No. 818,213. PATENTED APR. 17, 1906.

D. W. AMOS & C. H. JONES.

FLUE OR TUBE CUTTER.

APPLICATION FILED JULY 11, 1905.

Fig. 1.

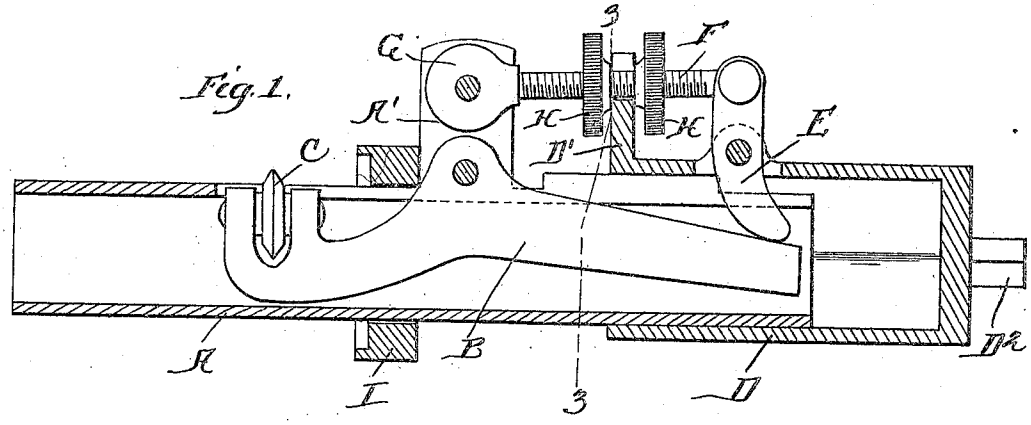


Fig. 2.

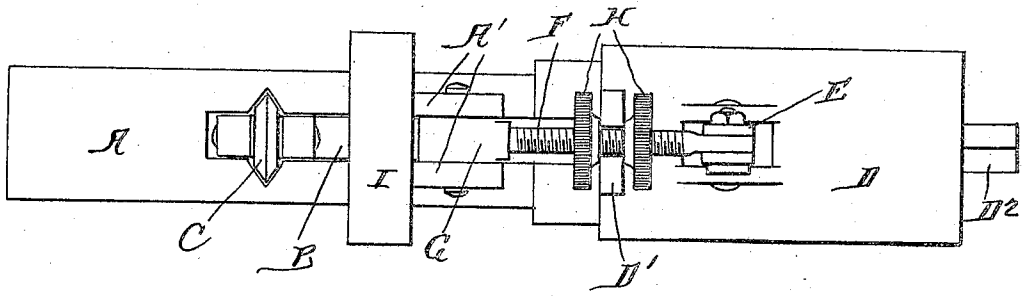
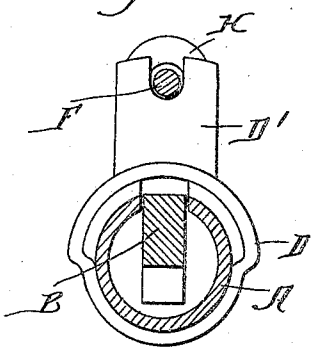


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL W. AMOS AND CHARLES H. JONES, OF SAXTON, PENNSYLVANIA.

FLUE OR TUBE CUTTER.

No. 818,213. Specification of Letters Patent. Patented April 17, 1906.

Application filed July 11, 1905. Serial No. 269,178.

To all whom it may concern:

Be it known that we, DANIEL W. AMOS and CHARLES H. JONES, citizens of the United States, residing at Saxton, county of Bedford, and State of Pennsylvania, have invented a certain new and useful Improvement in Flue or Tube Cutters, of which the following is a specification.

Our invention relates to a new and useful improvement in flue or tube cutters, and has for its object to provide a new, novel, and effective means for easily and speedily cutting flues or tubes in boilers.

With this end in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal section through our improved device; Fig. 2, a plan view of the device; Fig. 3, a section taken on the line 3 3 of Fig. 1.

A represents a tube or tubular portion of the device, which is provided about midway its length with two ears A′, extending upward therefrom, between which ears is pivoted a lever B, and journaled in the forward end of said lever is the cutting-tool C, which is in the shape of a double-beveled disk. The tube A is slotted upon its upper side to conform to the shape of the lever B and allow the cutting-tool C to protrude beyond the periphery of the same.

D is a sleeve closed at its rearward end adapted to slip over the rearward end of the tube A, and the tube A is provided at its rearward end with a feather or enlargement over which the sleeve D extends to prevent the sleeve D and tube A from turning relative to one another.

E is a cam-lever which is pivoted intermediate of its two ends to the sleeve D and extends downward through an opening formed in the sleeve through the slot in the tube A, and the lower end of the cam-lever bears against the rearward end of the lever B. This lower end of the cam-lever is curved toward the rear, so that when it is pushed forward it will bear downward upon the rearward end of the lever B, and therefore raise the cutting-tool at the forward end of the lever B a greater distance beyond the periphery of the tube A. The upper end of the cam-lever E is pivotally connected to a rod F, the other end of the rod being secured into a block G, pivoted between the ears A′, secured to the tube A. Knurled nuts H are secured to the rod F each side of the extension D′, extending upward from the sleeve D, so that by turning the nuts H the lower end of the cam-lever E will be gradually moved forward, thus raising the cutting-tool, and if the whole device is revolved by means of a wrench or crank placed upon the squared end D^2, extending from the end of the sleeve D, the tube or flue will be cut. The nuts H are turned in the opposite direction to lower the cutting-tool.

When this device is used and turned by hand, the nuts H afford the means for feeding the cutter; but when the device is used in connection with power the motor which revolves the device will also have a screw-feed which will press against the sleeve and gradually force the same forward along the tube A, and as the upper surface of the rearward end of the lever B inclines upward toward the pivot the cam-lever will gradually depress this rearward end of the lever B and feed the cutter upward at the same time the device is being rotated.

I is a collar adapted to be slipped on the forward end of the tube A to limit the distance the cut is made from the end of the tube or flue.

It will thus be seen that we have provided a simple but efficient and durable tool which will cut flues or tubes quickly and effectively, and the parts being few in number will be specially strong, and the whole device will be positive in its working and will not easily get out of order

Having thus fully described our invention, what we claim as new and useful is—

In a device of the character described, a tubular portion, the forward end of which is adapted to be inserted within the flue or tube to be cut, means for limiting the depth of the insertion, two ears extending upward from the tubular portion a distance apart, a lever pivoted between the two ears and lying within the tubular portion, the tubular portion being slotted the length of the lever and in conformity to the shape of the same, a rotary cutting-tool journaled in the forward end of said lever and adapted to protrude beyond

the periphery of the tubular portion, a sleeve adapted to slide over the rearward end of the tubular portion, a cam-lever pivoted intermediate of its two ends to the sleeve, the lower end of the cam-lever being curved rearwardly and bearing against the upper surface of the rearward end of the cutting-tool lever so that when the lower end of the cam-lever is forced forward the rearward end of the lever will be depressed, a screw-threaded rod pivoted to the upper end of the cam-lever, the other end of the rod pivoted between the ears extending upward from the tubular portion, an extension extending upward from the sleeve, nuts threaded upon the screw-threaded rod each side of said extension, and a wrench-hold formed upon the outer end of the sleeve, as and for the purpose specified.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

DANIEL W. AMOS.
CHARLES H. JONES.

Witnesses:
L. S. RAMSEY,
W. L. GIBLONEY.