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PATENTED JAN. 12, 1904.

J. P. WENNERSTEN.

MACHINE FOR SHEARING BLANKS FROM METAL RODS.

APPLICATION FILED JULY 2, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

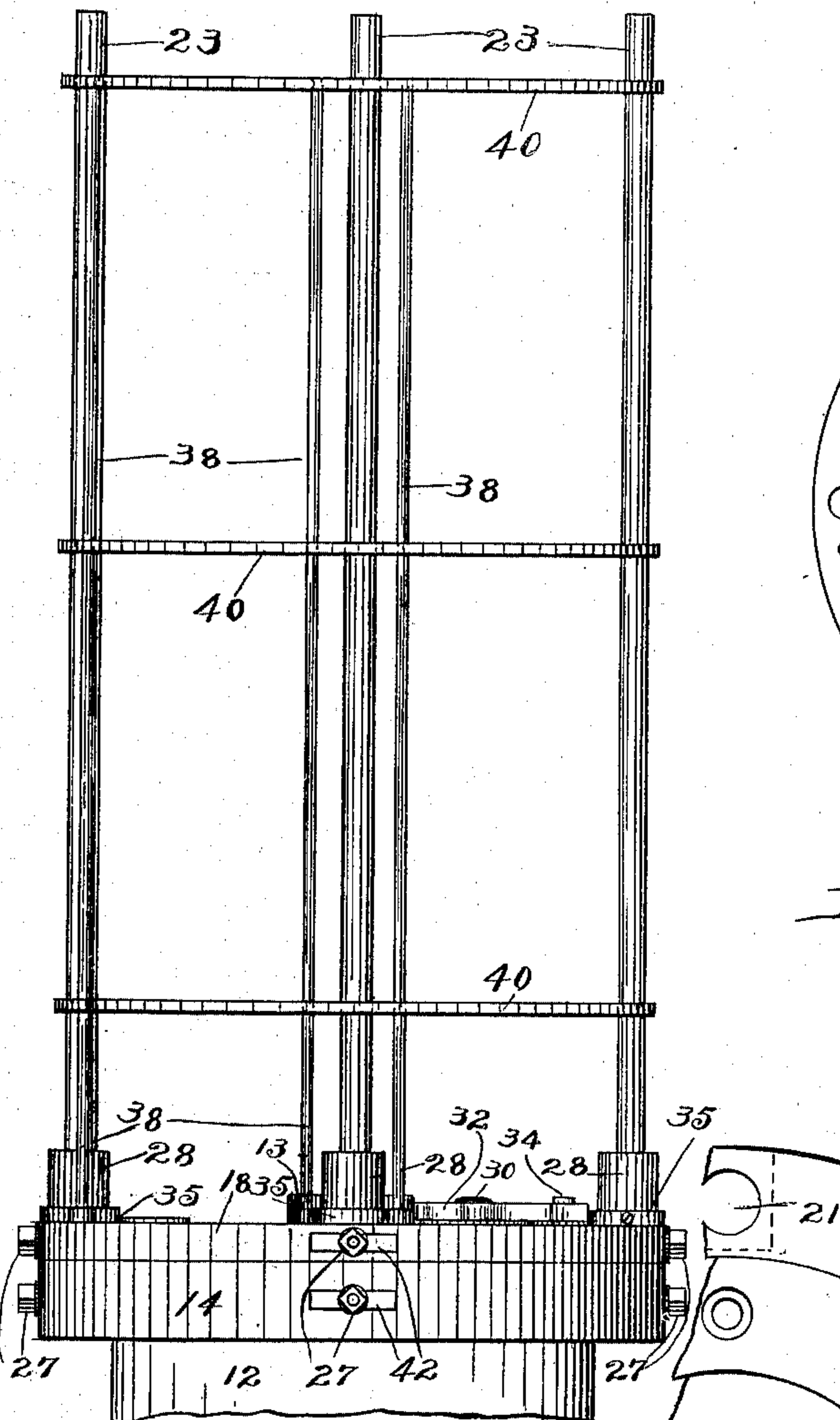


Fig. 3.

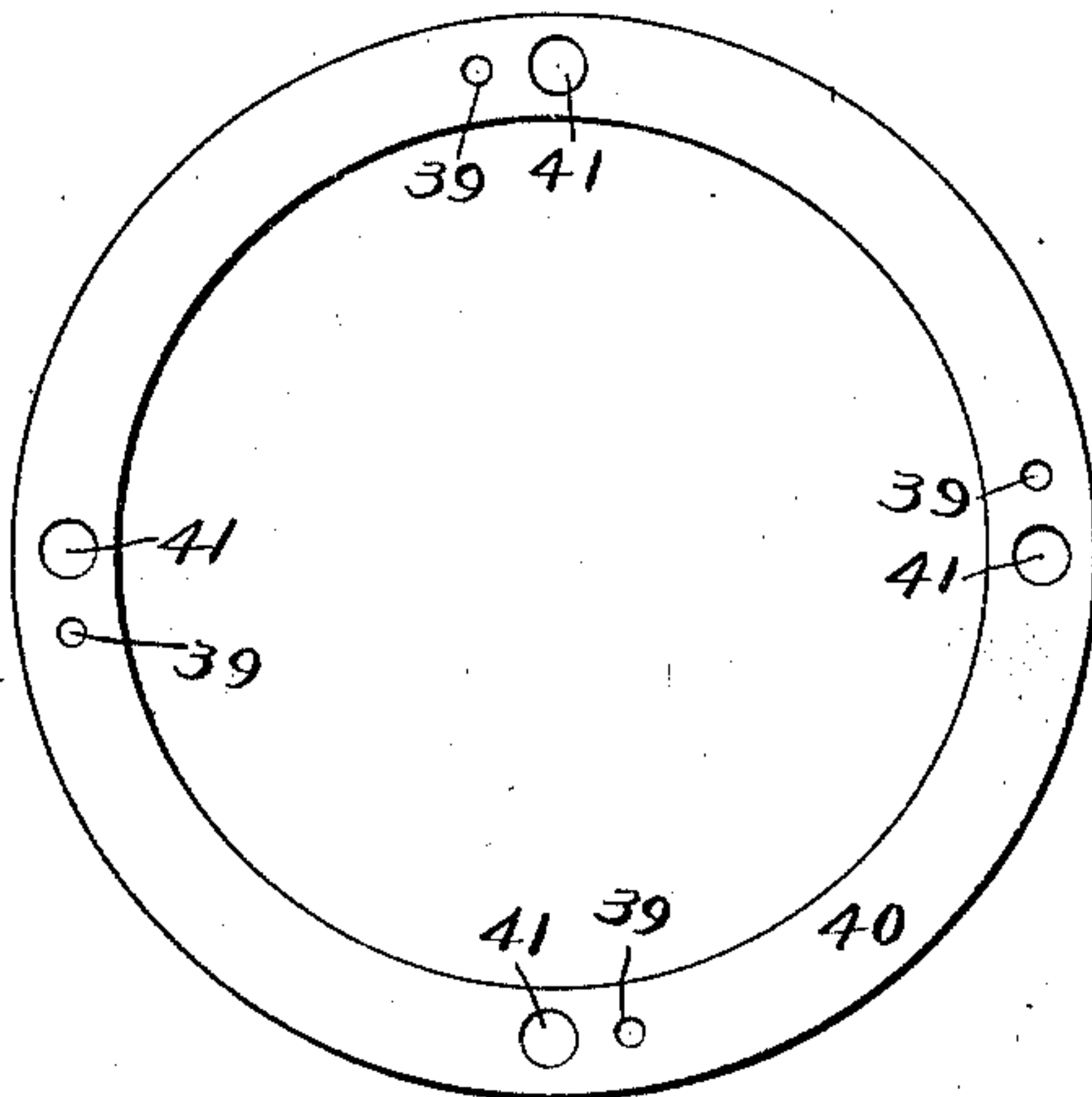


Fig. 4.

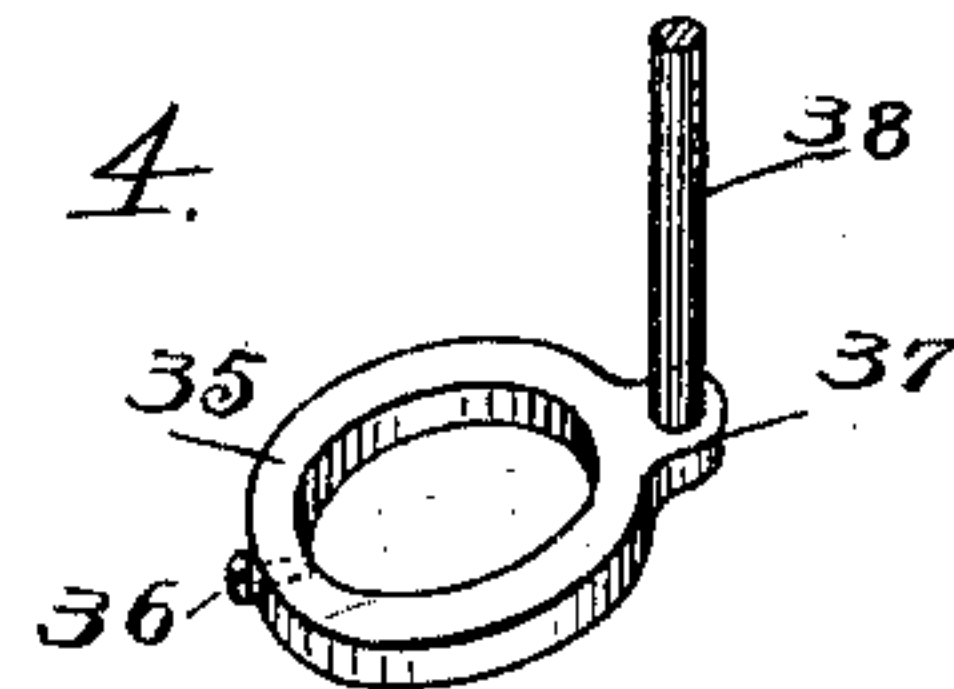
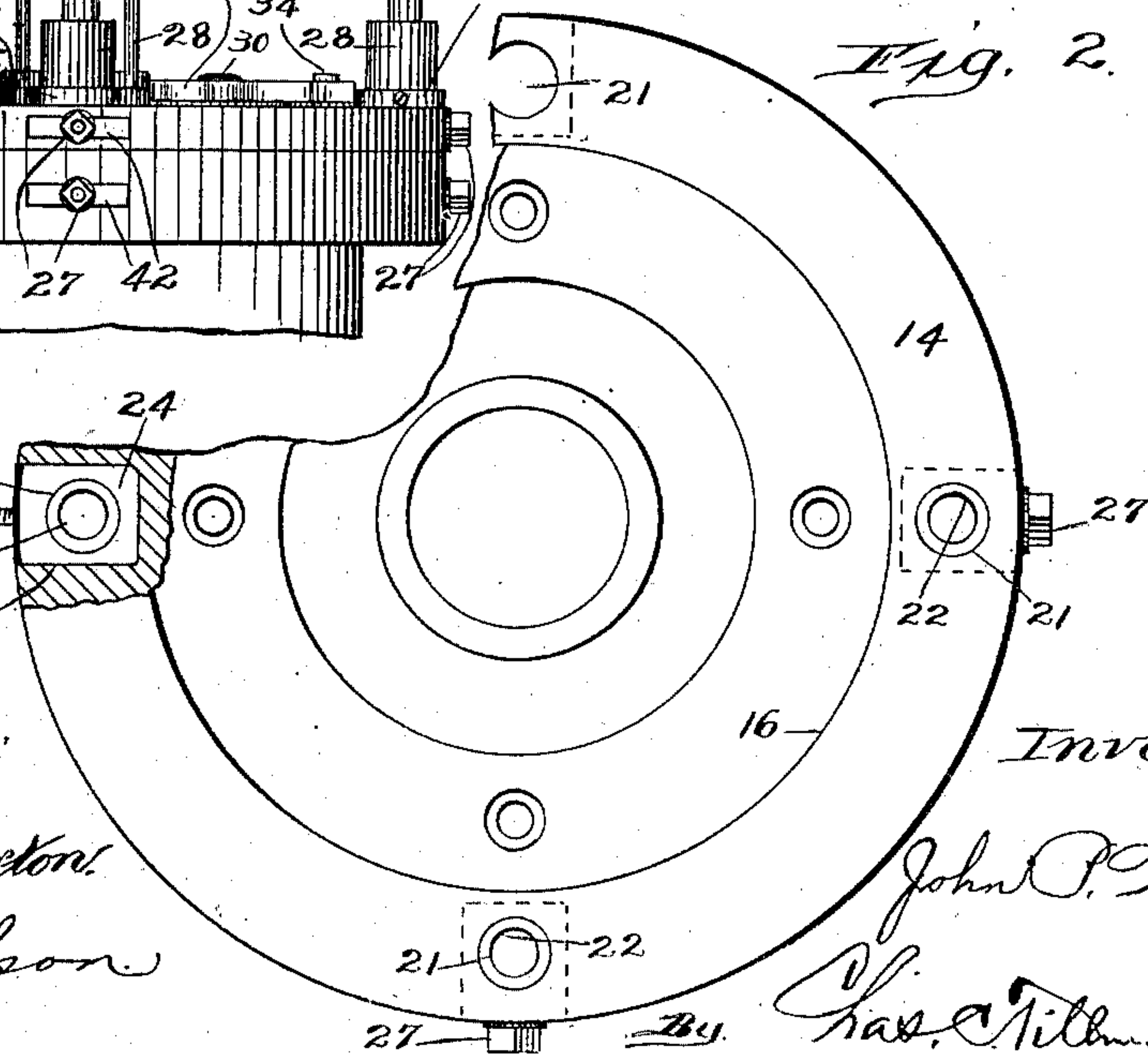


Fig. 2.



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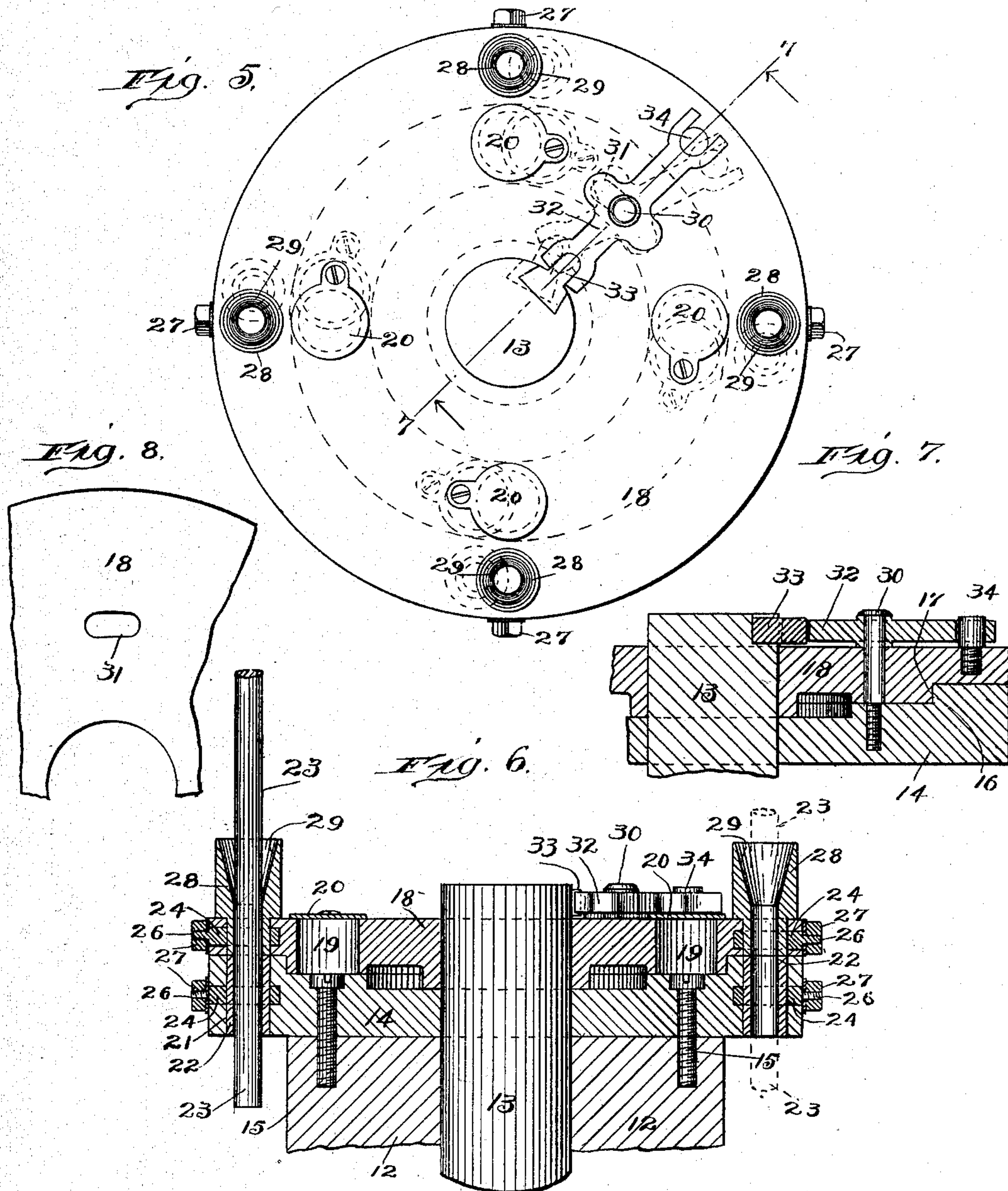
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UNITED STATES PATENT OFFICE.

JOHN P. WENNERSTEN, OF DUNNING, ILLINOIS, ASSIGNOR TO AUGUST LARSEN, OF McHENRY, ILLINOIS.

MACHINE FOR SHEARING BLANKS FROM METAL RODS.

SPECIFICATION forming part of Letters Patent No. 749,415, dated January 12, 1904.

Application filed July 2, 1903. Serial No. 163,998. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. WENNERSTEN, a citizen of the United States, residing at Dunning, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Machine for Shearing Blanks from Metal Rods, of which the following is a specification.

This invention relates to improvements in an apparatus to be used for preparing and feeding stock to a machine for making screws, bolts, rivets, and the like, and while it is more especially intended to be used in connection with a machine of the construction embodied in Letters Patent No. 661,462, issued to me on November 6, 1900, for improvements in a machine for rolling screws or other articles, yet it is applicable to machines of other construction; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

One of the main objects of the invention is to provide a machine of the above-described character which shall be automatic in its operation and will readily cut the rods into blanks or pieces of the desired length, so that they may be supplied to the screw-making or other machine.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in side elevation of the feeding mechanism embodying my invention. Fig. 2 is a fragmental plan view, partly in section, with the stock-holding frame and upper cutting-disk removed. Fig. 3 is a detached plan view of a portion of the stock-holding frame. Fig. 4 is a detached perspective view of a portion of one of the supporting-rods of the stock-holding frame. Fig. 5

is a plan view of the feeding and cutting mechanism, with the stock-holding frame removed, illustrating by dotted lines the positions the parts will assume when the stock or rods out of which the screws or other articles are to be formed have been cut. Fig. 6 is a vertical central sectional view of the feeding and cutting mechanism, showing it mounted on a suitable support and illustrating the driving-shaft therefor. Fig. 7 is a vertical sectional view taken on line 7 7 of Fig. 5, and Fig. 8 is a fragmental plan view of a portion of the upper disk of the feeding and cutting mechanism.

Like numerals of reference refer to corresponding parts throughout the different views of the drawings.

The reference-numeral 12 represents a suitable support, on which the apparatus is mounted and which support may be a portion of the screw-making machine. Vertically journaled in the support is a driving-shaft 13, to which power may be applied by any suitable means to impart thereto oscillatory motion. Loosely mounted on the upper portion of the shaft 13 is a disk 14, which is secured to the support by means of screw-bolts 15, which are preferably countersunk in the upper surface of said disk.

As is clearly shown in Figs. 6 and 7 of the drawings, the disk 14 is provided on its upper surface with an annular depression 16 to receive a correspondingly-shaped projection 17 on the upper disk or plate 18, which is provided with a number of openings 19 to permit of access to the screw-bolts 15 when desired. Each of the openings 19 is covered by means of a lid or cover 20, pivotally secured to the upper surface of the upper disk, so as to prevent dust and other material entering said openings. The disk or plate 14 is formed near its periphery with a number of vertical openings 21, in each of which is located a tubular bushing or piece 22, which is preferably made of tool-steel used for cutting the stock rods or wires 23 out of which the screws and other articles are made. Extending horizon-

tally into the periphery of the disk or plate 14 and at each of the openings 21 therein is a rectangular opening or recess 42, in which is located a plate 24, which has an opening 25 to receive the bushing 22, as is clearly shown in Figs. 2 and 6 of the drawings. The outer portion of each of the plates 24 is formed with a screw-threaded projection 26 to receive a nut 27, which nuts and plates are used to hold the bushings or tubular pieces 22 in place. As will be observed by reference to Fig. 6, the bushings or tubes 22 extend to the upper surface of the disk 14 and there meet bushings or tubular portions 28, which are located in vertical openings 29 in the upper disk or plate 18 near its periphery and in such a manner as to register with the openings 21 in the lower disk. The bushings 28 are held in place by means of plates 24, located in recesses in the periphery of the upper disk in a similar manner to those in the lower disk and above described.

As shown in Figs. 5 and 6, the bushings 28 project above the upper surface of the disk 18 and each is provided with a flaring opening 29 to render the insertion of the stock rods or wires 23 an easy matter. Fulcrumed on a pin 30, which passes through a slot 31 in the upper disk and secured to the lower disk is a lever 32, which has each of its ends forked, as shown in Fig. 5 of the drawings. The upper portion of the shaft 13 is provided with an extension 33, which projects between the prongs on the inner end of the lever. The disk 18 is provided on its upper surface near its periphery and on a line with the pin 30 and extension 33 with a pin 34, which projects between the prongs at the outer end of the lever 32, as is clearly shown in Fig. 5 of the drawings. Surrounding each of the bushings 28 and resting on the upper surface of the disk 18 are collars 35, each of which is secured to its respective bushing by means of a set-screw 36, and each of said collars is provided with an apertured projection 37 to receive the lower end of vertical supporting-rods 38, which pass through suitable openings 39 in the stock-supporting rings or frames 40, any desired number of which may be located on the rods 38 at suitable distances apart. Each of the rings 40 is formed with a number of openings 41 to receive the stock rods or wires 23, and which openings when the frames 40 are supported by the rods 38 will register with the flaring openings 29 of the bushings 28 on the upper disk.

From the foregoing and by reference to the drawings it will be seen and clearly understood that when the parts are assembled, as above set forth and as disclosed in the drawings, the wires or rods 23, out of which the screws or other articles are made, may be placed vertically in the openings 41 of the

supporting-frames, when their lower ends will rest in the bushings 28 and 22, when by applying power to the driving-shaft 13 and partially rotating the same the upper disk 18 by reason of the extension 33, lever 32, and pin 34 will be caused to partially rotate, thus causing the wires 23 to be cut at the juncture of the bushings 22 and 28, from which the cut portions may pass into suitable holders on the screw-making machine. (Not shown.) As the shaft 13 is oscillated back it is apparent the disk 18 will thereby be returned to its original position, thus allowing the wires 23, which are loosely supported by the frames 40, to drop into the bushings 22, when the same operation as above stated will be repeated.

While I have shown the openings in the disks 14 and 18 as being provided with bushings 22 and 28 and prefer to use the same, yet it is evident that the bushings may be dispensed with and the said plates or disks made of hard steel, so that they will cut the wires or rods of stock at the juncture of their openings.

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

1. The combination with a fixed plate having a series of openings at right angles to its face, of a rotary reciprocal shaft loosely journaled therein, a movable plate mounted on said shaft and having openings to register with those of the fixed plate, means connecting the shaft and the movable plate to partially rotate the latter, and a stock-holding frame mounted on the movable plate.

2. The combination with a fixed plate having a series of openings at right angles to its face, of a rotary reciprocal shaft loosely journaled therein, a slotted movable plate mounted on said shaft and having a series of openings to register with those of the fixed plate, a fulcrum-pin on the fixed plate extending through the slot of the movable plate, and a lever fulcrumed on said pin and having one of its ends in engagement with the movable plate and its other end in engagement with the shaft.

3. The combination with a fixed plate having a series of openings at right angles to its face, of a rotary reciprocal shaft loosely journaled therein, a movable plate mounted on said shaft and having a series of openings to register with those of the fixed plate, a lever fulcrumed near the outer surface of the movable plate and having one of its ends in engagement with the said plate and its other end in engagement with the shaft.

4. The combination with a fixed plate having a series of openings at right angles to its face, of a rotary reciprocal shaft loosely journaled therein, a movable plate mounted on

said shaft and having openings to register with those of the fixed plate, bushings located in the openings of each of said plates, means connecting the shaft and the movable plate to
5 partially rotate the latter, and a stock-holding frame consisting of a series of rods connected to the movable plate and a number of frames

located on said rods and having openings to register with the openings in the bushings of the movable plate.

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