

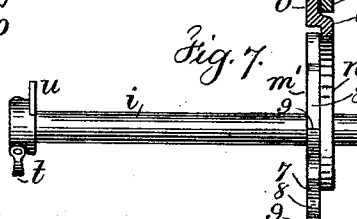
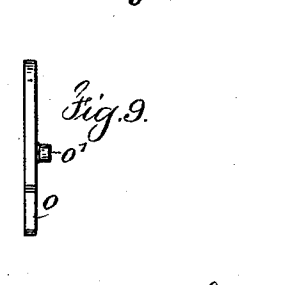
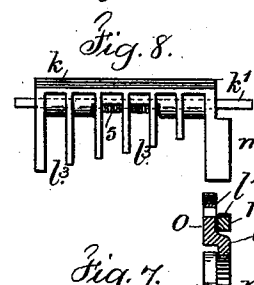
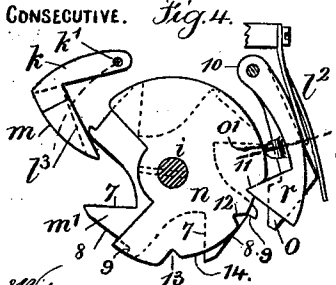
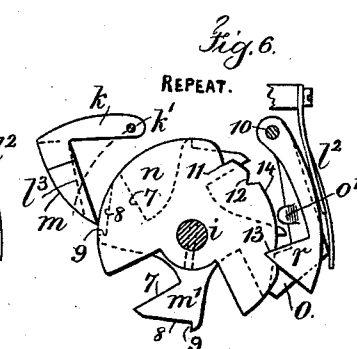
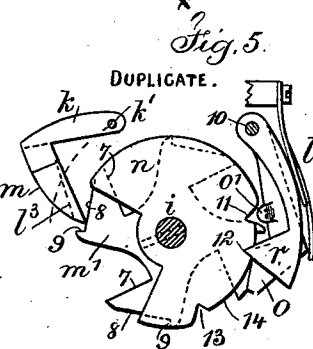
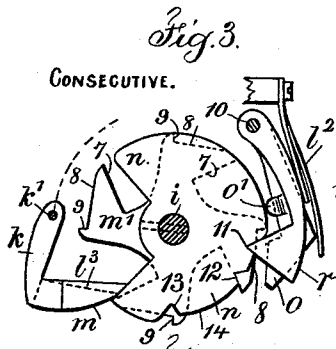
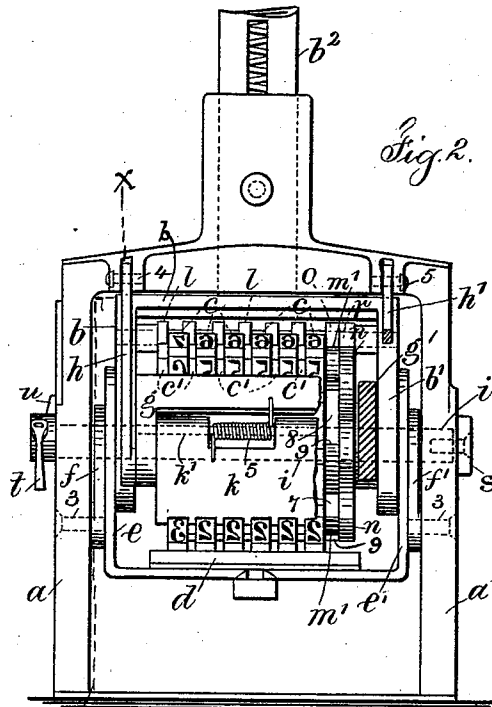
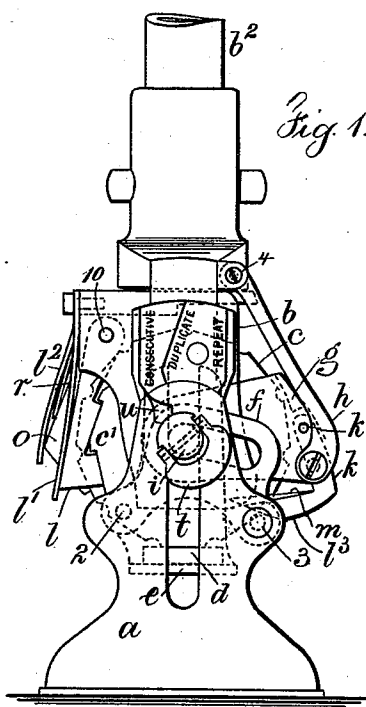
(Model.)

2 Sheets—Sheet 1.

O. BARTUSCH.
NUMBERING MACHINE.

No. 540,895.

Patented June 11, 1895.



Witnesses
Charles Smith
J. Stail

Inventor
O. Bartusch
per
Lemuel W. Torrell
Atty.

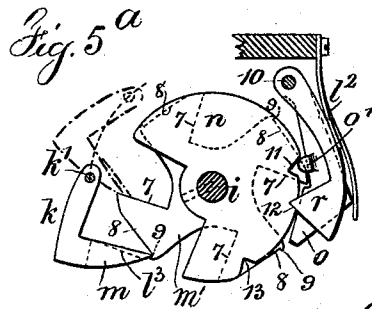
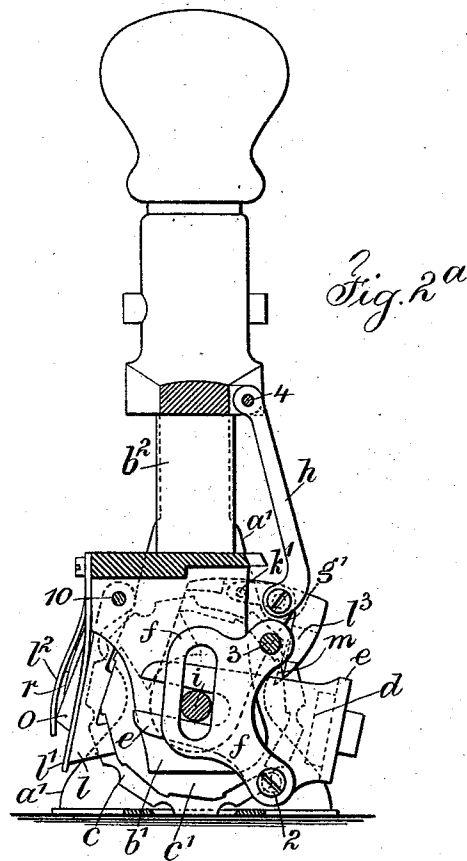
(Model.)

2 Sheets—Sheet 2.

O. BARTUSCH.
NUMBERING MACHINE.

No. 540,895.

Patented June 11, 1895.



Witnesses

Charles Smith
J. Stait

Inventor

Oswald Bartusch
per Lemuel W. Serrell
att'y

UNITED STATES PATENT OFFICE.

OSWALD BARTUSCH, OF BROOKLYN, ASSIGNOR TO WILLIAM A. FORCE & CO.,
OF NEW YORK, N. Y.

NUMBERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 540,895, dated June 11, 1895.

Application filed March 30, 1894. Serial No. 505,673. (Model.)

To all whom it may concern:

Be it known that I, OSWALD BARTUSCH, a subject of the Emperor of Germany, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Consecutive-Numbering Machines, of which the following is a specification.

My invention relates particularly to that class of consecutive numbering machines wherein letters, numbers or characters can be repeated, duplicated or impressed consecutively, and my invention is applicable to both hand and power machines and the object of my invention is to simplify the construction to such an extent as to require no intelligent action on the part of the user, it being possible to change from repeat to duplicate or to consecutive or vice versa as desired by simply shifting a pointer.

In carrying out my invention the shaft of the numbered disks is employed as the medium for effecting the changes, and in connection therewith I employ a cam wheel pinned to said shaft and a spring actuated pawl therefor, a friction ratchet wheel free on the shaft and a spring actuated pawl therefor, and a dead pawl upon the pawl block. The cam wheel is partially cut away so that in one position the dead pawl enters this cut away portion to permit all the pawls of the pawl block to engage their numbered disks in operating said disks consecutively. In the other position the dead pawl operates the friction ratchet wheel in impressing the figures or characters in duplicating. In the third position the dead pawl rides over the face of the cam wheel lifting the pawls of the pawl block off the ratchets of the numbered disks so that said disks are not rotated but remain fixed to repeat the numbers in giving the impression.

In the drawings, Figure 1 is a side elevation of the greater part of a consecutive-numbering machine, illustrating my improvements. Fig. 2 is a front elevation and partial section of the same; and Fig. 2^a is an elevation and section at the line *x x*, Fig. 2, looking to the right with the parts in the position for printing. Figs. 3 and 4 represent by side elevations the pawl-operating mechanism set for

consecutive printing, said figures representing the two extremes of movement. Fig. 5 represents by a side elevation the pawl-operating mechanism set for duplicating; and Fig. 5^a is a similar view showing the parts at the end of the first stroke and the pawl dotted in position at the second stroke. Fig. 6 represents by a side elevation the pawl-operating mechanism set for repeating. Fig. 7 is a plan of the shaft, cam-wheel, friction ratchet-wheel, and section at the line *y*, Fig. 4, of the pawls bearing upon the cam-wheel and ratchet-wheel. Fig. 8 is an edge view of the pawl-block, and Fig. 9 is an edge view of the pawl of the friction ratchet-wheel.

The main frame of the machine is represented at *a a'*, and *b b'* represents the main yoke frame connected to and movable with the tubular stem *b²*.

c are the respective numbered disks, and *c'* the ratchet wheels connected therewith and by which said numbered disks are operated. These numbered disks and ratchet wheels are loose on the shaft *i*, and the ratchet wheels are provided with the usual deep notches. The yoke frame *e e'* carries the ink pad *d*, and said yoke frame straddles the shaft *i* and is pivoted at 2 to the arms *f f'*, said arms in turn being pivoted at 3 to the main frame *a a'* and having mortises through which the shaft *i* passes. The shaft *i* passes freely through the numbered disks *c*, and their ratchets *c'* through the yoke frame *b b'* and through the yoke frame *e e'* and the arms *f f'* and through vertical mortises in the frame *a a'* and slightly beyond at its respective ends.

The yoke frame *g g'* is within the yoke frame, *b b'*, and the shaft *i* also passes through and is a pivot for the yoke frame *g g'*, and links *h h'* pivoted at 4 5 to the main frame *a a'* are at their lower ends pivoted to the yoke frame *g g'*, and as the tubular stem *b²* and yoke frame *b b'* are moved downwardly carrying the inner end of the yoke frame *g g'*, the same swings on its pivot bearings with the links *h h'*.

The pawl block *k* is connected by a shaft *k'* to the yoke frame *g g'*, and a spring 5 upon the shaft *k'* acts to press the pawl block toward the numbered disks *c*. This pawl block

k carries a dead pawl *m* at one end and the graduated pawls *l*³ for turning the numbered disks *c*.

The independent ratchet wheel *m'* is loose upon the shaft *i* next to one numbered disk *c*, and a cam wheel *n* is also upon the shaft *i* between the wheel *m'* and the part *g'* of the yoke frame. The cam wheel is pinned to the shaft *i* as shown. The ratchet wheel *m'* is cut away at four equi-distant places and provided with tooth faces 7 parallel to radial lines with flat tangential faces 8 and teeth 9 which are engaged and operated by the dead pawl *m*.

The pawls *l* upon the pin 10 engage the ratchets of the numbered disks, and prevent the accidental rotation of said disks and the springs *l'* act to press the pawls *l* to place against the ratchets. Upon this pin 10 the pawls *o* and *r* are placed, the pawl *o* acting upon the ratchet wheel *m'* and the pawl *r* upon the cam wheel *n*, and springs *l*² act upon these pawls. The pawl *o* has a flat face to bear upon the tangential faces 8 of the ratchet wheel *m'* and a side lug *o'* that bears upon the face of the cam wheel *n*. This cam wheel *n* has a portion cut away and three peripheral notches 11, 12 and 13 are employed to receive one at a time the point of the pawl *r* and between the end notches 11 and 13 the periphery of the cam wheel is reduced at 14 so as to be of less radius than the adjacent portions of the cam wheel.

The shaft *i* has a guide button *s* at one end and a pivoted finger plate *t* and pointer *u* at the other end, and upon the side of the main frame *a* adjacent to the pointer *t* are lines and the words "consecutive," "duplicate," "repeat" and with the rotation of the shaft *i* by the plate *t* to bring the pointer *u* into coincidence with the lines of these named positions, the cam wheel *n* is altered in position and the working of the machine changed by this alteration.

The operation of the parts is as follows: In Figs. 1, 2, 3 and 4, the parts are shown in the position of consecutive numbering, and attention is particularly directed by Figs. 3 and 4 to the position of the ratchet wheel *m'* and cam wheel *n*. In these figures the lug *o'* of the pawl *o* is upon the periphery of the cam wheel *n* and is raised off the ratchet wheel *m'* so that it is free to turn, the point of the pawl *r* being in the notch 11 of the cam wheel *n*. This allows the dead pawl *m* to fall into one of the notches of the ratchet wheel *m'* and to move the same back and forth from the position of Fig. 3 to that of Fig. 4, with the operations of the machine, thus permitting the pawls *l*³ of the pawl block to engage the ratchets of the numbered disks and turn the same progressively in printing the numbers consecutively. Now if one turns the pointer *u* to the line of "duplicate," the shaft *i* and the cam wheel *n* are turned simultaneously and the cam wheel brought into the position

shown in Fig. 5 where the point of the pawl *r* is in the notch 12 and the pawl *o* has been brought by its spring against the faces of the ratchet wheel *m'* because the lug *o'* no longer rests upon the periphery of the cam wheel *n*. In this position of the parts the dead pawl *m* in one movement of the machine is as shown upon a face 8 of said ratchet *m'* and operating against the tooth 9 turns the ratchet. Meanwhile the pawl block is held in an elevated position so that its pawls *l*³ are inoperative and the numbered disks are not moved. With the next movement of the machine the dead pawl *m* falls into one of the depressions of the ratchet *m'* and the pawls of the pawl block are brought into operative contact to turn the numbered disks *c* progressively each second movement of the machine so that each number printed is duplicated by being printed a second time. Now if the pointer *u* is brought to the line "repeat" the shaft *i* and cam wheel are turned still further and are brought into the position Fig. 6 in which the point of the pawl *r* is in the notch 13 and the pawl *o* unchanged as its lug *o'* is just above the portion of the cam wheel *n* of reduced radius and the ratchet wheel *m'* is held by its pawl *o*. In this position the dead pawl *m* in its up and down movements rides over the periphery of the cam wheel *n* holding the pawl block at all times in an elevated position, sufficiently to prevent the pawls *l*³ of the pawl block from coming into engagement with the ratchets of the numbered disks at all. Consequently the number printed once is repeated any desired number of times.

In my improvement the changes, between "consecutive," "duplicate" and "repeat," are effected directly by the turning of the shaft carrying the numbered disks and by the devices connected to and operated thereby, and the devices for effecting these changes are not connected with the pawl block as has heretofore been the case. Hence the construction of the pawl block is not complicated and expensive and no instruction is necessary as to the working nor any nice adjustment in setting the parts, it being simply necessary to turn the pointer and shaft to automatically effect the changes necessary for the successful operation of the machine in its several functions.

I claim as my invention—

1. In a consecutive numbering machine, the combination with the numbered disks, a main shaft therefor, the pawl block, its pawls and dead pawl, of an independent ratchet wheel loose on said shaft and a cam wheel fixed on the said shaft adjacent to the ratchet wheel and both wheels being adapted to act upon the dead pawl, means for turning the shaft and cam wheel into its different positions and for holding the same and for visually indicating said positions, substantially as specified.

2. In a consecutive numbering machine, the combination with the numbered disks, their shaft, the pawl block and its pawls, of a dead pawl connected to the pawl block, an independent ratchet wheel loose upon the said shaft of the numbered disks but rotatable, a cam wheel adjacent to the ratchet wheel and secured to the said shaft, means for holding both the ratchet wheel and cam wheel in position as set for controlling the operation of the dead pawl and pawl block, means for rotating the said shaft and turning the cam wheel and visually indicating the different positions, substantially as specified.

3. In a consecutive numbering machine, the combination with the numbered disks, the pawl block, its pawls and dead pawl, of the main shaft rotatable and carrying the numbered disks, means operated by the rotation of the shaft for acting upon the dead pawl and pawl block, and means for rotating the shaft and for visually indicating the different positions, substantially as set forth.

4. In a consecutive numbering machine, the combination with the numbered disks, the pawl block, its pawls and dead pawl, of the rotatable shaft carrying the numbered disks, the independent ratchet wheel free on said shaft, the cam wheel secured to said shaft, the spring actuated pawls bearing upon and for holding the ratchet wheel and cam wheel, and a pointer upon one end of the shaft for indicating at lines and words on the side of

the frame the different positions of the parts, substantially as set forth.

5. In a consecutive numbering machine, the combination with the numbered disks, their rotatable shaft, the pawl block and pawls and dead pawl, of the independent ratchet wheel having equidistant depressions and intermediate flat faces and teeth, the cam wheel connected to the shaft and having a cut away portion, and a periphery notched and reduced between the notches, the spring actuated pawl engaging the independent ratchet and having a lug to bear upon the cam wheel, and the spring actuated pawl to engage the notches of the cam wheel, substantially as and for the purposes set forth.

6. In a numbering machine, the combination with the numbered disks of a central shaft supporting such disks and extending through and beyond the slotted frame, a pointer on such shaft and means for turning such shaft to either of the indications on the frame, such as "consecutive," "duplicate," "repeat," and mechanism substantially as specified, actuated by the turning of such shaft for effecting the changes indicated, substantially as specified.

Signed by me this 28th day of February, A. D. 1894.

OSWALD BARTUSCH.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.