

(No Model.)

M. FRITSCHÉ.  
TAPERING TOOL FOR LEAD PIPES.

No. 481,169.

Patented Aug. 23, 1892.

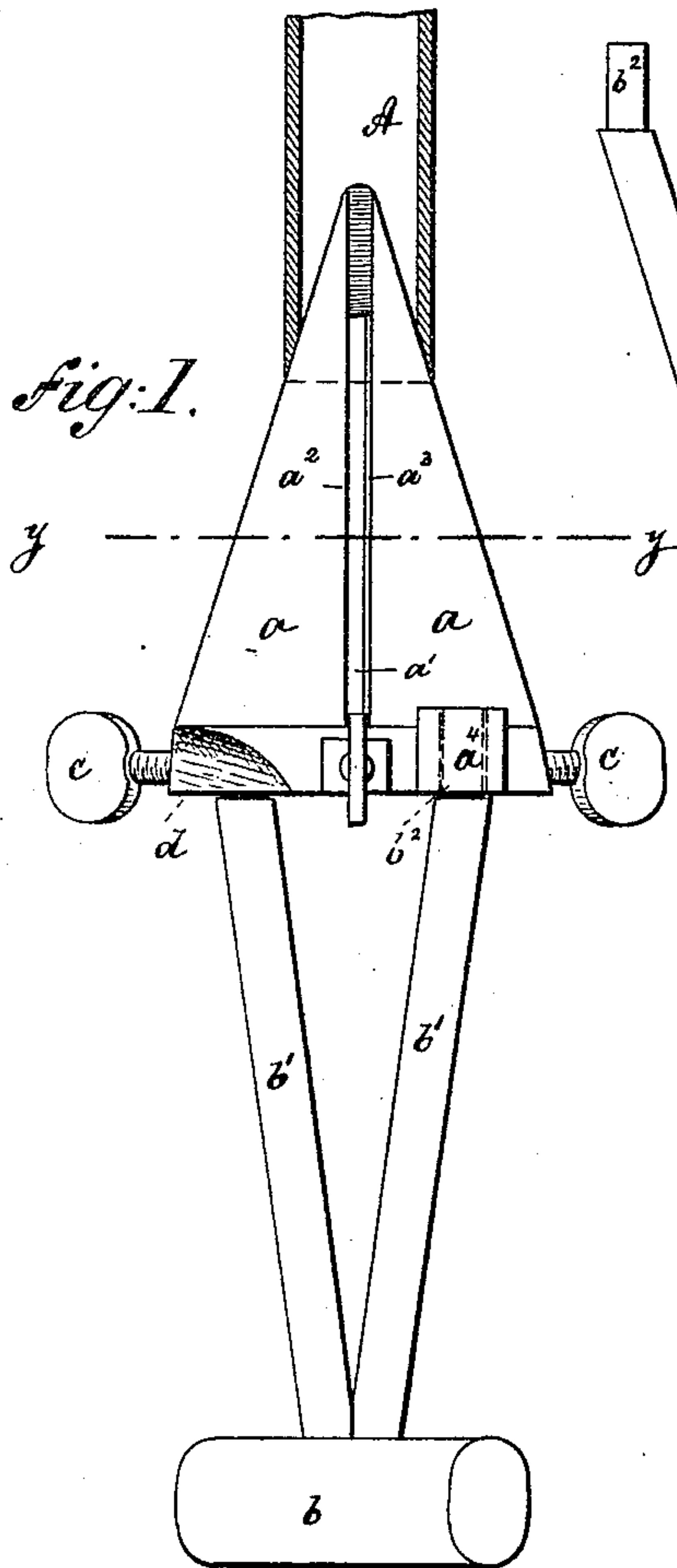


Fig. 6.

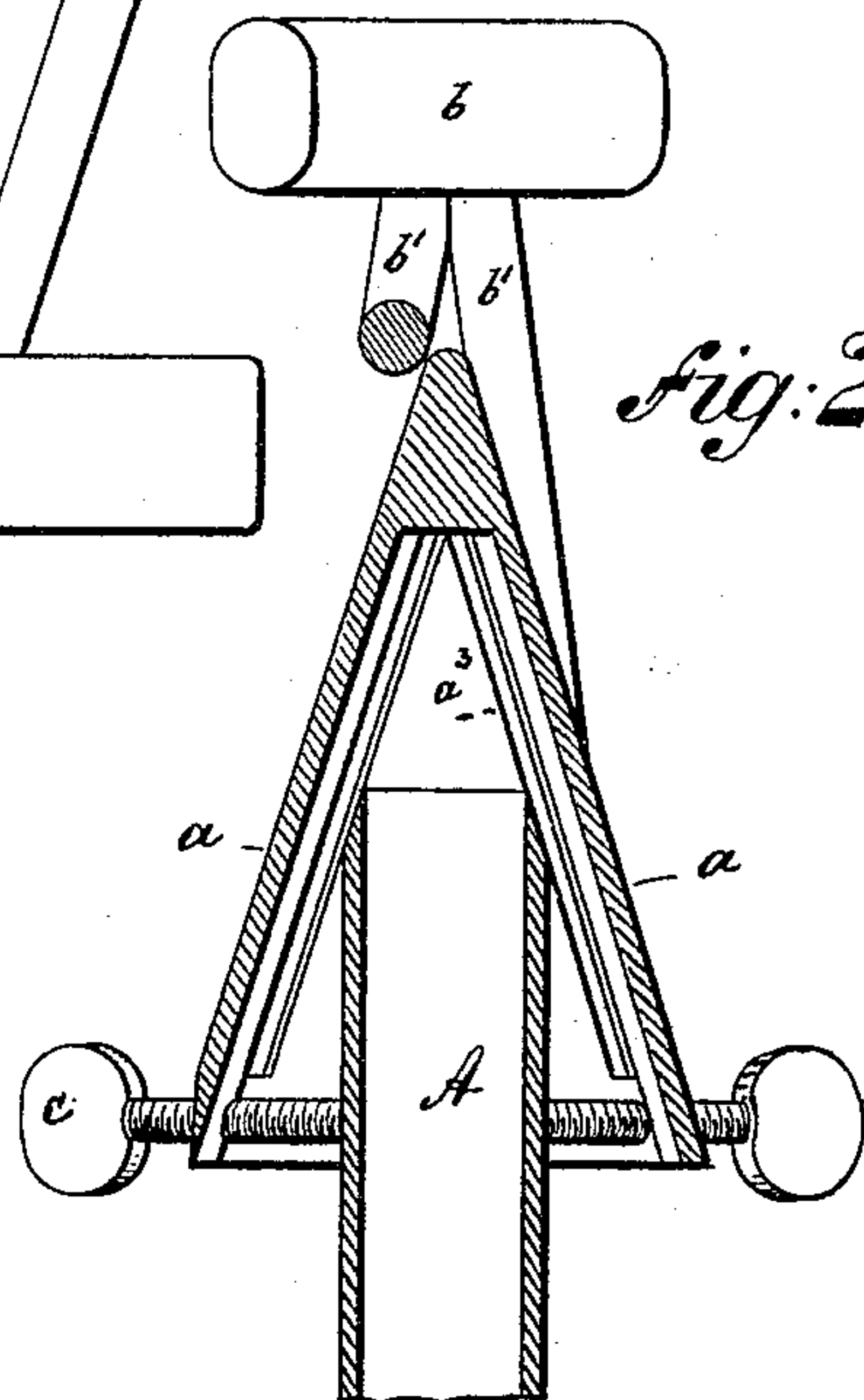
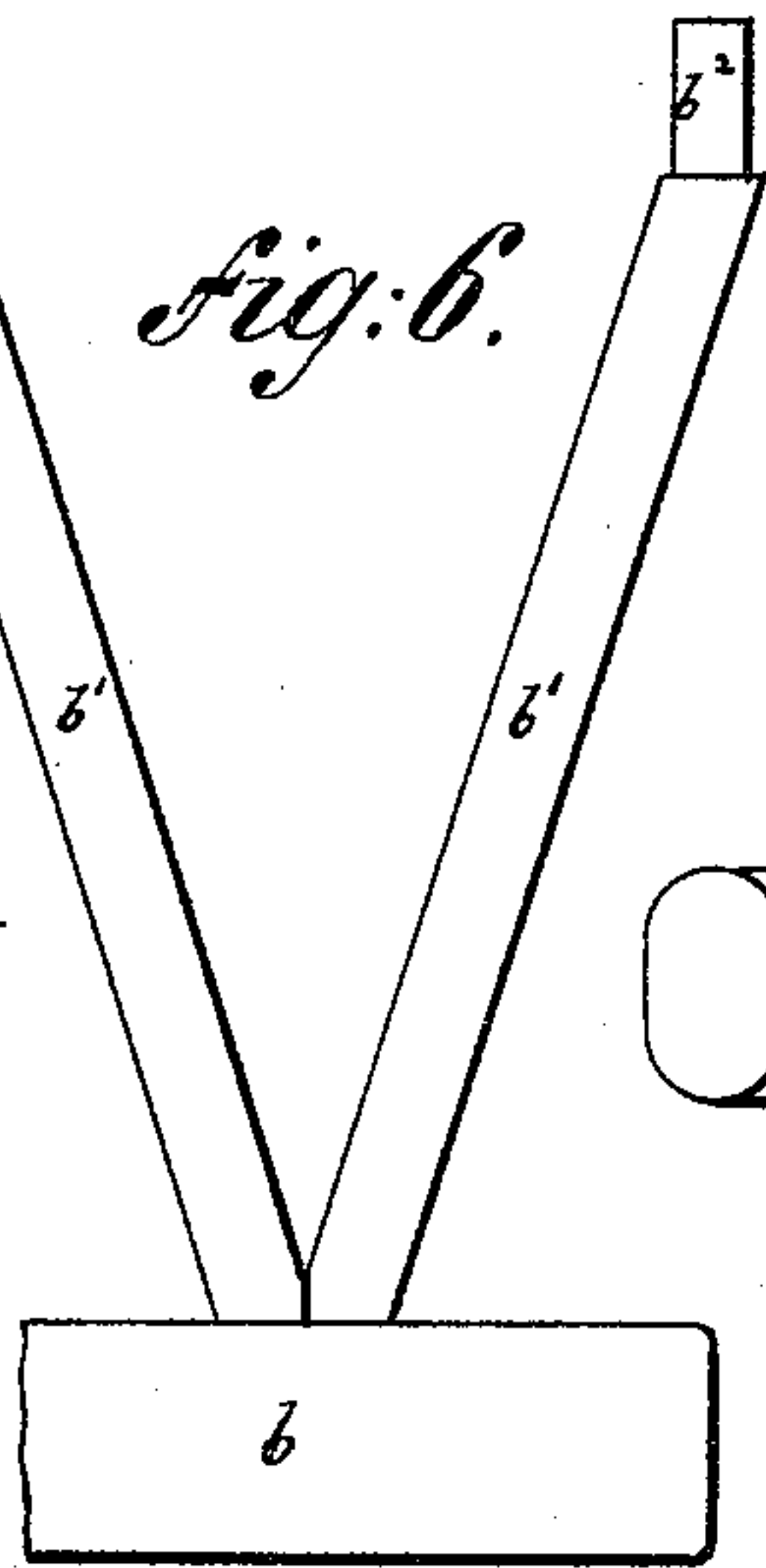


Fig. 2.

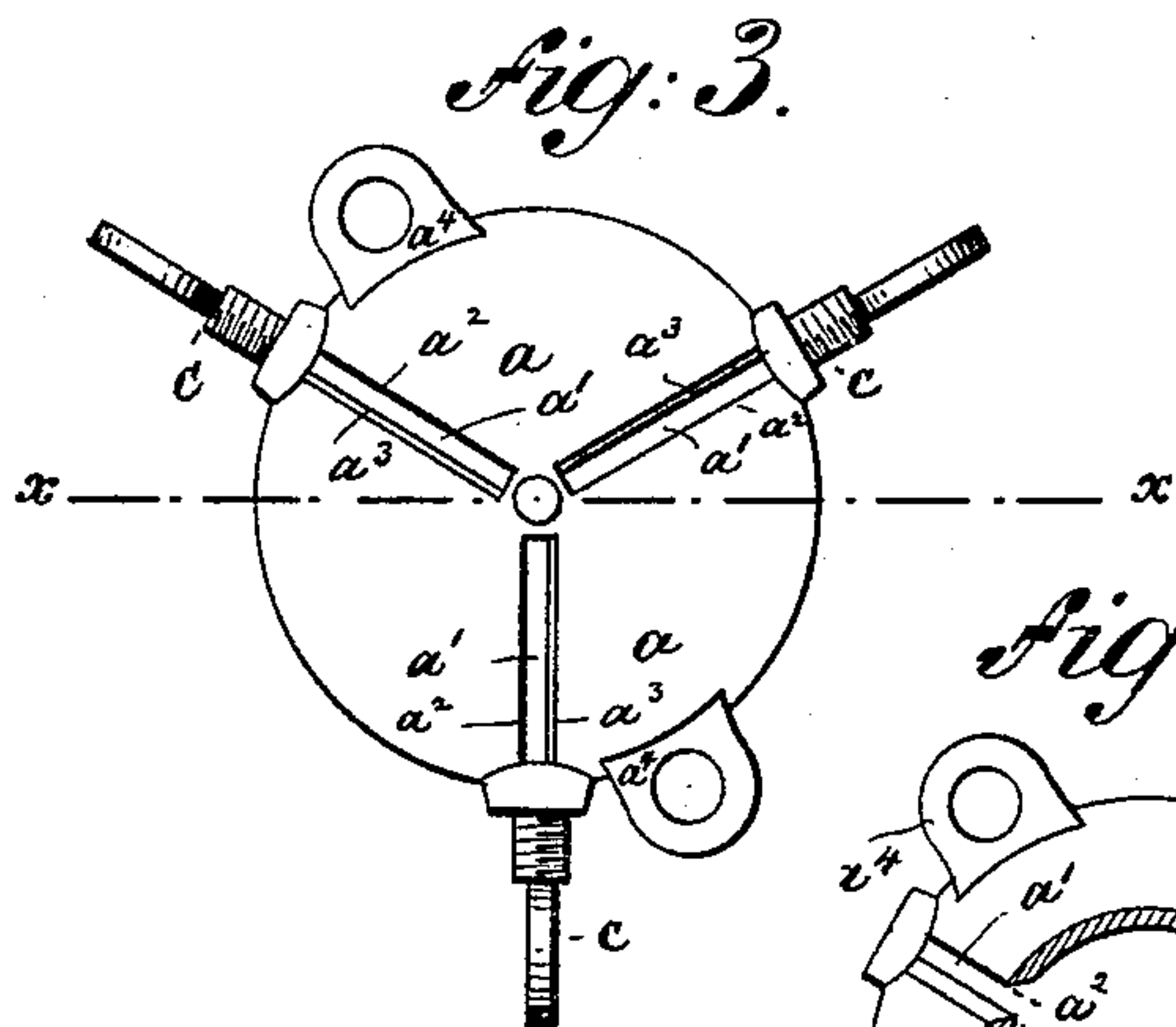


Fig. 3.

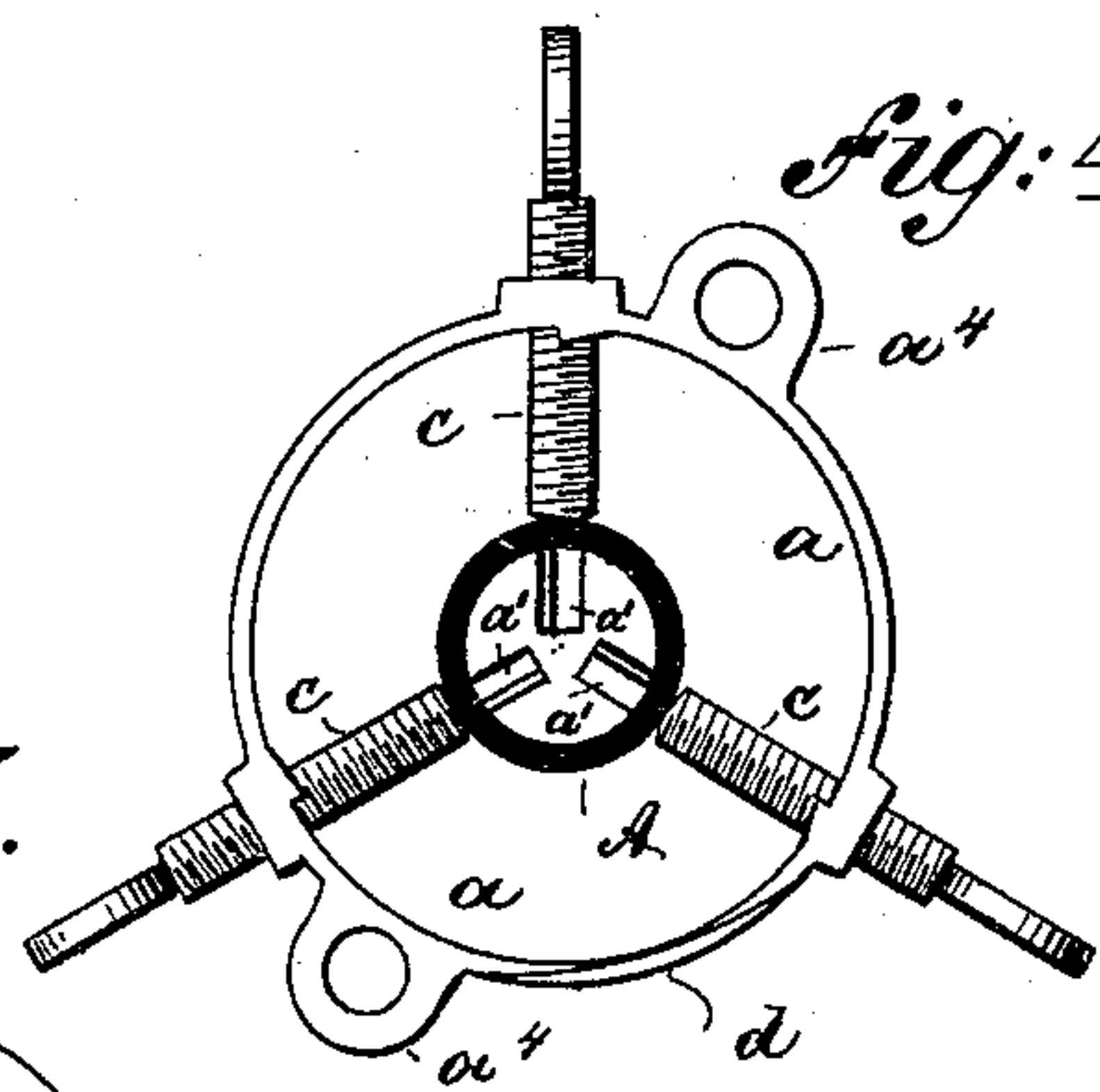


Fig. 4.

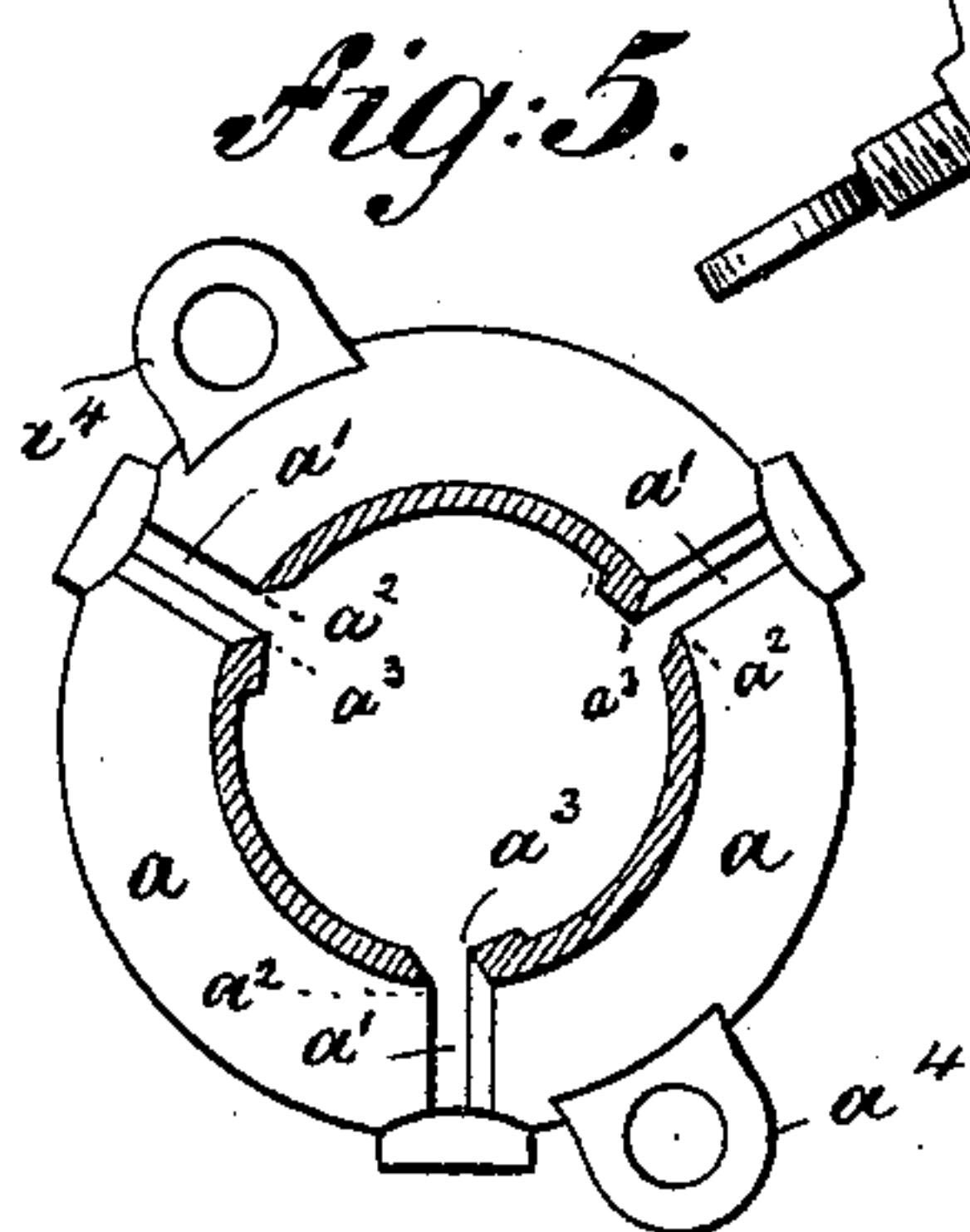


Fig. 5.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## TAPERING-TOOL FOR LEAD PIPES.

SPECIFICATION forming part of Letters Patent No. 481,169, dated August 23, 1892.

Application filed April 12, 1892. Serial No. 428,787. (No model.)

*To all whom it may concern:*

Be it known that I, MAX FRITSCHÉ, of New York city, New York, have invented an Improved Tapering-Tool for Lead Pipes, of which the following is a specification.

This invention relates to a tool for forming an outer or an inner taper on the edge of a lead pipe. Thus the same tool may be used upon the male as well as upon the female end of a pair of pipes to be joined, which of course is a matter of great convenience to the workmen.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of the tool, showing it adapted to cut the inner taper. Fig. 2 is a longitudinal section of the tool on line  $x x$ , Fig. 3, showing it adapted to cut the outer taper. Fig. 3 is a top view of the tool with the handle omitted; Fig. 4, a bottom view thereof; Fig. 5, a cross-section on line  $y y$ , Fig. 1; and Fig. 6, an elevation of the handle detached.

The letter  $a$  represents a conical shell provided with a number of longitudinal slots  $a'$ , that extend from near the apex to near the base. Each slot is provided with two longitudinal tapering cutting-edges  $a^2 a^3$ , that are parallel or substantially parallel with each other, Fig. 5. The cutting-edges  $a^2$  are sharp at the outer surface of the cone and operate on work externally applied, while the cutting-edges  $a^3$  are sharp at the inner surface of the cone and operate on work internally applied. The cone  $a$  is provided, moreover, with a pair of eyes  $a^4$  near its base for the reception of a reversible handle  $b$ . This handle is provided with the diverging spring-shanks  $b'$ , the reduced bent ends  $b^2$  of which fit into the eyes  $a^4$ , and are held thereto by the spring of the shanks.

$c c$  are centering-screws passing through the

cone  $a$  near its base and adapted to center work applied internally, as in Fig. 2.

The use of the tool will be readily understood. To cut an inner taper, Fig. 1, the handle  $b$  is applied to the cone  $a$ , so as to recede therefrom. The tube  $A$  is next slipped over the apex of the cone and held firmly down, so that upon the revolution of the tool the cutters  $a^2$  will form the desired taper. To cut an outer taper, Fig. 2, the handle is reversed, so as to leave the base of the cone free. The tube  $A$  is introduced into the interior of the cone and is properly gaged by the screws  $c$ . As the cone is revolved the inner cutters  $a^3$  will form the taper.

It will be seen that by this tool the outer and inner tapers on a pair of pipes to be joined may be cut and that the tapers will be exactly equal in slant. After the pipes have been cut they are overlapped in the well-known manner, and then soldered together. In order to scrape the outer surface of the outer pipe preparatory to the reception of the solder, the lower edge of the cone  $a$  may be formed into a scraper  $d$  for part of its length.

What I claim is—

1. A tool for cutting outer and inner tapers on pipes and consisting of a slotted cone having both outwardly and inwardly operating cutting-edges, substantially as specified.

2. The combination of a slotted cone  $a$ , having outwardly and inwardly operating cutting-edges  $a^2 a^3$ , and lugs  $a^4$ , with a reversible handle adapted to be engaged by said lugs, substantially as specified.

3. The combination of a slotted cone  $a$ , having outwardly and inwardly operating cutting-edges with a reversible handle and with centering-screws  $c$ , substantially as specified.

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Witnesses:

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