

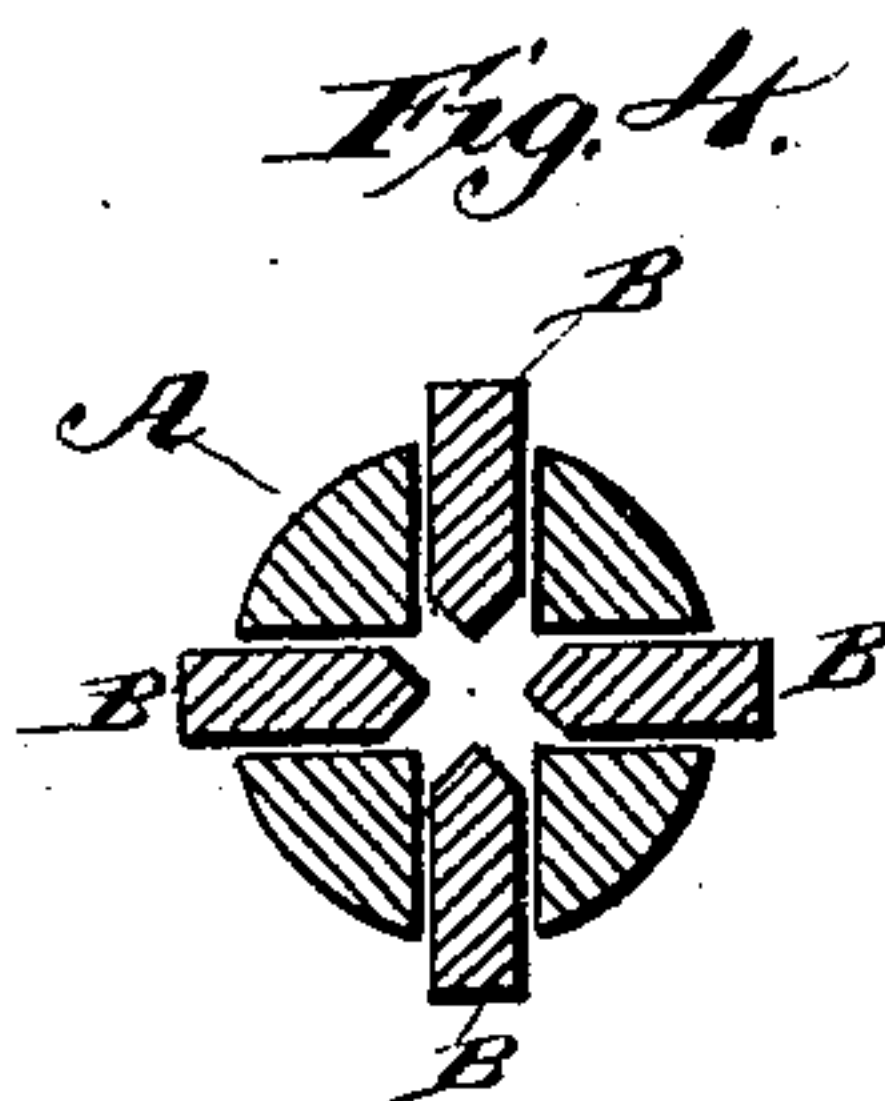
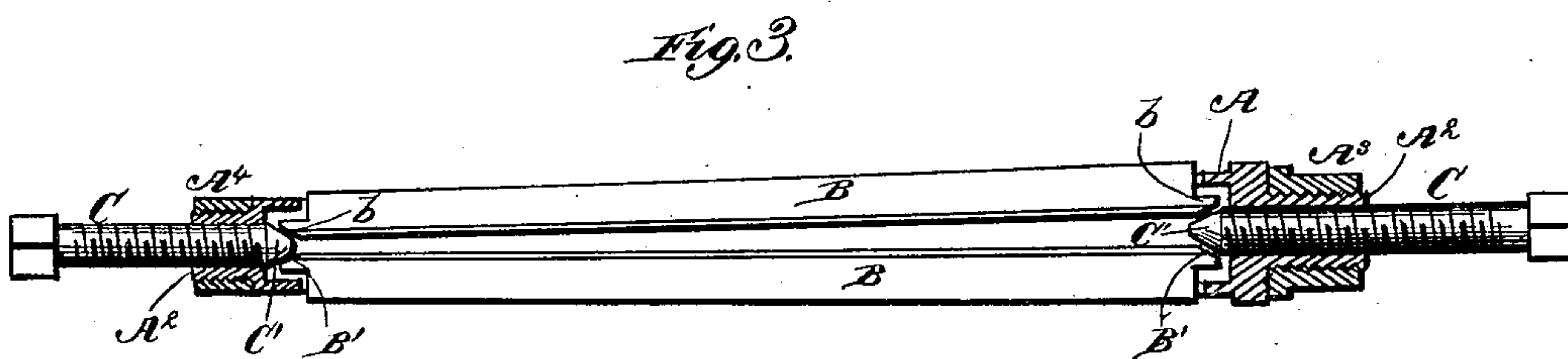
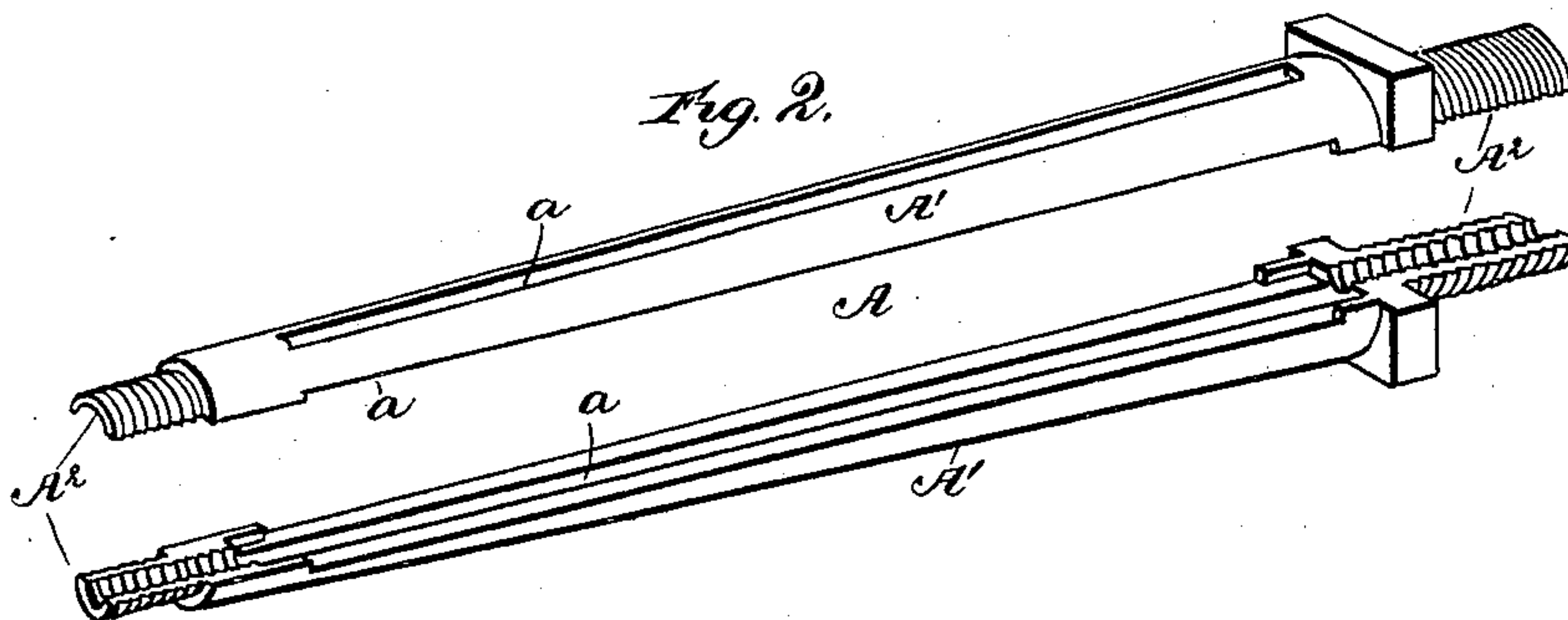
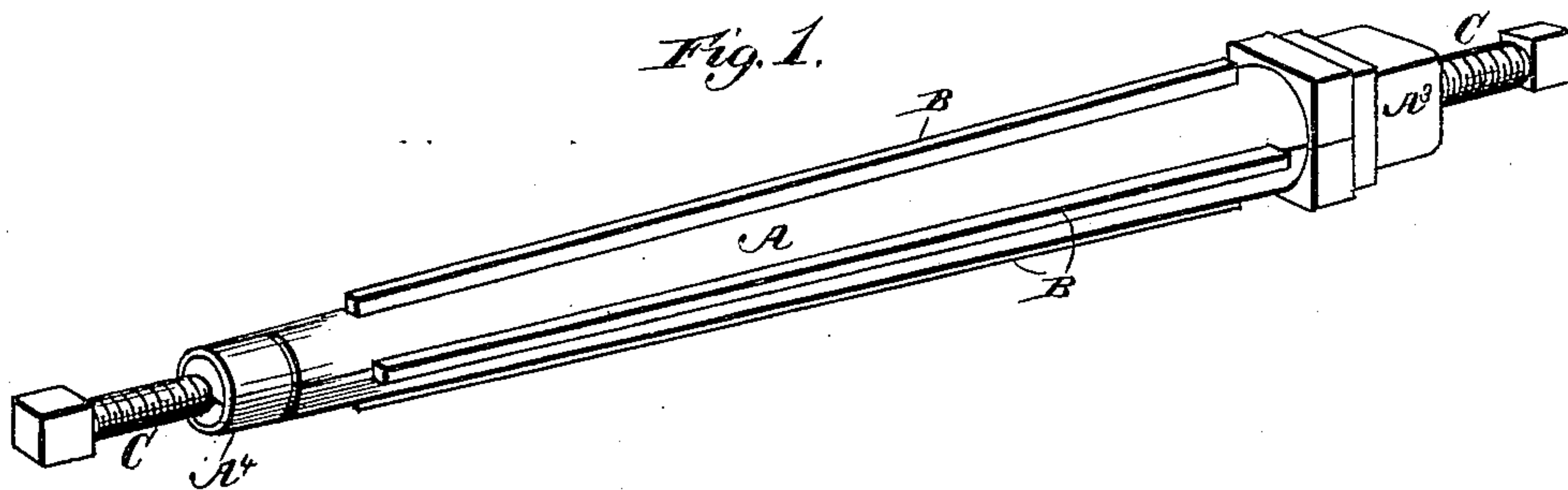
(No Model.)

J. H. HUBER.

REAMER.

No. 246,885.

Patented Sept. 13, 1881.



Witnesses.
Robert Everett.
Edward G. Siggers.

By

Inventor.
Joseph H. Huber.
W. H. Babcock,
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH H. HUBER, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO JOHN D. SKILES AND JACOB HALBACH, BOTH OF SAME PLACE.

REAMER.

SPECIFICATION forming part of Letters Patent No. 246,885, dated September 13, 1881.

Application filed July 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. HUBER, a citizen of the United States of America, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Reamers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to reamers having detachable blades, and especially to such as are employed for reaming out carriage-hubs, and for similar purposes.

The nature of said invention consists in combining with a slotted core or tubular stock a set of blades movable in and out through the slots thereof, and a pair of expanding devices which work into the ends of the stock or core and bear against the inner corners of the blades, so as to lock them in position for reaming.

It also consists in constructing the stock in longitudinal sections, which fit together and are clamped by nuts, the tubular stock thus formed being internally screw-threaded at the ends, and combining therewith the aforesaid blades and the expanding devices, the latter being conical-pointed screws, which are turned into the tubular ends of the stock until their points bear against inclines at the inner corners of the blades, and hold the latter in position for reaming.

In the accompanying drawings, Figure 1 represents a perspective view of my reamer complete. Fig. 2 represents a detail view of the sections of the stock. Fig. 3 represents a detail view of two of the blades and the expanding-screws in position for clamping said blades, and Fig. 4 represents a cross-section.

The same letters indicate the same parts in the several figures.

A designates the tapering tubular stock of the reamer, which is constructed with longitudinal slots *a*, extending nearly, though not

quite, from end to end of said stock. Each of these slots receives a blade, B, which has terminal extensions *b b* of its rear part, which, by bearing against the metal of the stock beyond the ends of the slots, prevent said blade from being forced out of the stock by the pressure of the expanding or clamping screws, hereinafter described. These blades B in the reamer shown are four in number; but, of course, more of them may be used, and their shape may be varied as desired. At the rear or inner corners of said blades they are provided with inclined faces *B' B'*, which are adapted to receive the oblique pressure of conical points *C'* of screws C C, one of which screws into each end of said tubular stock, said screws being substantially the same in construction, except that one is preferably larger than the other. The said stock A is screw-threaded, both externally and internally, at each end, being formed with cylindrical terminal extensions *A² A²*, in which the screw-threads are made. It is constructed of two longitudinal sections, *A' A'*, which are held together by nuts *A³ A⁴*, which are turned home on the external screw-threads above mentioned. One of these nuts, *A³*, is shown as much larger than the other; also, nut *A⁴* is cylindrical externally, while nut *A³* is prismatic externally, and has a square flange or shoulder, which abuts against a similar flange or shoulder on the stock. The various parts of the reamer may, however, be considerably modified, so as to suit the work for which it is required, or the fancy of the owner, without departing from the spirit of my invention.

When the blades B and sections *A'* are put in place the nuts *A³ A⁴* are screwed home on the stock to hold said sections together, and the screws C are screwed into the ends of said stock until their smooth tapering ends or points *C'*, bearing against the inclines *b'* of the blades, force said blades outward and clamp the extensions *b* of said blades against the inside of the tubular stock. The tool is then in condition for reaming.

Whenever a blade is worn out, or the tool needs cleaning, the nuts are turned off and the screws and blades taken out.

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

1. In combination with a tubular stock having internally screw-threaded ends, a set of blades protruding through slots in said stock and beveled at their inner corners, and the screws C C, unconnected with one another, working through the internally-threaded ends of said stock, and provided with conical points C', which bear against the beveled parts of said blades and clamp the latter in position for operation.

2. In combination with a slotted sectional stock and nuts which clamp its sections to-

gether, a set of blades protruding through slots in said stock and beveled at their inner corners, and the screws C C, unconnected with one another, working through the internally-threaded ends of said stock, and provided with conical points C', which bear against the beveled parts of said blades and clamp the latter in position for operation.

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

JOSEPH H. HUBER.

Witnesses:

FRS. L. HERR,
ALLAN A. HERR.