U. G. DAVIS.

TWYER SIGHT FOR BLAST FURNACES.

APPLICATION FILED APR. 15, 1908.

911,579. Patented Feb. 9, 1909.

Fig. 1.

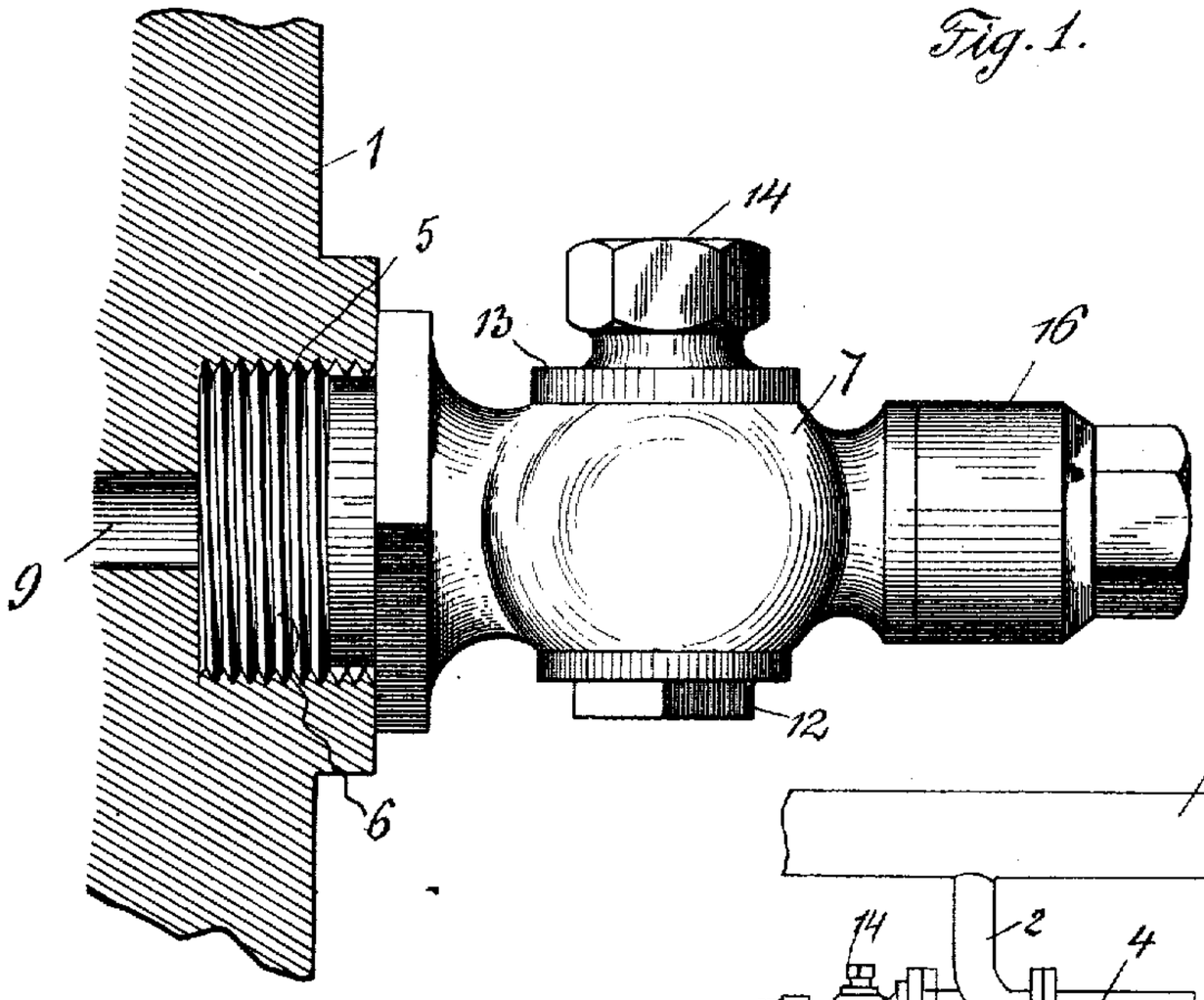
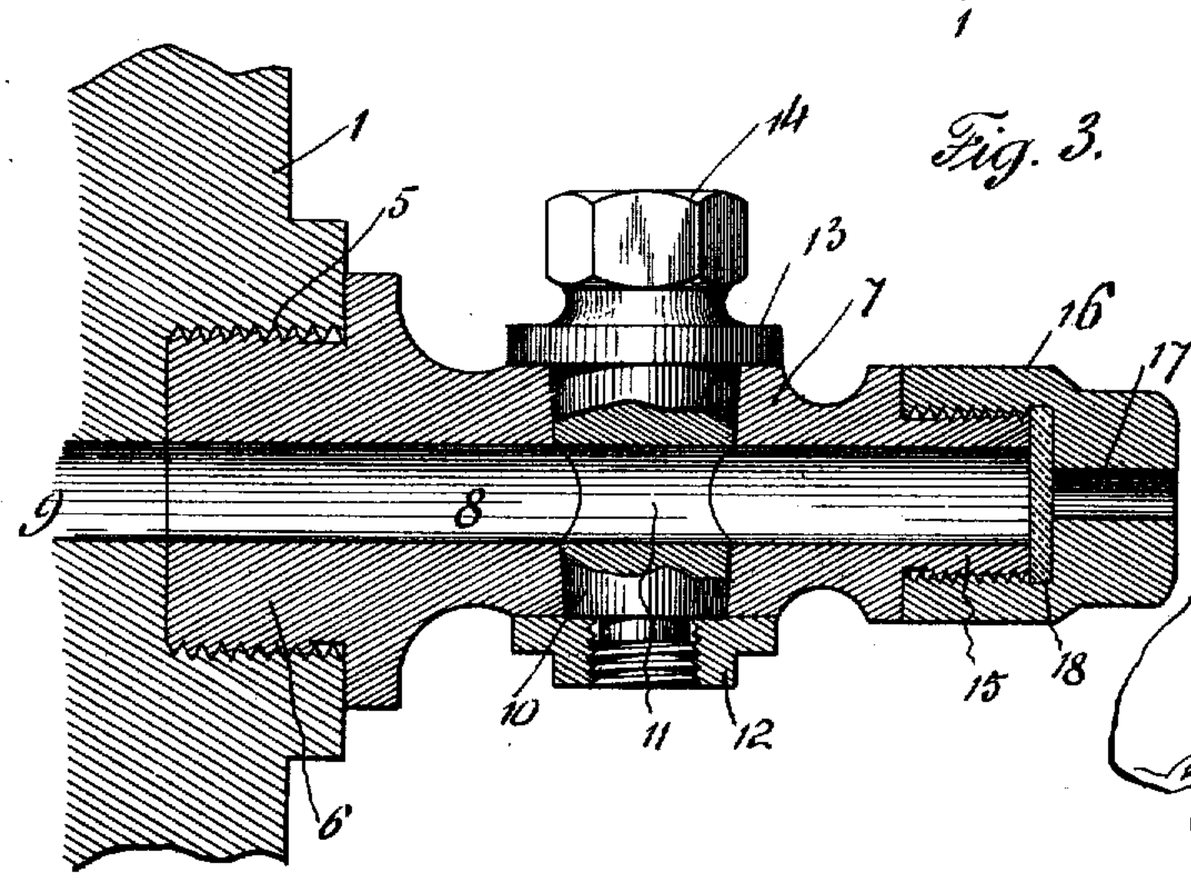
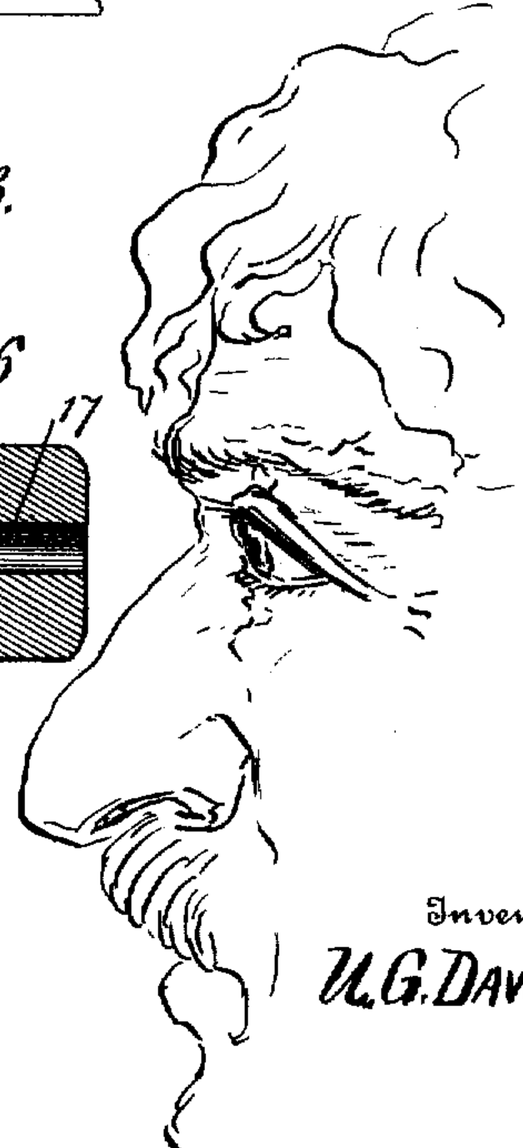


Fig. 2.

Fig. 3.





Inventor:
U. G. DAVIS,

Witnesses
A. H. Rabsag,
C. N. Butler

By H. C. Evert & Co. Attorneys

UNITED STATES PATENT OFFICE.

ULYSSES G. DAVIS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO FRANK BLACKSHERE, OF CARMICHAELS, PENNSYLVANIA.

TWYER-SIGHT FOR BLAST-FURNACES.

No. 911,579. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed April 15, 1908. Serial No. 427,155.

To all whom it may concern:

Be it known that I, ULYSSES G. DAVIS, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Twyer-Sights for Blast-Furnaces, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a twyer sight for blast furnaces, and the primary object of my invention is, to provide a novel sight that can be easily cleaned.

A further object of my invention is to provide a simple and inexpensive device for observing the working of the interior of a blast furnace, while the blast is taking place.

With the above and other objects in view which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described, and then specifically pointed out in the appended claims.

In the drawings:—Figure 1 is a side elevation of my twyer sight, Fig. 2 is a diagrammatic view illustrating the location of the sight with relation to an air blast furnace, and Fig. 3 is a longitudinal sectional view of the sight.

In the accompanying drawings, 1 designates a tee-connection of a branch pipe 2, this pipe connecting with an air blast pipe 3 adapted to supply air under pressure to a plurality of blast furnaces. The tee-connection 1 is provided with a coupling 4 for connecting the tee 1 to a blast pipe that extends into the furnace. Certain improvements upon the coupling 4 form the subject-matter of a companion application. The tee 1 opposite the coupling 4 is provided with a threaded recess 5 to receive the exteriorly threaded nipple 6 of a valve body 7, said valve body having a longitudinally disposed bore 8 alining with the bore 9 of the tee 1.

Revolubly mounted in the valve body 7 is a tapering valve plug 10 having an opening 11 adapted to aline with the bore 8 of the valve body. This plug is retained in the tapering seat of the valve body by a nut 12 secured upon the lower end of the plug. The upper end of the plug is provided with a peripheral flange 13 adapted to rest upon the valve body 7, and with a nut or flat faces 14, whereby the plug can be rotated with a wrench or suitable instrument (not shown).

The valve body 7 is provided with a threaded contracted end 15 for a cap 16 having an opening 17 formed therein adapted to aline with the bore 8 of the valve body. Interposed between the contracted end 15 of the valve body and the cap 16 is an eye-glass 18.

In operation, dust and dirt accumulate in the bore 8 of the valve body and prevent the condition of the blast within the blast furnace from being observed through the opening 17, eye-glass 18 and bore 8. To remove the dirt and dust, the plug 10 is rotated a quarter of a revolution to form a partition between the inner end of the bore and the outer end of the bore. The cap 16 and the eye-glass 18 are then removed. The valve is then opened and the blast of air allowed to blow the dirt and dust out of the bore 8 of the valve body, the blast immediately rushing through the bore 8 and forcing dirt from the contracted end of the valve body upon the valve being opened. After the dirt and dust have been removed, the valve is closed, the eye-glass 18 and the cap 16 placed in position and then the valve opened again. The blast within the furnace can be observed then without any obstructions within the bore 8. Besides dirt and dust accumulating in the bore 8, dirt and dust accumulate upon the eye-glass 18 and obscure the sight, and by the use of the valve, the eye-glass 18 besides the bore 8 can be readily cleaned.

Having now described my invention what I claim as new, is:—

1. A twyer sight comprising a valve casing having a longitudinal bore extending from end to end thereof, said valve casing having a threaded nipple on each end, a plug valve revolubly mounted in said valve casing and having an opening adapted to be turned into and out of registry with the bore in said valve casing, a cap threaded onto the nipple of the outer end of said valve casing and having an opening therethrough alining with the bore in the valve casing, and an eye-glass fitted against the outer end of the valve casing and held thereon by said cap.

2. In combination with a T-connection having a threaded recess in the end of one branch thereof, a twyer sight comprising a valve casing having a threaded nipple on its

inner end to engage the threaded recess of said T-connection and having a threaded nipple on the outer end thereof, said valve casing having a bore extending from end to end thereof, a plug valve revolubly mounted in said valve casing and having an opening therethrough of the same diameter as the bore in the valve casing, a cap fitted on the nipple on the outer end of said valve casing and having an opening therethrough of less diameter than the bore in said valve casing, an eye-glass fitted against the outer end of the valve casing and held in position thereon by said cap.

In testimony whereof I affix my signature in the presence of two witnesses.

ULYSSES G. DAVIS.

Witnesses:
MAX H. SROLOVITZ,
K. H. BUTLER.