

S. GLOVER & J. WEST.
GAS TIGHT COAL VALVE.
APPLICATION FILED JAN. 18, 1912.

1,054,195.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.

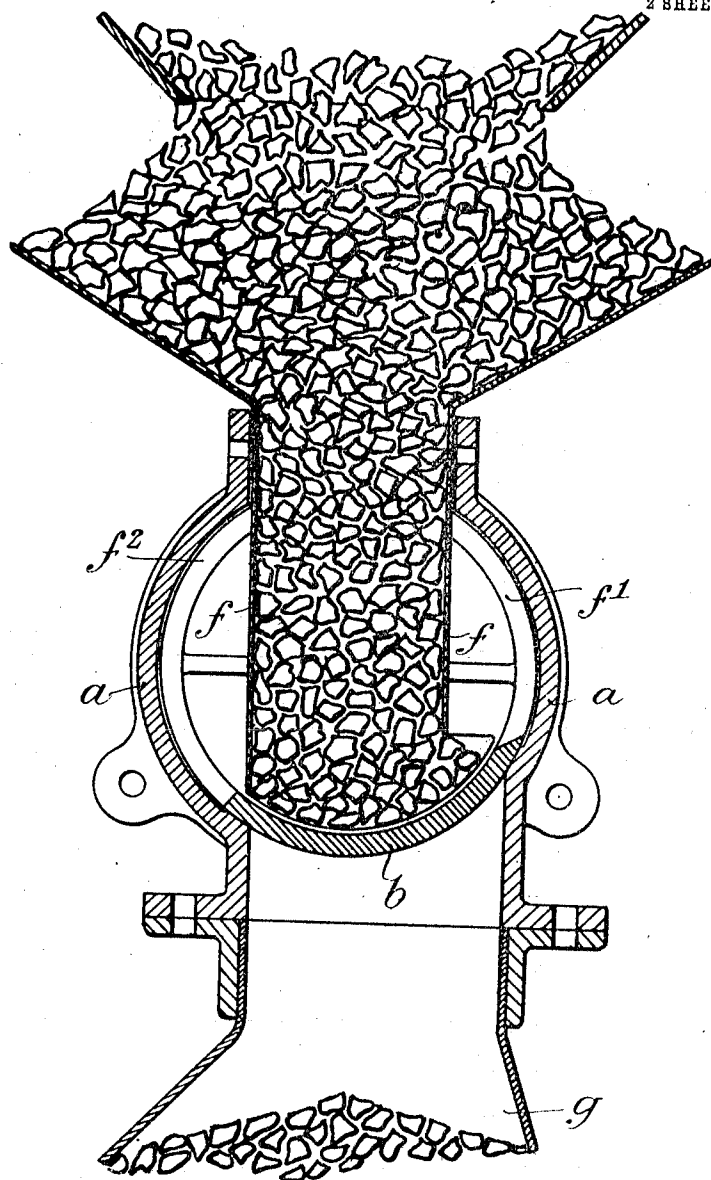


Fig. 1.

WITNESSES:

John C. Sanders,
John A. Percival.

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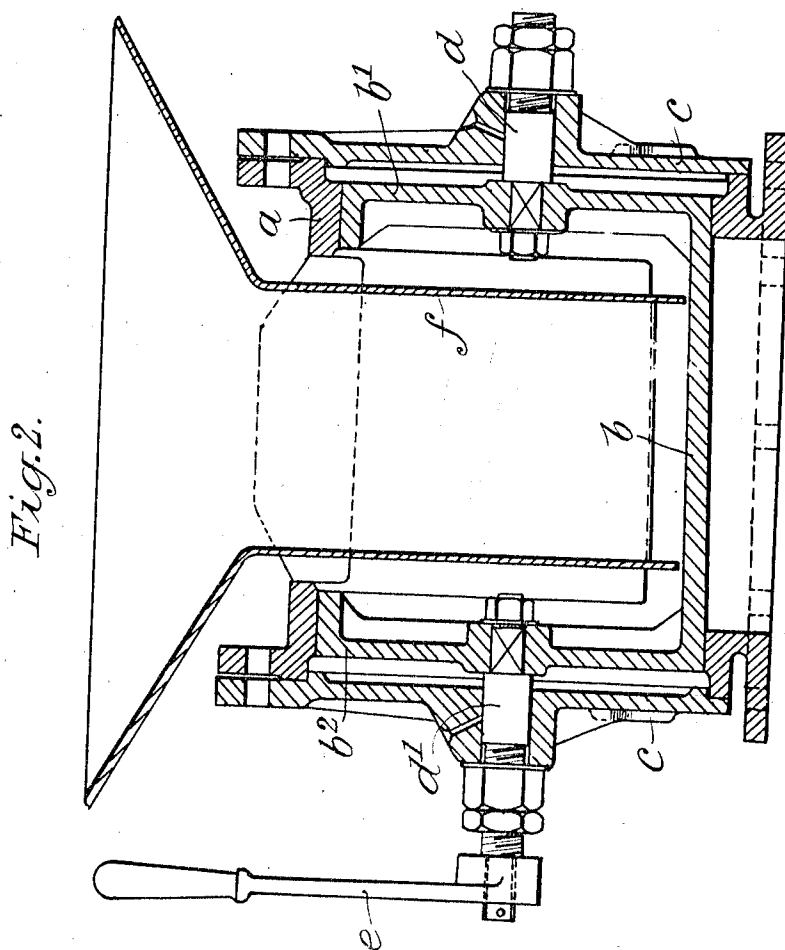


Fig. 2.

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UNITED STATES PATENT OFFICE.

SAMUEL GLOVER, OF ST. HELENS, AND JOHN WEST, OF SOUTHPORT, ENGLAND.

GAS-TIGHT COAL-VALVE.

1,054,195.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed January 18, 1912. Serial No. 672,011.

To all whom it may concern:

Be it known that we, SAMUEL GLOVER and JOHN WEST, subjects of the King of Great Britain and Ireland, whose post-office addresses are "Olivemount," St. Anns, St. Helens, county of Lancaster, and "The Firs," Park Road, Southport, county of Lancaster, England, have invented certain new and useful Improvements in Gas-Tight Coal-Valves, of which the following is a specification.

This invention relates to a gas tight coal valve used in connection with vertical retorts employed for the carbonization of coal, and also for gas producers and the like, and has for its object the construction of the valve in a manner which will insure easy working and when closed will be gas tight, and also the provision of a ready means for adjusting the valve to compensate for wear.

Now according to this invention the valve consists of a segment of a circle working over a segmental port in the lower end of a cylindrical casing into which the coal is fed through a tube that enters the body of the valve, and is extended to a point close to the port, and has the side of the tube on the closing side of the valve shortened to prevent jamming of the coal.

In order to accomplish the object of our invention we construct the body of the valve of a cylindrical form and the valve itself of two disks with a distance plate forming the surface of the valve which makes a gas-tight joint when in contact with the face of the body of the valve. The coal is fed to the valve through a tube which enters the body of the valve and is extended to a point close to the valve except on one side which is shortened for the purpose of preventing the coal being trapped between the valve and its seat when being closed. The valve is pivoted on trunnion centers and is operated by a lever fixed at one end. The valve is made slightly taper to enable a tight joint to be made between it and the body of the valve; the necessary degree of tightness to prevent the escape of gas or the ingress of air is obtained by adjusting nuts on the trunnions.

In order that this invention may be readily understood we shall proceed to describe the same in reference to the accompanying drawings.

Figure 1 is a transverse section of the

valve when closed. Fig. 2 is a longitudinal section of the valve.

Referring to the figures, *a* is the body of the valve, *b* is the valve with end disks *b'* and *b''* which are connected together and form the valve *b*; *c* are the end covers of the valve body which carry the trunnions *d* and *d'*, the latter being provided with a lever *e* which enables the valve to be rotated on its seat in the valve body *a*.

f is a rectangular tube which may be an extension of the coal hopper above or supported from the hopper as shown on the figures. Three sides of the tube *f* are extended to close proximity of the valve *b* but the remaining side is shorter so that when the valve *b* is being closed and its closing edge is passing through the coal there will be no obstruction to trap the coal between the closing edge of the valve and the side of the tube *f*; the coal in front of the closing edge being carried forward into the space *f'* and when the valve is reopened the valve passes into the space *f''* which is always kept free from coal by the extended side of the tube *f*. It is thus possible to open and close the valve with a minimum of exertion as there is no cutting through the coal or jamming as usual with ordinary slide door valves. When fully opened the valve is prevented from being opened too far by it coming into contact with a side of the tube *f* and when closed a stop is provided to bring the valve to rest when closed.

The method of operating the valve is as follows:—Assuming that the valve is closed as in Fig. 1, the coal falls through the tube *f* and rests on the inside surface of the valve *b*. To open the valve it is rotated into the space *f''* by means of the lever *e*, an operation easily performed owing to the valve not having to cut through or jam the coal; the coal will then fall through to the hopper *g* and when the same is supplied the valve is then closed by means of the lever *e* and any coal which is carried forward by the advancing or closing edge of the valve *b* is carried forward without resistance into the space *f'* and this coal thus carried forward will fall through into the hopper *g* on the re-opening of the valve.

What we claim and desire to secure by Letters Patent is:—

In apparatus of the class described, in combination, a cylindrical casing provided

with an outlet port, a hopper communicating with said port, a feed tube extending within said casing and registering with said port, and an arc-shaped valve rotatably mounted within said casing and adapted to be moved into and out of registry with said port to open and close the same, said valve forming a gas-tight joint with the inner surface of said casing when in its closed position, the back and side walls of said tube extending into close proximity with the inner surface of said valve, the front wall of

said tube being shortened to provide a space between the lower edge thereof and the inner surface of the valve, whereby jamming of the fed material as the valve closes, is prevented.

In testimony whereof we have affixed our signatures in presence of two witnesses.

SAMUEL GLOVER.
JOHN WEST.

Witnesses:

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J. W. FAGAN.