(No Model.)

N. BOND.

TUBE CUTTER.

No. 342,570. Patented May 25, 1886.

Fig. 1.

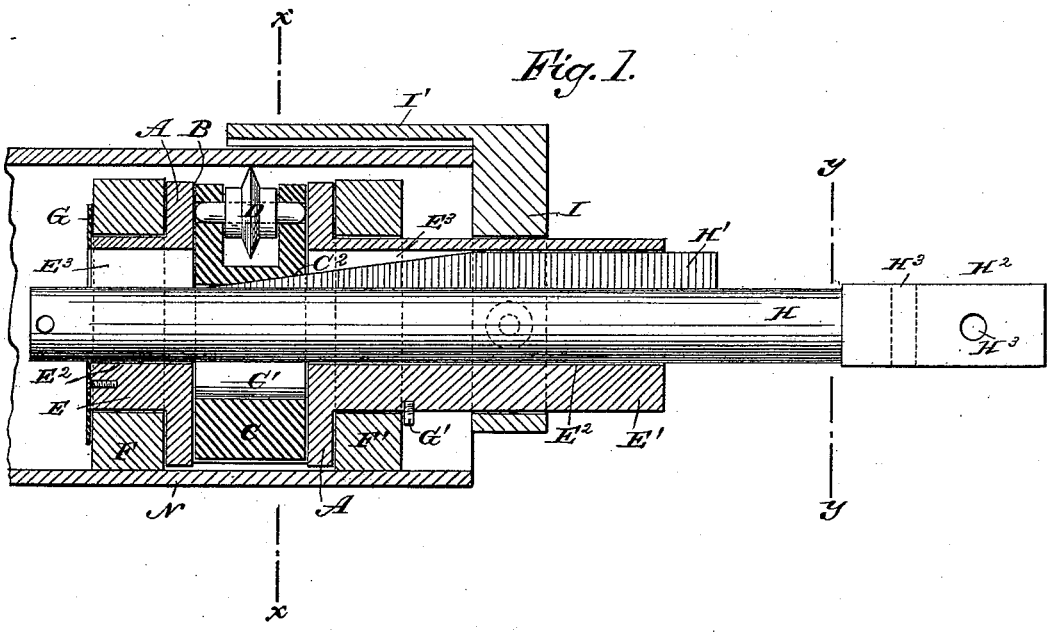


Fig. 2.

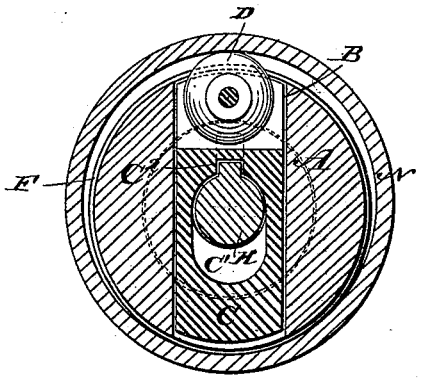
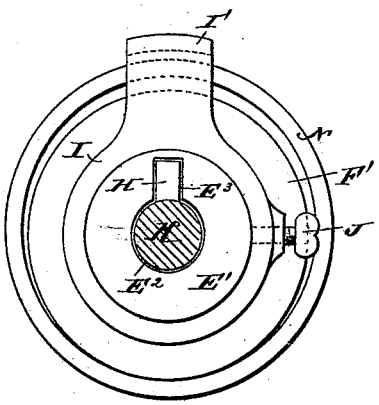


Fig. 3.



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NEWTON BOND, OF BUFFALO, NEW YORK.

TUBE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 342,570, dated May 25, 1886.

Application filed April 7, 1886. Serial No. 198,067. (No model.)

To all whom it may concern:

Be it known that I, NEWTON BOND, of Buffalo, in the county of Erie and the State of New York, have invented a new and Improved Boiler-Tube Cutter, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved boiler-tube cutter which is simple in construction and effective in operation.

The invention consists of a revolving cutter which is mounted on a carrier sliding in a guide, by applying a wedge attached to a spindle which revolves the device, and of an adjustable gage.

The invention also consists of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improvement. Fig. 2 is a cross-section of the same on the line *x x*, Fig. 1, and Fig. 3 is a cross-section of the same on the line *y y*, Fig. 1.

The cylindrical guide A is provided with a slot, B, in which is fitted to slide a carrier, C, having a forked end, in which is mounted to rotate the sharp-edged cutting-wheel D. The carrier C is also provided with an elongated slot, C′, which forms a tapering recess, C^2. The guide A has the concentric offsets E and E′, one on each side and each provided with a central aperture, E^2, which ends in a square recess, E^3. On each offset E and E′ is mounted to rotate a friction-wheel, F or F′, respectively, of which the wheel or roller F is held on the offset E by the projecting plate G, and the roller F′ is held in place on the offset E′ by a set-screw, G′. A spindle, H, is fitted into the central apertures, E^2, in the offsets E and E′, passing through the elongated aperture C′ in the carrier C, and is provided with a square or hexagonal head, H^2, having transverse apertures H^3. To the spindle H is attached the wedge H′, fitted to slide in the square recesses E^2, formed on the offsets E and E′, and engaging with the tapering recess C^2 on the carrier C. The gage I is placed and is adjustable on the offset E′ by a set-screw, J, and is provided with the angular arm I′.

The operation is as follows: The device is placed in the boiler-tube N, in the manner shown in Fig. 1, so that the friction-rollers F and F′ and the cutting-wheel D rest against the inner surface of the tube N. The gage I is then adjusted on the offset E′ at the depth at which the tube N should be cut off, so that the outer end of the angular arm I′ rests against the face of the boiler end. As shown in Fig. 1, the gage I is so adjusted that when the tube N has been cut off the tube still projects about one-eighth of an inch from the boiler end, to permit of the heading over of the tube in the usual manner. The entire device is then revolved by turning a pin inserted alternately in the apertures H^3 in the head H^2 of the spindle H, so that the cutting-wheel D cuts on the inner surface of the tube N, and at the same time the spindle H is pressed inward, so that the wedge H′ presses the cutting-wheel D tightly against the inner surface of the tube N. The revolving of the device is continued and the wedge H′ is gradually moved farther inward, so as to slide the carrier C outward from the guide A until the cutting-wheel D has completely cut the tube N.

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

1. In a boiler-tube cutter, the combination of a guide having concentric offsets, a friction-roller mounted on the said offsets, a spindle passing through the offsets, and a wedge attached to the said spindle, with a carrier sliding in a recess in the guide and a cutting-wheel mounted on the said carrier, substantially as shown and described.

2. In a boiler-tube cutter, the combination of a guide having offsets, friction-wheels mounted on the said offsets, a spindle passing through the offsets, a wedge attached to the said spindle, and a gage adjustable on one of the offsets, with a carrier sliding in a recess in the guide and a cutting-wheel mounted on the forked end of the said carrier, substantially as shown and described.

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