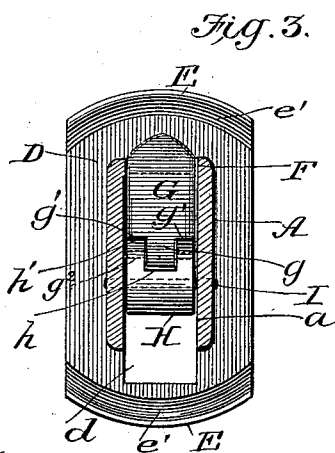
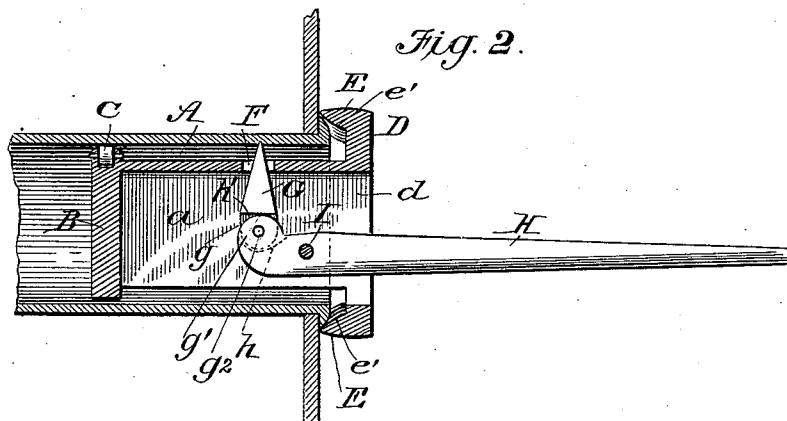
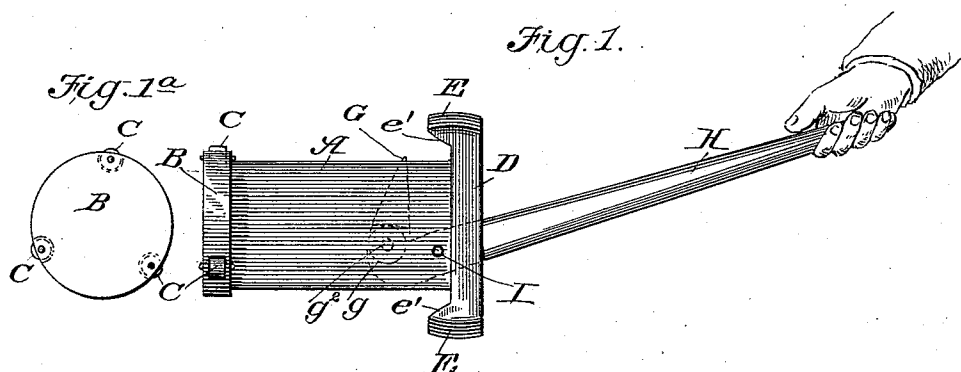


(No Model.)

P. DIXON.
FLUE CUTTER.

No. 564,056.

Patented July 14, 1896.



WITNESSES:

Jos. A. Ryan
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UNITED STATES PATENT OFFICE.

PATRICK DIXON, OF BLOOMINGTON, ILLINOIS.

FLUE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 564,056, dated July 14, 1896.

Application filed October 5, 1895. Serial No. 564,744. (No model.)

To all whom it may concern:

Be it known that I, PATRICK DIXON, of Bloomington, in the county of McLean and State of Illinois, have invented an Improved
5 Flue-Cutter, of which the following is a specification.

This invention is an improved tube or flue cutter, the object being to devise a simple tool for cutting off the ends of a flue or tube
10 of a stationary or locomotive steam-boiler upon the inside of the flue-sheet.

Another object is to provide a tool of this class which shall be exceedingly cheap and simple in construction, and one which, on account of the peculiar construction and arrangement of the parts, will be exceedingly
15 durable and not liable to fracture on account of strain placed thereon.

With these objects in view my invention
20 consists in the peculiar construction of the various parts and their novel combination or arrangement, all of which will be fully described hereinafter, and pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a side view of my improved cutter. Fig. 1^a is an end view. Fig.
25 2 is a vertical longitudinal section. Fig. 3 is a transverse section.

In carrying out my invention I employ a stock or body portion A, which is slotted longitudinally, as shown at *a*, and is closed at its inner ends by means of a circular plate or disk B, carrying friction-rollers C upon
30 its periphery. The head or collar D is formed upon the outer end of the stock or body portion and is provided with an inwardly-projecting flange E, the edges of which are undercut, as shown at *e'*. The head or collar
35 D is slotted, as shown at *d*, which slot or opening communicates with the longitudinal slot or opening in the stock or body portion. The stock or body portion is also provided with an opening F in the top thereof, through
40 which opening moves a cutter G, which cutter is pivotally attached to the inner end of a lever H, said lever being fulcrumed upon

a pin or bolt I, passing through the stock or body portion near the outer end of the same.

The inner end of the cutter is formed with
50 a tongue *g*, which fits in a groove *h* in the inner end of the lever H, and at said end of the lever H the sides of the groove or recess are raised, as shown at *h'*, upon which the shoulders *g* of the cutter bear. The cutter
55 and lever are pivotally connected by means of a bolt *g*².

The purpose of constructing the cutter with a tongue and the lever with a groove is to provide a double bearing for the cutter,
60 namely, the top of the lever and the bottom of the groove, and by this means all strain is relieved from the pivotal bolt *g*², and thus straining at this point is avoided.

By means of the friction-rollers upon the
65 inner end of the stock said stock can be easily revolved within the tube whenever desired.

By having the flange of the collar undercut, as shown, the end of the flue will fit
70 snugly under said flange and against the head or collar, thus forming a rigid bearing during the operation, and, furthermore, the cut is made more uniform.

Now in operation, when it is desired to cut
75 off the flue-sheet, my improved cutter is inserted in the end of said tube. The lever is then operated and forces the cutter through the tube from the inside. The lever is then operated to withdraw said cutter, turn the
80 device within the tube, and then the cutting operation is repeated, as before described. These operations are continued until the flue has been severed from the flue-sheet, and in practice I have found the tool as particularly
85 adapted to this class of work, inasmuch as it saves all further labor upon said tubes in case it is desired to use them over again.

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

In a flue-cutter, the combination, of the stock slotted longitudinally, and having a circular inner end, provided with friction-

rollers, a head or collar upon the outer end, said head or collar having a flange with undercut edges, and the lever pivoted within the stock, and having a recess at its inner
5 end, and the cutter pivoted to the inner end of said lever, and adapted to be projected through an opening in the top of the stock, said cutter having a tongue upon its inner end, which fits into the groove or recess, in

the inner end of the lever, and means for 10 connecting said lever and cutter, substantially as and for the purpose specified.

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

PATRICK DIXON.

Witnesses:

JOHN DIXON,
ARTHUR SCANLAN.