

No. 756,063.

PATENTED MAR. 29, 1904.

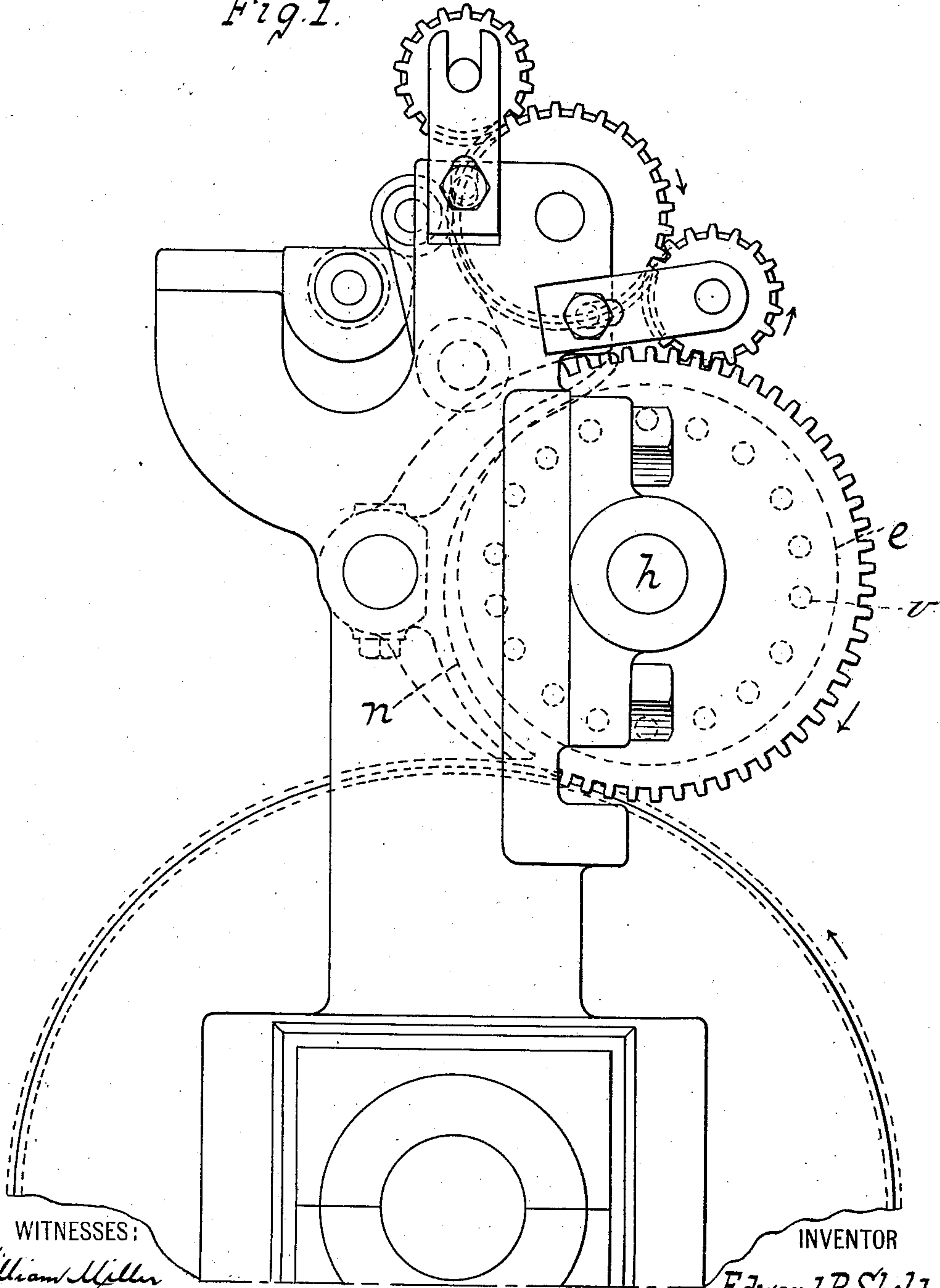
E. P. SHELDON.
NUMBERING MACHINE.

APPLICATION FILED SEPT. 15, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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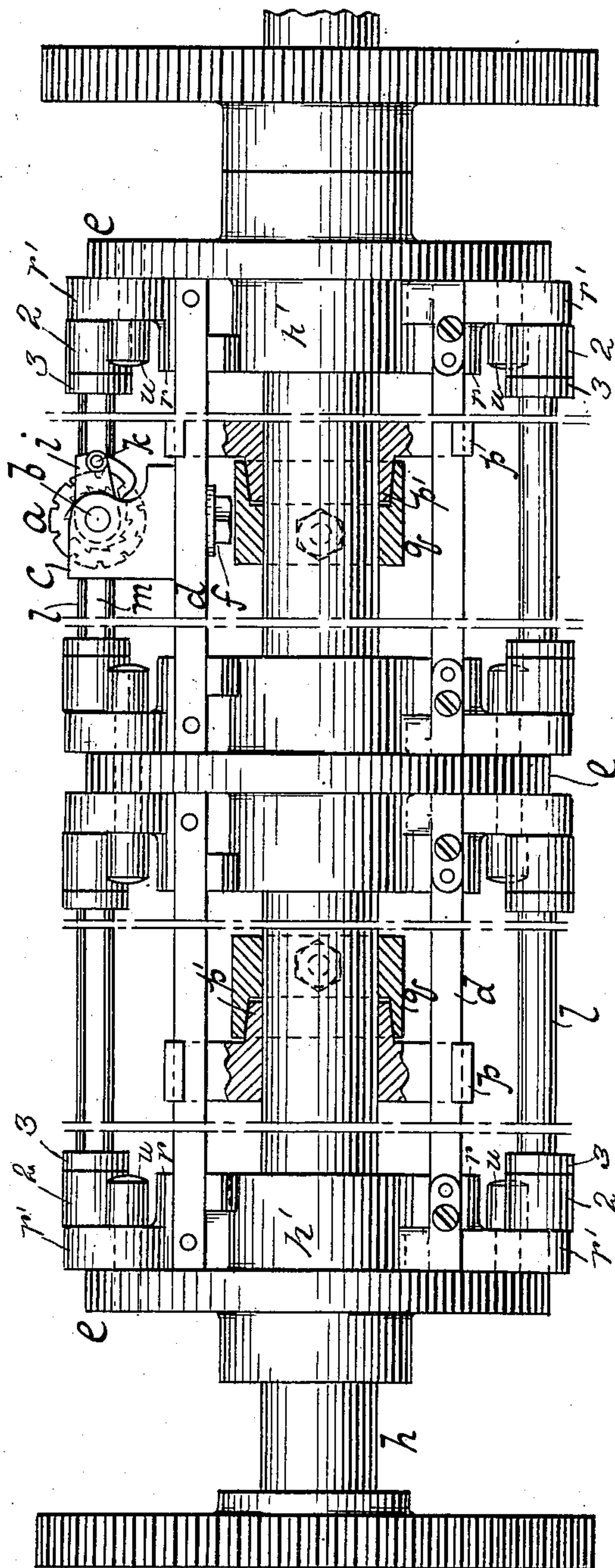
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NO MODEL.

3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

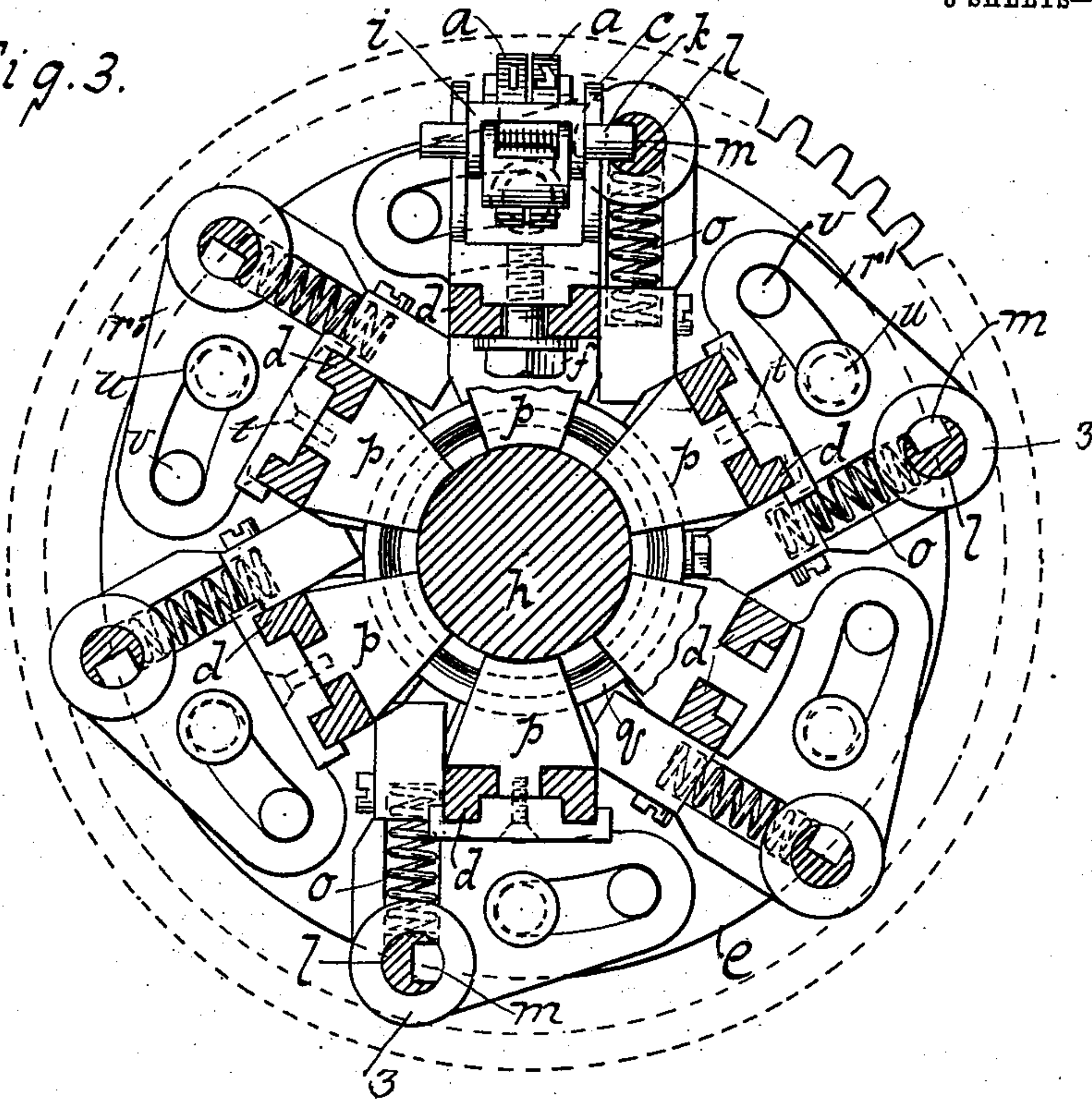


Fig. 4.

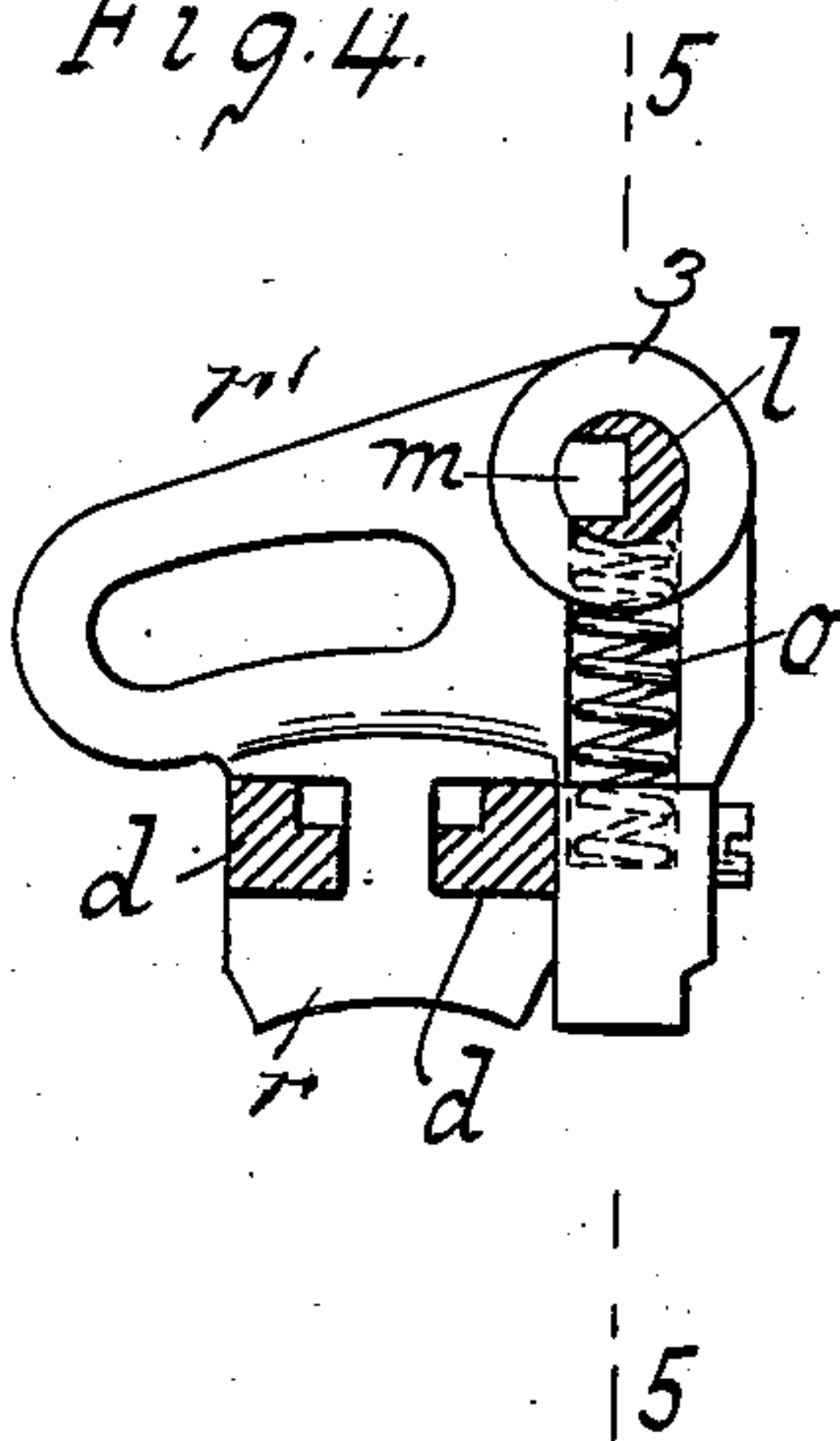
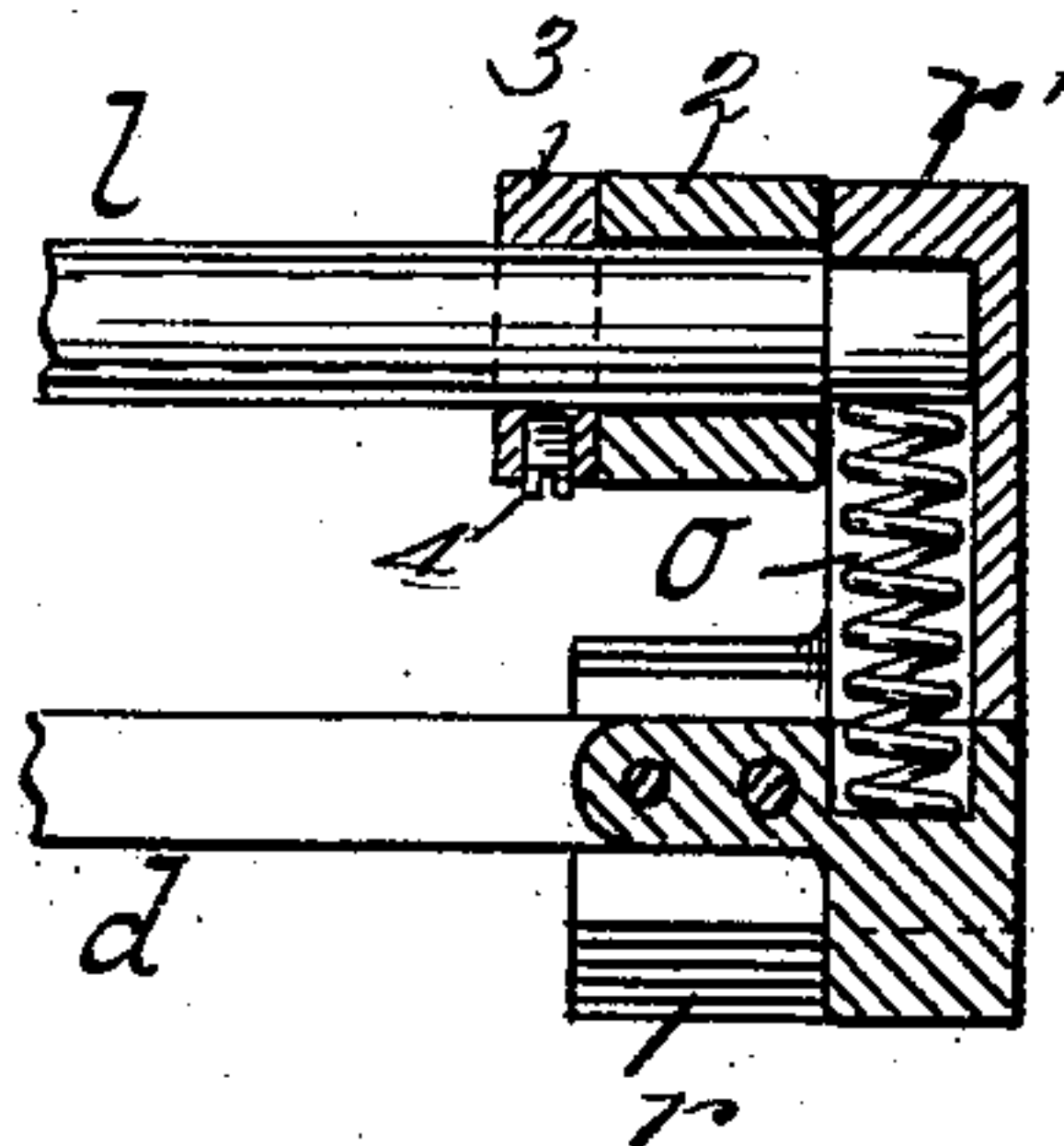


Fig. 5.



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UNITED STATES PATENT OFFICE.

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NUMBERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,063, dated March 29, 1904.

Application filed September 15, 1903. Serial No. 173,345. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. SHELDON, a citizen of the United States, residing at Brooklyn, Kings county, New York, have invented new and useful Improvements in Numbering-Machines, of which the following is a specification.

This invention consists of certain improvements in numbering devices adapted, for example, for such work as numbering sales slips or books used to check or keep account of and to compare or verify sales or payments.

By means of this invention the numbering or paging of sheets or slips can be readily adjusted to any desired length or width of sheets or division of sheets as it may be desired to cut and fold to form a book of given size.

The printing or numbering according to this invention can be done with the figures or type upright, while the sheet is delivered sideways, and a practicable way has been found to arrange the numbering-wheels about a cylinder with their axes at right angles or transverse to the axis of such cylinder.

An ordinary numbering-machine or set of numbering-wheels can thus be employed, and having their axes arranged transversely to the direction in which they are carried about by the cylinder such wheels will not be accidentally shifted or rotated by the printing stroke or contact of the wheels with the paper or sheet.

As the numbering machine or wheels or a series thereof are set along a cylinder at suitable points and spaced as desired, the impressions or numbers are correspondingly printed on the sheet fed past such cylinder.

Arranging the numbering-machines in suitable group or groups about the cylinder or circumferentially will also make provision for such size or division of sheets as may be required.

This invention is set forth in the following specification and claims, and illustrated in the annexed drawings, in which—

Figure 1 shows a side elevation of a press. Fig. 2 shows a type-cylinder with numbering-machine. Fig. 3 is a sectional side elevation

of Fig. 2. Fig. 4 shows details. Fig. 5 is a section along 5 5, Fig. 4.

The numbering-machine consists of a series of disks *a*, having numbers on the circumference thereof. Each of these disks *a* is mounted on a shaft *b*, and the disks can be rotated to bring the different numbers in line for printing. The shaft *b* is carried by a frame *c*, which can be placed onto the rails or supports *d*, carried by the printing or type cylinder or its heads or ends *e*. A screw *f* is employed to fasten or clamp the frame *c* of the numbering-machine to the cylinder *e* and prevent the same from shifting when in proper position on the rails. The rails or supports *d* extend the entire length of the cylinder *e* or practically the entire length, so that the numbering-machine can be placed in any position to print more or less away from the margins of a sheet of paper.

The cylinder carrying the numbering-machine is what may be called a "skeleton" or "open-work" cylinder, since the cylinder-heads *e* carry the suitably-spaced rails or tracks *d*, on which the numbering-disks *a* are mounted. Each numbering-wheel has its axis at a right angle or transverse to that of the cylinder.

The axis or shaft of the carrying-cylinder is shown at *h*, and said axes *h* and *b* are at right angles or transverse to one another. As the carrying or type cylinder *e* carries the type or number wheels to the sheet or printing-point the wheels contact with and print on or number the sheet; but such contact being along the line of axis *b* cannot act to rotate the wheels *a*. Accidental shift of the numbering-wheels is thus avoided.

The wheels are rotated or given the required step-by-step movement by suitable mechanism, so that the continuous numbering is suitably effected.

The wheels are rotated by ratchet and pawl actuated by the lever or arm *i*. The lever receives motion from a suitably-actuated rail *l*. This lever or pawl has a pin *k*, which, sitting into a groove or slot *m* in rail *l*, will be suitably connected thereto, so as to be swung as the rail *l* is moved back and forth, or rather

in and out, toward and from the center or axle *h* of the type-cylinder *e*. This rail *l* is actuated by a spring and cam or eccentric *n*. Said rail is shown mounted in grooves *o* in the cylinder, and as such cylinder rotates and carries the rails or bars *l* to the eccentrics the bars *l* are moved or pressed inward to be returned by the springs when past the cams. Antifriction-rollers 2, Fig. 5, are held in place on rail *l* by collars 3 with fixing-screws 4, and said rollers 2 ease the movement along eccentric *n*. Such oscillation of the cam-actuated bars *l* oscillates the pawl *i* to move or set the numbering-wheels.

The rails *d* and wheel-setting bars *l* or their mountings, as presently explained, are removable from and replaceable on the cylinder or heads *e*. Only one bar *l*, with its numbering-machine or single row of numbering-machines, can be supplied to a type-cylinder, or a group or suitable series of numbering-machines, with adjacent mechanism, can be arranged about the circumference of the cylinder, so that on each revolution of the cylinder a desired number of impressions or figures can be printed. In other words, one or a series of numbering-machines can be grouped and adjusted between the ends of or along the cylinder and also about the cylinder, as required for the work in hand. Longer and shorter as also narrower and wider work or sheets can thus be printed, numbered, or paged.

As the device can be combined with a suitable cutting and folding machine, the formation of books or book-sections can be carried on in connection with the numbering or paging.

The carrying-rails *d* and actuating-rails *l* being extended alongside one another, the numbering-machine can be adjusted or set along the rails *d*, and the pin-and-slot connection (indicated at *k*) will maintain engagement between the numbering-wheels and their rotating or propelling arm along said points of adjustment, so that the numbering can be carried on at any point across the cylinder. The numbering-machine being clamped or fixed to a suitable point along rails *d*, the actuating-rails will rotate the number-wheels at any of such points.

The rails *d* are shown supported by blocks *p*. Each of such blocks, as seen in Fig. 3, is composed of two sections united by screw *t*, and when this screw is loosened and the outer or hook section of block *p* removed the rails *d* are free from these blocks, while when the block-sections are united or screwed together the rails *d* are secured therebetween. Clamping-devices or sleeves *q* are provided on the axle of the type-cylinder to engage or secure the blocks. Said blocks are shown with tongues or projections *p'* extended therefrom along the axis of the cylinder, and the conical or tapered clamping-leaves being jammed onto these tongues will hold or secure the blocks in

place and hold the rails with the numbering-machines in position.

In addition to the blocks *p* the rails *d* are provided with feet or supports *r*, Fig. 4, having concave edges adapted to sit on the cylinder-shaft *h* or on a hub part *h'*, Fig. 2, of said shaft. Such feet *r* are shown provided with bracket portions *r'*, having segmental slots adapted for the passage of screws or studs *u*, inserted into the cylinder-heads *e*.

When the screws *u* and *t* are removed, the rails *d*, with feet *r* and brackets *r'*, can be removed or lifted off the cylinder. When the screws *u* are removed and the fastening *q* loosened, the blocks *p*, with rails *d*, can be set or adjusted entirely around the cylinder or shaft at any point thereof. On then tightening the clamp *q* and inserting screws *u* the rails *d* will be fixed in the required position.

The number of holes *v* and the sizes of the segmental slots in brackets *r'* are such that a screw *u* can be passed through a slot into a hole no matter in what position the rails may be.

In Fig. 2 the type-cylinder is shown with end heads *e* and also an intermediate head, so that this cylinder is partitioned or divided into parts or two divisions. Of course the cylinder can be made of any suitable length and partitioned or divided or not as called for and numbering-machines applied on each cylinder or in each division thereof, according to the work demanded.

What I claim as new, and desire to secure by Letters Patent, is—

1. A cylinder having a shaft and heads, number-wheel-carrying rails having bracket portions with feet or supporting parts adapted to sit on the shaft, an adjustable supporting-block for the rails, and screws for securing the bracket portions to the cylinder-heads.

2. A cylinder having a shaft and heads, number-wheel-carrying rails having bracket portions with feet or supporting parts adapted to sit on the shaft, an adjustable supporting-block for the rails, and screws for securing the bracket portions to the cylinder-heads, said bracket portions having segmental slots to allow adjustment about the shaft when the screws are loosened.

3. A cylinder having a shaft and heads, number-wheel-carrying rails having bracket portions with feet or supporting parts adapted to sit on the shaft, an adjustable supporting-block for the rails, and screws for securing the bracket portions to the cylinder-heads, said bracket portions having segmental slots to allow adjustment about the shaft when the screws are loosened and said cylinder-heads having a series of holes or taps for allowing the screws to be applied in different positions.

4. A cylinder comprising a shaft and heads, rails provided with foot and bracket portions, numbering-wheels on the rails, spring-pressed actuating-rails for the wheels mount-

ed in the brackets, blocks for removably holding the rails with their brackets to the cylinder-shaft, and screws for removably securing the brackets to the cylinder-heads, said brackets being slotted for the passage of the screws and to allow adjustability of the brackets when the screws are loosened.

5 5. A cylinder having a shaft, supporting-rails having brackets secured to the cylinder and feet made to rest on the shaft, blocks for engaging the rails, a clamp for securing the blocks to the shaft, numbering-wheels on the rails, and an actuating-rail for the number-wheels movably mounted in the bracket.

15 6. The combination with a cylinder com-

prising a shaft and heads, of rails having feet made to rest on the shaft and brackets having screw-and-slot connections with the heads, a number-wheel-actuating rail mounted to move eccentrically in the bracket, a supporting- 20 block for the rails, and a clamping-cone seated about the shaft and adapted to adjustably secure the blocks to the shaft.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 25 witnesses.

EDWARD P. SHELDON.

Witnesses:

W. C. HAUFF,

CHAS. E. POENSGEN.