gate movably mounted in the extension, of a rotor hav-

ing peripheral recesses, pistons pivotally mounted within the recesses, yielding means for successively projecting the pistons into
20 the extension to receive the pressure from the inlet, each of said pistons having a vent extending therethrough, and means for shifting the gate against the rotor to hold
25 the pistons against movement from their recesses while passing the extension.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GLENN P. WHITE.

Witnesses:

GRACE E. CASTLE,
MARJORIE R. CASTLE.