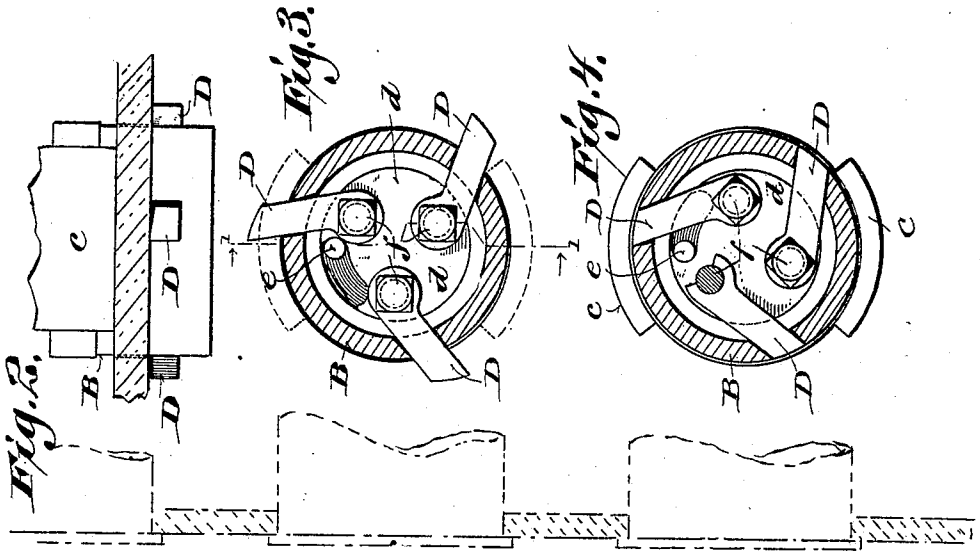
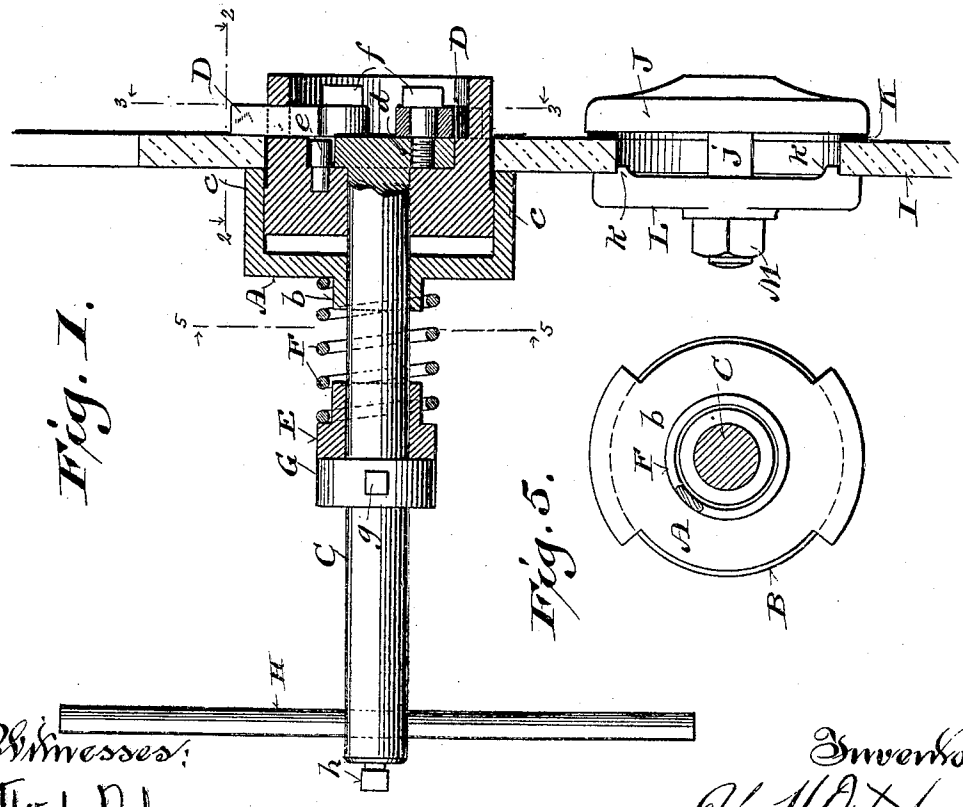
No. 824,377. PATENTED JUNE 26, 1906.

J. H. OPTENBERG.

GASKET REMOVING TOOL.

APPLICATION FILED MAR. 12, 1906.







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# UNITED STATES PATENT OFFICE.

JOHN H. OPTENBERG, OF SHEBOYGAN, WISCONSIN.

## GASKET-REMOVING TOOL.

No. 824,377. Specification of Letters Patent. Patented June 26, 1906.

Application filed March 12, 1906. Serial No. 305,443.

*To all whom it may concern:*

Be it known that I, JOHN H. OPTENBERG, a citizen of the United States, and a resident of Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented certain new and useful Improvements in Gasket-Removing Tools; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in certain peculiarities of construction and combination of parts constituting the tool herein shown, described, and claimed, the object of said invention being to economize time and expense in the removal of old packing-gaskets adherent to heads of water-tube boilers adjacent to the clean-out openings that are in line with the tubes and normally closed by water-tight caps, each cap comprising a disk that is drawn tight against a packing-gasket interposed between it and the adjacent boiler-head.

Figure 1 of the accompanying drawings represents a partly-longitudinal sectional view of a tool in accordance with my invention in position to remove an old packing-gasket adherent to a head of a water-tube boiler, said view being indicated by lines 1 1 in Fig. 3; Fig. 2, a view of a fragment of the tool in the position aforesaid, the boiler-head being in horizontal section on the plane indicated by line 2 2 in Fig. 1; Fig. 3, a partly-transverse sectional view of the tool on the plane indicated by line 3 3 in Fig. 1; Fig. 4, a view similar to Fig. 3, except that the cutters of the tool are retracted; and Fig. 5, a partly-transverse section of the tool on the plane indicated by line 5 5 in Fig. 1.

Referring by letter to the drawings, A indicates a hub that is preferably in the form of a plate having a central boss *b* in one direction and segmental flanges *c* in the opposite direction therefrom, the flanges themselves being diametrically opposite one another. Loose in the hub is a circular block B, having a central bore enlarged at its inner end to form recesses of different diameters, the one of least diameter serving as a seat for the annular head *d* of a spindle C, that extends rearward through the boss of said hub. The rim of said head is circumferentially notched, and a stop-pin *e* engages the notch to limit rotary play of the spindle in either direction.

Engaging the spindle-head at suitable intervals apart are pivot-bolts *f* for cutters D, that are retractive within the larger recess of the block B and extend through tangential openings in the adjacent wall portion of said block to be flush within the same or back of the periphery thereof when retracted.

Loose on the spindle C is a shouldered sleeve E, and surrounding the hub-boss *b* and reduced end of the sleeve is a spiral spring F, the tension of which is regulated by the adjustment of said sleeve and a stop-collar G for the same, the collar being provided with a set-screw *g*, by which it is made fast in adjusted position on said spindle.

Extending through a transverse aperture in the spindle is a handle-rod H, and a set-screw *h* is arranged in the outer end of said spindle to hold the handle in adjusted position. However, any suitable turning device may be employed in connection with the spindle.

In Fig. 1 is shown a fragment I of a water-tube boiler-head having clean-out openings in line with ends of tubes, fragments of these tubes and that of a plate to which they are connected being illustrated by dotted lines. Each clean-out opening is usually closed by a cap comprising an inner disk J, impinging a packing-gasket K between it and the boiler-head I, a central stem *j* of the disk being extended through an outer disk L, having studs *k* fitting the aforesaid opening, and compression of the gasket is had by the draw of a nut M run on the screw-threaded end of said stem against said outer disk. The spindle of the tool having been turned to retract the cutters, the preferably protruding block portion of said tool is engaged with a clean-out opening of the boiler-head. This being done, the hub of the tool is stopped against the boiler-head, and by pressure against spring resistance the block of said tool is moved far enough in the clean-out opening to obtain clearance for the cutters, after which the spindle is turned in the proper direction to shoot said cutters into working position. Continued turning of the spindle in the direction aforesaid results in the cutting away of the old packing material adhering to the boiler-head when the clean-out opening, now engaged by the tool, was uncapped. During the operation of the tool to remove the packing material as aforesaid the spring of said tool is expanding to gradually retract the block of same, and thereby keep the cutters working on said material. The operation being completed, the spindle is turned in the reverse direction to retract the

cutters and permit withdrawal of the tool from the opening aforesaid.

I claim—

1. A tool comprising a hub, a recessed block loose in the hub, a turning spindle extending through the block and hub, cutters in pivotal connection with the spindle and guided in tangential openings of an adjacent wall portion of said block, means limiting independent rotary movement of said spindle in either direction, and a spring arranged to resist thrust of the aforesaid block and spindle from normal position.

2. A tool comprising a hub, a recessed block loose in the hub, a turning spindle extending through the block and hub, cutters in pivotal connection with the spindle and guided in tangential openings of an adjacent wall portion of said block, means limiting independent rotary movement of said spindle in either direction, a spring arranged to resist thrust of said block and spindle from normal position, and means for tensioning the spring.

3. A tool comprising a hub, a recessed block loose in the hub, a turning spindle extending through the block and hub, cutters in pivotal connection with an inner head of the spindle and guided in tangential openings of an adjacent wall portion of the block, a stop in connection with said block engaging a circumferential notch in the periphery of the spindle-head, and a spring arranged to resist thrust of the aforesaid block and spindle from normal position.

4. A tool comprising a hub, a recessed block loose in the hub, a turning spindle extending through the block and hub, a sleeve and set-collar on the spindle, a spiral spring between the hub and sleeve, cutters in pivotal connection with said spindle and guided in tangential openings of an adjacent wall portion of said block, and means limiting independent rotary movement of the aforesaid spindle in either direction.

5. A tool comprising a hub, a recessed block loose in the hub, a spindle extending through the block and hub, a handle in adjustable connection with the spindle transversely of the same, cutters in pivotal connection with said spindle and guided in tangential openings of an adjacent wall portion of said block, means limiting independent rotary movement of the aforesaid spindle in either direction, and a spring arranged to resist thrust of the block and spindle from normal position.

In testimony that I claim the foregoing I have hereunto set my hand, at Sheboygan, in the county of Sheboygan and State of Wisconsin, in the presence of two witnesses.

JOHN H. OPTENBERG.

Witnesses:
FELIX BENFEY,
OLGA PISAR.