

No. 877,855.

PATENTED JAN. 28, 1908.

W. B. MURRAY.

DEVICE FOR HOLDING, ALINING, AND PUNCHING METAL TUBES.

APPLICATION FILED APR. 30, 1907.

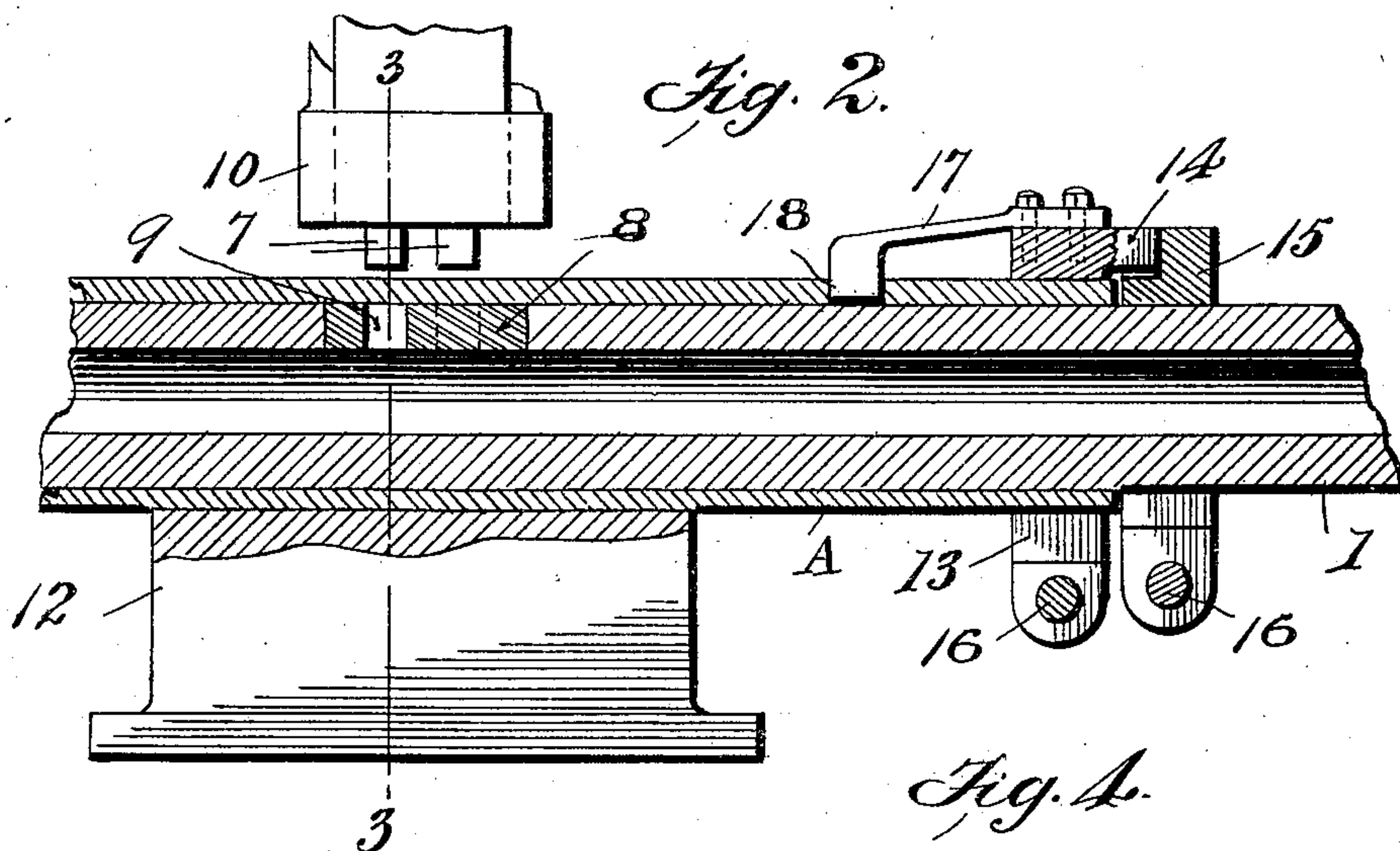
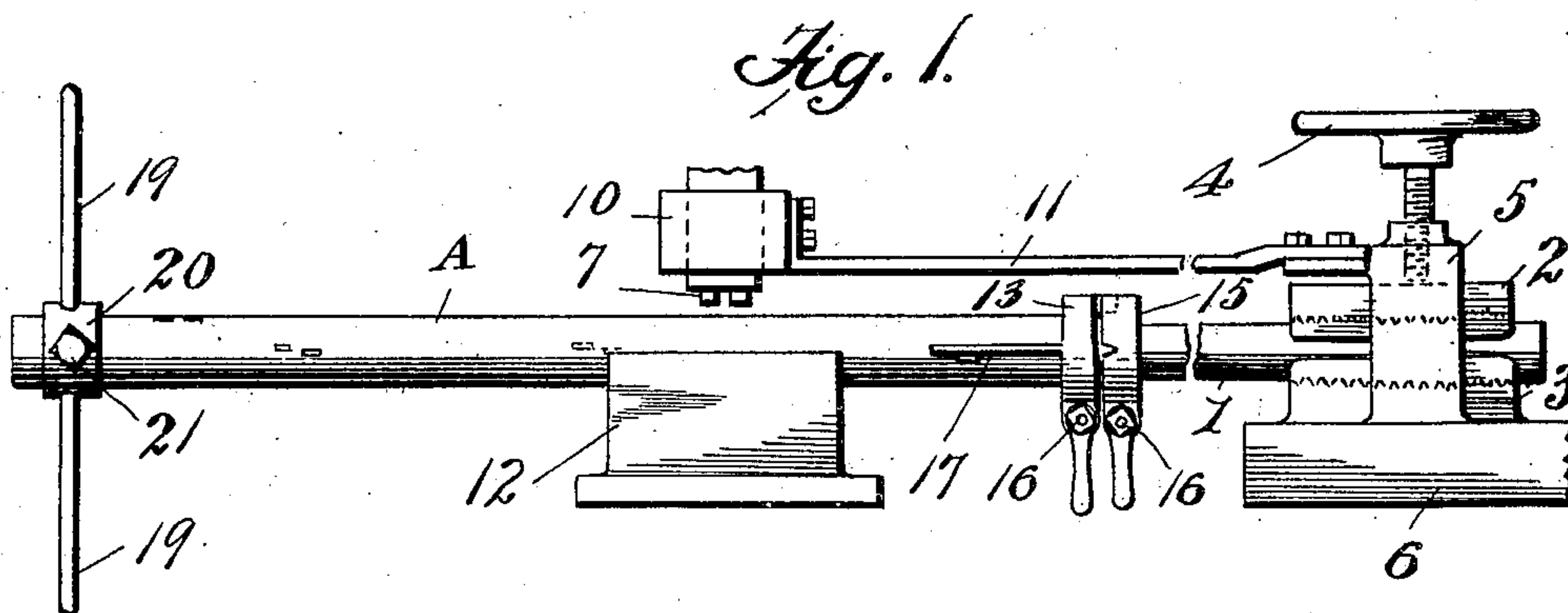


Fig. 4.

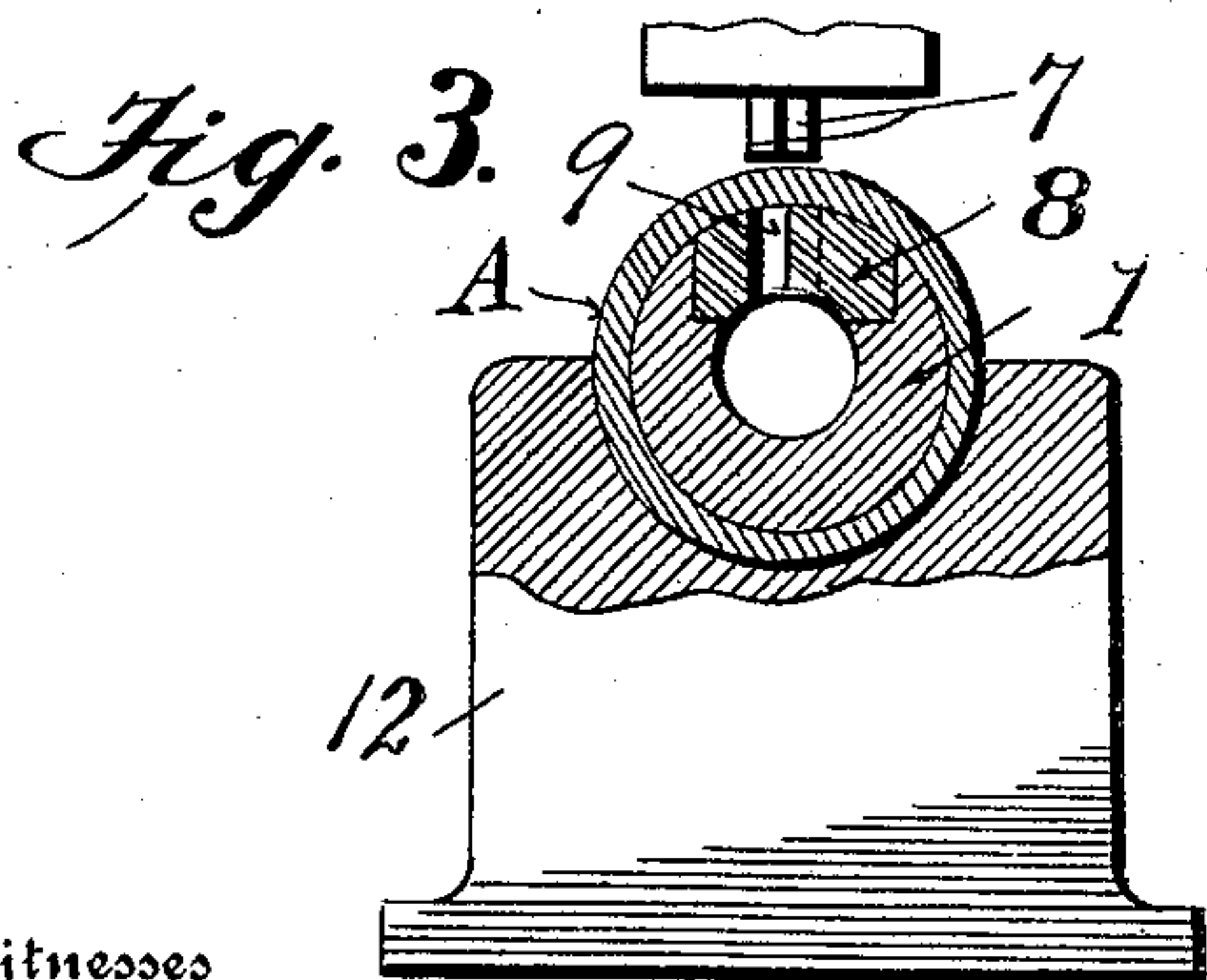
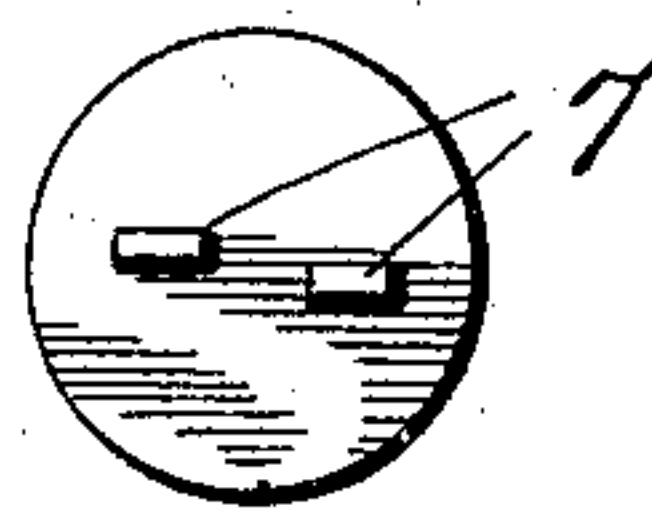


Fig. 5.

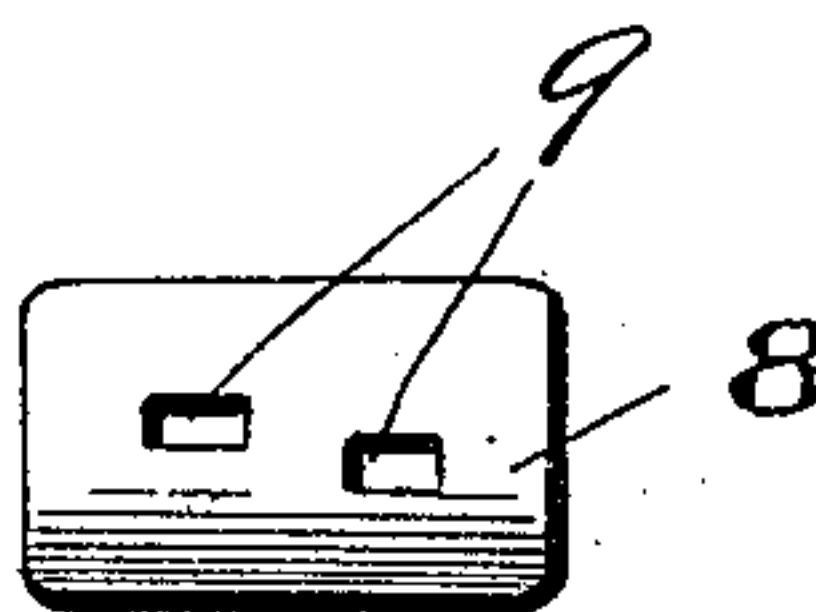
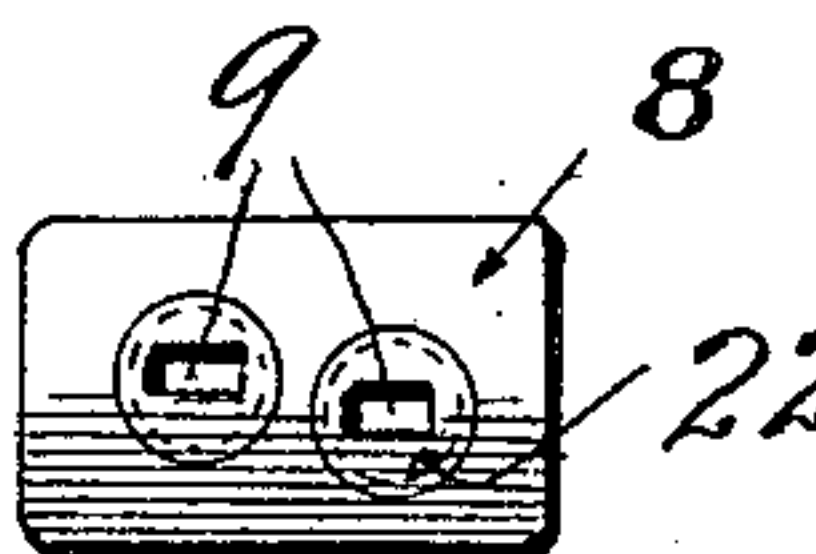


Fig. 6.



Witnesses
Chas. K. Davis.

Myron K. Clear

By

Inventor
William B. Murray

C. L. Parker

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM B. MURRAY, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO MURRAY ENGINEERING AND MANUFACTURING COMPANY, A CORPORATION OF VIRGINIA.

DEVICE FOR HOLDING, ALINING, AND PUNCHING METAL TUBES.

No. 877,855.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed April 30, 1907. Serial No. 371,070.

To all whom it may concern:

Be it known that I, WILLIAM B. MURRAY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Devices for Holding, Alining, and Punching Metallic Tubes, of which the following is a specification.

My invention relates to a device for holding, alining and punching metallic tubes, and particularly contemplates the provision of a new and useful construction embodying novel supporting and alining mechanism, and generally bettering structures of this class.

My invention further consists in the features of construction, arrangement and operation as will be hereinafter described with reference to the accompanying drawings, in which like numerals are used to designate like parts throughout the several figures, and in which,

Figure 1 is a side elevation of my improved mechanism. Fig. 2 is a part vertical longitudinal section and part elevation of a portion thereof. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a face view of the punches and their holder. Fig. 5 is a plan view of the die block, and Fig. 6 is a plan view of a slightly modified form of die block.

In the practical embodiment of my invention I provide a hollow mandrel 1, adapted to be securely clamped at one end between the movable and stationary clamping members 2 and 3, respectively, by means of a screw wheel 4 mounted through a standard 5 in which said clamping members are held, said standard 5 being secured upon a suitable base 6. The mandrel 1 is designed to be inserted within the pipe A, to be punched by means of the punches 7, and said mandrel carries a die block 8 seated in a recess in said mandrel and provided with openings 9, adapted to be alined under the punches 7 before the tube 5 is inserted upon said mandrel. Directly beneath the punches 7, which are guided by a collar 10, secured by a rigid arm 11 to the standard 5 of the clamping device, is a supporting saddle 12 having a semicircular recess conformable to the contour of the pipe A, and in which said pipe is adapted to rest during the operation, thus forming a

support for the mandrel 1 located therein. The pipe A is provided upon its inner end with a spring collar 13, having a projecting lug 14 adapted to be inserted within a recess in the collar 15, clamped upon the mandrel 1 at the end of the pipe, both of said collars being clasped tightly in position by threaded bolts and nuts 16. The collar 13 is further provided with a spring finger 17 having an enlarged end 18 adapted to project within one of the openings previously cut within the pipe in order to aline the same for the next punching operation, the pipe A being readily turned to present an unbroken surface to the punch by means of the handles 19, extending from the collar 20 secured to the outer end of the pipe by a set screw 21.

Figs. 5 and 6 show plan views of the die block, Fig. 6 being slightly modified in form by the use of tapering plugs 22, having the openings for the punches therein instead of providing openings directly in the block, thus enabling the operator to insert a new plug should the edge of the openings become broken, instead of throwing away a useless block, as he would necessarily have to do with the form shown in Fig. 5.

From the foregoing it will be seen that I provide a novel construction in which any length of pipe may be used and any adjustment thereof secured, in which any shape or forms of opening or openings may be punched therethrough without danger of injuring the work.

Having thus fully described my invention I claim:

1. In a device of the character described, the combination with a punch, of a rigid tubular mandrel adapted to receive thereon a pipe to be punched, a die block removably carried by said mandrel, and a supporting saddle arranged directly beneath said punch and provided with a recess conformable to the contour of the pipe, said pipe being adapted to lie in said recess, and forming thereby a solid support for the mandrel under pressure of said punch, substantially as described.

2. In a device of the character described, the combination of a punch, a rigid, tubular mandrel adapted to receive thereon the pipe to be punched, means for adjustably clamp-

ing one end of said mandrel, a die block carried by said mandrel and adapted to be alined beneath said punch, cooperating elements carried by said pipe and said mandrel
5 for alining the pipe, and a supporting saddle arranged beneath the punch and provided with a recess conformable to and adapted to receive therein the pipe, said pipe forming in

turn a support for the mandrel therein, substantially as described. 10

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

WILLIAM B. MURRAY.

Witnesses:

W. F. SUMMY,
L. P. SEIBOLD.