

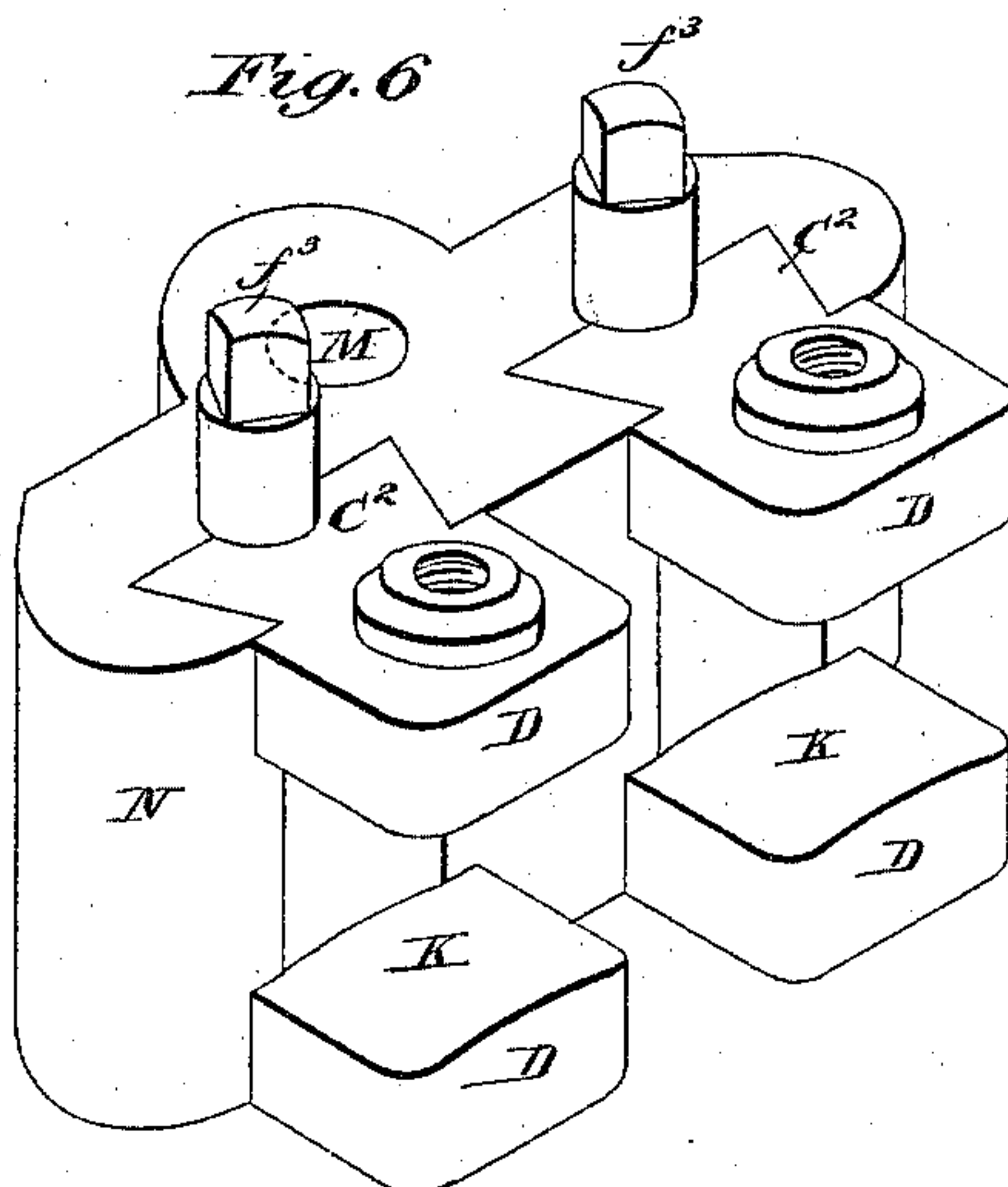
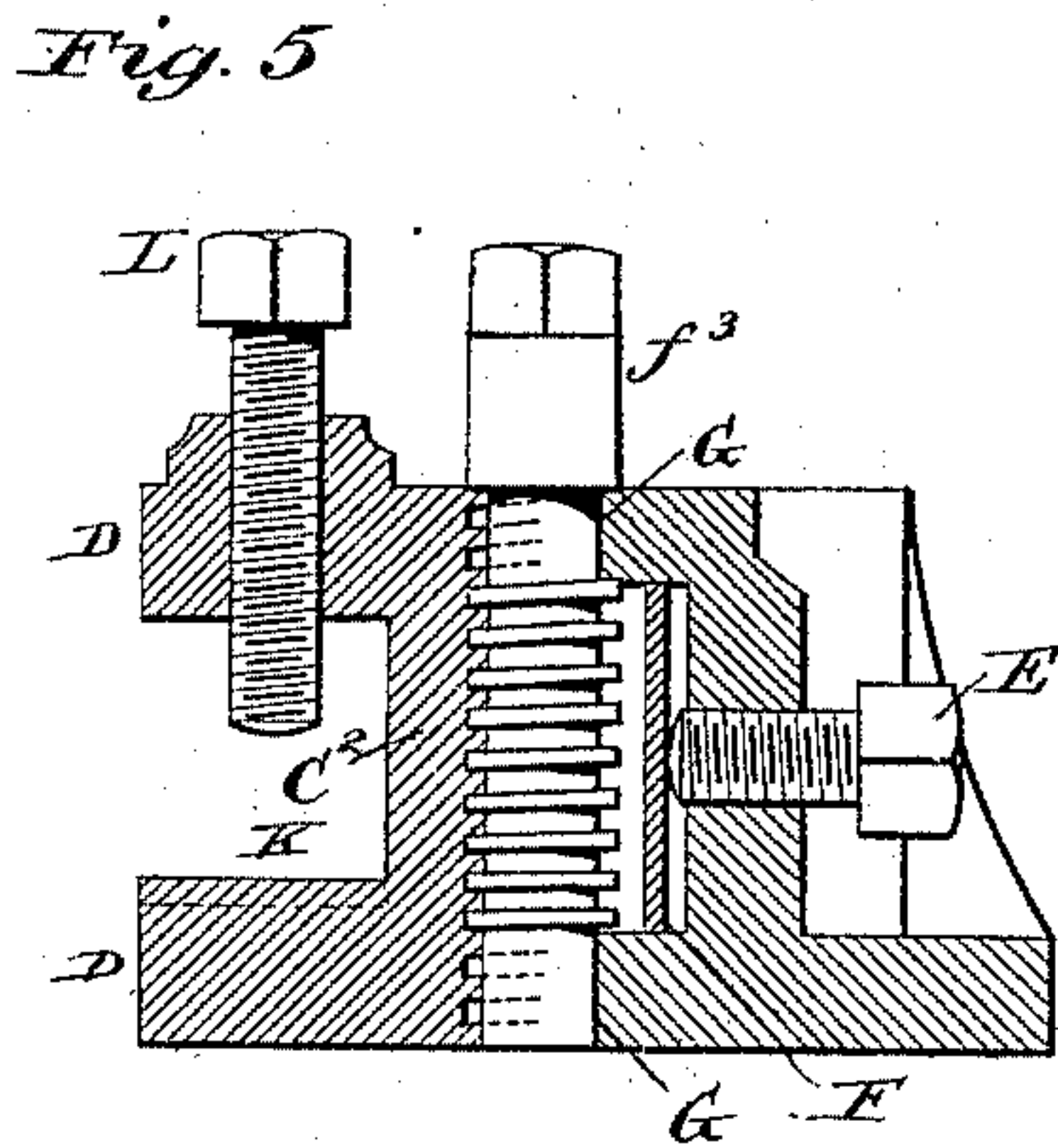
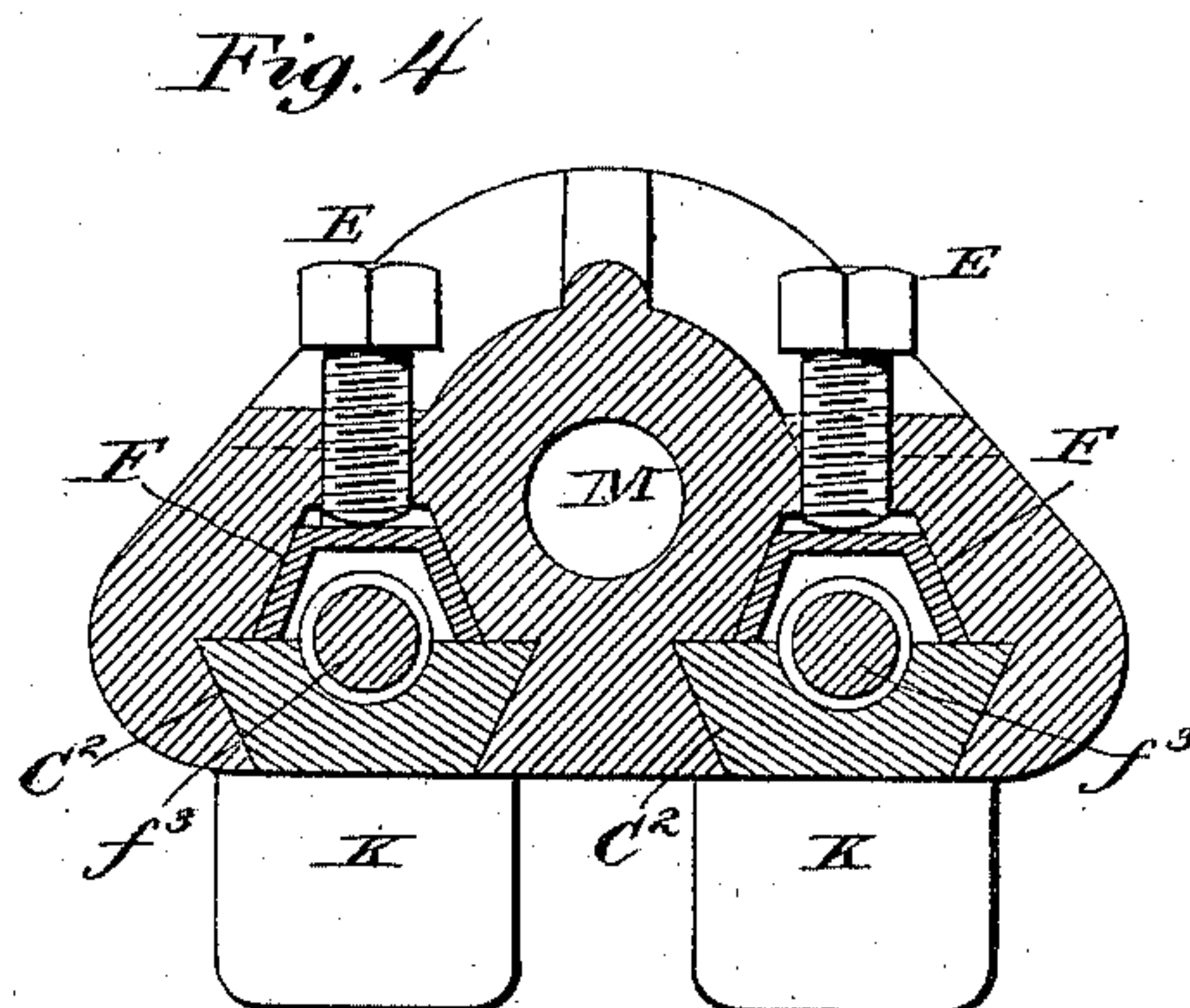
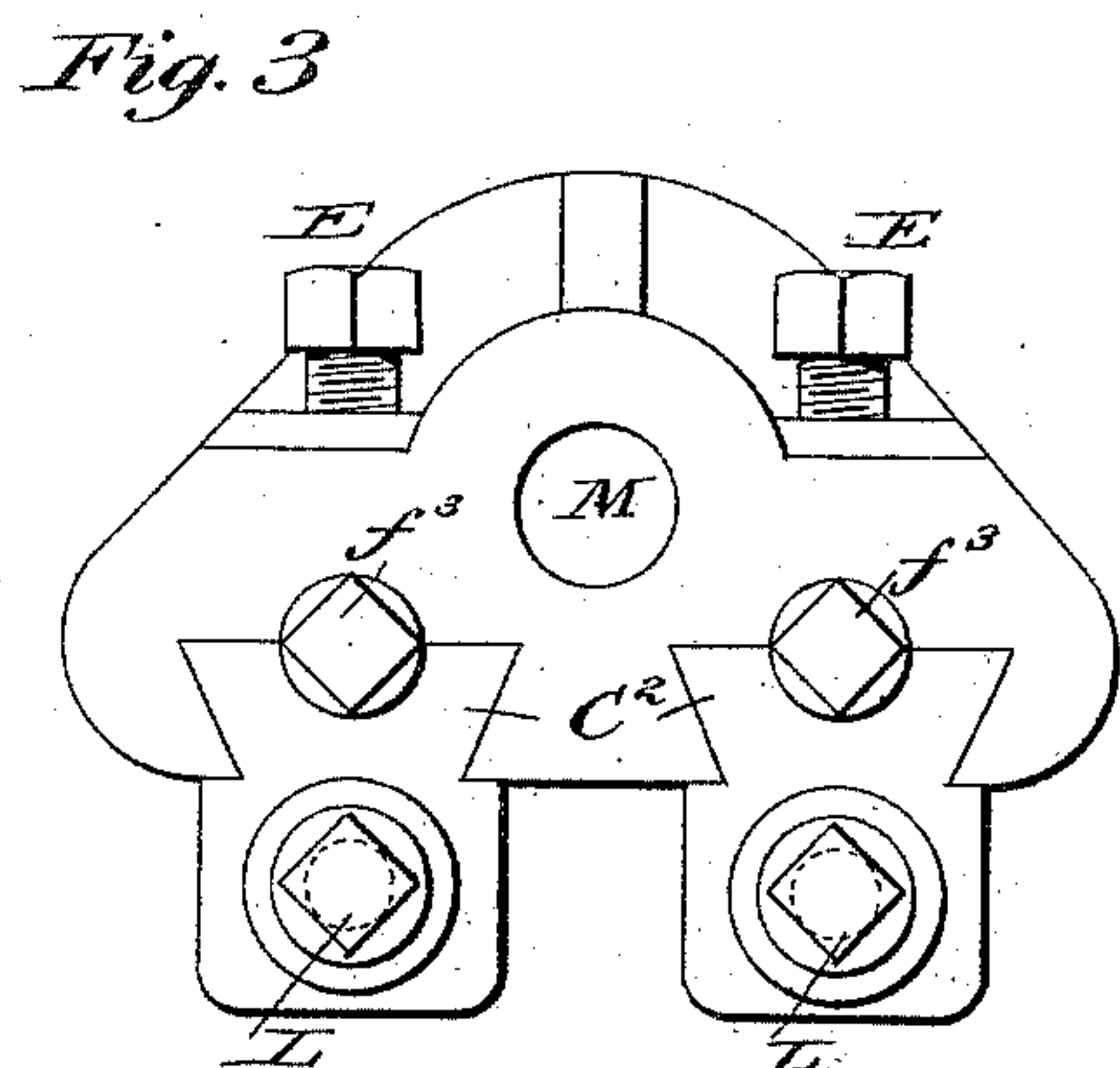
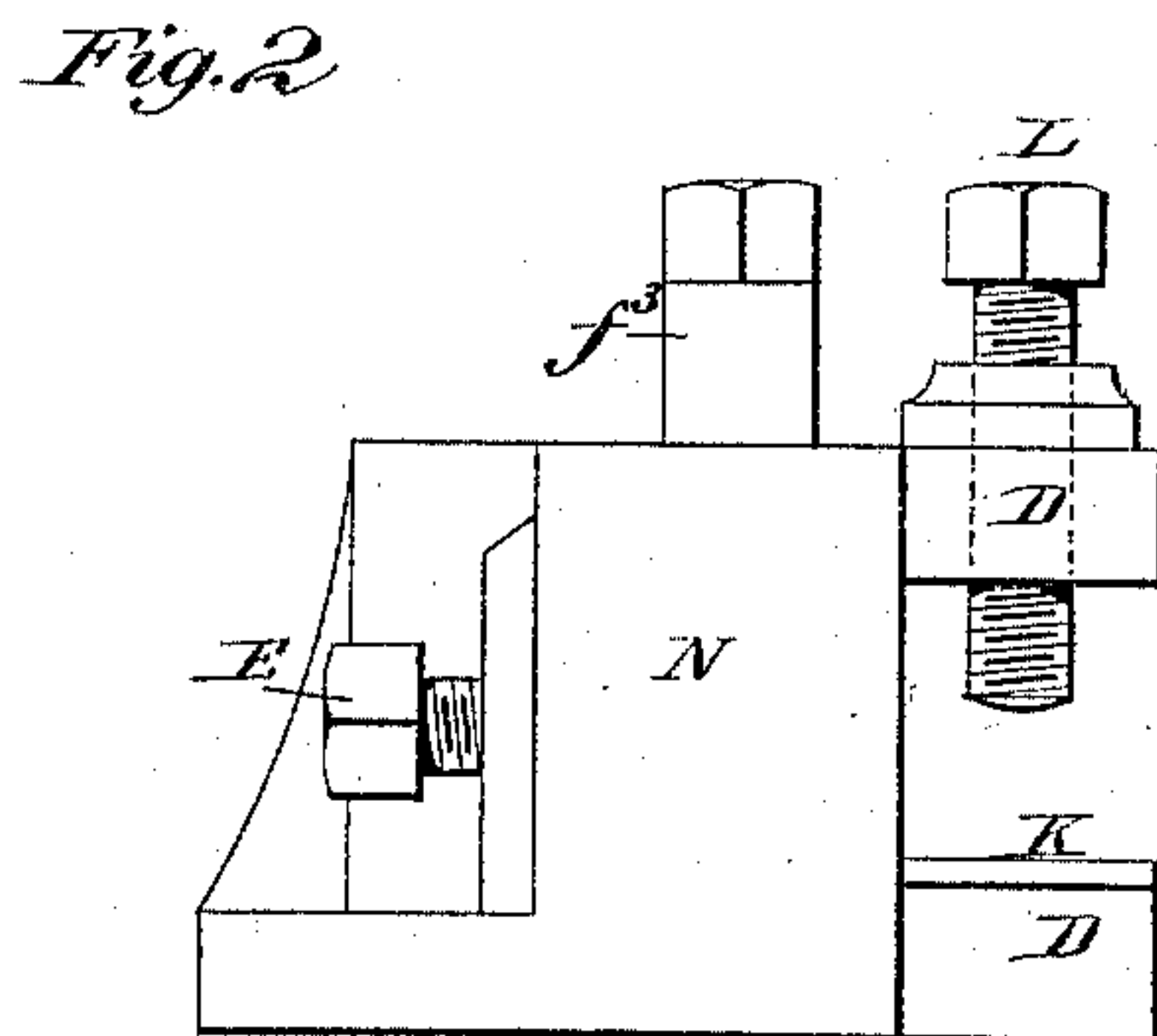
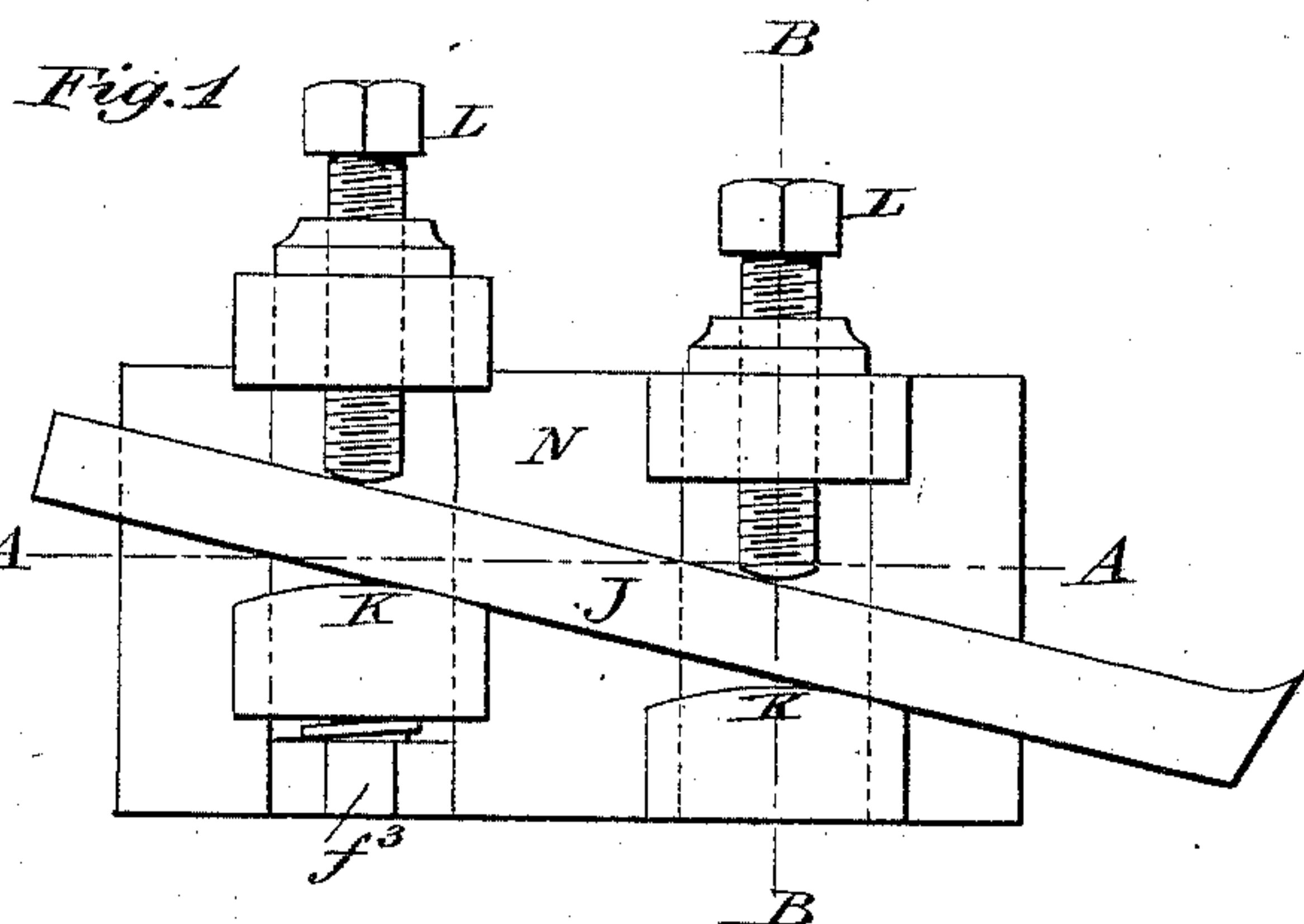
(No Model.)

2 Sheets—Sheet 1.

W. BARRACLOUGH & A. RHODES.
TOOL HOLDER FOR LATHES.

No. 495,576.

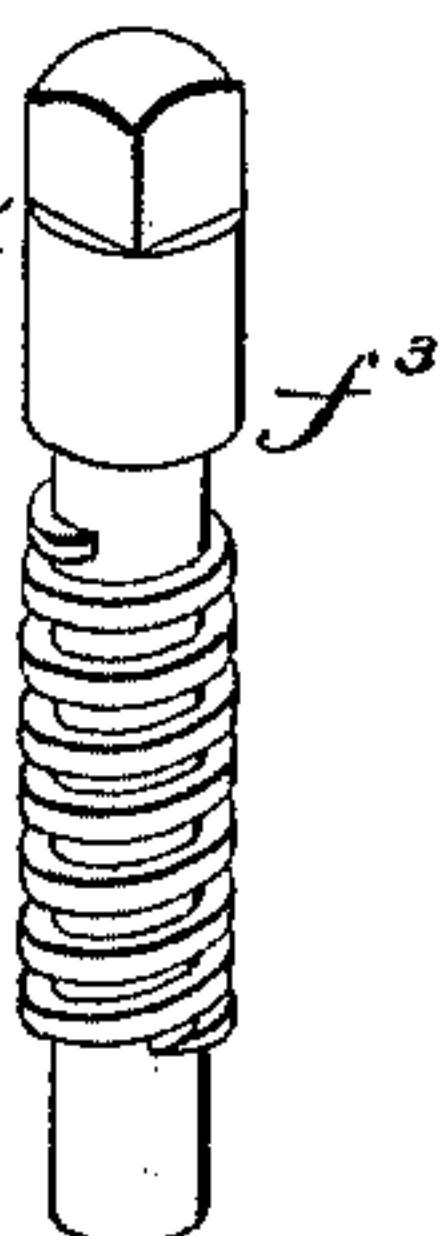
Patented Apr. 18, 1893.



Witnesses

J. F. F. F. F.
E. A. F. F. F.

Fig. 14



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Robert Rhodes
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their atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 7

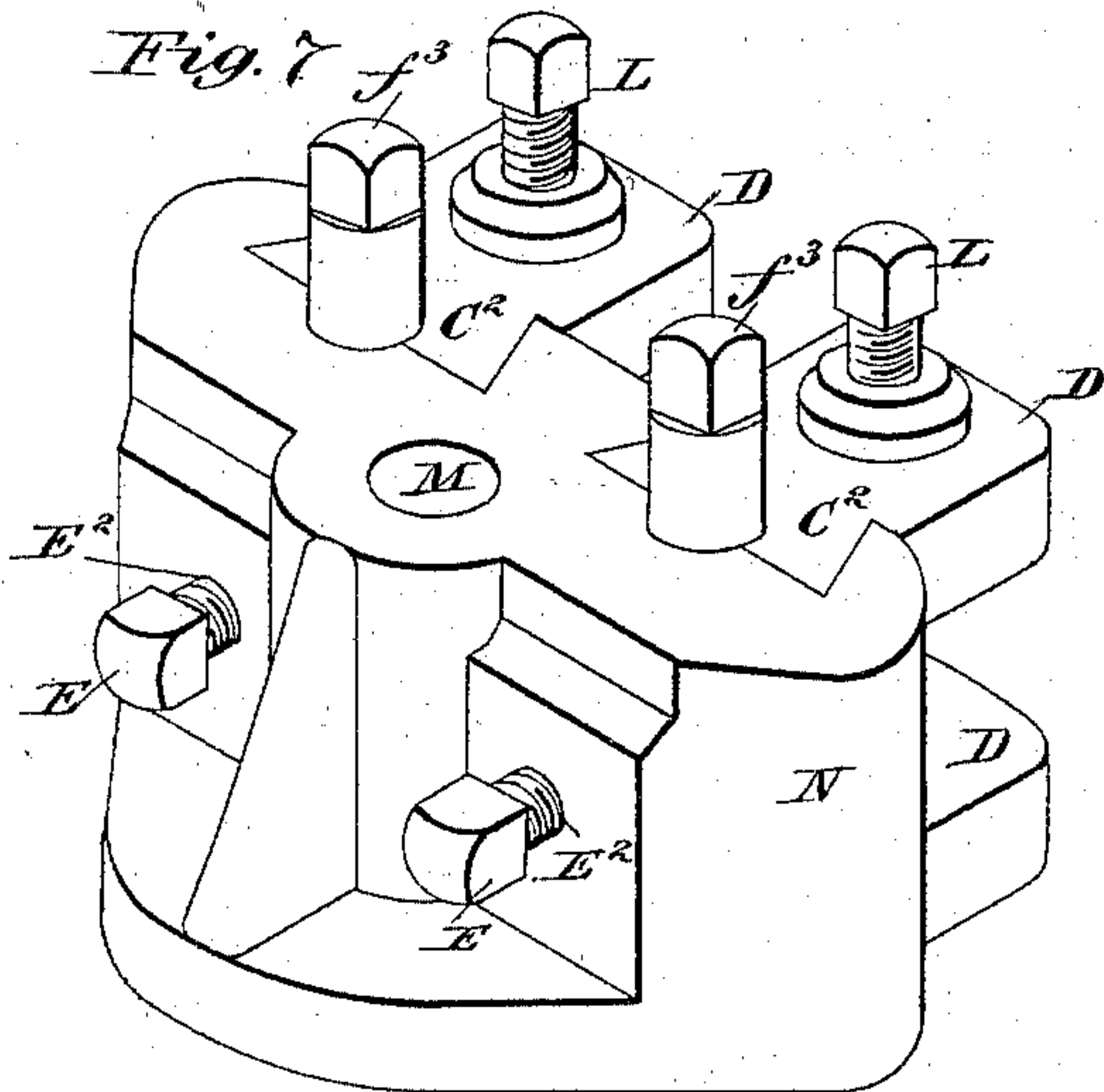


Fig. 8

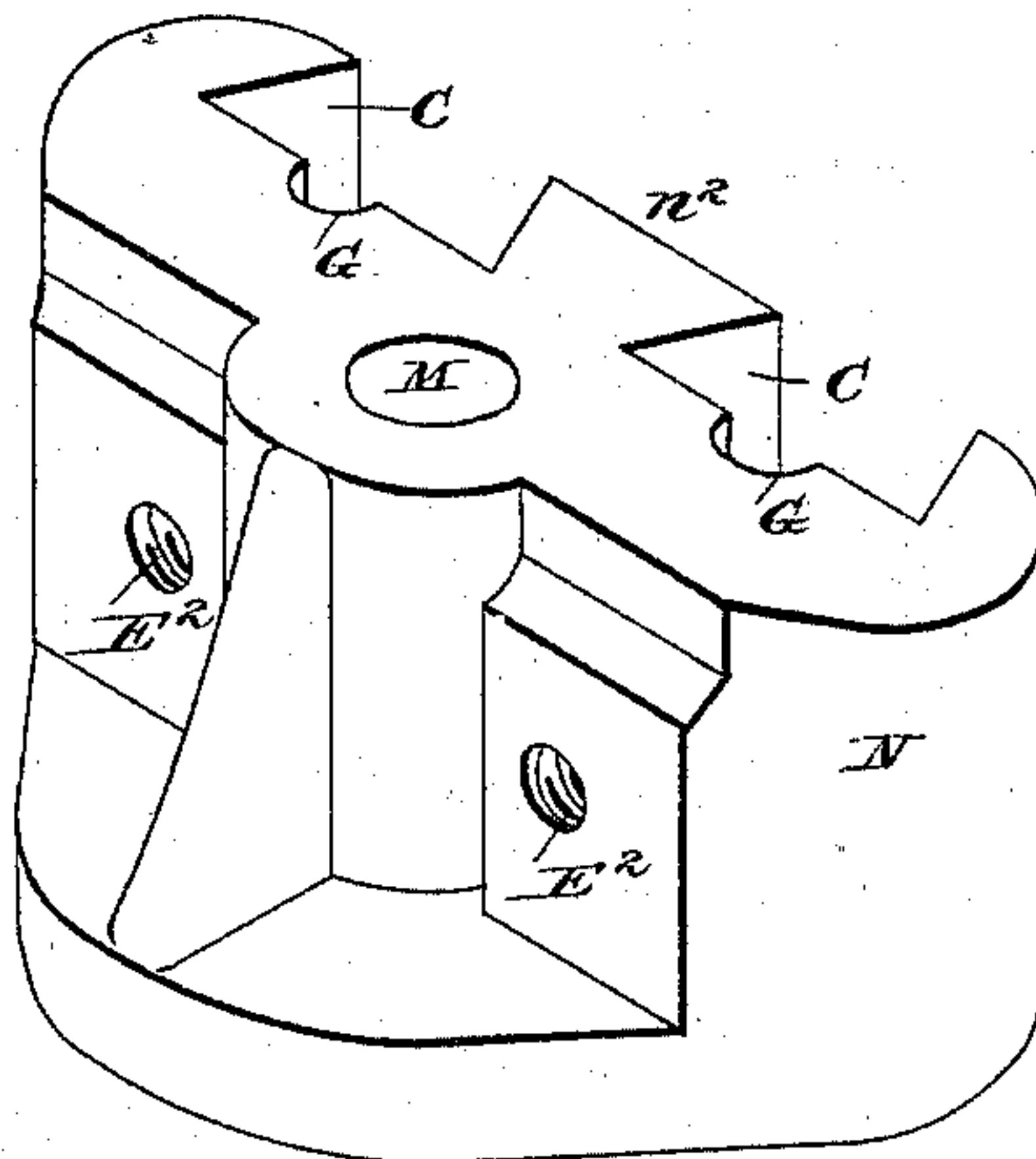


Fig. 9

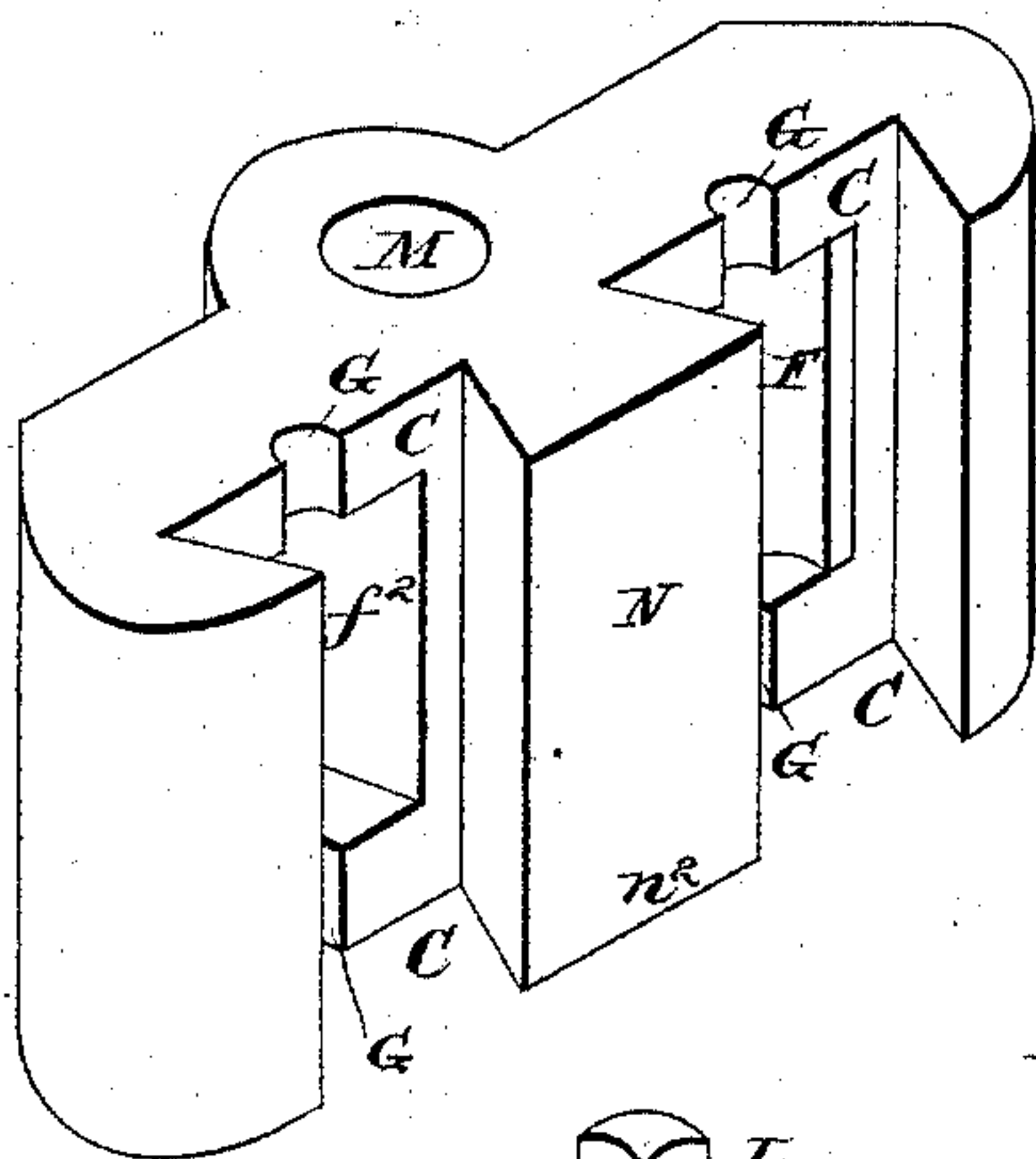


Fig. 10

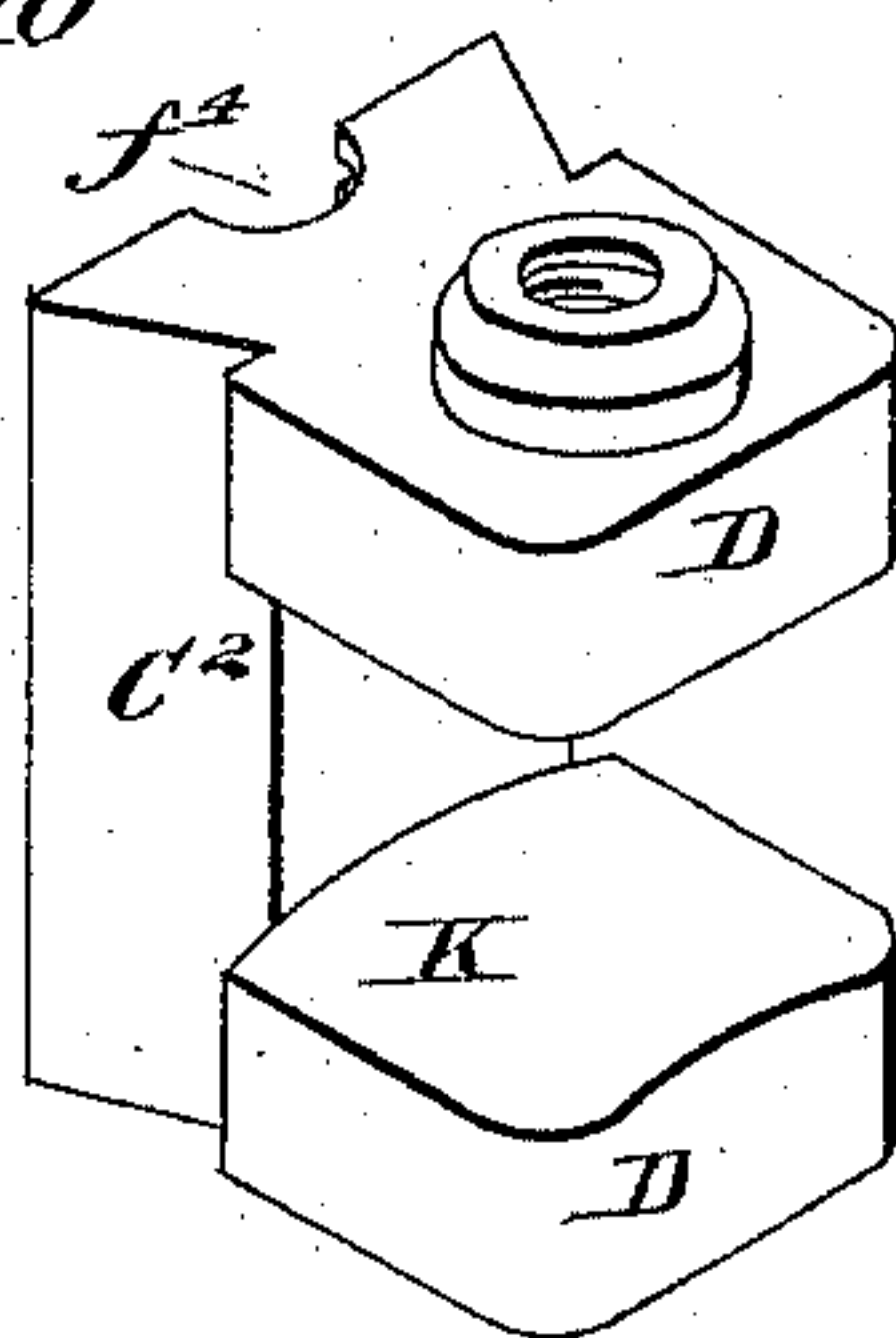


Fig. 11

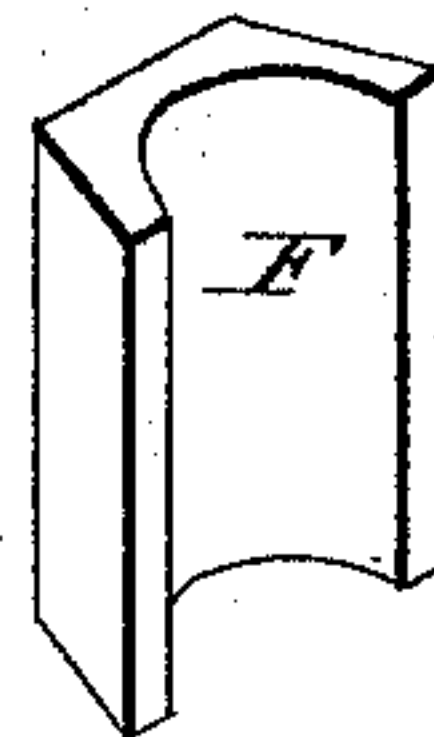


Fig. 12

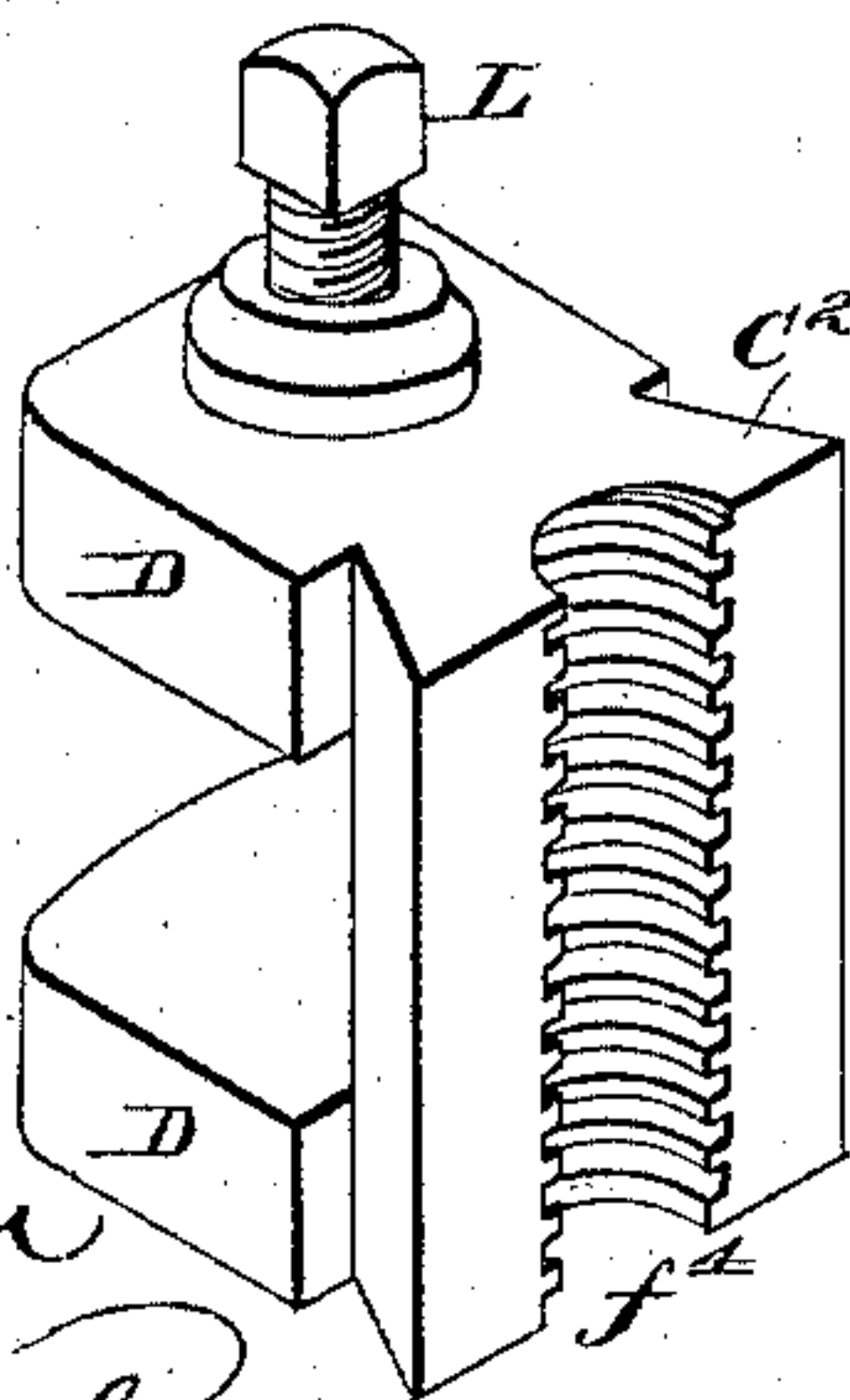


Fig. 13

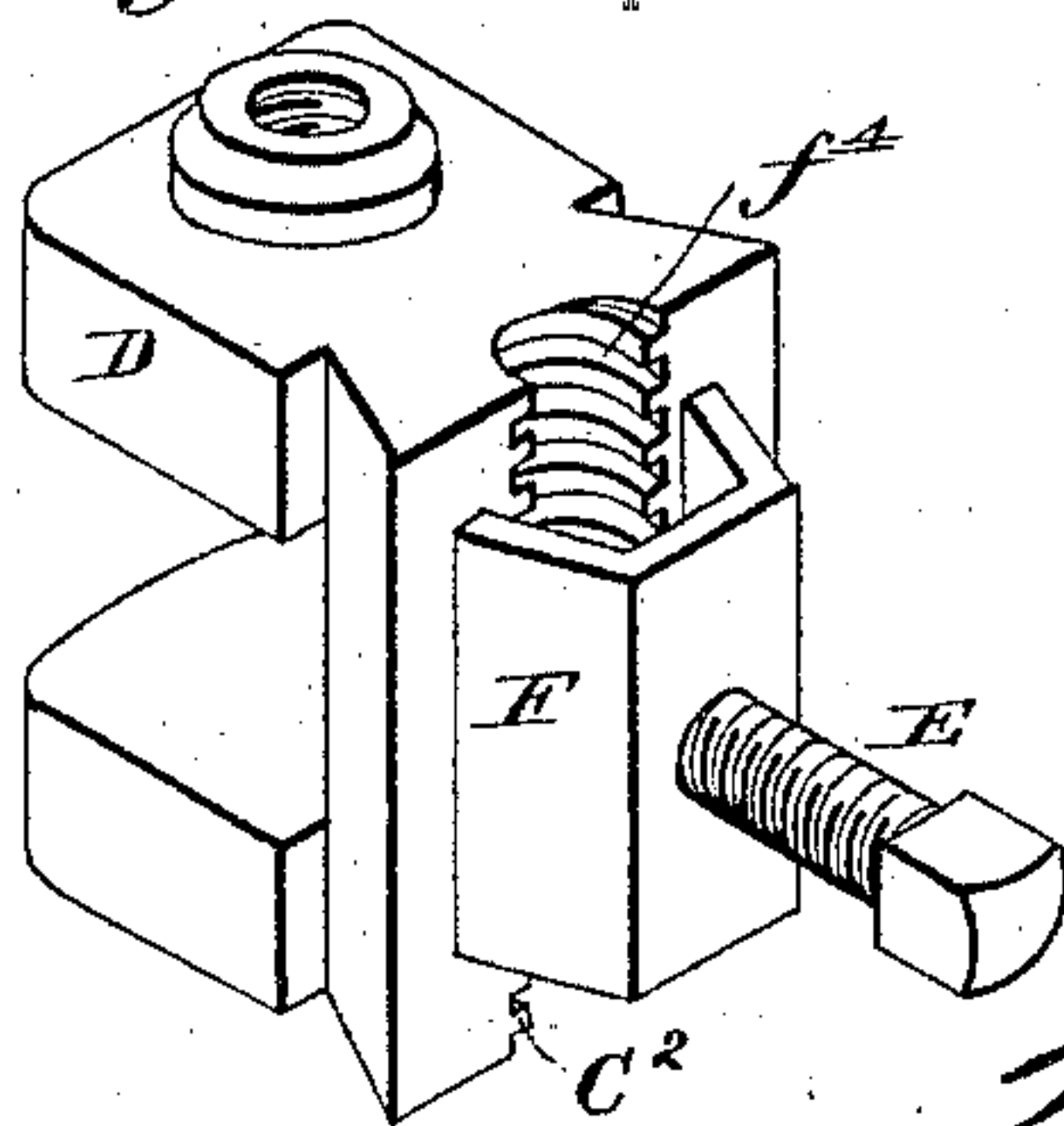
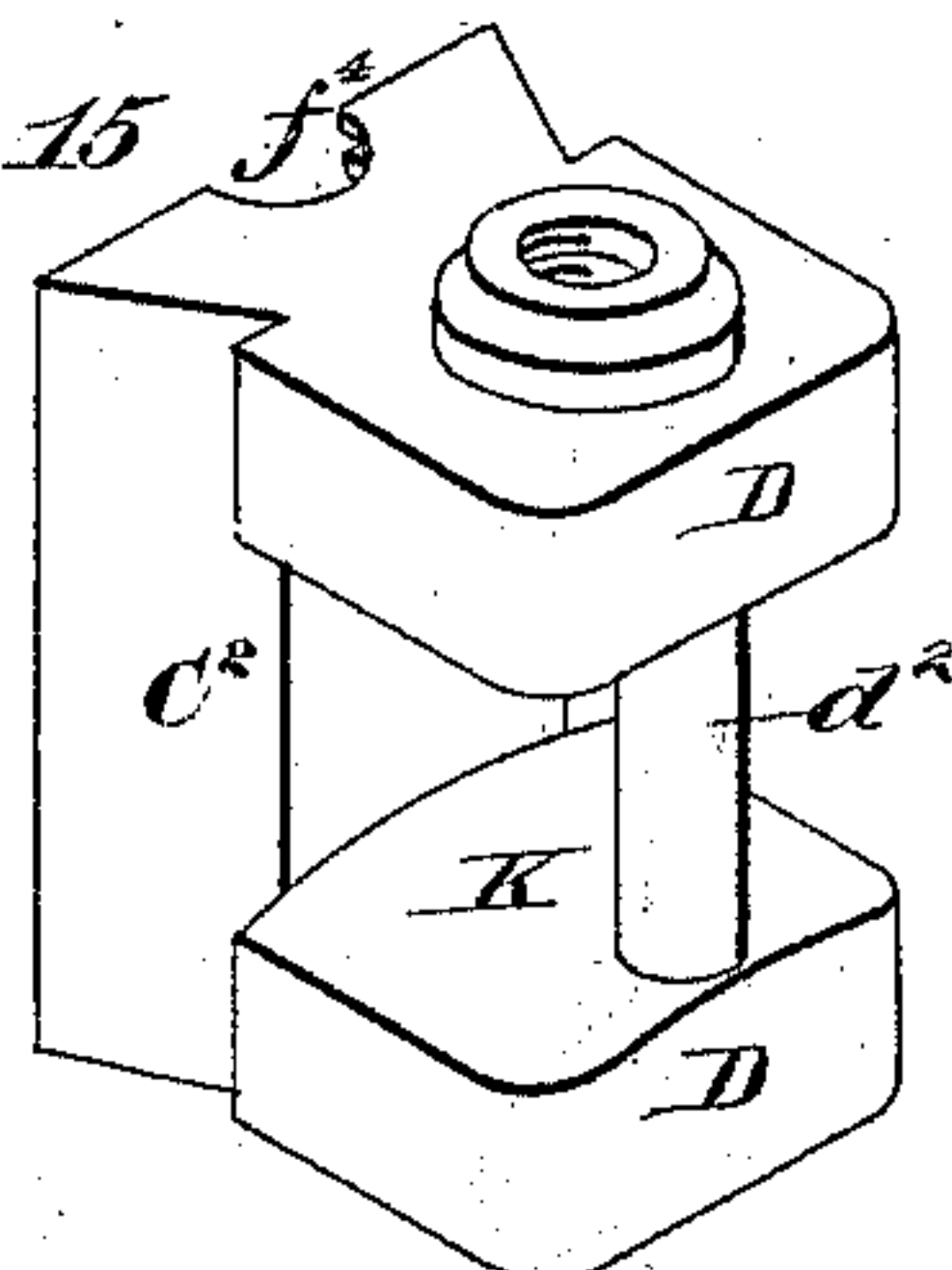


Fig. 15



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UNITED STATES PATENT OFFICE.

WILLIAM BARRACLOUGH AND ALBERT RHODES, OF STANNINGLEY, ENGLAND.

TOOL-HOLDER FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 495,576, dated April 18, 1893.

Application filed January 23, 1892. Serial No. 419,092. (No model.) Patented in England May 16, 1890, No. 7,612.

To all whom it may concern:

Be it known that we, WILLIAM BARRACLOUGH and ALBERT RHODES, subjects of the Queen of Great Britain, and residents of Stanningley, in the county of York, England, have invented certain new and useful Improvements in Tool-Holders for Lathes, (for which we have obtained a patent in Great Britain, numbered 7,612, and dated May 16, 1890,) of which the following is a full, clear, and exact specification.

This invention relates to tool holders which are used in conjunction with turning and boring lathes, and has for its object to enable the tools which are fixed therein to be quickly and easily adjusted to any required elevation or angle and with minute precision. We attain these objects by means of the mechanism which is shown in the accompanying drawings, in which:—

Figure 1, is a front elevation of our improved tool holder. Fig. 2, is a side elevation of the same. Fig. 3, is a plan of our improved tool holder. Fig. 4, is a section through A, A, Fig. 1, omitting the tool. Fig. 5, is a section through B, B, Fig. 1, omitting the tool. Figs. 6 to 15 inclusive are back and front views in perspective, illustrative of various parts of our improved tool holder.

Similar reference characters are employed throughout these illustrations to indicate corresponding parts.

It will be understood, by those persons who are familiar with engineers' tool holders for turning lathes, that the apparatus is usually, if not always, fixed upon an upright center stud or spindle attached to a bed or plate.

In carrying out our invention we furnish our improved tool holder with two duplicate jaw-pieces dovetailed into the stock of the tool holder detachable therefrom at pleasure and capable of being raised or lowered by means of screwed spindles placed conveniently between each jaw-piece and the said stock.

The stock or body, marked N, of our improved tool holder, has a bolt hole, marked M, for the reception of the usual center stud; also two adjustable jaw-pieces, marked C², D, D, dovetailed into the stock N, and fitted with spindles marked f³, for the purpose of raising or lowering each or either of the jaw-

pieces. These adjustable jaw-pieces are shown detached from the body or stock N, in Figs. 10, 12, 13 and 15, and the said stock, divested of the jaw-pieces, is shown in Figs. 8 and 9, back and front views.

The slides C, C, Figs. 8 and 9 receive the dovetailed back part C² of each jaw-piece. A recess, marked f², is formed in the stock N, behind each jaw-piece and incloses a bridge-piece marked F, Figs. 4, 5 and 13, which bridge-piece is operated upon from behind by a screw-threaded bolt marked E, Figs. 2, 3, 4, 5, 7, and 13, inserted through the body of the stock in screw-threaded holes as at E², Fig. 8.

In the back of each jaw-piece a semi-circular groove is formed, marked f⁴, and made with a screw-thread to correspond with that upon the spindle f³. The spindle f³, having annular collars and provisions suitable for revolving it with a spanner or other tool, is designed for association with each of the jaw-pieces, for the purpose of projecting it to and fro within the slide C.

A tightening screw, marked L, is fitted into each or either of the jaws D, either the upper or lower one, or both, for the purpose of fixing a tool therein, as shown by J, Fig. 1.

The several parts of this apparatus are put together as follows—The metal bridges F, are laid within the cavities f² and the screw-threaded spindles f³ are laid in the semi-circular seats G, G, each movable jaw-piece is then introduced within one end of its dovetailed or astragal slide until the screw-threaded part f⁴ engages with the screw-thread upon the said spindle when the latter is revolved until each jaw-piece is drawn into its required position. By revolving the spindles f³, when the apparatus is complete, the jaw-pieces are raised or lowered and, by leaving the spindles stationary, the jaw-pieces are retained at any elevation required. The screw-threaded bolts, E, press upon the back of the bridges F and cause the latter to push the jaw-pieces forward against their dove-tailed slides C and thereby assist the screw-spindles f³, in retaining the jaw-pieces rigidly at any required elevation. When two of these jaw-pieces are thus inserted, adjacently, within the dovetailed slides C, C, and the cutting tool J, is fixed therein, as shown in Fig. 1, the said tool can be adjusted at any angle, or at any elevation

required, by means of the mechanism above described for raising and lowering each or either of the said jaw-pieces and the tool can be fixed therein, rigidly in position by means of the set-screws L.

We prefer to make certain surfaces of the jaws D, D, slightly convex, as indicated at K, Figs. 1, 6, 10 and 15, which we find favorable for the angling of the tool J, as shown in Fig. 1. We also, as occasion requires, strengthen the jaws D, D, by uniting them together with a tie-piece marked d^2 , Fig. 15. The bridge-piece F, Figs. 4, 11 and 13, does not impinge upon the screwed spindle f^3 , but bears only upon the hinder parts of the jaw-piece, as shown in Figs. 4 and 13. Although we consider, from our experience in using these adjustable jaw-pieces, that the forms of them which we have shown in the drawings herein, are the most generally convenient for the purposes named, yet the essential objects of our invention (namely adjustable jaw-pieces working upon or within slides) may be attained if the slide C, is made in the jaw-piece and the beveled flanges formed upon the stock N, (similar to the part marked n^2 Figs. 8 and 9) instead of the exact forms shown herein.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. In a tool holder, the adjustable jaw-piece having a dovetail guide lug C^2 , and set screw L, said lug being provided with a screw-threaded semi-circular groove f^4 , in combination with the stock provided with seats G, G, and an adjusting screw-spindle interposed between the groove and stock and engaging said seats and the screwthreaded lug, substantially as and for the purpose set forth.

2. In a tool holder, the bridge-piece F, in combination with the adjustable jaw-piece,

bolt E, and stock N, substantially as and for the purpose set forth.

3. In a tool holder, the stock and the spindle f^3 , in combination with the bridge F and adjustable jaw-piece, substantially as and for the purpose set forth.

4. In a tool holder, the adjustable jaw-piece having a dovetail guide-lug, a set-screw L therein, a convex jaw, and a screw-threaded, semi-circular groove, in combination with the stock and an adjusting screw-spindle interposed between the groove and stock and engaging the screw-threaded groove, substantially as and for the purpose described.

5. In a tool holder, the combination of a stock, adjustable jaw-pieces, provided with set screws L, L, and curved pieces K, K; said jaw-pieces being dovetailed in the stock, and provided with threaded parts f^4 ; the bridge-pieces F, placed in recesses formed in the stock and bearing on the jaw-pieces, the threaded spindles f^3 , placed between the bridges and jaw-pieces, and the set screws E, E, inserted in the stock and acting against the rear of the bridge-pieces, substantially as and for the purpose set forth.

6. In a tool holder, the combination of a stock, adjustable jaw-pieces dovetailed in said stock and provided with tool-retaining devices, and having screw-threaded back portions, screw-spindles interposed between the stock and the said screw-threaded back portions and pressure devices to hold the jaw-pieces in their adjusted positions, substantially as set forth.

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Witnesses:

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JOHN HARRISON WILSON,
Clerk, Providence Foundry, Stanningley.