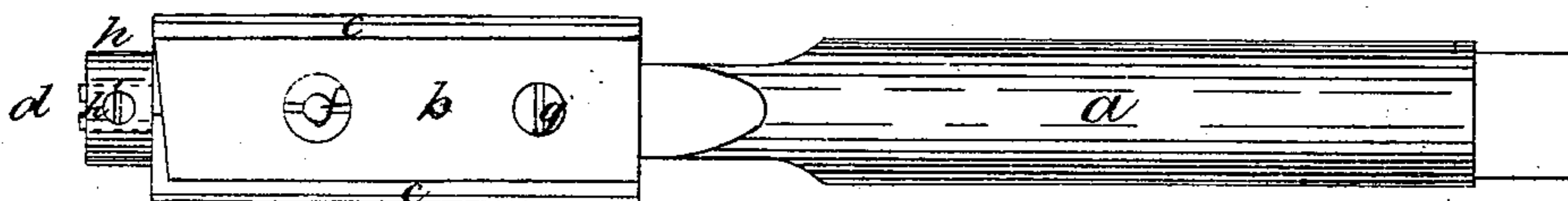


**A. SHEDLOCK.**  
**Adjustable Reamers.**

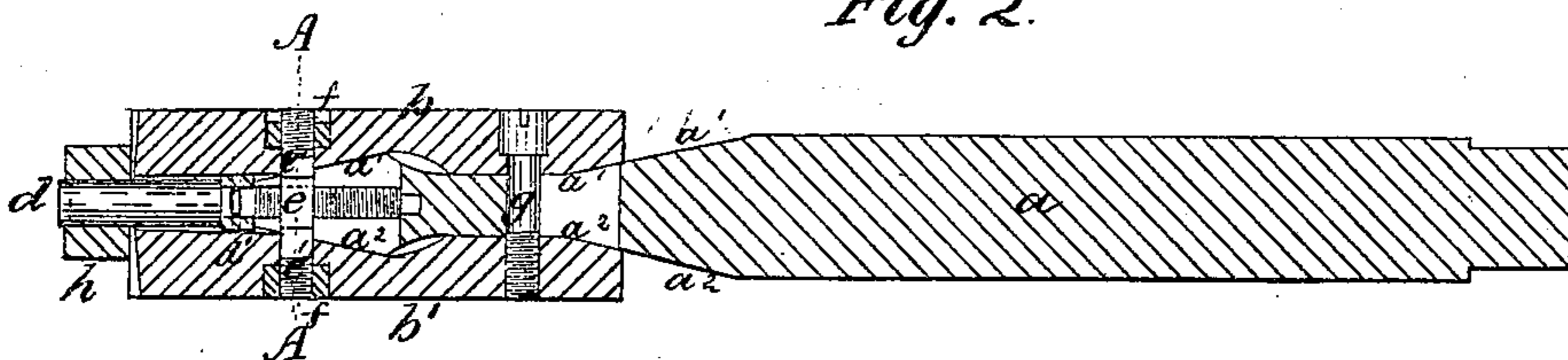
No. 139,087.

Patented May 20, 1873.

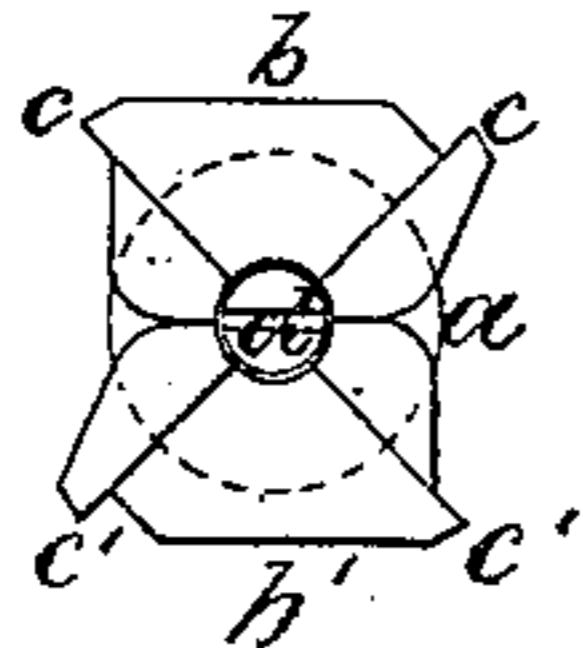
*Fig. 1*



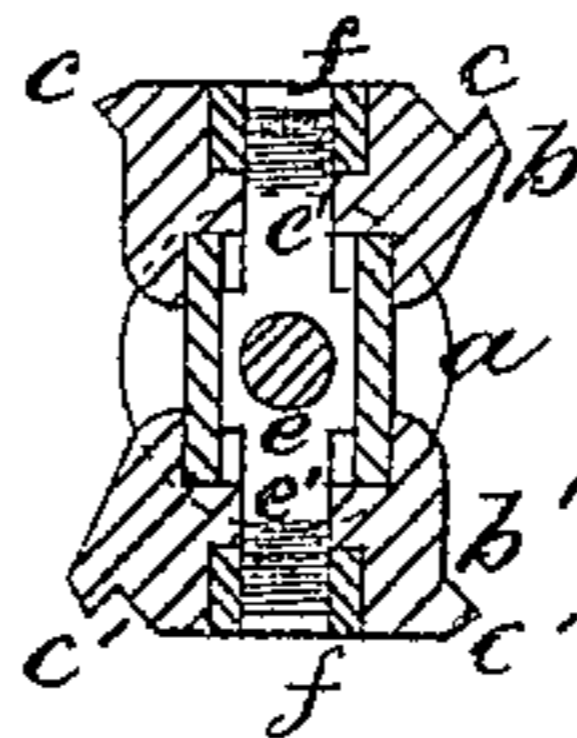
*Fig. 2*



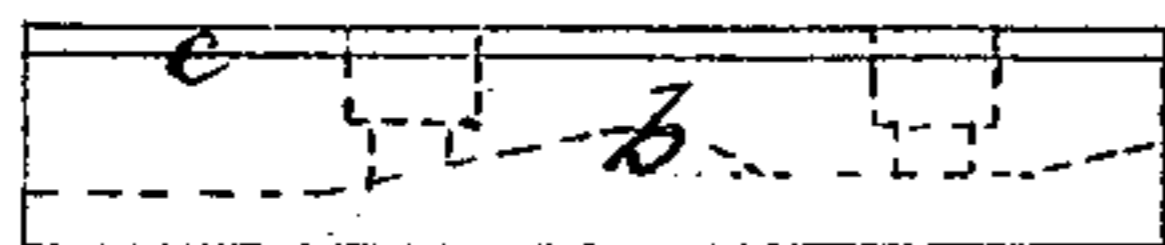
*Fig. 3*



*Fig. 4*



*Fig. 5*



*Fig. 6*



Witnesses.

*William Shedlock.*  
*Gordon Conkling Jr.*

*Alfred Shedlock*

*Inventor.*

# UNITED STATES PATENT OFFICE.

ALFRED SHEDLOCK, OF NEW YORK, N. Y.

## IMPROVEMENT IN ADJUSTABLE REAMERS.

Specification forming part of Letters Patent No. **139,087**, dated May 20, 1873; application filed August 7, 1872.

*To all whom it may concern:*

Be it known that I, ALFRED SHEDLOCK, of the city of New York, county and State of New York, have invented an Improved Adjustable Reamer and Counter-Bore, of which the following is a specification:

The nature of this invention consists, first, in so constructing and arranging the parts of an adjustable reamer that the cutting-edges extend right to the end of the reamer; second, in the combination of peculiarly-constructed screws and nuts for adjusting the blocks, having the cutting-edges formed thereon, and holding them firmly on the body of the reamer when so adjusted; third, in forming cutting-edges on the ends of the blocks, so that the tool may be used as a counter-bore by putting on the long head of the adjusting-screw collars, made of such size as to fit the holes to be counterbored; fourth, in making blocks—having the cutting-edges formed thereon—of different sizes fit the same mandrel or body of the reamer, and, as each pair of cutters will adjust a quarter of an inch or more, it is obvious that a reamer with four pairs of cutters will take the place of sixteen standard reamers, varying by the one-sixteenth of an inch, besides being adjustable to any size between the standard sizes of reamers.

To more particularly describe my invention I will refer to the accompanying drawing of a two-inch reamer and counter-bore, forming part of this specification, in which—

Figure 1 is a view of my improved reamer with the collar on, forming the steady-pin when used as a counter-bore. Fig. 2 is a longitudinal section of the same. Fig. 3 is an end view with the collar removed. Fig. 4 is a cross-section through the line A A, showing the cutters expanded to their full extent; and Figs. 5 and 6 are detached views of the adjusting-blocks, having the cutting-edges formed thereon.

The part of the reamer *a* forming the shank is round, and is provided with a square end for the purpose of holding the tool with a wrench; the other end is formed with flat surfaces on either side for about four inches of its length, and also with two parallel inclined surfaces,  $a^1 a^1$ , on the top, and two,  $a^2 a^2$ ,

on the bottom, as shown in the section at Fig. 2. The two blocks *b b'* are each made with a groove to fit over the sides of the body of the reamer, the bottoms of the grooves being made to conform to and fit on the inclined surfaces  $a^1 a^1$  and  $a^2 a^2$ , so that by moving them along toward the shank *a* they ride up on these inclines and are separated more or less, the reverse taking place upon moving them back toward the end. Each of the blocks *b b'* is provided with two cutting-edges, *c c' c'*, extending the whole length of them, said cutting-edges being continued across the forward ends of the blocks, as shown at Fig. 3. The adjusting-screw *d* is fitted into the end of the body of the reamer and operates the nut *e*, which works in a slot made through the forward inclined surfaces; the screw *d* is prevented from working loose from the body of the reamer by the pin *d'*, which fits in a groove turned round the forward bearing of the screw. From the nut *e* project the two screws *e' e'*, which pass through the blocks *b* and *b'*, and when the nut *e* is moved along by turning the screw *d*, the blocks *b b'* move with it, and so their adjustment is accomplished; the blocks are then held in position by the countersunk nuts *f f* fitting on the screws *e' e'*, and by the screw *g*, which passes through the block *b* and through a slot made in the body of the reamer, and screws into the block *b'*. The screw *d* is provided with a long head, for the purpose of holding the collar *h* when the tool is to be used as a counter-bore, the collar being made to fit the hole it is desired to counterbore. The screw *h'* in the collar *h* is for the purpose of holding it on the head of the screw *d*, or it may be held by any other suitable means.

By making the blocks with the cutting-edges formed with teeth, as in ordinary taps, the tool may be used to advantage as an adjustable tap. By removing the retaining-pin *d'* of the screw *d*, the screw may be taken out after the cutters are adjusted and secured, enabling the tool to be used as a bottoming-reamer—that is, for the purpose of reaming out a hole which does not pass entirely through the metal.

What I claim is—

1. The two blocks *b* and *b'* having the cutting-edges formed thereon, capable of being

adjusted on the body of the reamer *a*, constructed and operating substantially as described.

2. The screw *d* and nut *e*, with its screws *e'* *e'* and nuts, in combination with the blocks *b* and *b'* and body of the reamer, substantially as described.

3. The adjustable reamer as before claimed,

in combination with the collar *h*, forming the steady-pin when it is desired to use the tool as a counter-bore.

ALFRED SHEDLOCK.

Witnesses:

WILLIAM SHEDLOCK,  
GURDON CONKLING, Jr.