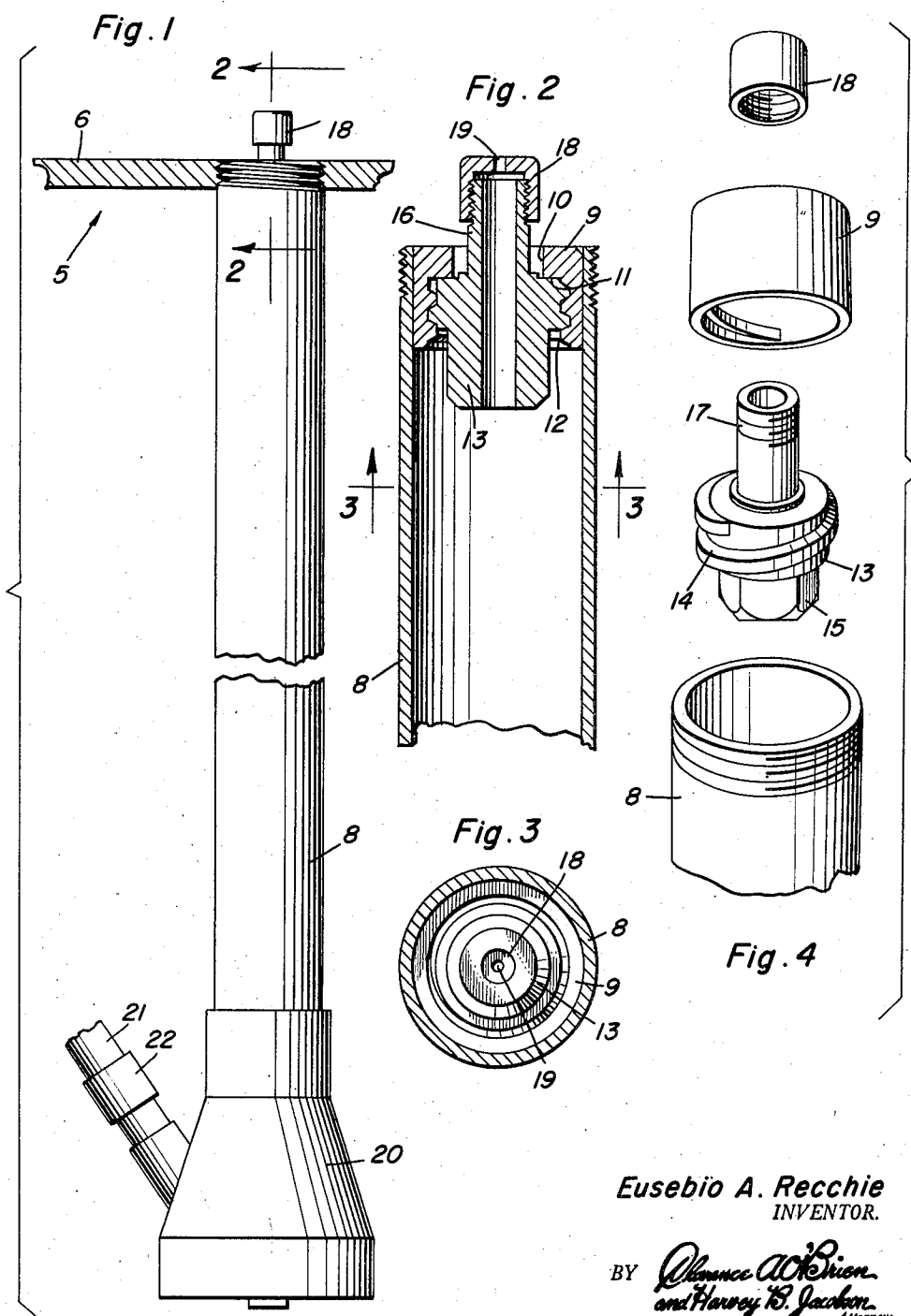


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NOZZLE FOR COKE OVENS

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## NOZZLE FOR COKE OVENS

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1 Claim. (Cl. 202—151)

The present invention relates to new and useful improvements in nozzles generally and more particularly to a nozzle assembly for coke ovens.

An important object of the invention is to provide a nozzle assembly which may be easily and quickly removed for cleaning purposes as well as for adjustment of the nozzle tip.

Another object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purpose for which the same is intended.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary sectional view of a heating wall of a coke oven showing one of the nozzle assemblies mounted therein;

Figure 2 is an enlarged fragmentary longitudinal sectional view taken on a line 2—2 of Figure 1;

Figure 3 is a transverse sectional view taken on a line 3—3 of Figure 2; and,

Figure 4 is a group view of the nozzle assembly.

Referring now to the drawing in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of invention, the numeral 5 designates the wall of a coke oven. A pipe 8 is externally threaded at each end for threading one end of the pipe into the plate 6 and the heating system for the coke oven includes a battery of the pipe 8.

A hollow plug 9 is welded or otherwise suitably secured in the inner end of pipe 8. The bore 10 of the plug 9 is formed with an internal front end shoulder 11 and rearwardly of the shoulder the bore is internally threaded with relatively coarse quick feeding threads 12.

An orifice cap 13 is formed with external relatively coarse threads 14 for threaded engagement with the threads 12 of plug 9 and the rear end of the orifice cap is formed with a reduced hexagonal wrench engaging head 15. The front end of the orifice cap 13 engages

2

said shoulder and is formed with a tubular extension 16 which projects outwardly of the plug 9 in spaced relation to the shoulder 11 and is externally threaded, as shown at 17, to receive a threaded tip 18 spaced forwardly of the shoulder 11 and having a central reduced orifice 19 and which is smaller in diameter than the internal diameter of the shoulder 11 to pass through the plug 9.

A Y-reducer 20 is threadedly connected to the outer end of the pipe 8 and a supply line 21 is connected to the reducer by a union 22.

When it is desired to remove the nozzle from the pipe 8 for cleaning or adjustment the reducer 20 is removed and a suitable tool, such as a long handled wrench (not shown) is inserted through the rear end of the pipe 8 to engage the hexagonal head 15 to withdraw the orifice cap 13 rearwardly through the pipe.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A nozzle assembly for coke ovens comprising in combination a fuel pipe externally threaded at one end for screw threaded connection to a coke oven wall, a hollow plug fixed in said threaded end of the fuel pipe and having an internal annular front end shoulder and being internally threaded rearwardly of said shoulder, an orifice member threaded into said plug against said shoulder, said member having a reduced tubular front end extension projecting forwardly out of said plug and provided with a tip threaded thereon and having a fuel discharge orifice, said member having a reduced rear end polygonal portion forming a wrench hold for unscrewing said member rearwardly out of said plug, said tip and tubular extension being reduced in diameter as compared with the internal diameter of said shoulder to pass rearwardly out of said plug, said threads being coarse quick-feeding for quick unscrewing of said member.

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