C. D. YOUNG.

MEANS FOR SECURING MOVABLE LATHE STOCKS.

APPLICATION FILED OCT. 9, 1908.

927,628.

Patented July 13, 1909.

2 SHEETS—SHEET 1.

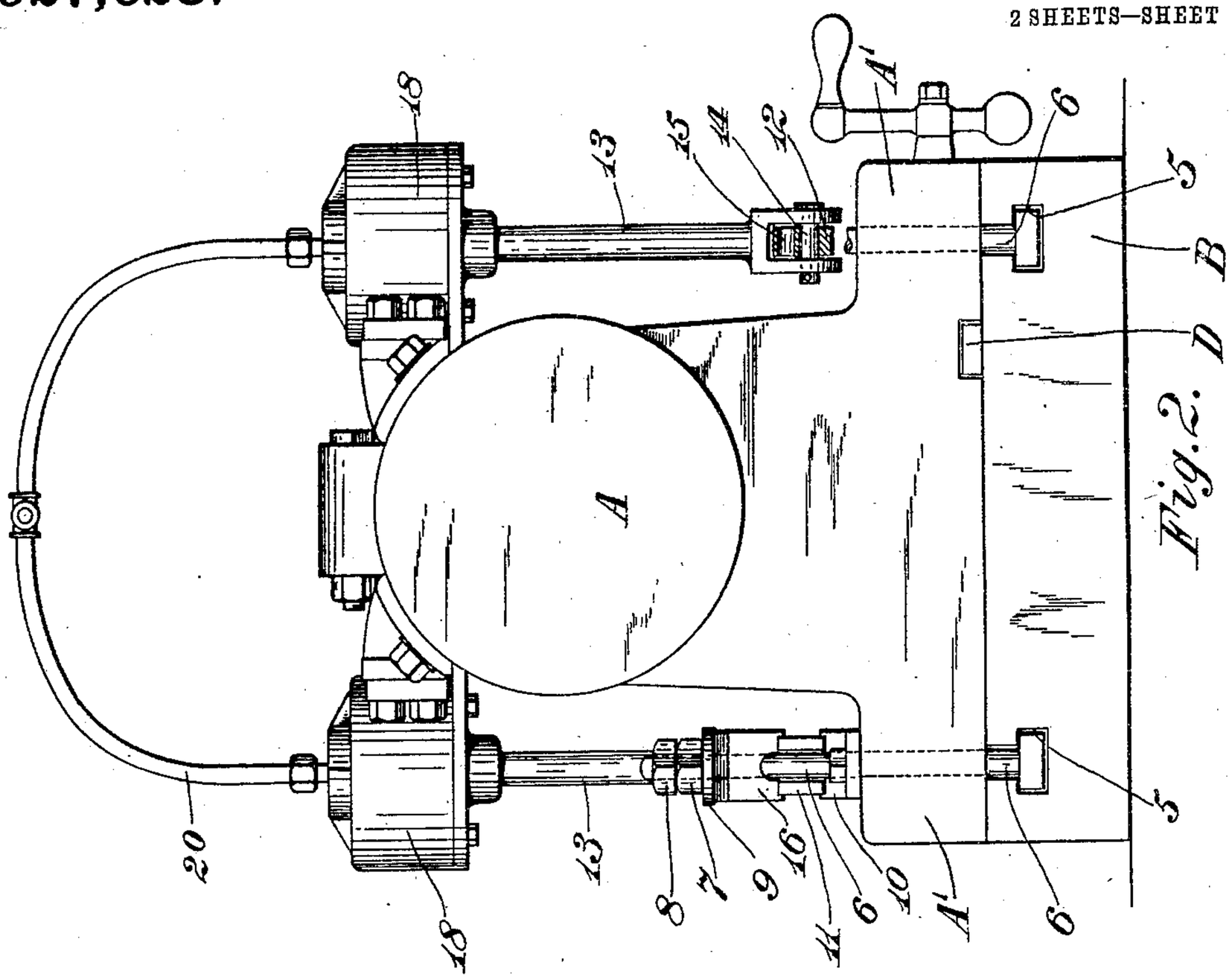

Fig. 2.

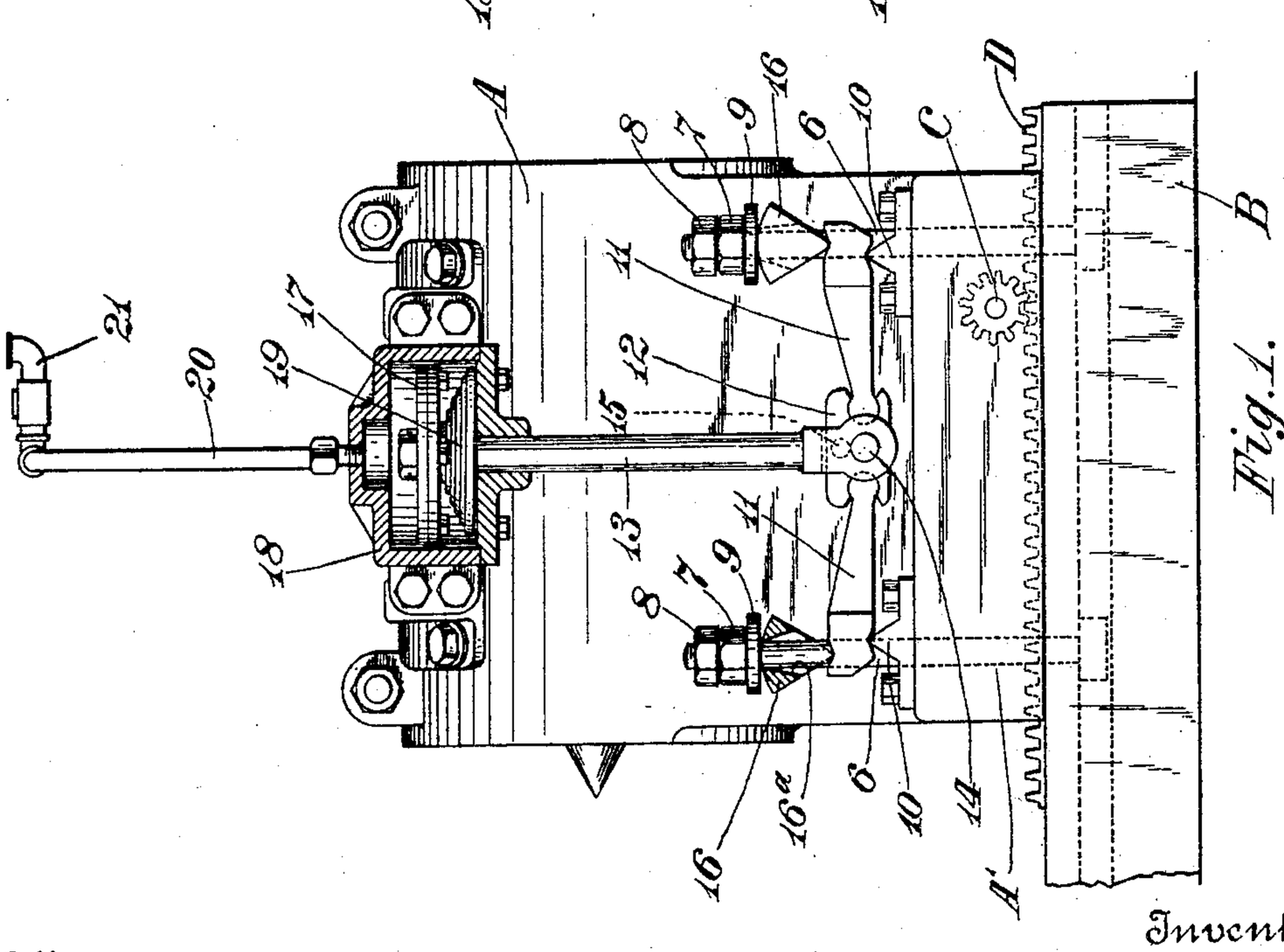

Fig. 1.

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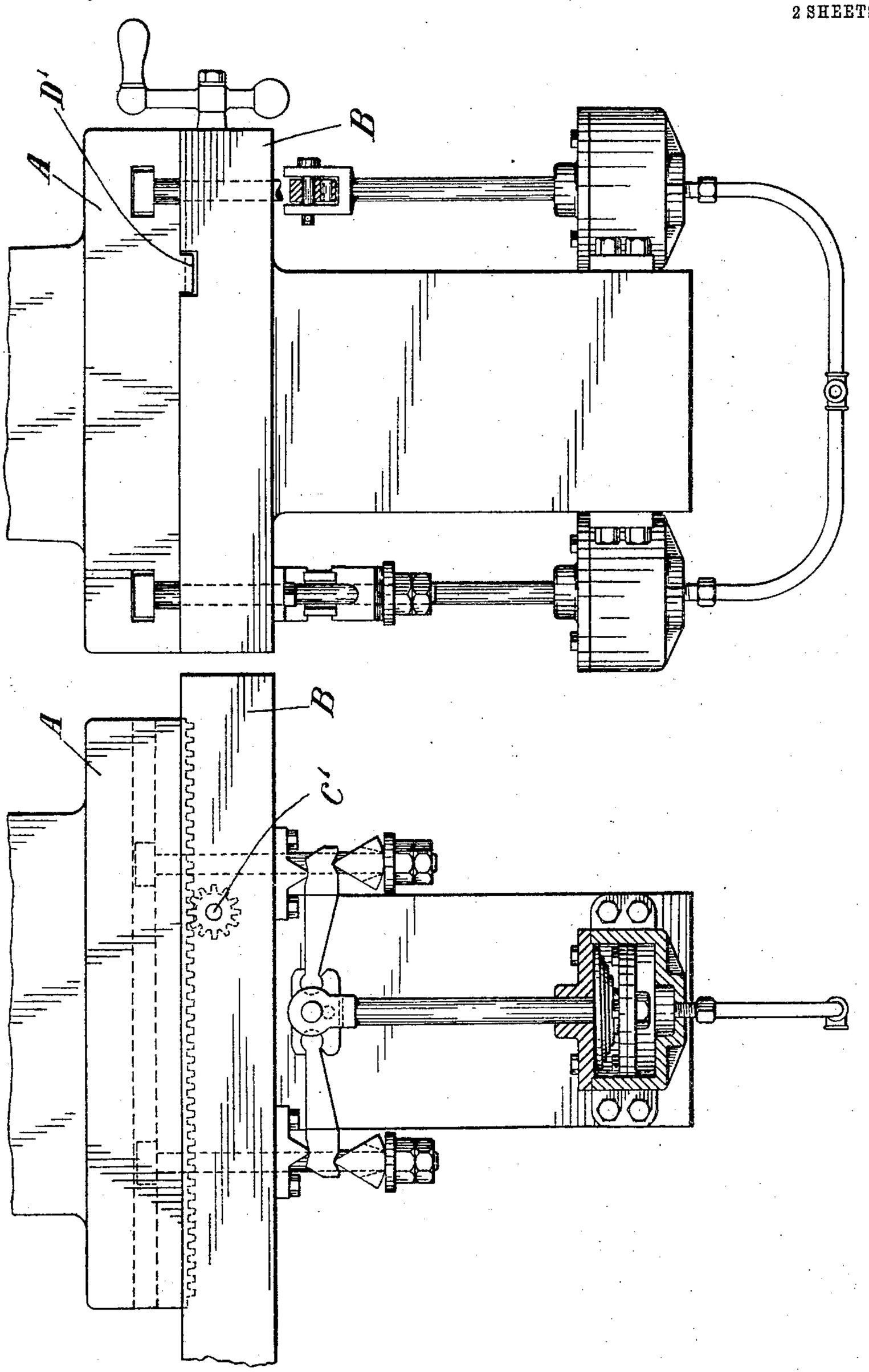

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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MEANS FOR SECURING MOVABLE LATHE-STOCKS.

No. 927,628. Specification of Letters Patent. Patented July 13, 1909.

Application filed October 9, 1908. Serial No. 457,026.

To all whom it may concern:

Be it known that I, CHARLES D. YOUNG, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Means for Securing Movable Lathe-Stocks, of which the following is a specification.

The primary object of this invention is to provide an improved means for securing a sliding lathe stock to its bed, but the invention can be used in other situations.

The invention resides in the constructions hereinafter described and then particularly pointed out in the claims.

In the accompanying drawings in which I have illustrated two embodiments of the invention—Figure 1 is a side elevation with parts in section of a lathe stock equipped with my invention, the devices for securing the stock being carried by the stock itself. Fig. 2 is an end view of the same, with parts in section. Fig. 3 is a view similar to that shown in Fig. 1, except that the securing devices are attached to the bed of the lathe and do not move with the stock. Fig. 4 is an end view of the same, with parts in section.

In each of the views the character A designates the stock and B the bed on which the stock slides. In Figs. 1 and 2 the stock carries a pinion, the shaft of which is indicated at C, said pinion engaging a rack D on the bed, while in Figs. 3 and 4 the bed is provided with a pinion, the shaft of which is indicated at C′, said pinion engaging a rack D′ on the stock.

Referring more particularly to Figs. 1 and 2 the bed B is provided with two parallel grooves 5 of T form. In these grooves are inserted the heads of two pairs of bolts 6, one pair for each side of the stock, the shanks of said bolts extending upward through holes in lateral base extensions A′ of the stock. The upper ends of the bolts 6 are each threaded to receive an adjustable nut 7 that is locked after adjustment by a jam nut 8 on the outer end of the bolt. On the opposite side of the nut 7 is preferably placed a washer 9. Secured on each base extension A′ near each of the bolts 6, as shown, is a V-shaped bearing or fulcrum 10. On each fulcrum 10 rests the outer end of a lever 11. The outer end of said lever is preferably forked to straddle the bolt, while the inner end of each lever is engaged by a block 12. Said block 12 is carried at the end of an upwardly extending rod 13, the block being connected thereto by means of a pin 14 passed through the rod and one of several holes 15 in the block. On each bolt 6 is a wedge-shaped bearing block 16, having its base or upper side rounded to bear and rock on the under side of the washer 9. The lower or more acute edge of each block 16 rests on or is engaged by the upper side of the outer end of the lever 11. In order that the block 16 shall rock the hole 16ª in it is made tapering, the lower end being wider. The upper end of the rod 13 is provided with a piston 17 fitting in a cylinder 18 that is suitably secured to the stock A. 19 designates a spring at one end of the cylinder, said spring pressing aginst the under side of the piston and tending to push it toward the other end of the piston so as to release or loosen the heads of the bolts 6 in the grooves. By this operation the stock A is freed to be moved on the bed B. The opposite end of the cylinder is supplied with fluid pressure through a suitable pipe 20. The two cylinders at each side of stock A are conveniently and preferably supplied with pressure from a common source through a pipe 21, which has a T connection with the pipe 20. Fluid pressure on the piston moves the inner ends of the levers 11 to cause a binding of the heads of the bolts against the walls of the T grooves in the bed B. By properly adjusting the several nuts 7 the binding strain exerted by the levers 11 on all the bolts is equalized, and said strain can also be varied, that is, made greater or smaller, as may be desired.

Referring to Figs. 3 and 4 the construction is substantially identical in form and mode of operation and does not require detailed description. It may be stated, however, that the parts for operating the locking bolts are secured to the bed of the machine instead of the stock, and consequently do not move with the stock when the latter is moved. With the construction shown in Figs. 3 and 4, therefore, flexibility of the pipes for supplying fluid pressure to the cylinders is not necessary.

As before suggested, my invention can be used to advantage in connection with movable parts or frames of slotters, milling ma-

chines, shapers and other metal working machines where a member is to be firmly held to another.

What I claim and desire to secure by Letters-Patent is:

1. In a metal working machine, the combination with a frame and a bed on which the frame slides, of a bolt engaging one of said parts and extending toward and engaging the other, a fulcrum near the bolt on the part toward which the bolt extends, a nut on the bolt, a lever fulcrumed on said fulcrum in position to be moved to exert strain on said nut, a rocking wedge-shaped bearing device between the lever and the nut, said wedge-shaped bearing device having a rounded base to work against the nut while the angular edge thereof is engaged by the lever.

2. In a metal working machine, the combination with a frame and a bed on which the frame slides, of a pair of bolts engaging one of said parts and extending toward and engaging the other, a pair of fulcra near the bolts on the part toward which the bolts extend, nuts on the bolts, a pair of levers fulcrumed on said fulcra in position to be moved to exert strain on said nuts, an equalizing block, 12, hingedly connected with said levers and means connected with said block for moving it and the levers, the connection between said means and said block being pivotal, substantially as described.

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