

S. GIBSON.  
ROTARY ENGINE.

No. 110,912.

Patented Jan. 10, 1871.

Fig. 1

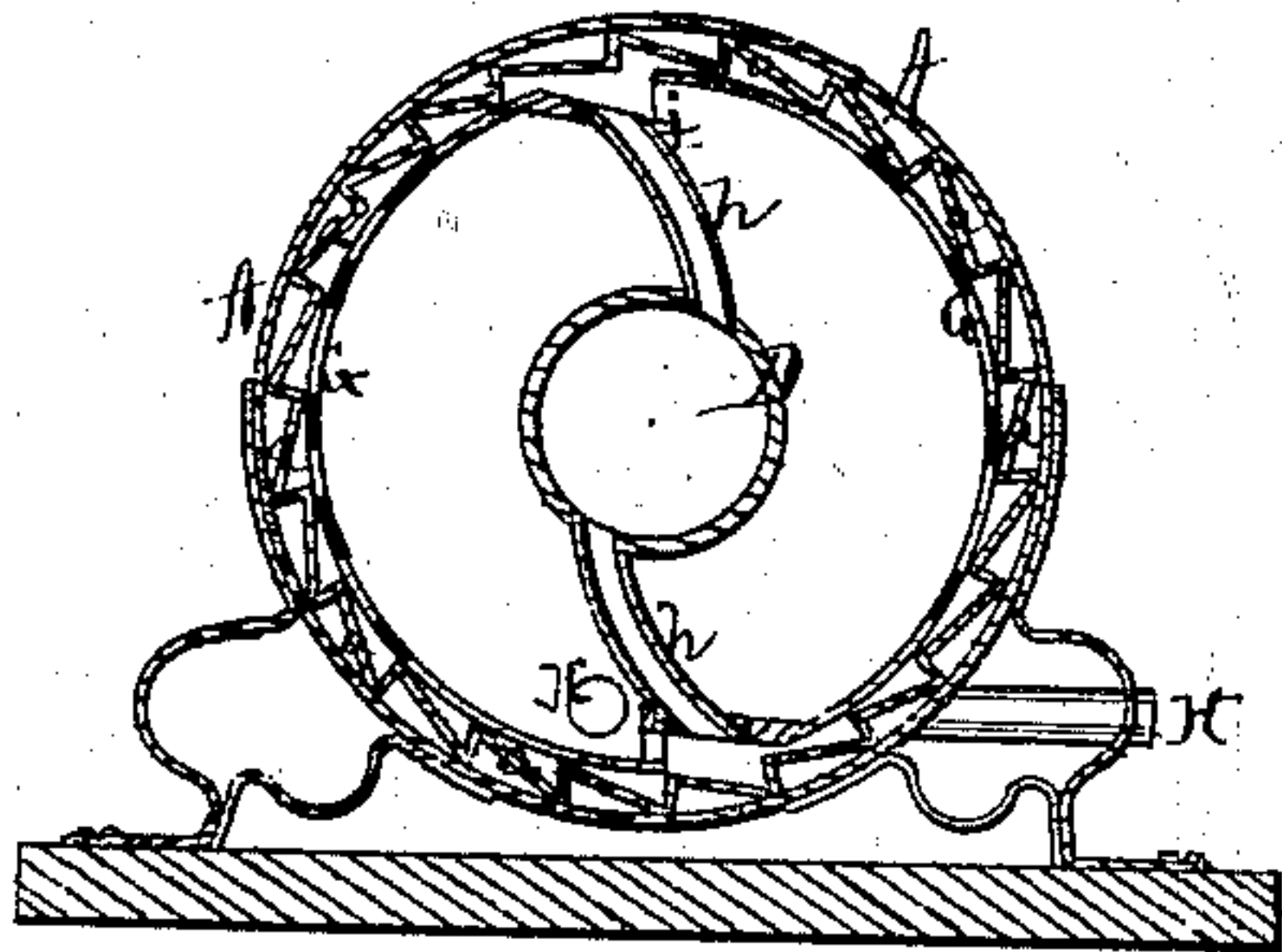
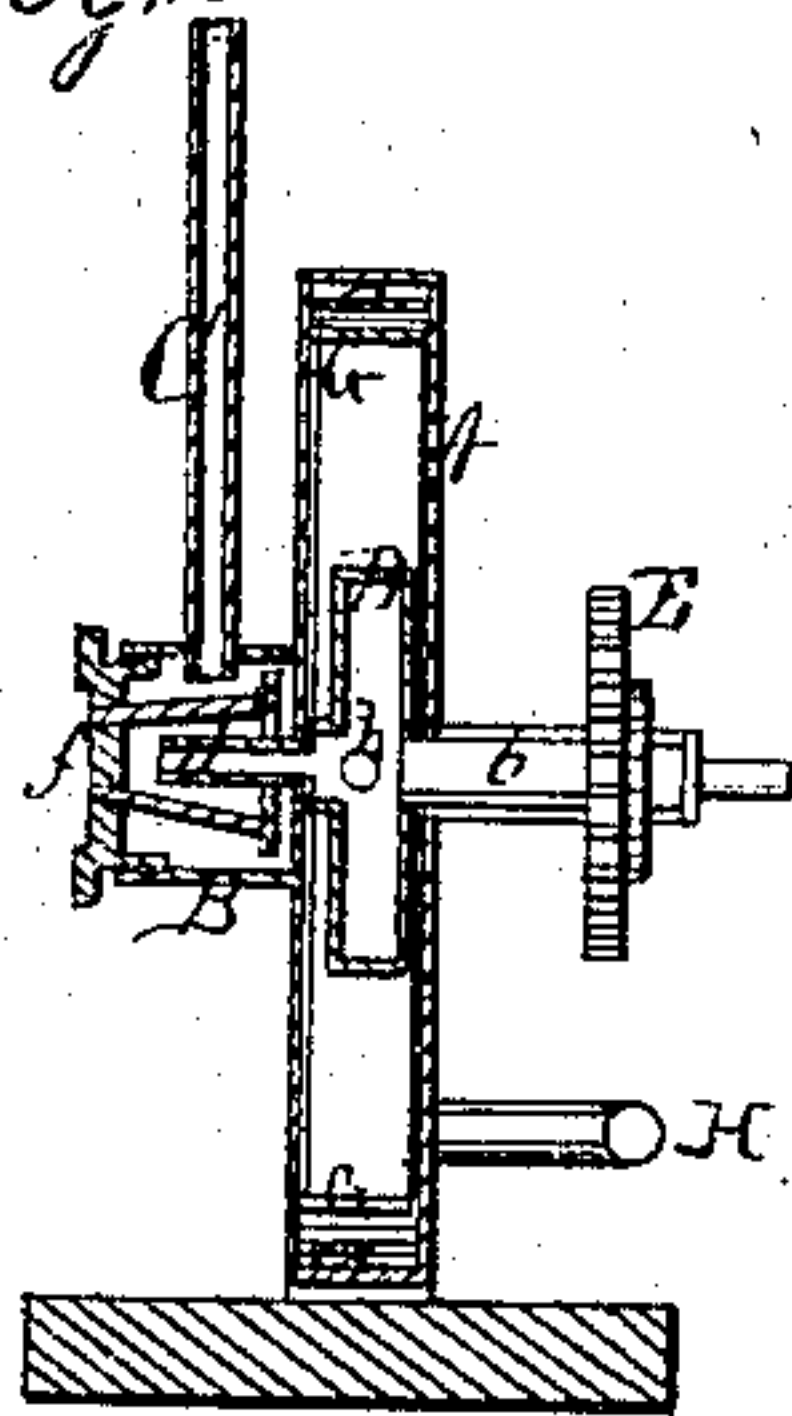


Fig. 2



Witnesses,  
J. E. Hutchinson  
C. L. Ewert.

Inventor.  
Samuel Gibson  
per  
Alexander Mason  
attys.

# United States Patent Office.

SAMUEL GIBSON, OF LANCASTER, ASSIGNOR TO HIMSELF, ALEXANDER L. HAYES, OF SAME PLACE, AND J. W. G. WIERMAN, OF YORK, PENNSYLVANIA.

Letters Patent No. 110,912, dated January 10, 1871.

## IMPROVEMENT IN ROTARY 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, SAMUEL GIBSON, of Lancaster, in the county of Lancaster and in the State of Pennsylvania, have invented certain new and useful Improvements in Steam-Engine; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

My present invention is intended as an improvement upon the centrifugal rotary engine for which Letters Patent were granted to me October 4, 1870; and

It consists in the construction and arrangement of an outer and an inner wheel; the outer wheel being stationary while the inner revolves.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section, and

Figure 2 a transverse vertical section of my improved steam-engine.

A represents the outer wheel or circular casing, provided on one side in the center with a steam-chest, B, into which the steam is admitted through the pipe C.

Around the entire inner circumference of the wheel or casing A, which is stationary, is placed a series of buckets, *a a*, as shown in fig. 1.

In the center of the casing A is placed a circular box or chest, D, provided with two journals *b* and *d*.

The journal *b* passes through the center of the off-side of the casing, and has a bearing at any suitable point on the outside thereof.

On this journal, which is solid, is placed a pulley or cog-wheel, E, to communicate motion to any machinery desired to be driven.

The other journal, *d*, is hollow, and passes into the steam-chest B, where it has its bearing in a disk, *e*, attached by suitable arms to the nut *f*, which closes the outer end of said steam-chest.

Thus, a communication is established between the steam-chest B and the box D, so that the steam admitted into said chest may pass through the hollow journal *d* into the box D.

From the box D two hollow arms *h*, curved, as shown, lead to two buckets *i i* formed in the inner rim or wheel G.

This wheel is of such size as to fit close to the ends of the buckets *a a*, and the buckets *i i* are of such size as to form with each of the buckets *a* in succession a steam-box, into which the steam passes from or through the hollow arms *h*, causing the inner wheel G to revolve in a direction opposite to that at which the steam is admitted.

The buckets *i i* are further so arranged with relation to each other that when one of them forms such a steam-box as just mentioned the other is open, and *vice versa*, thus alternating to cause the steam to produce said rotary motion of the wheel.

The steam is exhausted by passing through holes in the wheel G to the inside thereof, and thence through the pipe H to any point desired.

Having thus fully described my invention,

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

1. The stationary wheel or casing A, provided with a series of buckets, *a a*, extending around its entire inside circumference, in combination with the inner revolving wheel G provided with two buckets *i i*, all constructed and operating substantially as and for the purposes herein set forth.

2. The combination of the outer stationary wheel A with buckets *a a*, steam-chest B, box D, journals *b d*, disk *e*, arms *h h*, inner revolving wheel G, buckets *i i*, and outlet or exhaust-pipe H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of November, 1870.

SAMUEL GIBSON.

Witnesses:

GEO. M. KLINE,  
THOMAS J. DAVIS.