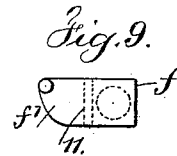
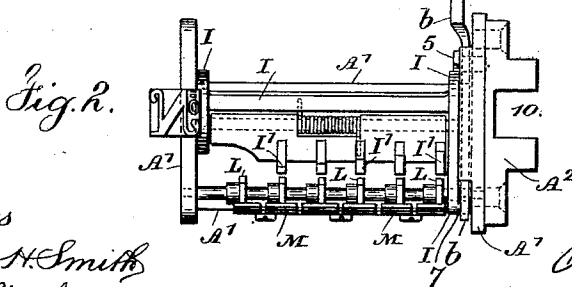
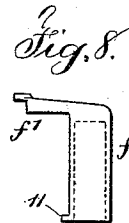
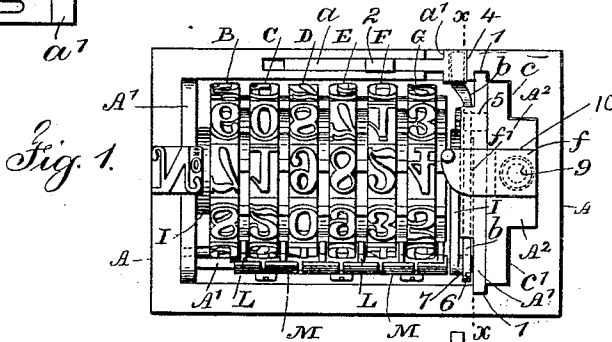
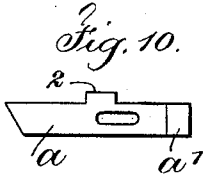
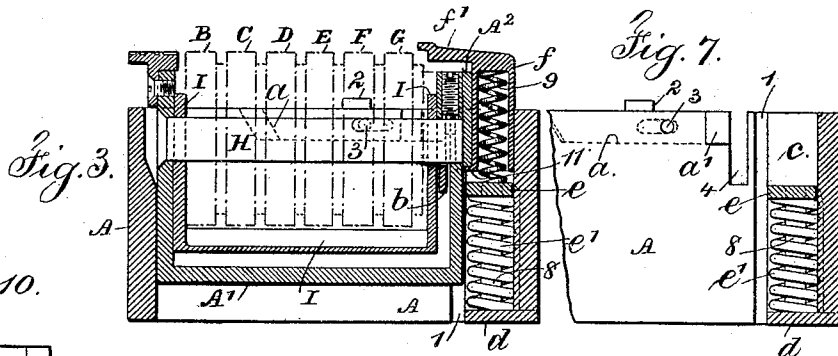
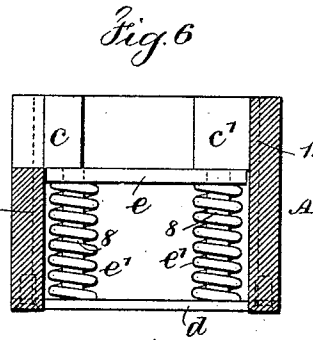
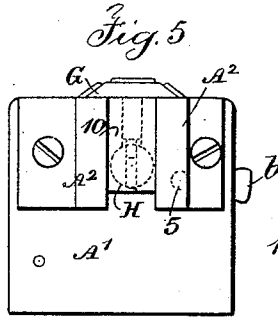
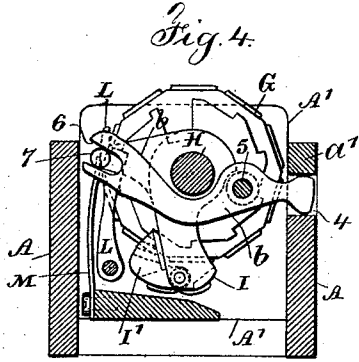


(No Model.)

O. BARTUSCH.
NUMBERING HEAD.

No. 573,175.

Patented Dec. 15, 1896.



Witnesses
Chas. H. Smith
J. Staib

Inventor
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UNITED STATES PATENT OFFICE.

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

NUMBERING-HEAD.

SPECIFICATION forming part of Letters Patent No. 573,175, dated December 15, 1896.

Application filed November 22, 1895. Serial No. 569,824. (No 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 Numbering-Heads, of which the following is a specification.

As heretofore constructed consecutive-numbering heads have been made in which the number-wheels have been placed in a box or case and operated by the impression in printing, but the mechanism was not easily accessible for cleaning, and it was more or less difficult to remove and replace the parts in the box or case; and the object of my invention is to overcome these difficulties.

My invention relates to a removable case for holding the number-wheels and their operative mechanism and to means for holding the same in an outer case or box from which the case holding the number-wheels is readily removable; and my invention also relates to the manner of operating the consecutive-numbering head so that a vertical movement is imparted to the number-wheels and the removable case holding said wheels, the same being depressed by the impression in printing and elevated by a spring mechanism after the impression, and a horizontal position of the number-wheels is maintained during their vertical movements. The details of the mechanism and their operation are hereinafter more particularly set forth.

In the drawings, Figure 1 is a plan view representing my improvement complete. Fig. 2 is a plan view of the internal case removed from the box with the parts in their normal position, but without the number-wheels or their shaft. Fig. 3 is a vertical longitudinal section of the outer box and inner case and mechanism, but with the number-wheels shown in dotted lines. Fig. 4 is a vertical cross-section at the line $x x$, Fig. 1, looking toward the number-wheels. Fig. 5 is an end elevation of the internal case. Fig. 6 is a vertical cross-section at the line $x x$, Fig. 1, through the outer box alone, looking toward the right-hand end of the box. Fig. 7 is a partial internal elevation and section through the box at the right-hand end. Figs. 8 and 9 represent by an elevation and plan the sliding

depressible block, and Fig. 10 is an elevation of the sliding plate separate. The figures of the drawings are of an exaggerated size for clearness.

The box A is of rectangular form and is of less height than the type-surfaces of the number-wheels, and the exterior surfaces of the box A are flat and adapted to be locked up in a chase with type and other matter to be printed from.

The number-wheels B, C, D, E, F, and G are of usual character and by preference contain types that are capable of being depressed before the printing operation is commenced. A shaft H is employed and passes, as usual, through the number-wheels. Pawls L act against the ratchets of the number-wheels, and pawl-springs M bear against said pawls to hold them against the ratchets of the number-wheels. A pawl-frame I and pawl-block and pawls I' are employed, as usual, for consecutively turning the number-wheels. These parts are of usual construction and do not require further description.

I provide an internal case A', having upon one end opposite vertical ribs adapted to pass into slideways 1 in the opposite inner faces of the box A. In one side member of the box A, I provide a groove and a vertical slot or notch 4, and in said groove I place a bolt a , in the form of a sliding plate, upon one end of which is a head a' , and rising above the plate a finger-piece 2. In said bolt a is a mortise, and a pin 3 passes through the side of the box A and through the said mortise. When the plate is drawn back, its head a' comes within a notch in the side member of the box A, as seen in Fig. 7, and when moved into its other extreme position the head a' closes over the upper end of the vertical slot 4. I employ a lever b and a pin or screw 5 for pivotally connecting said lever b on the side of the internal case A', and one end of the lever b is forked at 6 and the opposite end provided with an enlargement passing into the notch 4, below the bolt-head a' .

The pawl-frame I, carrying the pawl-block I', is pivoted to the shaft H of the number-wheels, and on said pawl-frame I provide a pin 7, which when the parts are in position enters the forked end 6 of the lever b , and the head

a' of the bolt over the opposite end of the lever b prevents its upward movement and effects the swinging of the pawl-frame and pawl-block each vertical movement of the internal case and number-wheels to effect the progressive rotation of the number-wheels.

The right-hand end of the box A, Fig. 1, is provided with shoulders c c' , and the under side of the box A at this end is provided with a removable plate d , connected to and rising from which plate are studs 8, whose upper ends come just below the shoulders c c' . Around the studs 8 are helical springs e' , and between the upper ends of said springs and the under face of the shoulders c c' is a plate e , perforated for the upper ends of the studs 8, the springs e' acting to force the plate e upward against the shoulders. The same end of the internal case A' is made with a slide-block A², fitting between the shoulders c c' , and the base of the slide-block A² rests upon the upper surface of the plate e , and in a central slideway 10 in the block A², I provide a depressible slide-block f , with an opening therein to receive a spring 9, whose lower end also rests upon the plate e , and the slide-block f is provided with a foot-piece 11, that takes against the under edge of the slide-block A² when the slide-block f is raised, the foot-piece 11 limiting the upward movement. This slide-block f has an overhanging portion f' , on which I have shown in the drawings a period to come after the printed numbers, and upon the internal case A' at the other side of the number-wheels are the letters "No." to precede the figures of the number printed. The overhanging portion of the depressible slide-block f and the period thereon stand upon a higher level than the level of the type-faces, and in the printing operation this slide-block is depressed to bring the face of the period down to a level with the type-faces. This movement brings the under side of the portion f' down upon the top edge of the internal case A' and brings the base of the said slide-block f down upon the face of the plate e , and the further pressure moves the whole internal case with the number-wheels downward into the box to bring the type-faces to the same level with the type-faces blocked up in the chase with the number-head, so that the printing of all the parts is uniform. This depression of the parts compacts the helical springs e' and moves the internal case down in the slideways 1 of the box A and simultaneously swings the pivoted lever b , because its enlarged end is held in the slot 4 of the box. This swinging movement of the lever b moves backward the pawl-frame I and its pawl-block I' into a new engagement with the ratchets of the number-wheels, so as to turn the same when the parts are released. After each impression is effected the helical springs e' and the spring 9 move the internal case A' and the depressible slide-block f all upward into the original normal position, and in so doing simultaneously swing the lever b and bring

forward the pawl-block I', so that its pawls in engagement with the ratchets of the number-wheels turn the same progressively, and this progressive movement is effected with each upward movement of the internal case after the depression and the printing have been effected, so that the number-wheels are changed after the impression has been given and before the next impression can be effected, so as to print the numbers in succession.

The slideways 1 of the box A and the ribs of the internal case A' moving therein are at the end where the pressure is applied to depress the slide-block f and internal case and where the springs act to raise the parts to their normal position. Hence the up-and-down movements are always reliable and there is no uneven action or tendency of the case to tilt or become bound in its supports.

To remove the internal case A' and its mechanism from the box A, the same must be depressed to release the pressure from the lever b when the bolt a and its head a' are moved longitudinally by any instrument acting on the finger-piece 2 to retract the said bolt, after which the internal case and its mechanism can be removed for cleaning, &c.

I claim as my invention—

1. In a number-head, the number-wheels and their case A' having a slide-block A² at one end and a slideway 10, of a block f fitting the slideway 10, and having an overhanging portion f' to receive a printing-character such as a period, a spring for elevating the block f and means for limiting its movement, a box A to receive the case and its number-wheels, and means for elevating the case within the box, substantially as specified.

2. In a number-head, the number-wheels, and their case A' having a slide-block A² at one end with opposite edge ribs and an intermediate slideway 10, of a block f fitting the slideway 10 and having an overhanging portion f' to receive a printing-character such as a period in line with the printing-characters of the number-wheels, a spring to elevate the block f and means for limiting its movement, a box A to receive the case and its number-wheels and having grooves for the ribs of the case, and springs grouped adjacent to the blocks A² and f for elevating the case within the box, substantially as specified.

3. In a number-head, the case A' the number-wheels, pawls, pawl block and frame and a lever b pivoted to the case and operating the number-wheels, of a box A receiving the case A' and in which the latter is movable vertically, a bolt a having a head a' and a finger-piece 2, and a mortise, and longitudinally movable in a groove in one side of the box A, a pin 3 to hold said bolt in place, and said box having a notch to receive the head a' and a vertical slot 4 to receive the end of the lever b which is held in place by the bolt a , substantially as and for the purposes set forth.

4. In a number-head, a box A having a slideway at one end and adjacent shoulders

5 *c c'*, a plate *d* carrying studs 8 and connected
to the base of the box, a plate *e* and helical
springs *e'* around the studs 8 and acting to
raise the plate *e* against the under sides of
the shoulders *c c'*, in combination with num-
ber-wheels and their case *A'* having a slide-
block *A²* at one end moving in the slideway
of the box *A* and resting upon the plate *e*
whereby the case is elevated to a normal po-
10 sition by the springs *e'* and plate *e*, substan-
tially as set forth.

5. In a number-head, the number-wheels
and their case *A'* having a slide-block *A²* at
one end and a slideway 10, of a block *f* fit-
15 ting the slideway 10 and having an overhang-
ing portion *f'*, a spring 9 acting upon the block
f to elevate the same and a foot-piece 11 for
limiting the upward movement, a box *A* to
receive the case and number-wheels the plate

d studs 8, springs *e'* and a plate *e* to raise the 20
case, substantially as specified.

6. In a number-head, the combination with
a box *A*, of number-wheels and a carrying-
case *A'* therefor, a plate *e* and springs for
elevating the case *A'*, a depressible slide- 25
block *f* in slideways at one end of the case *A'*
having an overhanging portion *f'* upon which
is a character such as a period, a spring bear-
ing upon the aforesaid plate *e* and acting to
elevate the slide-block *f*, substantially as 30
specified.

Signed by me this 15th day of November,
A. D. 1895.

OSWALD BARTUSCH.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.