

J. F. WHITE.
VALVE.

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1,311,364.

Patented July 29, 1919.

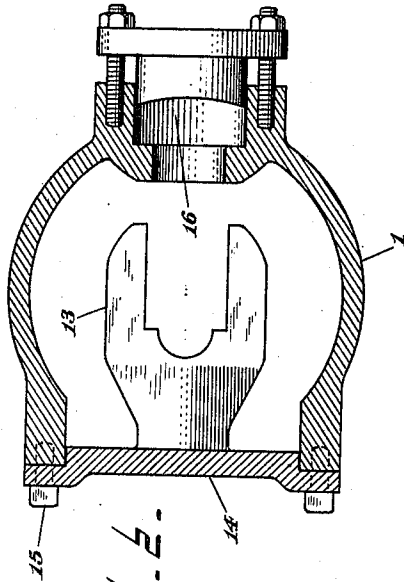


Fig. 2.

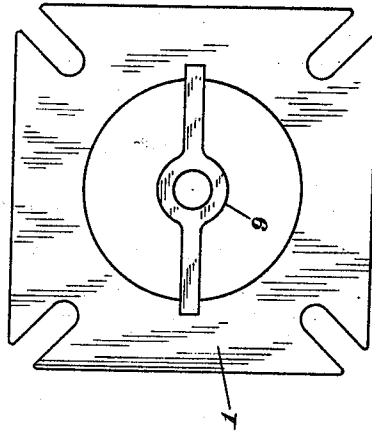


Fig. 3.

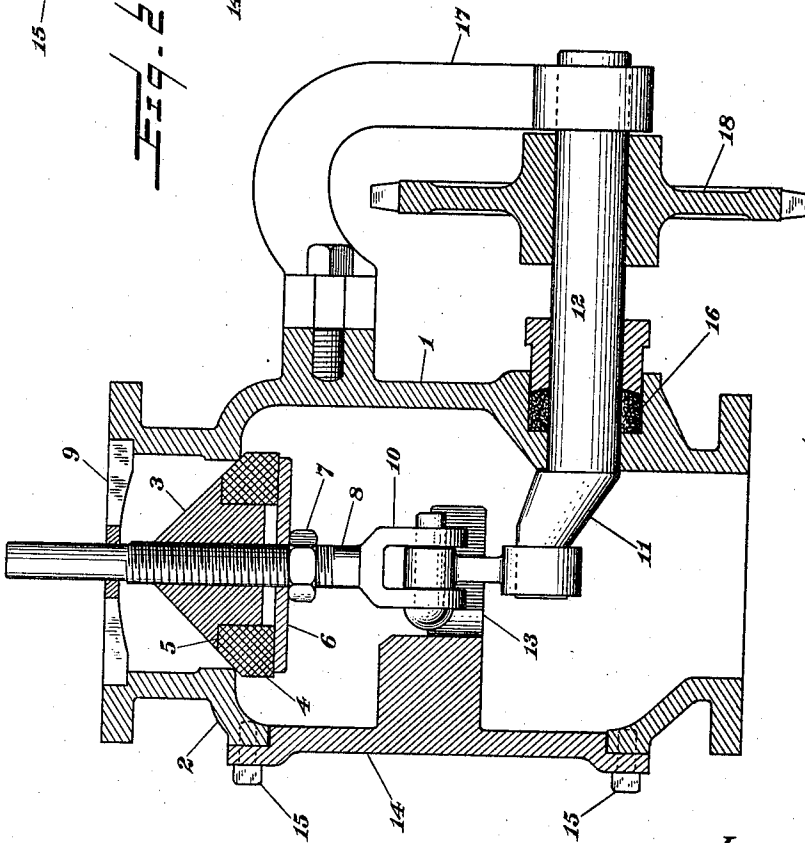


Fig. 1.

Inventor,
J. F. White
By J. Edward Maybee
Atty.

UNITED STATES PATENT OFFICE.

JOHN F. WHITE, OF LONDON, ONTARIO, CANADA.

VALVE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN F. WHITE, of the city of London, in the county of Middlesex, Province of Ontario, Canada, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves used to control the passage of powdered fuel from the source of supply to a furnace, and my object is to devise a simple and effective valve which is not liable to get out of order and in which the working parts are readily accessible without disconnecting the valve.

I attain my object by means of the constructions hereinafter described and illustrated in the accompanying drawings in which

Figure 1 is a longitudinal section of my improved valve;

Fig. 2 a cross section of the same; and

Fig. 3 a plan view of the top of the valve casing.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is the valve casing, near one end of which is formed the valve seat 2. The end at which the valve seat is located is the upper or inlet end of the valve. With the valve seat coöperates a valve disk of conical form with its apex uppermost adapted to engage the valve seat from below. The main part 3 of this valve disk is formed of metal, while the seat engaging part 4 is formed of a soft elastic non-metallic material such as rubber. This seat-engaging portion is annular in form and is held against a shoulder 5 formed on the part 3 by a metal disk 6, which is held in engagement with the rubber ring by means of a nut 7 threaded on the valve stem 8. This valve stem projects both above and below the valve disk, and its upper portion is adapted to slide in a cross bar 9 fitted into the upper end of the casing. The lower end of the valve stem is pivotally connected with the upper end of the connecting rod 10, the lower end of which is pivotally connected with the crank 11 formed on the end of the crank shaft 12 journaled in the side of the casing.

The lower end of the valve stem is guided in the guide 13 extending from one side of the casing. Preferably the guide is formed

on a removable side 14, which is normally secured in position by bolts 15. The valve stem is thus guided so that it is always held in axial alinement despite the side thrust of the connecting rod.

As powdered fuel is usually fed under the action of compressed air, I provide a stuffing box 16 where the crank shaft passes through the side of the casing. The outer end of the crank shaft is carried by a bracket 17 secured to the side of the casing 1. On the crank shaft is secured a sprocket wheel or gear wheel 18 by means of which the shaft may be rotated to adjust the valve.

Owing to the side of the casing being removable, the crank shaft with its crank, the connecting rod, the valve seat and valve are all readily placed in position or removed for repairs without disconnecting the valve from the pipe line in which it is located. As the guide 13 is formed on the removable seat 14, the casing, the side and the guide are all easily cast.

As the seat engaging part of the valve is of soft flexible material, the valve remains perfectly tight when in use.

What I claim as my invention is:—

1. A valve for controlling the flow of pulverulent and granular material comprising a casing having a valve seat formed at one end; a valve disk adapted to engage the seat; a valve stem extending each way from the disk; a guide for the end of the stem adjacent the seat; a removable side for the casing; a guide for the other part of the stem extending from said removable side; and means extending through the side of the casing opposite the removable side for moving the stem to adjust the position of the valve.

2. A valve for controlling the flow of pulverulent and granular material comprising a casing having a valve seat formed at one end; a valve disk adapted to engage the seat; a valve stem extending each way from the disk; a guide for the end of the stem adjacent the seat; a removable side for the casing; a guide for the other part of the stem extending from said removable side; a crank shaft journaled in the side of the casing opposite the removable side; a crank on said shaft within the casing; and a connecting rod pivotally connected to the crank and the adjacent part of the valve stem.

3. A valve for controlling the flow of pul-

verulent and granular material comprising
a casing having a valve seat formed at one
end; a valve disk adapted to engage the
seat; a valve stem extending each way from
5 the disk; a removable side for the casing; a
guide for the lower part of the stem extend-
ing from said removable side; and means ex-
tending through the side of the casing oppo-

site the removable side for moving the stem
to adjust the position of the valve.

Signed at London this 28th day of Sep-
tember 1918.

JOHN F. WHITE.

Witnesses:

M. BLAIR,

J. A. STEVENS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."