

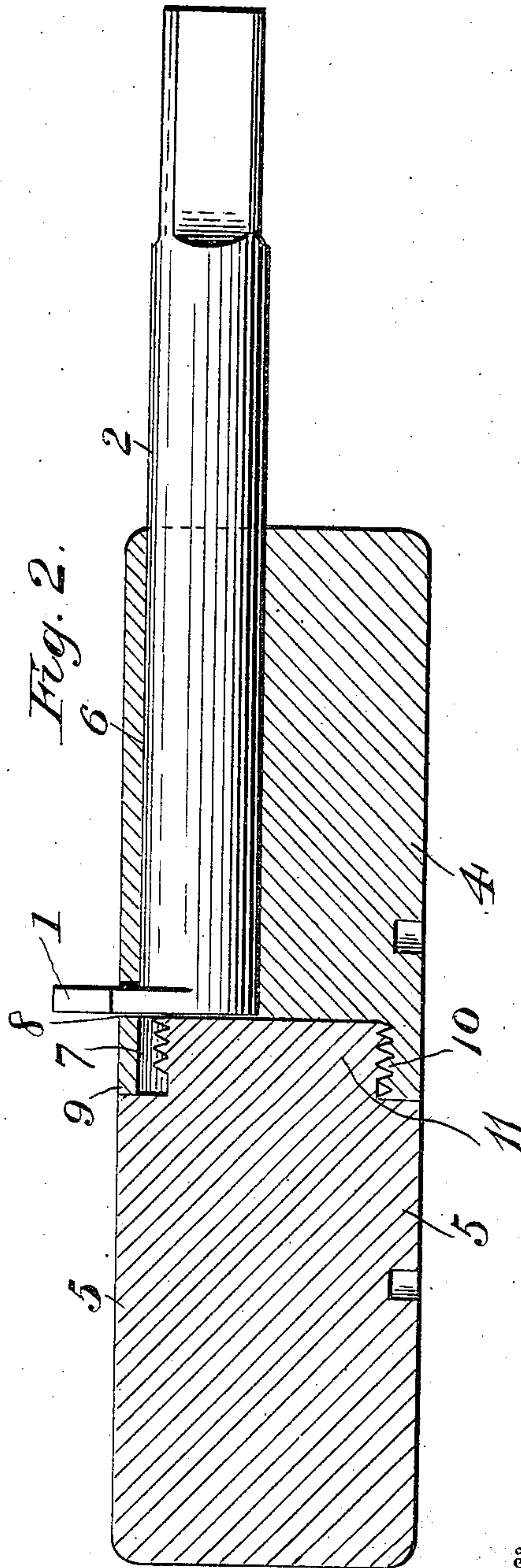
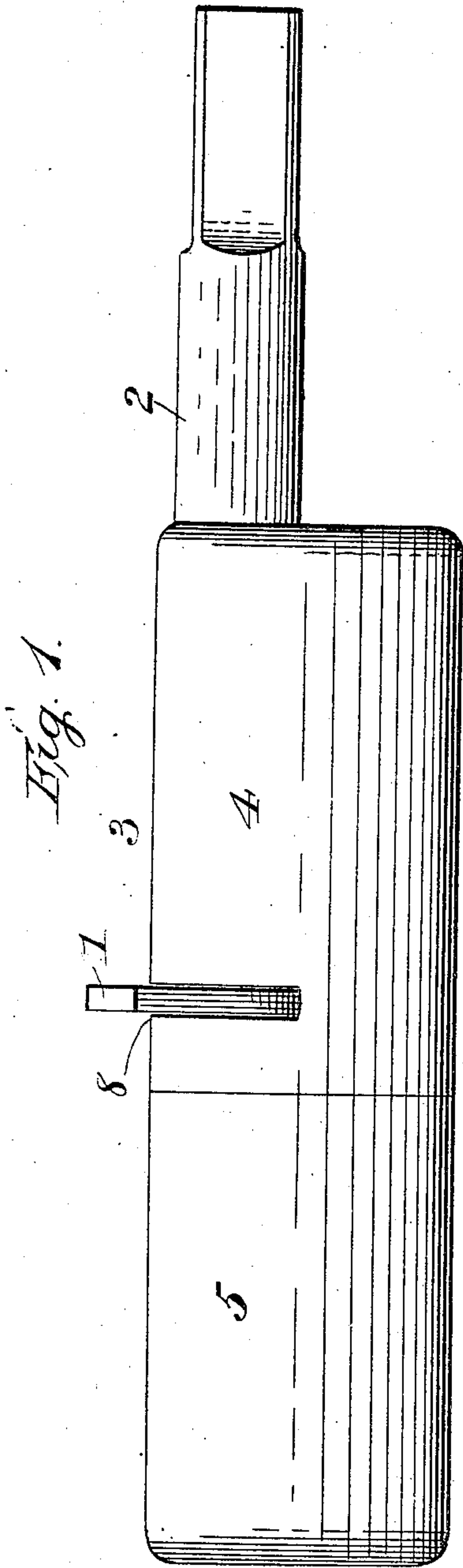
No. 843,499.

PATENTED FEB. 5, 1907.

F. E. SHIMER.
FLUE CUTTER.

APPLICATION FILED SEPT. 14, 1906.

2 SHEETS—SHEET 1.



Witnesses:

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J. H. Minter

Inventor:

Frank E. Shimer,

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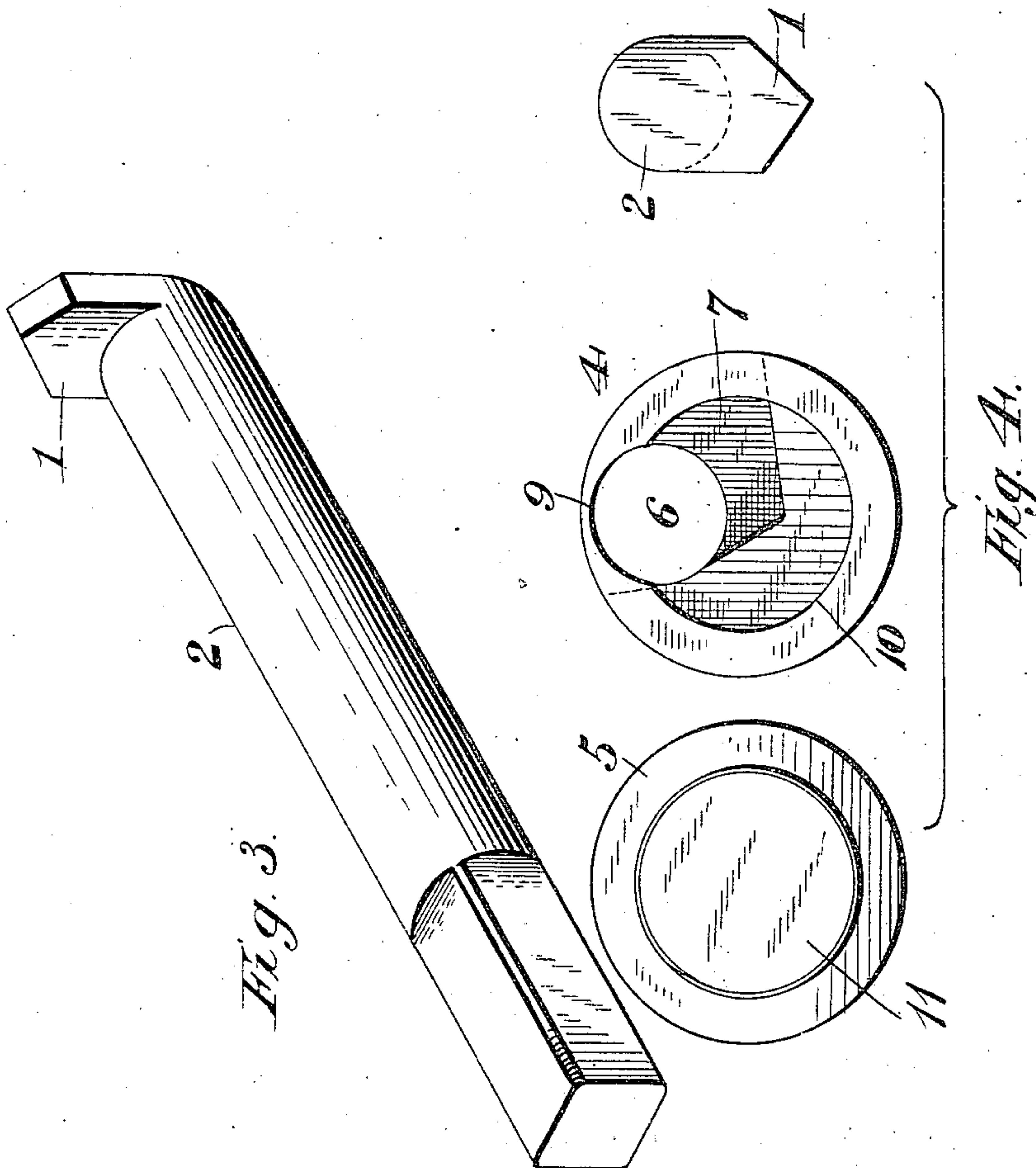
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Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK E. SHIMER, OF ELKHART, INDIANA.

FLUE-CUTTER.

No. 843,499.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed September 14, 1906. Serial No. 334,643.

To all whom it may concern:

Be it known that I, FRANK E. SHIMER, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Flue-Cutters, of which the following is a specification.

My invention pertains to improvements in what may be termed "pipe and flue cutters." Its object is to provide for effecting that end in a simple, expeditious, and effective manner and to reduce the number of parts and to apply the cutting action direct; and it therefore consists of certain structural features substantially as hereinafter disclosed, and specifically pointed out by the claim.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a side elevation thereof. Fig. 2 is a vertical section of the same. Fig. 3 is a disassembled perspective view of the cutter proper with its actuating shaft or mandrel. Fig. 4 shows additional disassembled views of the tool or cutter and mandrel or shaft casing.

In carrying out my invention I employ a cutter or knife 1, formed or produced integral with its carrying shaft or mandrel 2 for the delivery of the actuating force directly to said knife or cutter for securing direct cutting action upon the object, pipe, or tube to be cut or severed, as is apparent. Said cutter or knife is substantially wedge-shaped or tapered at its effective edge or portion, as shown, although it may be of any other practical outline at that point, and joins its carrying shaft or mandrel at a right angle, the latter being preferably cylindric.

A cylindric casing or support 3, formed in sections or members 4 5, further elaborated later, has its upper member or section 4 adapted to contain the cutter or knife 1 and permit the passage therethrough of the shaft or mandrel 2 thereof, being bored longitudinally, as at 6, eccentrically to its axis and recessed or chambered in its lower end, as at 7, at a point inward from the screw-threaded joint connection between said members or sections. The eccentricity of the bore or passage 6 in the casing or shell member 4 permits, as is apparent, the cutter or knife 1 to be moved so as to describe an arc beyond the outer surface of said casing member, which it does when actuated in performing the cutting operation, an opening or slot 8 being pro-

vided laterally through said casing member for the passage or projection of said cutter at that point, as will readily be appreciated. The recess or chamber 7 is conformed to the general outline of the knife or cutter 1, and therefore adapted to permit the retraction thereinto of the latter and to arrest its movement when the cutter is accordingly manipulated after effecting the cutting or severing operation, as will be more fully apparent later. The wall of the female screw-threaded member of the joint between the casing members 4 5 is laterally recessed or cut away, as at 9, mutilating the screw-threads at that point to accommodate the initial insertion of the cutter or knife, with its carrying shaft or mandrel, in passing said cutter to its chamber or seat 7, as will be readily understood.

Preferably in forming the screw-threaded connection or joint between the casing members or sections 4 5 the member 4 is recessed or hollowed out a suitable distance from its lower end and the walls of the thus-formed recess provided with female screw-threads, as at 10, and the other member or section 5, formed at its upper end with a diametrically-reduced tenon-like extension 11, suitably screw-threaded to engage the aforesaid screw-threaded surface, said extension or tenon thereby also confining the cutter or knife 1 within its seat or chamber 7 as against vertical or downward displacement. Primarily thus forming the casing in separable sections or members is, as is obvious, to permit the initial assembling of the several instrumentalities or parts and the subsequent removal of the cutter or knife for renewal or repair when required.

In operation, the casing presumably being in position in the tube, pipe, or like hollow object and the cutter or knife in retracted position, the upper angular end portion of the mandrel or shaft 2 is gripped by a suitable tool—as, for instance, a wrench or the like—and the same suitably manipulated to effect the requisite cutting action of the knife or cutter upon the tube or pipe, which cutter will as it is thus protruded through the lateral opening or slot 8 of the casing 3 gradually cut the tube or pipe until the cutter has been moved or caused to describe its full arc, when by the continued movement of said shaft or mandrel the casing, cutter, and all will be actuated to perform a complete rotation or so as to act upon the entire surface of

the tube or pipe, thus resulting in severing the tube or pipe.

I claim—

5 A device of the character described, comprising a cylindric casing formed of two separable members screw-threaded together, one member having a longitudinal passage arranged eccentrically to its axis and having a recess in that end joining the opposed
10 member and a slot extending laterally through it and communicating with said recess, and a mandrel arranged within said passage and having an integral cutter extending

at right angles therefrom, with parallel inner edges terminating in tapering outer cutting 15 edges, said cutter adapted to practically describe an arc beyond the casing member, through which it passes, when performing the cutting operation.

In testimony whereof I have signed my 20 name to this specification in the presence of two subscribing witnesses.

FRANK E. SHIMER.

Witnesses:

PERRY L. TURNER,
MERLE DOTY.