

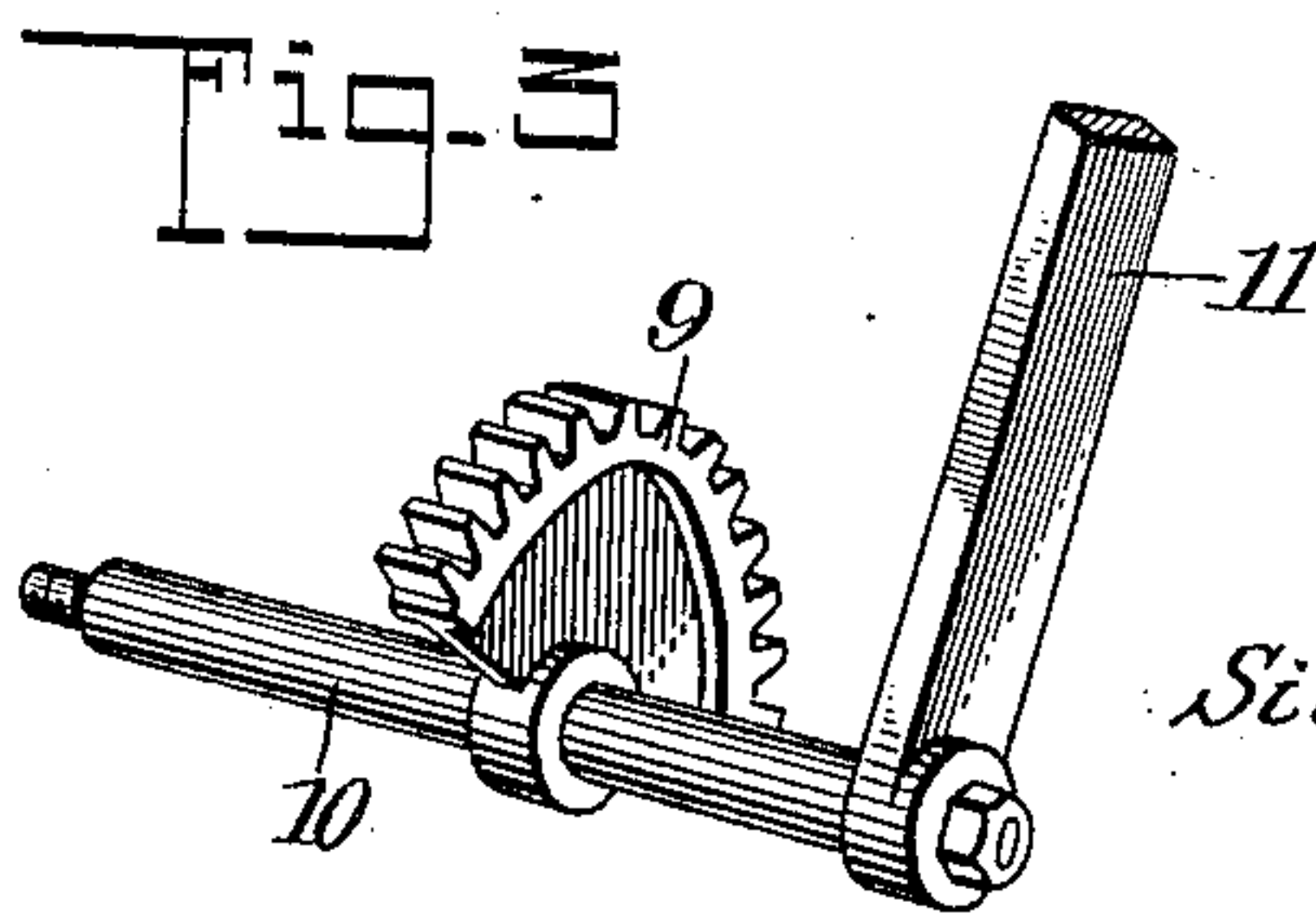
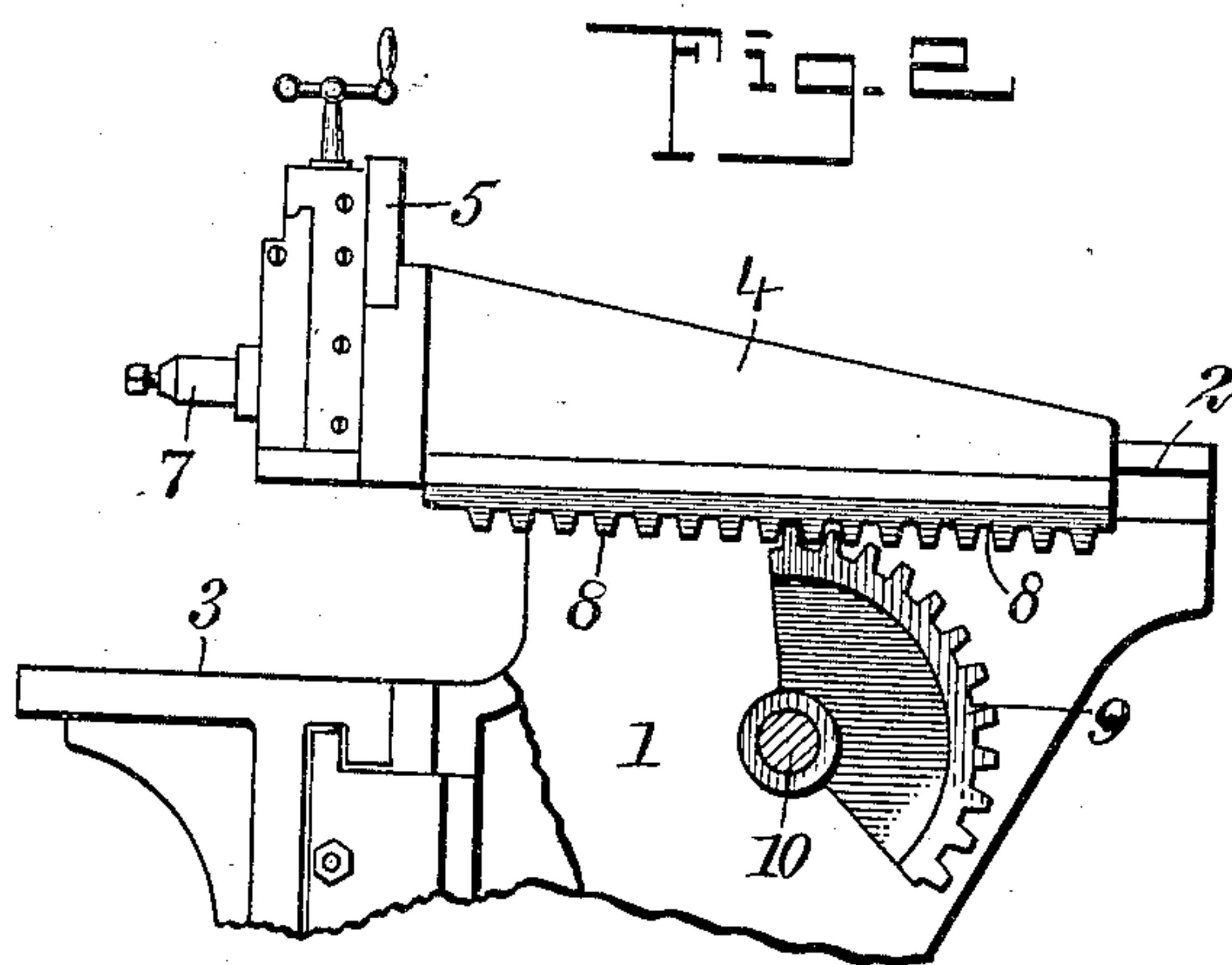
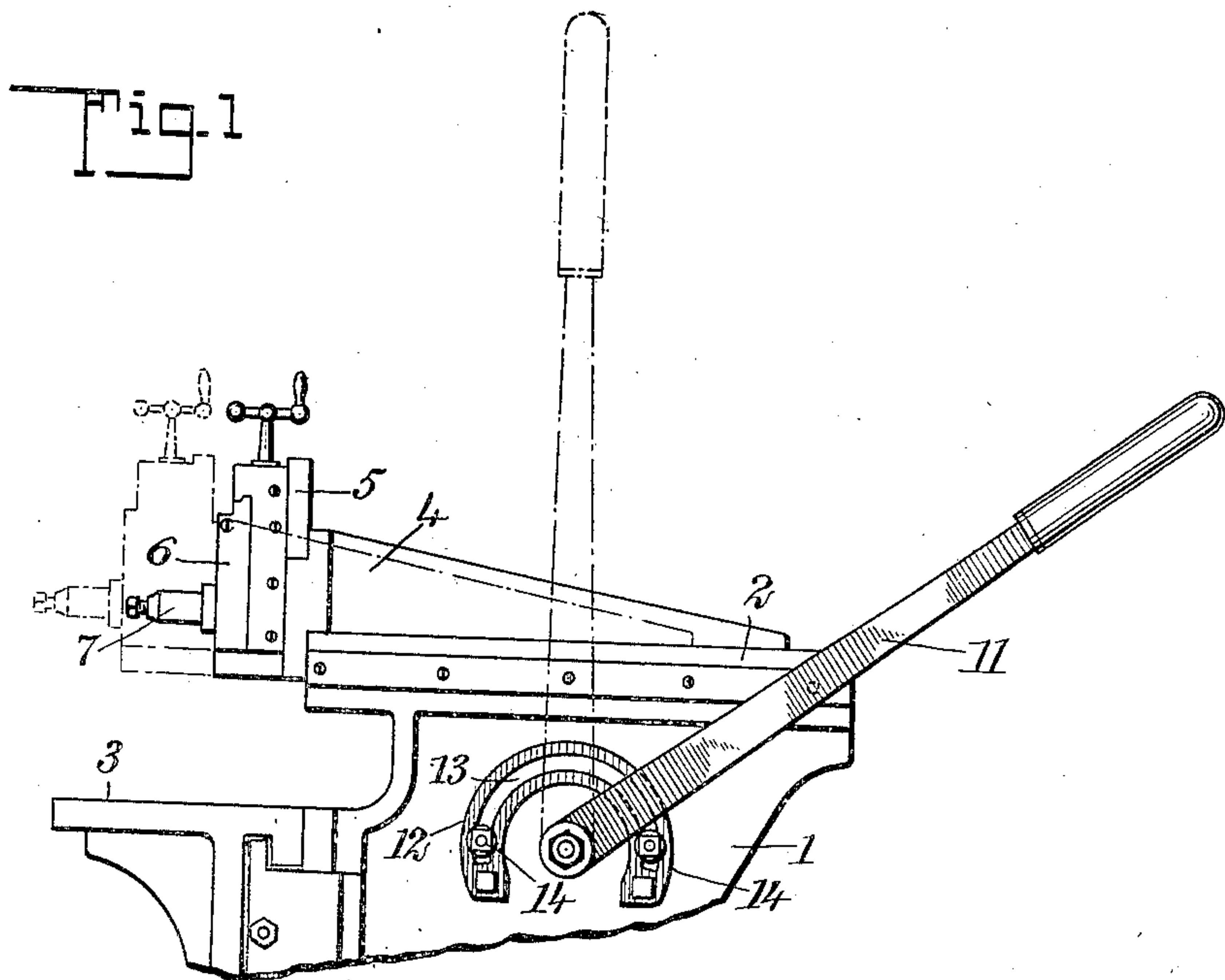
No. 837,861.

PATENTED DEC. 4, 1906.

S. N. MALTERNER.

SHAPER.

APPLICATION FILED FEB. 20, 1906.



WITNESSES:

*J. A. Brophy*  
*J. D. Amman*

INVENTOR

*Silas N. Malterner*

BY

*Mumford*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

SILAS NOTT MALTERNER, OF CANTON, NEW YORK.

## SHAPER.

No. 837,861.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed February 20, 1906. Serial No. 302,132.

*To all whom it may concern:*

Be it known that I, SILAS NOTT MALTERNER, a citizen of the United States, and a resident of Canton, in the county of St. Lawrence and State of New York, have invented a new and Improved Shaper, of which the following is a full, clear, and exact description.

This invention relates to shapers such as are used in machine-shops for finishing small machined work.

The object of the invention is to produce a shaper of simple construction which may be operated in a simple manner by hand.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Figure 1 is an end elevation of the upper portion of the shaper constructed according to my invention. Fig. 2 is a view similar to Fig. 1, representing a portion of the frame as broken away, the operating-shaft being shown in cross-section, the purpose of this view being to illustrate the manner of driving the shaper carried; and Fig. 3 is a perspective view showing the shaft of the shaper, together with a gear-segment which is rigidly attached thereto and a lever for operating the said segment, said lever being here represented as broken away.

1 represents the frame of the shaper, which is formed above into guide-shears 2 and forwardly with a table 3, adapted to receive the work. In the shears 2 a carriage 4 is carried, so that the same may be reciprocated, the forward edge of the carriage being formed into a head 5, having an apron 6, carrying a tool-post 7. On its under side the carriage 4 is provided with a longitudinally-disposed rack 8, and the teeth of this rack are adapted to mesh with a gear-segment 9, which is rigidly attached to a transverse shaft 10, which shaft is mounted at a suitable point in the frame 1, as indicated. At one extremity this shaft 10 carries rigidly a hand-lever 11, which affords means for rocking the shaft back and forth, as will be readily understood. On the outer face of the frame 1, as indicated most clearly in Fig. 1, I attach a curved bracket 12, which is of arcuate form, as shown, the center of the arc being on the axis of the shaft 10. This bracket is formed with a curved slot 13, in which I provide adjustable stop-bolts 14. Between these stop-bolts the lever 11 lies, and it should be understood that when the lever 11 is reciprocated, as

suggested above, these bolts 14 will operate to limit its angular movement.

In operating the machine it should be understood that when the lever is moved forwardly to a position such as that indicated in Fig. 1 in dotted lines the segment 9 will operate to advance the carriage forth into substantially the position in which it is indicated in dotted lines also in Fig. 1. With a suitable tool attached in the tool-post the lever 11 may be reciprocated in this way, so as to enable the tool to operate upon a piece of work held upon the table 3.

If it should happen that the position of the work upon the table 3 is such that the lever 11 does not reciprocate at a convenient point, which is generally the uppermost or approximately vertical position, it is only necessary to remove either of the stop-bolts 14 so as to enable the segment 9 to be moved entirely out of connection with the rack 8. Then if the carriage is desired at a more advanced position it will be moved in that direction, whereupon the lever 11 will be moved back, so as to bring about a reengagement between the gear-segment and the rack. When the lever is brought into intermediate position on each side of which it swings, the carriage will then be found to have a more advanced position than formerly. If the carriage is desired to reciprocate at a less advanced position, the operation described will be reversed.

The stop-bars 14 obviously afford means for limiting the movement of the lever and determining the stroke of the tool. Of course when the work has been secured upon the table these bolts will be adjusted so that the tool will just clear the edges of the work when passing across the same.

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

1. In a shaper, in combination, a frame, a carriage slidably mounted thereupon and having a rack formed thereon, a gear-segment engaging said rack, a lever rigid with said gear-segment, said frame having formed thereupon a curved slot, and adjustable stop-bolts mounted in said slot and lying in the path of said lever to limit the movement thereof.

2. In a shaper, in combination, a frame, a carriage slidably mounted thereupon, a transverse shaft mounted in said frame, a gear-segment rigid therewith, said carriage having a rack formed thereon engaging said

segment, a lever rigid with said shaft and disposed at the side of said frame, a bracket attached to the side of said frame and having a curved slot therein, and adjustable stop-bolts  
5 mounted in said slot and adapted to be engaged by the opposite edges of said lever, said stop-bolts affording means for limiting the movement of said lever.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

SILAS NOTT MALTERNER.

Witnesses:

J. FRED HAMMOND,  
W. W. HAILE.