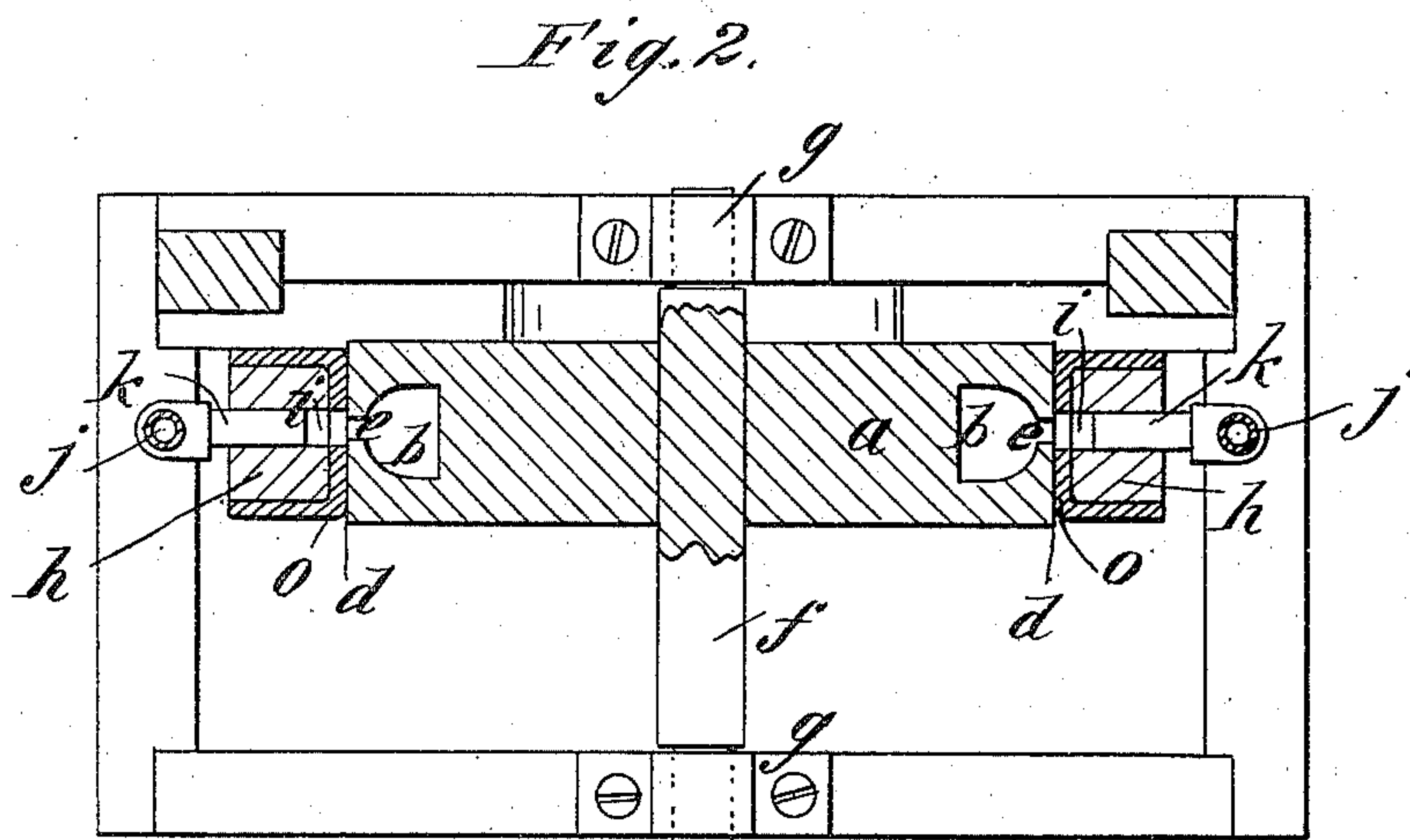
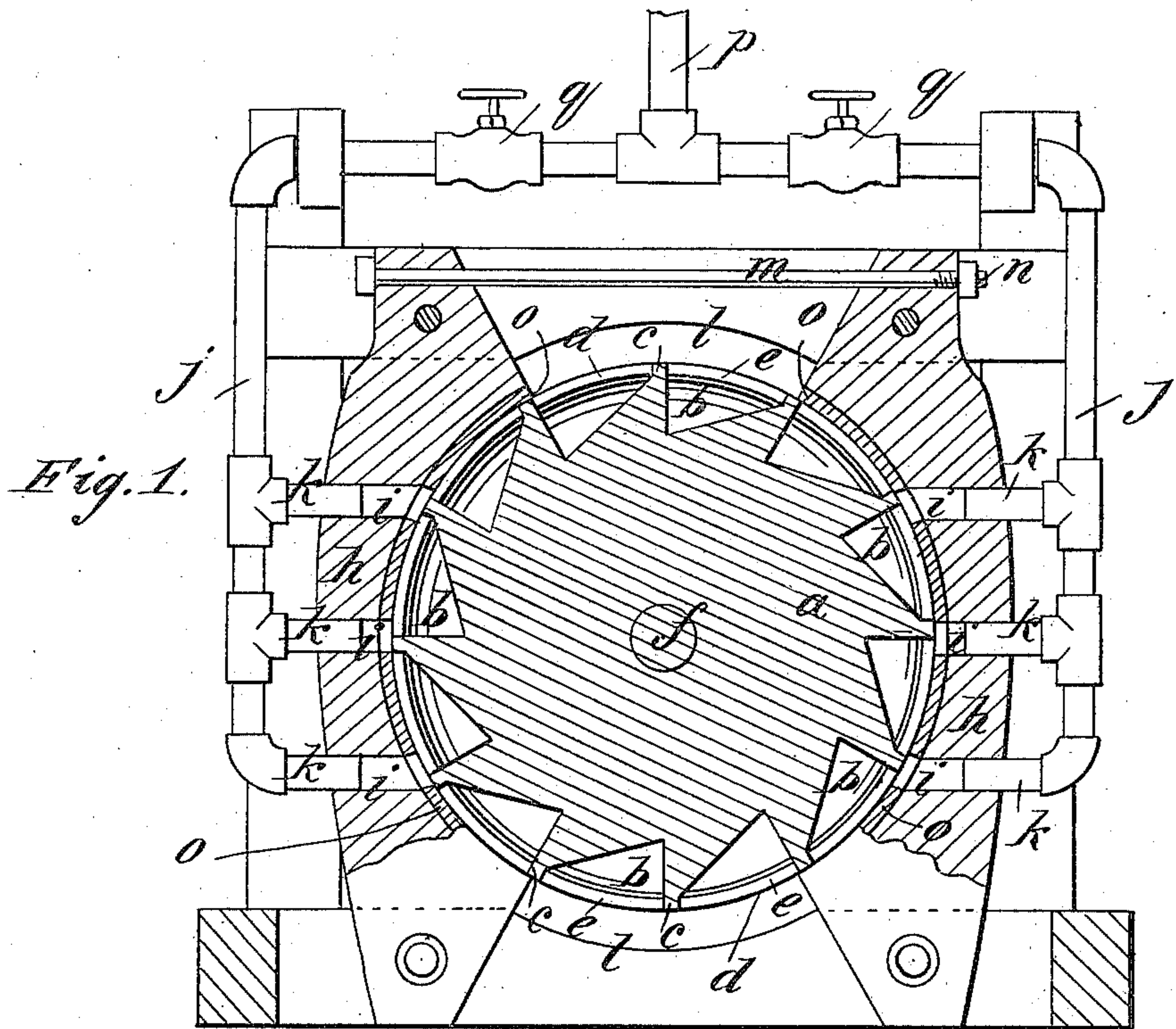


(Model.)

R. POWERS.
STEAM WHEEL.

No. 312,015.

Patented Feb. 10, 1885.



WITNESSES:

Down Twitchell.
C. Sedgwick.

INVENTOR:

R. Powers
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT POWERS, OF CHARLESTON, MISSISSIPPI.

STEAM-WHEEL.

SPECIFICATION forming part of Letters Patent No. 312,015, dated February 10, 1885.

Application filed November 3, 1883. (Model.)

To all whom it may concern:

Be it known that I, ROBERT POWERS, of Charleston, Tallahatchie county, Mississippi, have invented a new and Improved Steam-Wheel, of which the following is a full, clear, and exact description.

My invention relates to that class of rotary engines in which the steam-wheel is provided with cavities within the face, and narrow inlets through the face to said cavities, and a cover having a suitable supply-pipe; and the invention consists in the construction and arrangement of parts, as will be hereinafter described, and specifically set forth in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a transverse sectional elevation of my improved steam-wheel, and Fig. 2 is a horizontal section of the same.

I make a cast-metal disk, *a*, of any approved size, with cavities *b* in the face *d*, separated from each other by the narrow bridges *c*, said cavities being formed mainly below the face *d*, with narrow slit-openings *e* through the face to them. The wheel is mounted on a shaft, *f*, arranged in suitable bearings, *g*, for being revolved freely, and is provided with one or more covers, *h*, fitted to the face steam-tight, and having passages *i*, through which steam is admitted to the cavities from the boiler by pipes *j* and branches *k*. I prefer to have about three inlet-passages *i* to each cover *h*, and to employ two covers, placing the covers opposite to each other; but more or less of the covers and passages may be used, according to the size of the wheel and of the cavities *b*.

I make exhaust-spaces *l* between the covers *h* on opposite sides of the wheel for the escape of the steam after it has done its work, which spaces I arrange at such distance from the last inlet-passage *i* that the exhaust will not open until the cavity has passed entirely beyond the inlet, and said inlet is cut off from the exhaust by the bridge between it and the next cavity.

The covers *h* are to be strongly bolted to the bed-frame in any suitable way, and will be connected by rods *m*, having nuts *n*, to draw them up tight against the face of the disk from time to time, and the covers will be faced with a lining, *o*, of any approved material, to be taken off and refitted when required, and also to be renewed when worn out. Said lining may be flanged over the sides of the covers, as shown in Fig. 2, if desired.

If preferred, the covers may be in the form of a continuous case surrounding the disk, with exhaust-cavities suitably provided in it, and there may be an exhaust-space, *l*, between each inlet *i*, said inlets being located a suitable distance apart for the wheel to take steam and exhaust between each inlet. In this example the main steam-pipe *p* is connected with the covers *h* by branches *j*, through which steam may be admitted by all the inlets *i*, or the steam may be shut off from either side by the stop-valves *q*.

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

1. The combination, with the steam-wheel *a*, having cavities within the face, and narrow inlets through the face thereto, of the covers *h*, secured at their lower ends to the base on opposite sides of the wheel, and connected at their upper ends by a screw-rod and nut, *m n*, and provided, further, with exhaust-spaces *l* between their upper and lower ends on opposite sides of the wheel, and with suitable supply-pipes, *k*, substantially as set forth.

2. The combination, with the steam-wheel *a*, provided with cavities *b e*, and revolving between the covers *h h*, as shown, with the removable lining *o* between said covers and the wheel, said-lining plates being flanged or C-shaped to embrace the face and sides of the covers, substantially as set forth.

ROBERT POWERS.

Witnesses:

H. H. DOGAN,
T. E. SIMMONS.