T. M. CUNNINGHAM.

SIGHT FOR BLAST FURNACES.

APPLICATION FILED MAY 22, 1911.

1,010,120. Patented Nov. 28, 1911.

Fig. 1.

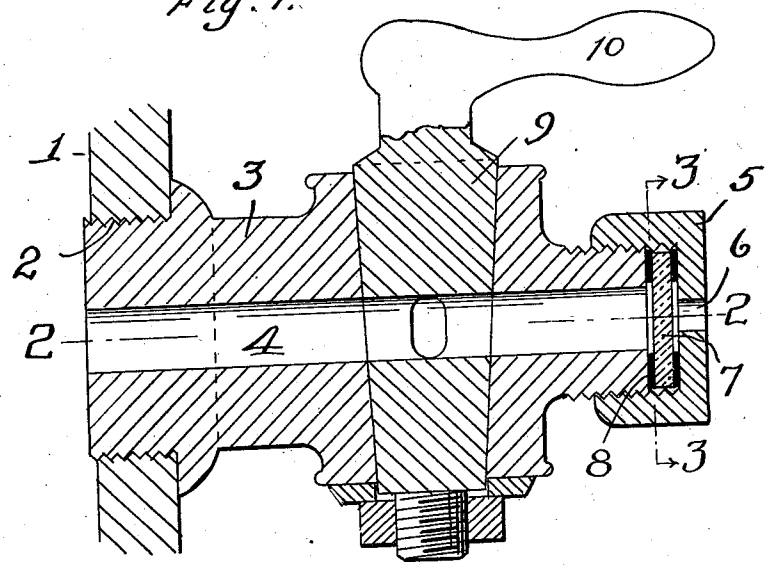


Fig. 3.

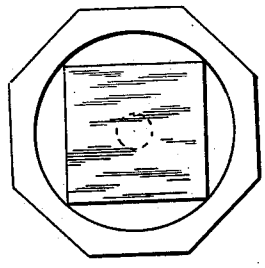
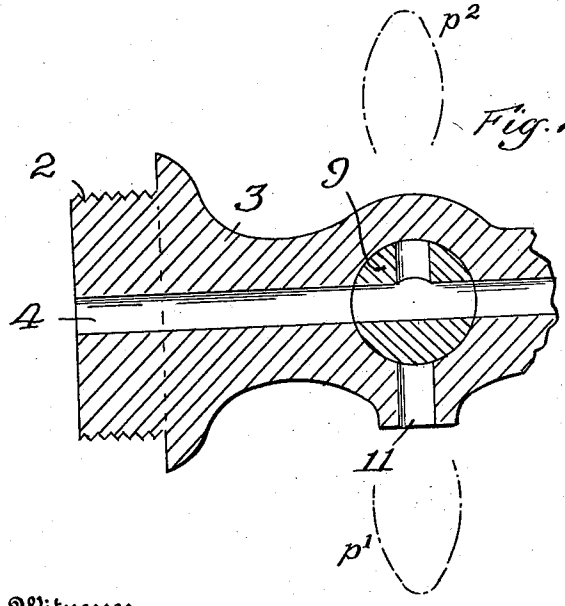


Fig. 2.



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SIGHT FOR BLAST-FURNACES.

1,010,120. Specification of Letters Patent. **Patented Nov. 28, 1911.**

Application filed May 22, 1911. Serial No. 628,883.

To all whom it may concern:

Be it known that I, THOMAS M. CUNNINGHAM, citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Sights for Blast-Furnaces, of which the following is a specification.

This invention relates to improvements in sights for blast furnaces, and the object is to provide a device for attachment to the furnace twyer, whereby a view of the inside of the furnace may be had, and one in which the blast of air may be shut off when desired, as for instance when it is desired to change the glass, or to clean the opening into the twyer.

The invention consists of placing a valve in the casing comprising the sight, whereby the direct passage from the point of vision to the furnace may be closed.

Another object is to provide means for blowing out any obstruction that might collect in the casing, between the valve and the furnace.

The invention is more fully described in the following specification and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a central longitudinal sectional view of my device, applied to the twyer. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a view on line 3—3 of Fig. 1.

The numeral 1 designates the twyer, into which my device is secured by means of a threaded end, 2.

3 designates the casing of the device, which is formed with a longitudinal central opening 4 extending entirely through it, and the forward end of the casing is reduced in diameter and screw-threaded externally. On this end of the casing, I secure a sight cap 5, which is provided with a central opening 6, smaller than the opening in the casing 2, and in line therewith. In this cap, I locate a plate of glass 7, so arranged that it rests against the end of the casing, but between which and the glass I interpose a resilient body 8, preferably of sheet asbestos.

The casing is provided with a plug valve 9, which valve is adapted to turn in the casing by means of an operating handle 10. The valve is formed with a transverse opening passing through the body thereof, and adapted to lie in the path of, and register with the central opening in the casing, when the parts are in normal position, as shown in Fig. 1. When however, it is desired to remove the cap 5 for the purpose of cleaning or replacing the glass 7, the handle of the valve is turned to the position indicated by dotted line p^1, which will place the opening in the valve at right angles to the opening in the casing, and effectually shut off the blast from the outlet. When however it is desired to clean out the passage in the casing, between the valve and the furnace, the handle of the valve is turned to the position indicated by dotted line p^2, which will bring the opening in the casing in register with a right angled side outlet 11, in the valve, which communicates with the transverse opening therein.

It will therefore be seen that with my device, the sight may be repaired at any time without interfering with the furnace blast, as it will be only necessary to close the sight opening or passageway by turning the valve; also, when it is desired to clean out the device, the blast of the furnace may be utilized, by turning the valve in the opposite direction, which will open the passage to the side outlet 11 in the casing.

Having thus described the invention, what I claim and desire to secure by Letters Patent is:—

In a sight for blast furnace twyers, the combination of a casing provided with means for attaching it to the twyer and having a central longitudinal opening therethrough, the forward end of the casing being reduced in diameter and screw-threaded externally; said casing having a side outlet communicating with the longitudinal opening; a plug valve located in the casing and provided with a transverse opening through its body and a side outlet from said opening; a cap adapted to screw onto the end of the casing; a glass interposed between the cap and the end of the casing; a resilient body on both sides of the glass; said cap having a central opening in line with the central opening in the casing.

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

THOS. M. CUNNINGHAM.

Witnesses:

CLARA E. YOUNG,

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