

No. 666,462.

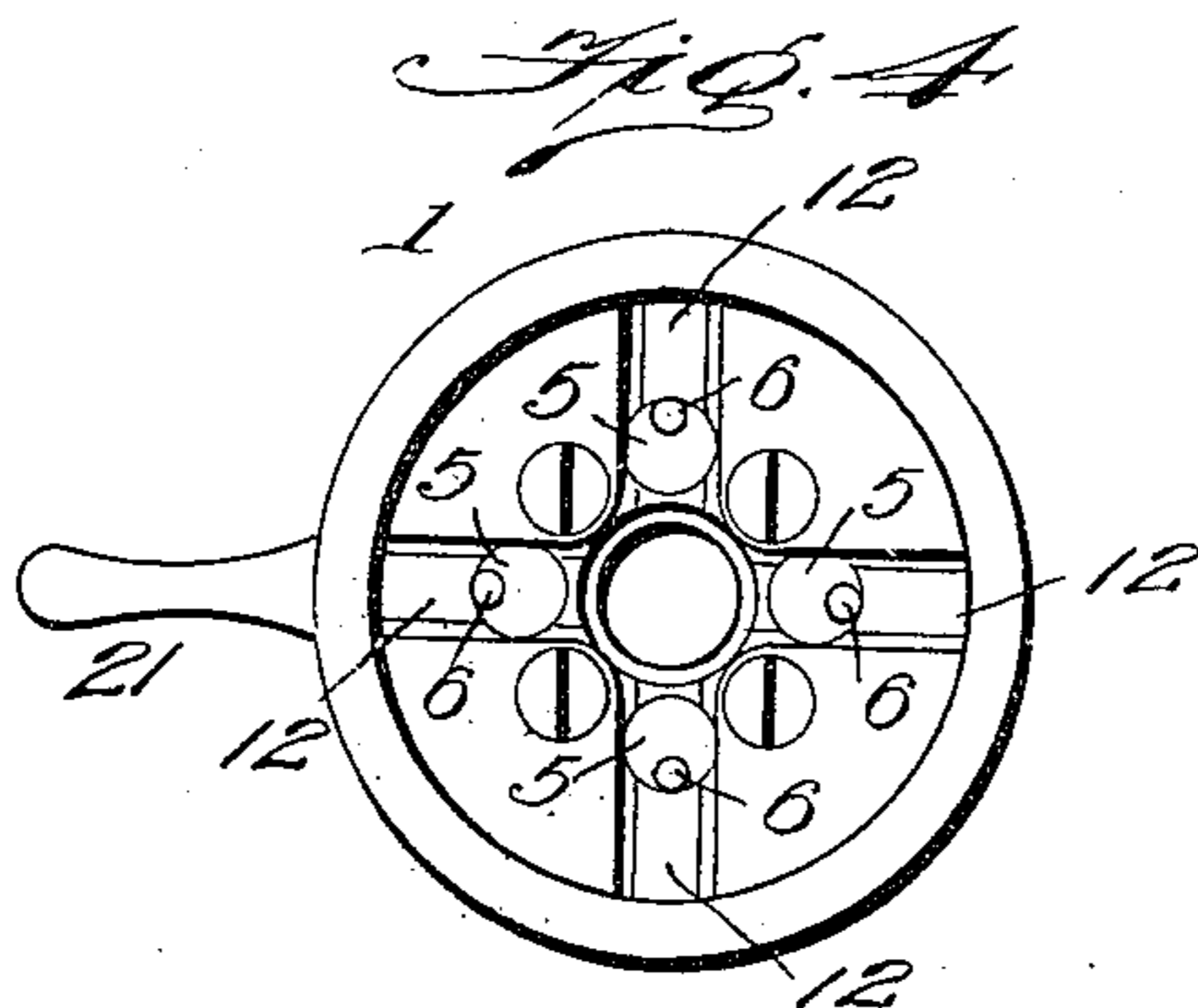
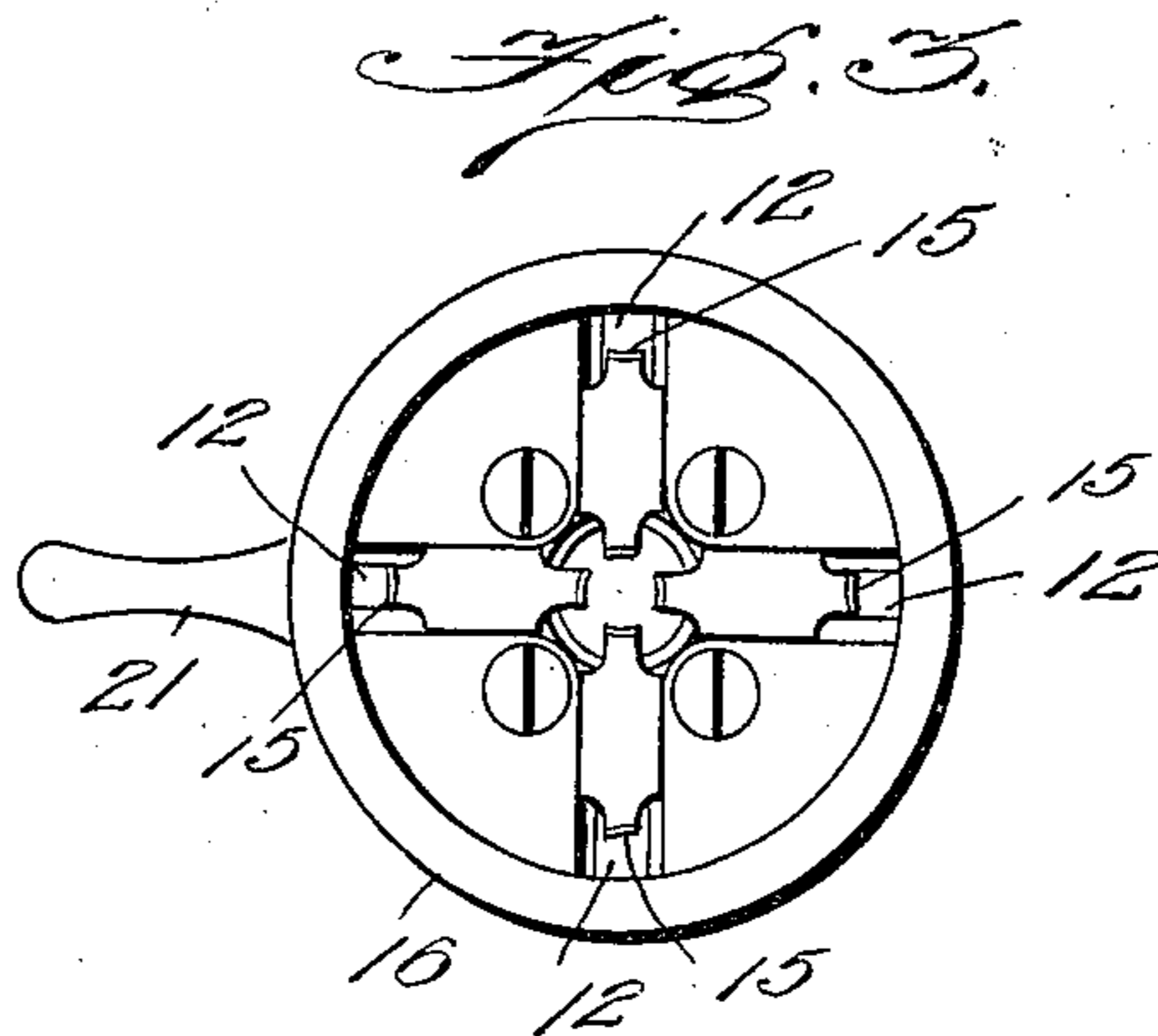
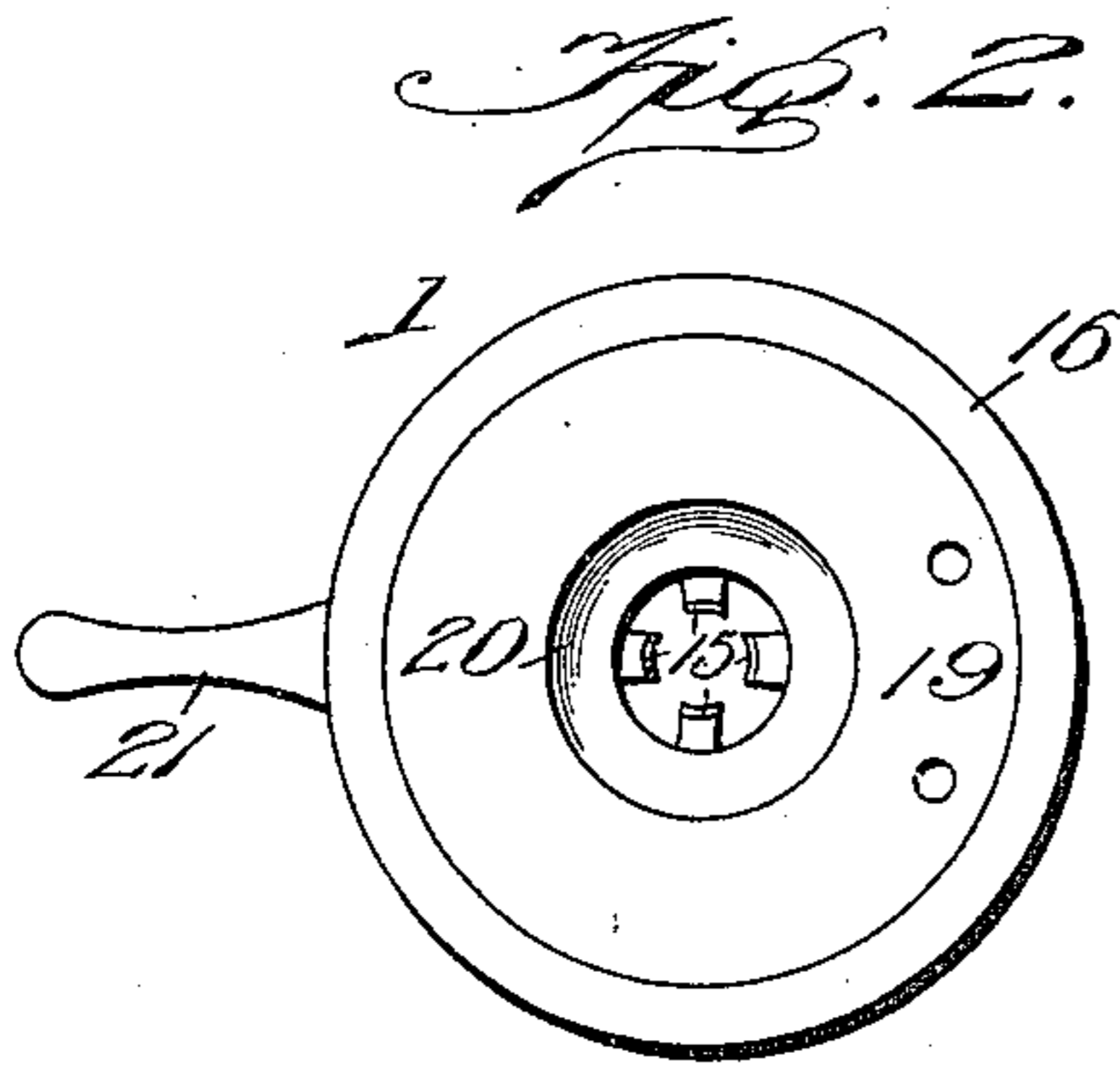
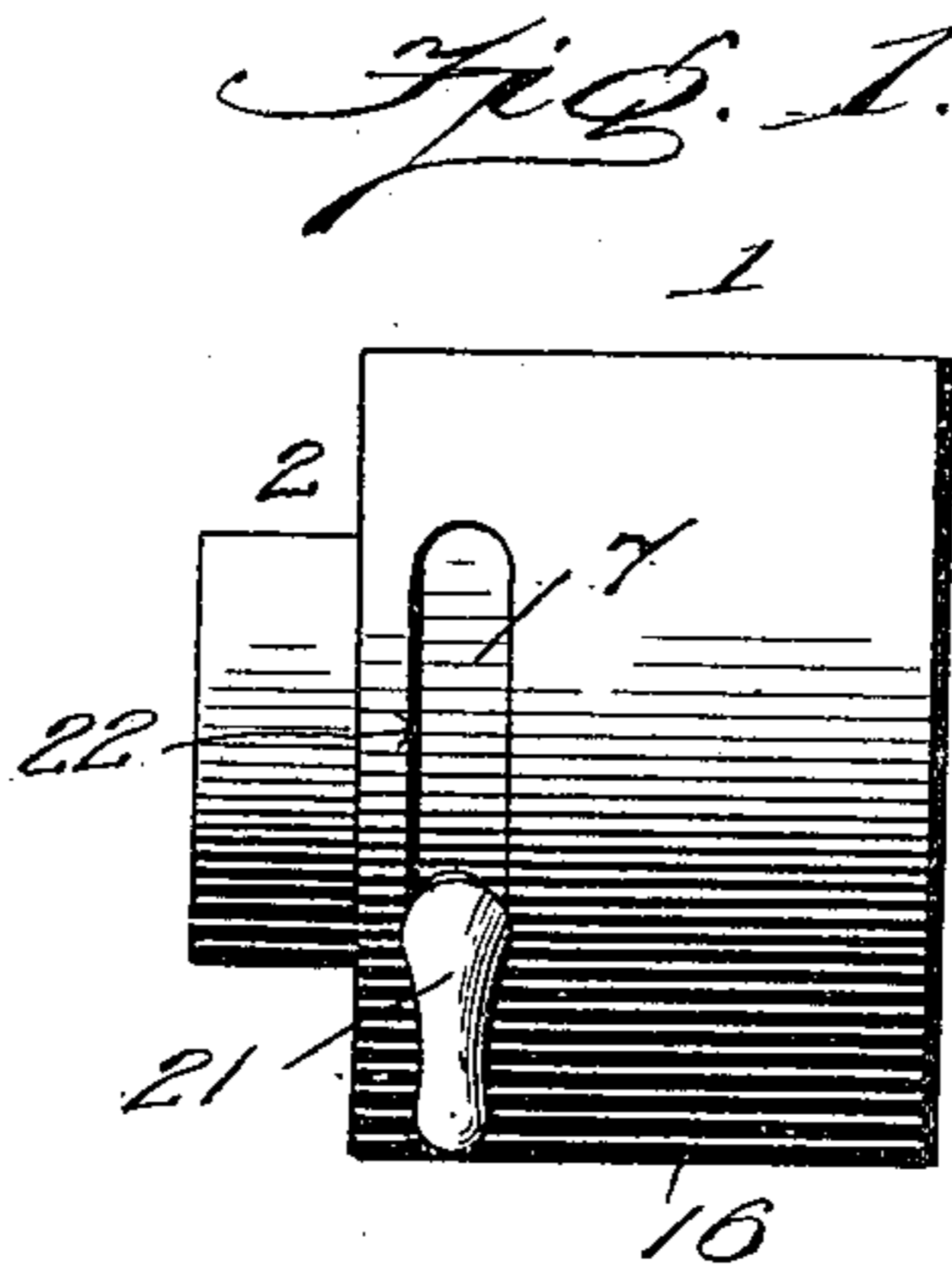
Patented Jan. 22, 1901.

J. BRADLEY.  
DIE HOLDER.

(Application filed June 1, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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*Albert D. Lawson.*

Inventor  
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By *Victor J. Evans*

Attorney

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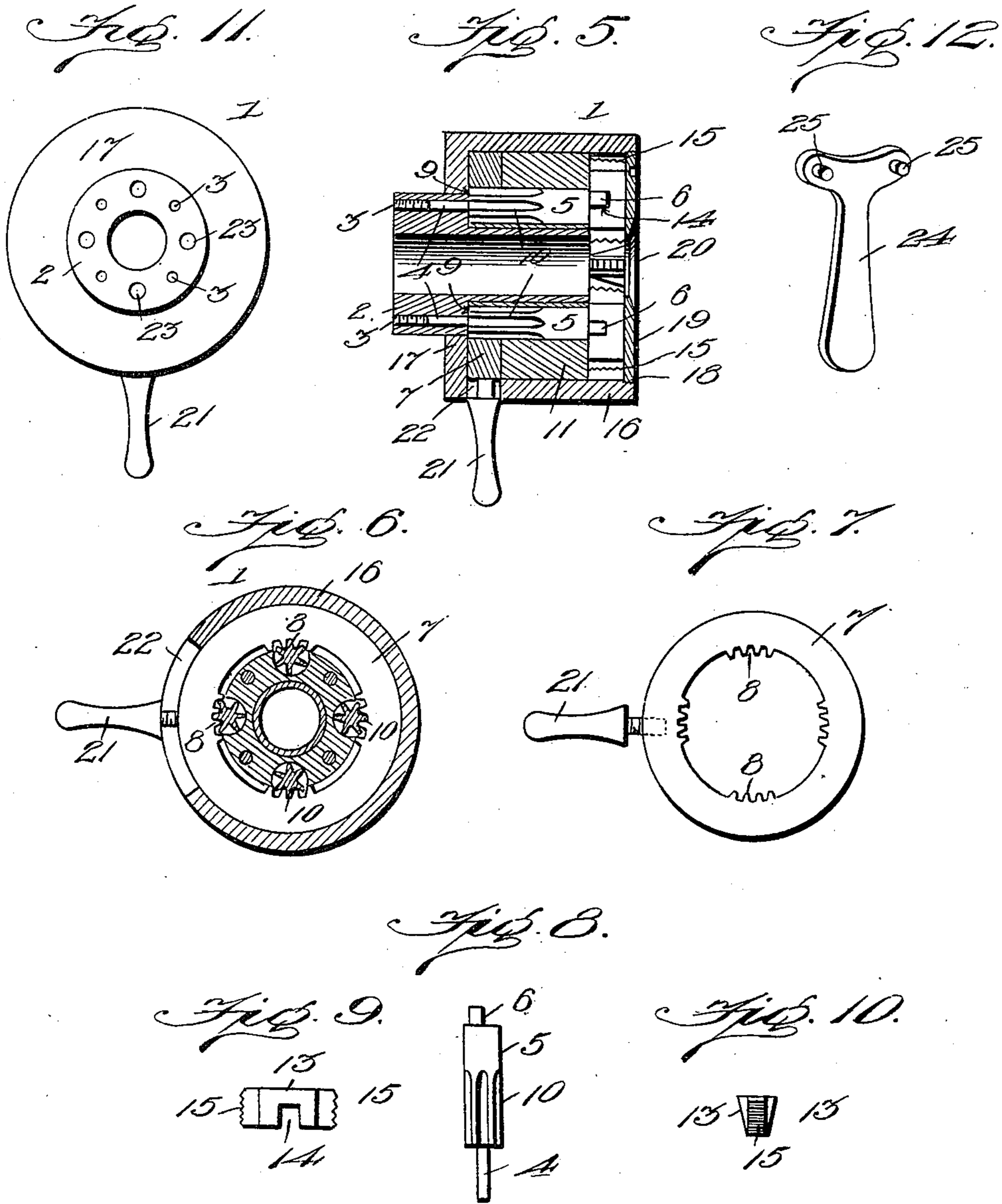
J. BRADLEY.

DIE HOLDER.

(Application filed June 1, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSIAH BRADLEY, OF STAMFORD, CONNECTICUT.

## DIE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 666,462, dated January 22, 1901.

Application filed June 1, 1900. Serial No. 18,762. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH BRADLEY, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Die-Holders, of which the following is a specification.

This invention relates to new and useful improvements in die-holders, and is especially adapted for use as a chuck for cutting threads upon screws, &c. Its primary object is to provide a device of this character which is compact and durable and which is provided with detachable and interchangeable dies of any desired form which may be quickly adjusted from or toward each other for a desired distance.

To these ends the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, in which—

Figure 1 is a side elevation of the device. Fig. 2 is an end view thereof. Fig. 3 is a similar view with the face-plate removed. Fig. 4 is a view similar to Fig. 3 with the dies removed. Fig. 5 is a central longitudinal section through the device. Fig. 6 is a section on line *x x*, Fig. 5. Fig. 7 is a detail view of the toothed ring. Fig. 8 is an elevation of a spindle. Figs. 9 and 10 are side and end elevations, respectively, of a die. Fig. 11 is an end view of the chuck in the direction of the arrow, Fig. 5; and Fig. 12 is a detail view of a key used in connection with this device.

Referring to said figures by numerals of reference, 1 is a tubular core, preferably formed of hardened metal, having an enlarged end 2, within which are provided, preferably, four longitudinally-extending passages 3, each adapted to receive the reduced cylindrical end 4 of a spindle 5, which is provided at its opposite end with an eccentric stud or projection 6, which is for the purpose hereinafter more fully set forth.

A ring 7 is provided at its inner edge with teeth 8, which may, if desired, be arranged in groups, as shown in Fig. 7, and these teeth bear upon the shoulder 9, formed by the enlarged portion 2 of the core. These teeth also

teeth 10, formed upon the spindles 5, causing the same to revolve when said ring is given a rotary movement. Each of the spindles extends through a sleeve 11, which incloses the core 1 and bears upon the ring 7 at its inner end. This sleeve is provided in its outer face with transversely-extending grooves 12, preferably arranged at equal distances from each other, and into the bottom of each of which projects an eccentric stud 6 of one of the spindles 5. These slots are provided with inclined walls, which converge downwardly and serve as bearings for the dies which are placed within the holders. These dies may be of any desired form and may be used for various purposes. In Figs. 9 and 10 I have shown dies adapted for cutting threads upon screws. These dies are provided with inclined sides 13, and recesses 14 are formed in the lower surfaces thereof at the center and are adapted to receive the eccentric stud 6, heretofore referred to. The dies, as shown, are each provided with a threaded working face 15 at each end, and each face may be adapted to produce a thread of a different size. I do not limit myself, however, to the employment of thread-cutting dies in this device, as, if desired, the device may be used as a precision-chuck by employing dies provided with smooth or "ground-out" working faces. A casing 16 incloses the sleeve 11 and the ring 7 and is provided with an inwardly-extending annular flange 17, which incloses the enlarged portion 2 of the core 1. The opposite end of this casing is threaded internally at 18 to receive the face-plate 19, which is provided at its center with an aperture 20, which registers with the passage within the core 1 of the device.

The lever or handle 21 projects through a slot 22, formed within the casing 16, and engages with the ring 7, as shown in the drawings.

The enlarged portion 2 of the core 1 has openings or recesses 23 therein for the reception of a key 24, substantially of the form shown in Fig. 12. This key has studs 25, which fit within recesses 23, and it is for the purpose hereinafter described.

When it is desired to adjust the dies from or toward each other, the studs 25 of the key are placed into engagement with the recesses

23 of the core and the handle 21 is then moved within the slot 22 in either direction desired. As the sleeve 11 is fixed to the core 1 the same will be held stationary by the key 24. The  
 5 ring 7, however, will be turned upon the core by means of the handle 21 and the teeth 8 thereof will engage with their respective spindles and cause the same to revolve, throwing the eccentric pins 6 inward or outward as de-  
 10 sired and carrying the dies therewith. By placing suitable graduations adjacent to slot 22 it is obvious that the dies can be readily adjusted to the desired gage.

It will be seen that the device is simple and  
 15 compact in construction and that it is impossible for dirt, &c., to gain access to the working parts thereof, the casing 16 and its face-plate 19 serving to fully protect the same. It will also be seen that by employing reversible  
 20 guides, as in this device, the expense of two separate dies is dispensed with.

The recesses 23, which are preferably threaded, are also employed to receive suitable bolts whereby the holder may be secured to a ma-  
 25 chine. It is not necessary, however, to secure the holder in this manner, as, if desired, a clamp may be used upon the enlarged portion 2 of the core or, if desired, said core may be threaded externally and secured into a  
 30 suitable plate provided therefor.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without  
 35 departing from the spirit or sacrificing the advantages thereof, and It herefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. The combination with a core, having an enlarged portion thereto, of spindles jour-  
 45 naled within said enlarged portion, teeth upon each spindle, an eccentric stud projecting from one end of each spindle, a sleeve secured to the core and inclosing the spindles, said sleeve having grooves in the outer face thereof, dies within the grooves and upon the  
 50 eccentric pins of the spindles, and a toothed ring inclosing the core and engaging with the spindles.

2. The combination with a core having an enlarged portion thereto, of toothed spindles  
 55 journaled in said enlarged portion, eccentric

pins projecting from the free ends of said spindles, a toothed ring engaging the spindle, a sleeve secured to the core and inclosing the spindles, said sleeves having grooves within the outer face thereof, inclined walls to the  
 60 grooves, and dies mounted within the grooves and bearing upon and movable with the eccentric pins of the spindles.

3. The combination with a core having an enlarged portion thereto, of toothed spindles  
 65 journaled in said enlarged portion, eccentric pins projecting from the free ends of said spindles, a toothed ring engaging the spindle, a sleeve secured to the core and inclosing the spindles, said sleeve having grooves within  
 70 the outer face thereof, inclined walls to the grooves, dies within the grooves mounted upon and movable with the pins of the spindles, a casing inclosing the sleeve and ring  
 75 and having a slot therein, a handle projecting through the slot into engagement with the ring, and a face-plate secured within the casing.

4. The combination with a core; of a toothed ring mounted thereon; spindles engaged by  
 80 said ring; an eccentric stud projecting from one end of each spindle; and a die loosely mounted upon, and movable with, said stud.

5. The combination with a core; of spindles journaled therein; a ring mounted upon the  
 85 core and adapted to impart motion to the spindles in unison; an eccentric stud projecting from one end of each spindle; a sleeve inclosing the spindles and having grooves within one face thereof; and dies within the  
 90 grooves and upon the studs of the spindles.

6. The combination with a core; of spindles journaled therein; a ring mounted upon the  
 95 core and adapted to impart motion to the spindles in unison; an eccentric stud projecting from one end of each spindle; a sleeve inclosing the spindles and having grooves within one face thereof; inclined walls to the grooves; a die within each of the grooves hav-  
 100 ing oppositely-disposed working faces; inclined sides thereto bearing upon inclined walls of the recesses; and a recess within the lower surface thereof adapted to receive the eccentric stud of one of the spindles.

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

JOSIAH BRADLEY.

Witnesses:

JOHN E. KEELER,  
 MARTIN J. GRAY.