July 20, 1926. 1,593,542

S. D. SHOEMAKER

DEVICE FOR CLEANING SCALE FROM ATMOSPHERIC CONDENSER PIPES

Filed Feb. 15, 1924

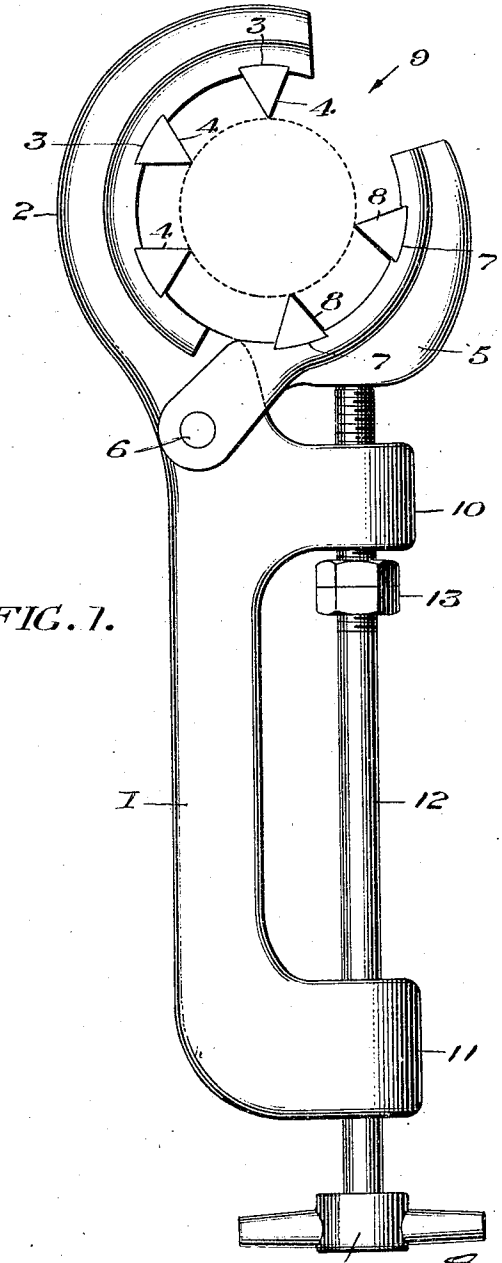


FIG. 1.

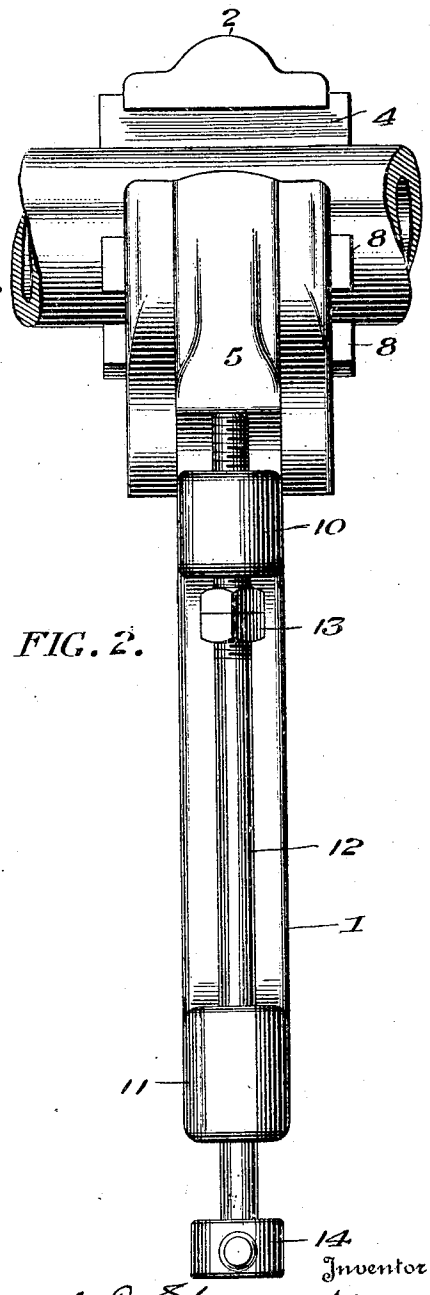


FIG. 2.

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Patented July 20, 1926. 1,593,542

UNITED STATES PATENT OFFICE.

SAMUEL D. SHOEMAKER, OF PORTSMOUTH, OHIO, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO GEORGE W. SHEPPARD, OF PORTSMOUTH, OHIO.

DEVICE FOR CLEANING SCALE FROM ATMOSPHERIC-CONDENSER PIPES.

Application filed February 15, 1924. Serial No. 693,146.

This invention relates to a device for cleaning scale from atmospheric condenser pipes.

As a rule the pipes of all condensers of this type are closely nested and lie parallel to each other thereby leaving little room for the manipulation of a tool of this character.

The object of my invention is to produce a cleaner of this type which can be operated in comparatively small space and one which is adjustable to different pipes.

In the accompanying drawings:

Figure 1 is a side elevation of the improved device; and

Fig. 2 is an edge view thereof.

The numeral 1 indicates the body portion the upper end 2 of which terminates in a circular jaw. Arranged on the inside of the jaw 2 are a plurality of transverse grooves 3 in which are received the triangular-shaped scrapers 4. The numeral 5 indicates a jaw pivoted as at 6 to the body portion 1. This jaw likewise is provided with a plurality of grooves 7 which are adapted to receive a plurality of triangular-shaped scrapers 8. The jaws 2 and 5 do not form a continuous circle there being an opening 9 between the outer ends thereof which permit the scraper to be applied to the pipe. Extending laterally from the body portion 1 are the lugs 10 and 11. The lug 10 is screw-threaded to receive an adjusting screw 12, the inner end of which engages the pivoted jaw 5 whereby the said jaw may be adjusted relative to the diameter of the pipe to force the scrapers through the scale of the pipe. Lock-nuts 13 are arranged back of the lug 10 to regulate the forward movement of the adjusting screw 12. The outer end of the adjusting screw 12 is provided with a knot or handle 14.

In use the adjusting screw 12 is turned back whereupon the jaw 5 is opened up sufficiently to pass around the pipe after which the said screw is moved forwardly forcing the jaw 5 into contact with the pipe and compressing the scrapers against the periphery of the pipe. In this particular construction there are five spaces at equal distance around the inner circumference of the jaws 2 and 5. Therefore, with one-fifth of a revolution the scrapers will contact with the entire outer surface of the pipe. By pressing to the right or left in the act of rotating the tool the latter will move longitudinally on the pipe scraping the entire surface.

From the above it will be seen that I have devised a scraper adapted for the use specified and one which consists of comparatively few parts and is very effective when in operation. It is obvious that more or less slight changes may be made in the actual structure of this device without departing from the general scope of the invention and I do not wish to be limited to the exact structure shown.

I claim:

1. A scale removing tool including a body portion terminating at one end thereof in a segmental scraping jaw, a cooperating scraping jaw pivoted to said body portion at the base of said segmental jaw, and scrapers carried by said jaws.

2. A scale removing tool including a body portion forming a handle terminating at one end thereof in an integral scraping jaw, a cooperating segmental scraping jaw pivoted to said body portion at the intersection between said first-mentioned jaw and the handle, and scrapers carried by said jaws.

3. A scale removing tool including a body portion forming a handle terminating at one end thereof in an integral scraping jaw, a cooperating segmental scraping jaw pivoted to said body portion at the intersection between said first-mentioned jaw and the handle, one of said jaws being of greater circumferential length than the other to form a hook jaw, and scrapers carried by said jaws.

4. A scale removing tool including a body portion terminating in a jaw, a movable jaw pivoted thereto and having a flattened portion on the back face thereof, scrapers carried by said jaws, lugs extending outwardly from the body portion, and an adjusting screw arranged substantially parallel with the body portion and extending through the lugs in position to engage the flattened portion on the back face of the movable jaw for adjusting said movable jaw relative to the first mentioned jaw, said body portion and screw forming a handle for operating and manipulating the scale removing tool.

In testimony whereof I affix my signature.

SAMUEL D. SHOEMAKER.