

No. 696,309.

Patented Mar. 25, 1902.

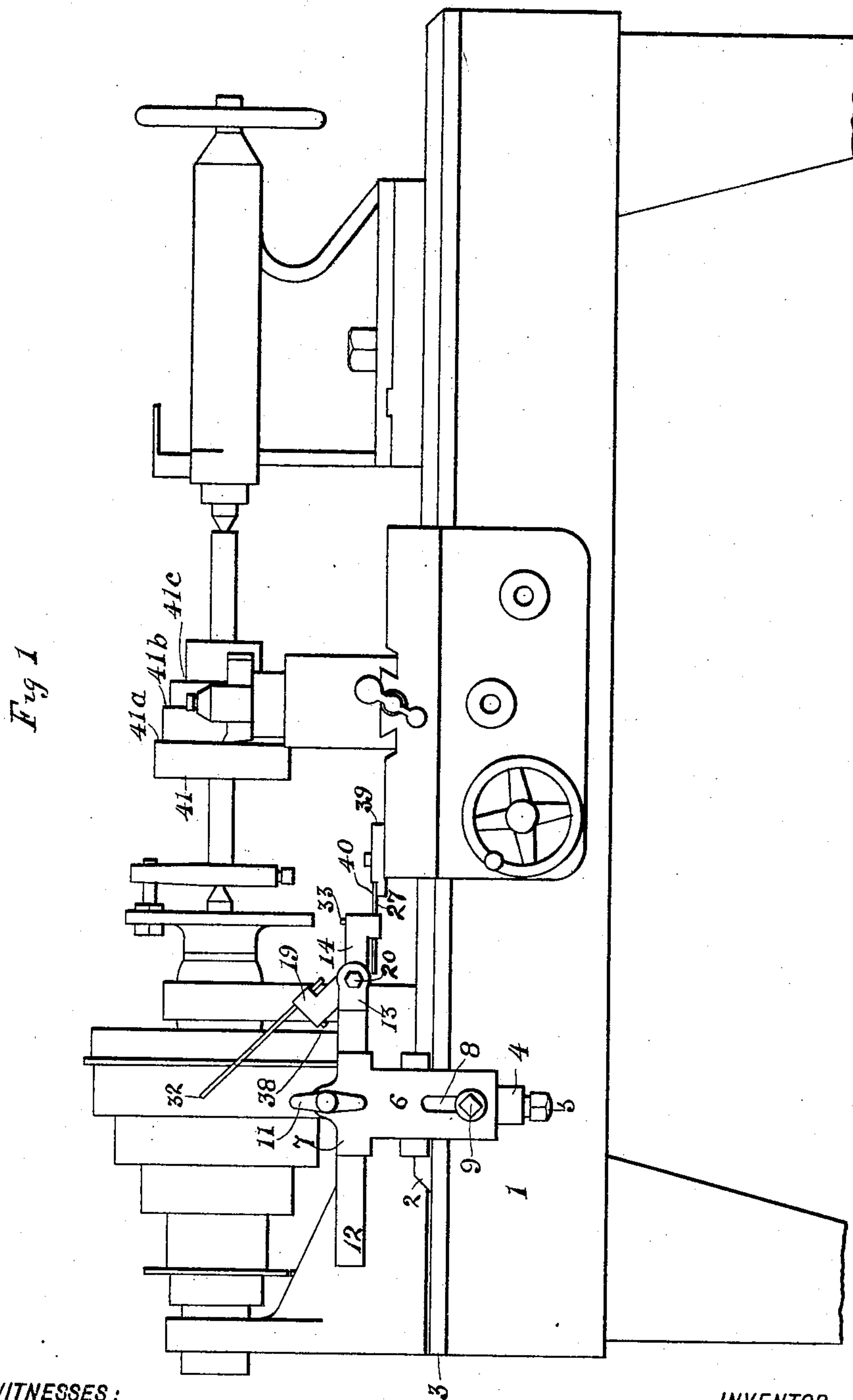
E. J. BOWERS.

MULTIPLE GAGE FOR LATHE WORK.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

Henry R. Johnson
W. J. Bowers

INVENTOR.

Edmund J. Bowers.

No. 696,309.

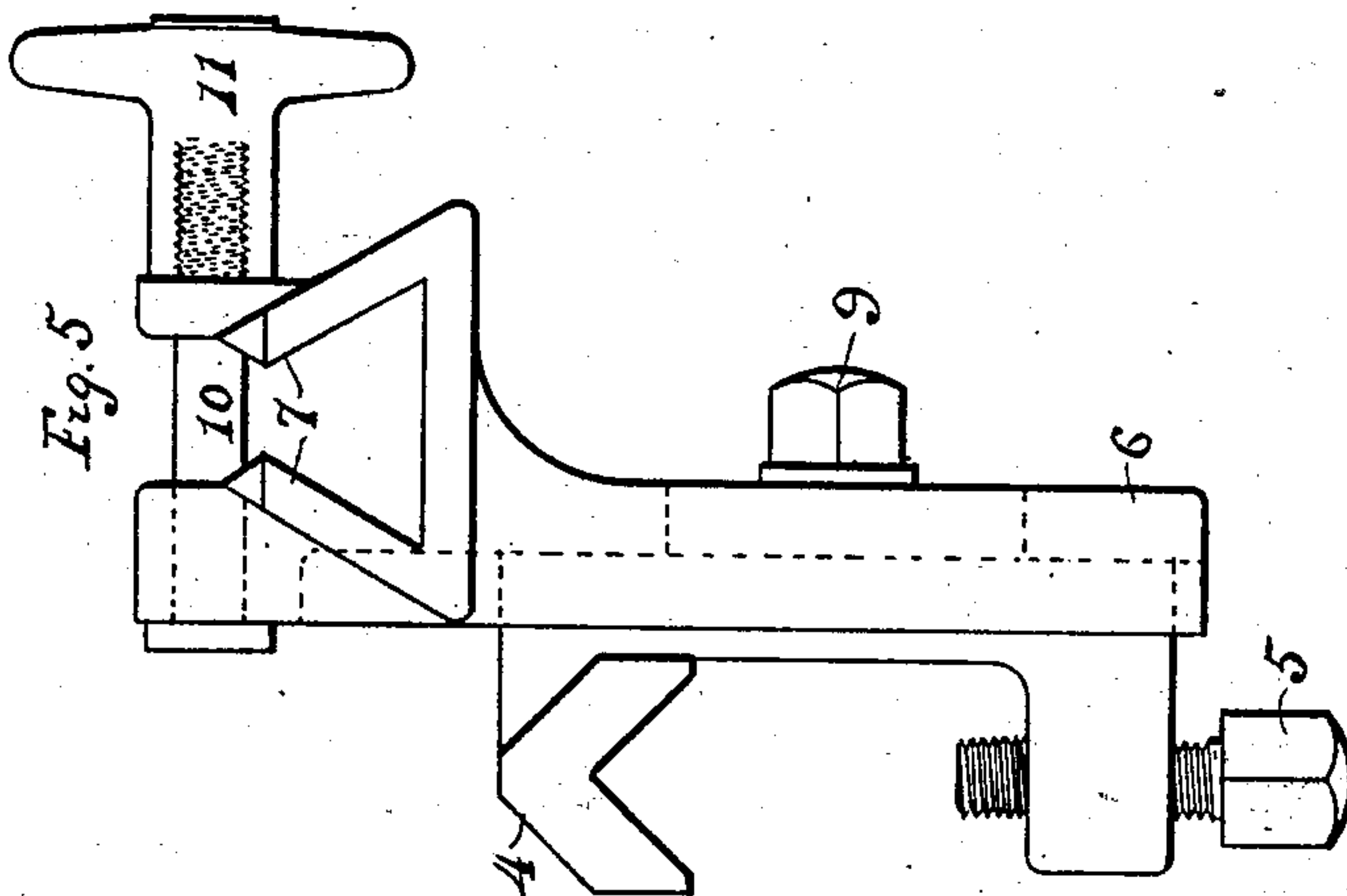
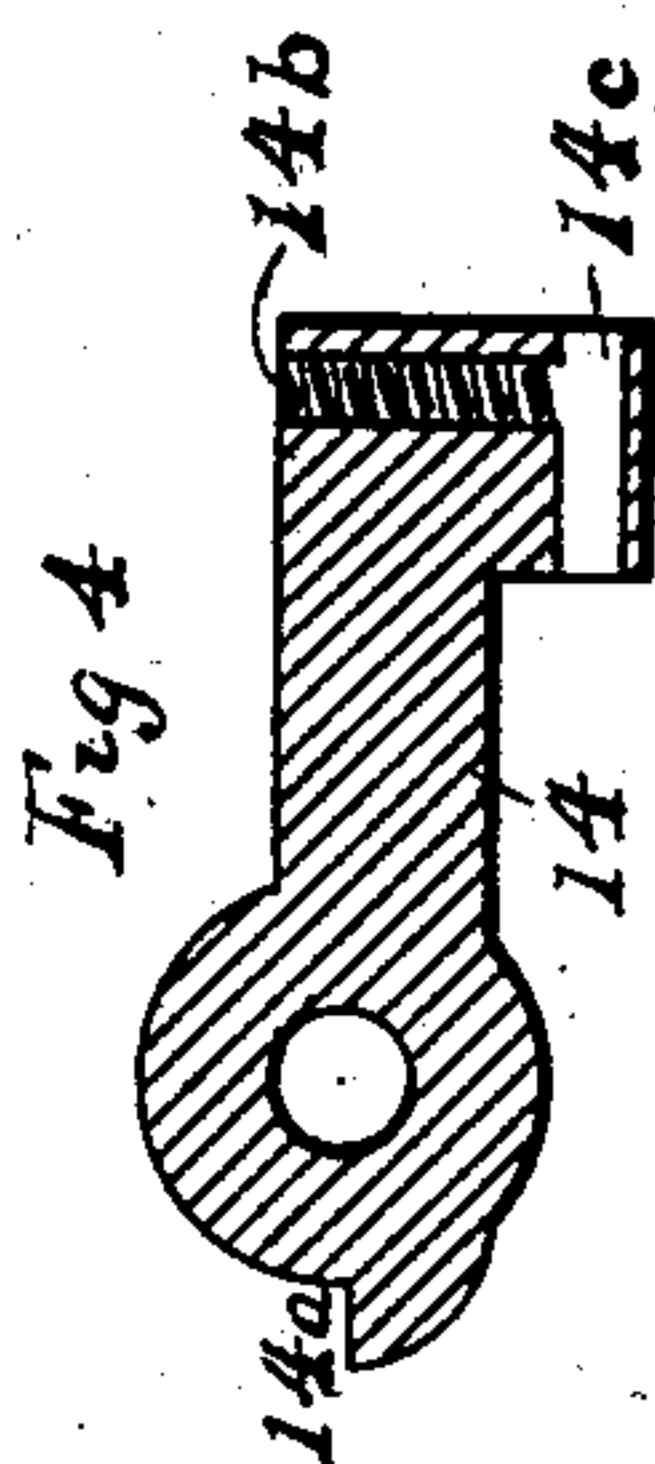
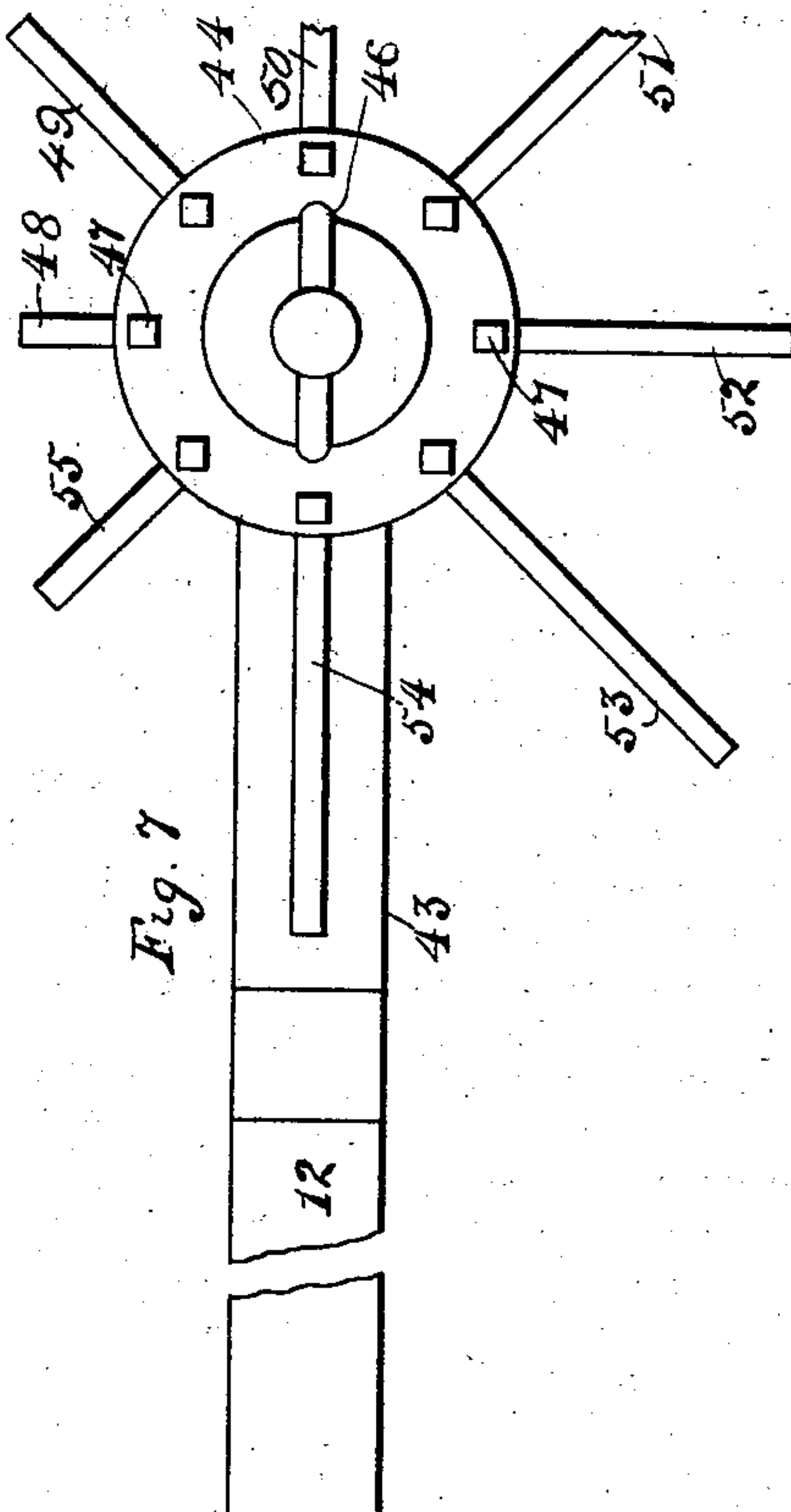
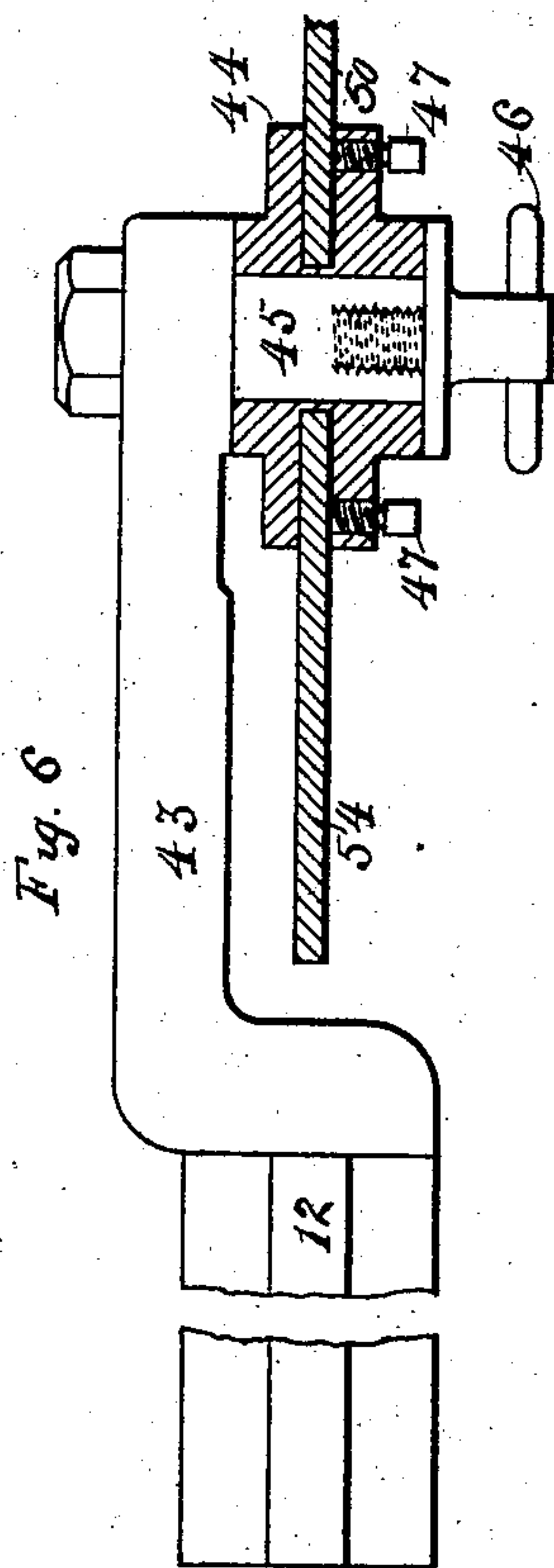
Patented Mar. 25, 1902.

E. J. BOWERS.
MULTIPLE GAGE FOR LATHE WORK.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES:
Henry R. Johnson.
E. J. Bowers

INVENTOR
Edmund J. Bowers

UNITED STATES PATENT OFFICE.

EDMUND J. BOWERS, OF PHILADELPHIA, PENNSYLVANIA.

MULTIPLE GAGE FOR LATHE WORK.

SPECIFICATION forming part of Letters Patent No. 696,309, dated March 25, 1902.

Application filed June 24, 1901. Serial No. 65,840. (No model.)

To all whom it may concern:

Be it known that I, EDMUND J. BOWERS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Multiple Gages for Lathe Work; and I do 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to multiple gages for lathe work, and has for its object the production of a lathe attachment by means of which the desired positions of carriage and tool may be quickly and conveniently found when a number of faces or parts of a piece of work are to be turned at different measurements longitudinally or diametrically.

Each constituent element of my invention is described in detail and its individual office, together with the mode of operation of the whole, fully explained hereinbelow.

Of the accompanying drawings, throughout which like numbers designate like parts, Figure 1 represents a side view of a lathe having my invention fixed thereon in one of the positions for which it is designed. Fig. 2 is a top plan view of the V-bar and pivoted gage-holders and gages. Fig. 3 is a side view of the V-bar and pivoted gage-holders and gages, showing also the outward face or side of the V-clamp in which the V-bar slides and the thumb-screw for fixing the bar in this clamp, and there also appears in Fig. 3 the main clamp by which the whole is secured upon the lathe-bed. Fig. 4 is a vertical longitudinal section of one of the pivoted gage-holders detached. Fig. 5 is a side view of the main clamp and V-clamp, and Figs. 6 and 7 are respectively a top plan, partly sectional, and a side view of a modified form of my invention. The scale of drawing in Figs. 2, 3, 4, 5, 6, and 7 is increased beyond that of the first figure to more effectively represent the parts illustrated.

Considering Figs. 1, 3, and 5, numeral 1 designates a lathe of any ordinary construction, and upon the carriage-guide 2 and overhang-

ing edge 3 of the bed of the lathe the main clamp 4 is fixed by means of its set-screw 5. There are other portions of lathes of customary construction to which my invention may be attached. Numeral 6 marks the shank of the V-clamp 7, and through the shank is formed a slot 8 lengthwise, and the screw 9 enters the back of the main clamp by way of the slot and serves to fix the shank in position with respect to the main clamp upon which it is thus shown to be vertically adjustable. The V-clamp 7 is closed by means of bolt 10 and thumb-nut 11 upon the V-bar 12, to which at the right hand in the figures the gage-holders are pivoted.

Considering now Fig. 2, it will be noted that the gage-holders, of which there may be obviously any number, are located within a recessed terminal 13 of bar 12. Six gage-holders are shown and marked 14, 15, 16, 17, 18, and 19, and they are pivotally supported by the bolt 20, extending across the terminal 13 mentioned. The gage-holders all have the same form, and reference to Fig. 4 and a description of holder 14 illustrated thereby will answer for all. To the left hand of the gage-holder will be seen the projecting lip or lug 14^a and at the right-hand end the vertical threaded passage 14^b, opening into the horizontal gage seat or guide 14^c, which extends through a depending end portion of the holder. In Fig. 2 six screws are shown, (marked, respectively, 21, 22, 23, 24, 25, and 26.) Each of these screws passes downwardly in the terminal 13 and meets the lip at the left-hand end of one of the holders, as indicated by the broken line in Fig. 3. It is believed to be clear, therefore, that while each gage-holder may be turned upwardly within terminal 13 the contact of lip and screw prevents it from turning downwardly from the position delineated in Fig. 3 and that by means of the screws and lips the holders may be adjusted level with each other or raised above the level in the figure.

At the right-hand end of Figs. 1, 2, and 3 the gages appear. These are straight rods, often of rectangular cross-section, although not necessarily so formed, and pass through the horizontal gage seats or guides in the holders, such as represented in Fig. 4, and referred to by the number 14^b. The gages vary in

length. The shortest is marked 27 and the others 28, 29, 30, 31, and 32 in the order of length. Set-screws 33, 34, 35, 36, 37, and 38 secure the gages within their seats, and each
5 gage may be adjustably placed to project more or less, as desired.

I do not confine myself to the precise forms of any of the elements hereinabove described, but may change their shapes under different
10 conditions. In the case of the main clamp particularly it is often necessary to introduce a different construction.

In Fig. 1 is shown a block 39, attached to the carriage of the lathe. Ordinarily the
15 block possesses a recess 40 transversely and wide enough to meet all the gages one after the other. The block is not absolutely needed in every instance, as the end of the carriage often supplies all the contact-surface called
20 for. A piece of work 41 is held on the mandrel 42 in the lathe, and, for example, let it be assumed that it has three faces 41^a, 41^b, and 41^c, which are to be finished in turn by the cross-feed and tool. The gages to be used
25 are selected and adjusted and all the gages but one thrown up out of the way. (See Fig. 1.) The one gage down meets block 39 when the tool is in the exact position to take the first face 41^a. When this face is turned,
30 the gage in use is thrown up with the others and the second gage selected brought down. The carriage is then moved to the right until the second gage drops into the recess of block 39, when the second position of the tool is
35 reached. The successive points at which the cuts are to be taken may thus be most quickly and positively found and any number of positions prepared for. In practice it happens that where a number of like pieces of work
40 are to be treated they are not all located upon the mandrel in precisely the same place, and it is frequently necessary to adjust the V-bar 12 to right or left in making the first cut. After this adjustment no other changes are
45 demanded.

Figs. 6 and 7 represent a modified form of my invention. The end of the V-bar 12 is provided with an extension 43, and a cylindrical gage-holder 44 is revoluble upon a bolt
50 45, supported by the extension. The holder

44 is fixed in position by means of thumb-screw 46. The gages are let radially into suitable seats in the holder and held in place by set-screws 47. There are eight gages in the modification numbered in order of length
55 48, 49, 50, 51, 52, 53, 54, and 55. In operation the modification behaves substantially like the preferred form, each gage being capable of turning in a vertical plane to be brought into suitable contact with the recess
60 of block 39 or with the end of the carriage, as stated.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a multiple gage for lathe work, the combination of a main clamp, a bar-clamp and means for adjusting it vertically upon the main clamp, a bar adjustable in the said bar-clamp, rod-gages, and devices supporting the
70 gages pivotally at one end of the bar, substantially as described.

2. In a multiple gage for lathe work, the combination of a main clamp, a bar-clamp and means for adjusting it vertically upon the
75 main clamp, a bar adjustable in the said bar-clamp, gage-holders pivotally supported at one end of the said bar, and gages secured in the said holders, substantially as described.

3. In a multiple gage for lathe work, the
80 combination of a main clamp, a bar-clamp and means for adjusting it vertically upon the main clamp, a bar adjustable in the said bar-clamp, gage-holders pivotally supported at one end of the said bar, adjustable devices
85 whereby the said holders are permitted to turn upwardly and prevented from turning downwardly, and gages adjustably connected with the said holders, substantially as described.

4. In a multiple gage for lathe work, a gage-holder 14 having the projecting lip, the vertical threaded passage and the horizontal gage seat and guide, substantially as described.

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

EDMUND J. BOWERS.

Witnesses:

W. J. BOWERS,
S. LEI AYRES.