F. SANDER.

NUMBERING MACHINE.

APPLICATION FILED SEPT. 1, 1908.

910,866.

Patented Jan. 26, 1909.

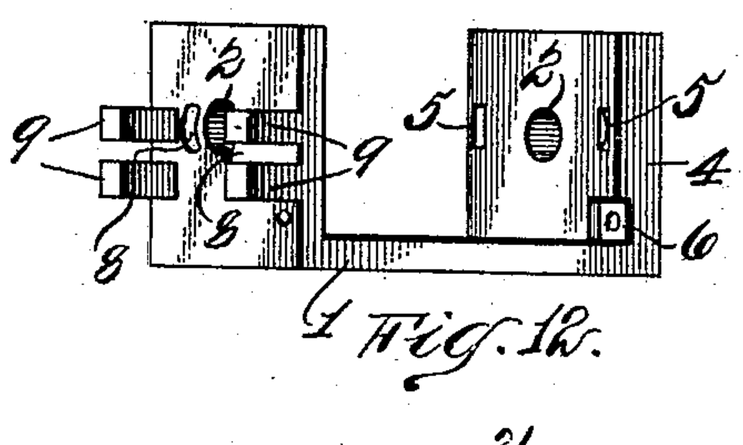


Fig. 12.

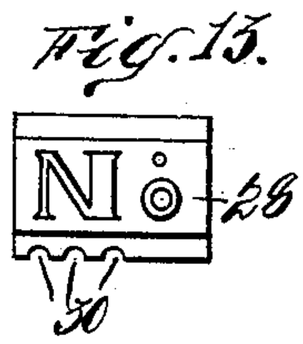


Fig. 15.

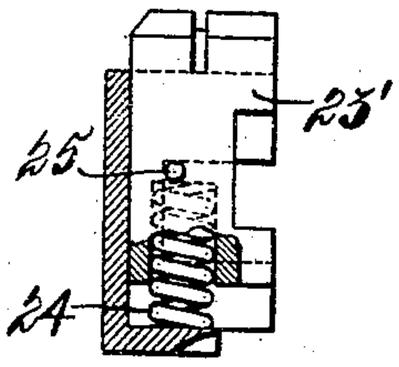
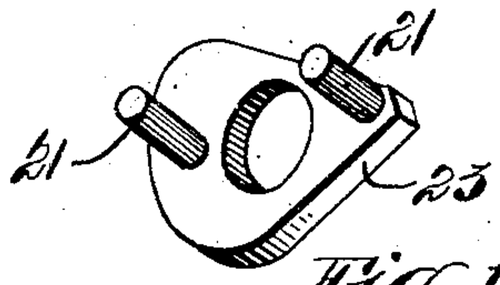


Fig. 10.



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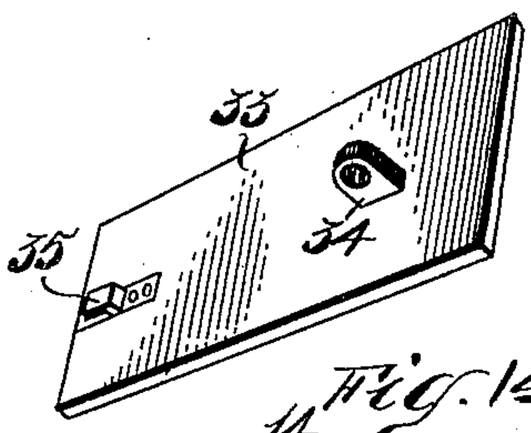

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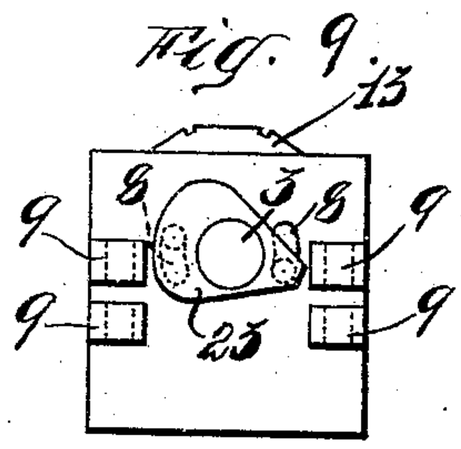

Fig. 9.

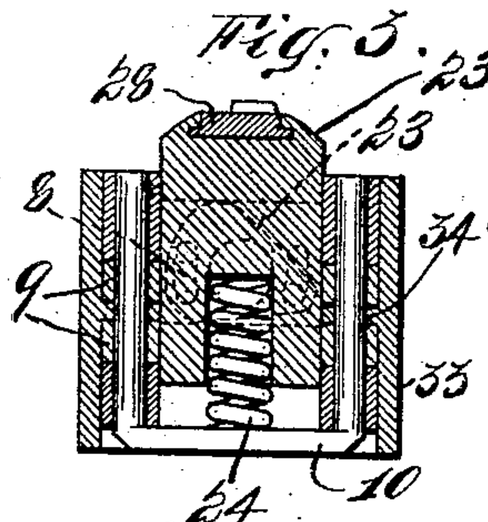

Fig. 3.

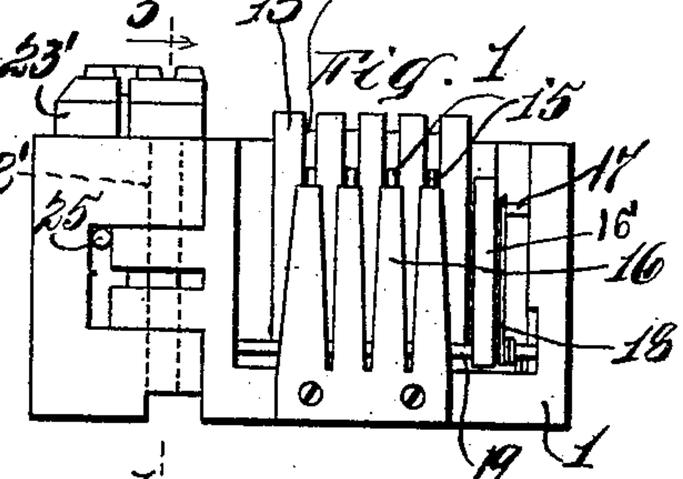

Fig. 1.

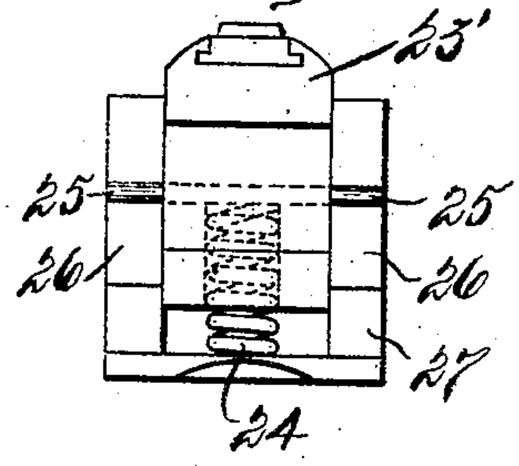

Fig. 8.

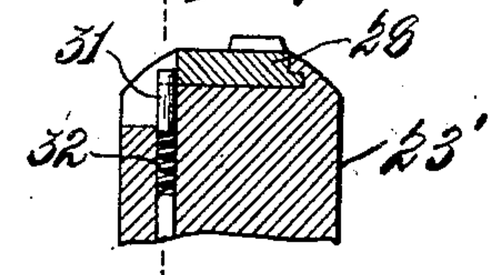

Fig. 6.

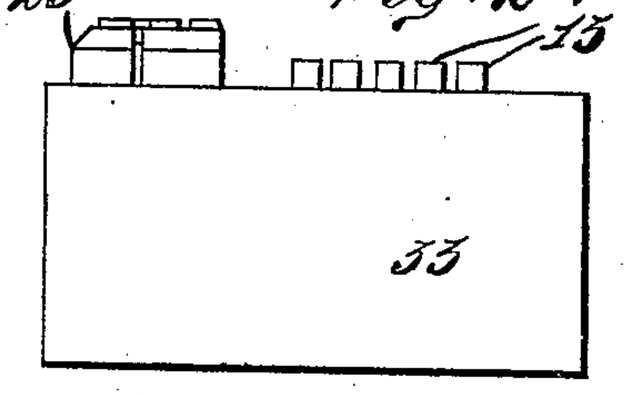

Fig. 2.

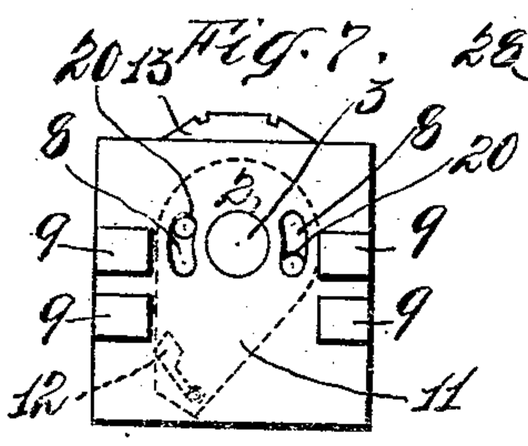

Fig. 7.

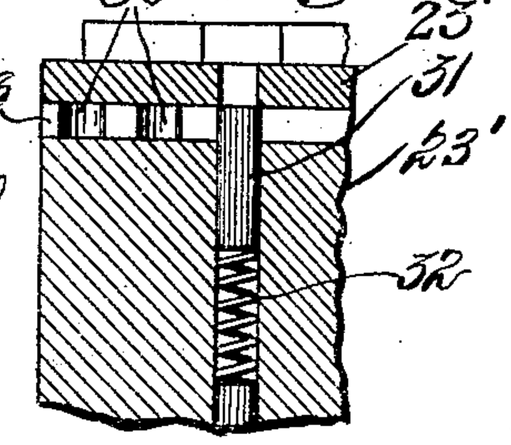

Fig. 5.

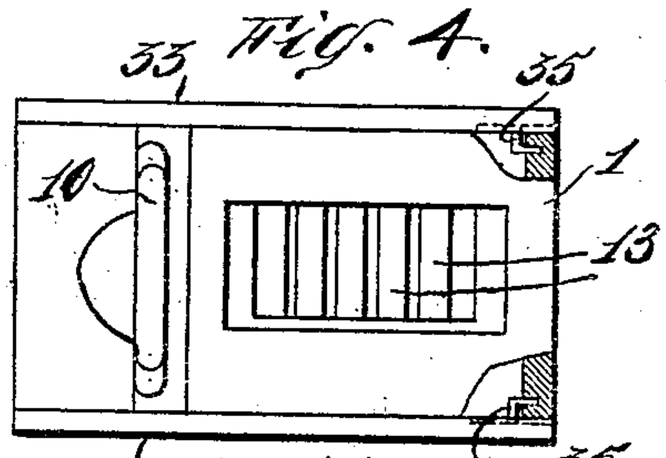

Fig. 4.

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Attorneys.

UNITED STATES PATENT OFFICE.

FRANK SANDER, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN NUMBERING MACHINE COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

NUMBERING-MACHINE.

No. 910,866. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed September 1, 1908. Serial No. 451,138.

To all whom it may concern:

Be it known that I, FRANK SANDER, a citizen of the United States, residing at Brooklyn, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Numbering-Machines, of which the following is a clear, full, and exact description.

This invention relates to numbering machines, more particularly that type of machine known as a typographic machine. The typographic machine is one adapted to be locked up with type and to have its number wheels advanced automatically upon the successive movement of the plunger.

The object of the invention is to provide an improved machine which will be simple to manufacture, readily accessible for cleaning, and efficient in operation.

The scope of my invention will be pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a machine constructed according to my invention with the side plate removed. Fig. 2 is a view similar to Fig. 1 with a side plate in place. Fig. 3 is a vertical section on line 3—3 Fig. 1. Fig. 4 is a bottom plan view, partly broken away at the corners to show the side plate engagement. Fig. 5 is a sectional view on line 6—6 Fig. 6, showing the number slide locking pin. Fig. 6 is a section of a part of the plunger head at right angles to Fig. 5. Fig. 7 is an end view of the case or frame with the plunger case removed. Fig. 8 is a side elevation of the inner side of the plunger and plunger case. Fig. 9 is a view similar to Fig. 7 with the rocking arm in place. Fig. 10 is a transverse sectional view of the plunger case with the plunger shown in side elevation, but partly broken away. Fig. 11 is a perspective view of the rocking or operating arm. Fig. 12 is a perspective view of the main case or main frame. Fig. 13 is a plan view of the number slide. Fig. 14 is a perspective view of one of the side plates.

As shown in the drawings, the machine consists of a main frame 1, of general U shape, having opening 2 at each end thereof for the main shaft 3 of the number wheels. The right hand vertical section 4 of the U frame 1 is preferably provided with recesses 5 and with a dished out lower corner 6. The vertical left hand member of the U frame 1 is provided with slots 8—8, and with projecting lugs 9—9, two on each side of the machine with a space between each pair, each pair being provided with openings for a staple 10, to be hereinafter described.

On the main shaft 3 of the machine there is mounted the usual pawl swing 11 with its operating pawls 12 between the arms, on which pawl swing the numbering wheels 13 with their ratchets 14 are freely mounted, retaining pawls 15 controlled by a spring plate 16, having individual fingers for the individual pawls 15 are mounted upon the frame as shown in Fig. 1. The unit wheel, the extreme right hand wheel in Fig. 1, has a ratchet wider than the other ratchets of the machine, and a pawl 16′ having a projecting pin 17 bearing against the vertical side of the U frame is held in place against its unit pawl by a spiral spring 18 around the detaining pawl shaft 19. The pin 17 prevents any sidewise motion to the pawl 16 and keeps it always properly in place upon the unit wheel ratchet. The pawl swing is provided with two apertures or holes 20, into which pins 21 on the rocking arm 23 may fit as shown in Fig. 9. The rocking arm across its greatest dimension is adapted to fit between two lips or ledges of the plunger 23, so that upon the reciprocation of the plunger the arm will be oscillated or rocked, the pawl spring operated and the number wheels advanced, as is customary in machines of this character.

The plunger 23 is preferably in the shape of a solid block having a recess opening to its lower surface containing a spring 24 while pins 25 on each side of the plunger are limited in their motion by the recesses 26 in the plunger casing 27. In a groove across the top surface of the plunger, I slip an undercut number slide 28 and I maintain it positively locked in its position by recesses 30 in its edge. A pin 31 upwardly projected by a spring 32 will positively engage the recesses 30 in the number slide, and lock it in any desired position.

In order to assemble the machine the plunger spring is compressed by the plunger, and the pins 25 forced into the recesses 26 when it will be found that the plunger may be fitted together with its case 27 directly to the main frame of the machine. The plunger case is perforated with passages 32 in line with the passages through the lugs 9 of the main frame, and when in the position of Fig. 1, the U-shaped pin or staple 10

may be caused to lock the parts together either as shown in Fig. 1 or as shown in Fig. 3. In Fig. 3 the side plates 33 are shown in place. The side plates have formed upon them a lug 34 with a central opening and a spring hook 35 at the opposite end. When placed in position upon the machine, the spring hook 35 will engage the recesses 5 of the main frame while the lugs 34 will fit between the lugs 9 on the main frame, so that the staple 10, when it is forced into place, will pass first through the plunger case, then through one of the lugs 9, then through the lug 34, of the side plate, then through the other lug of the main frame, and lastly through the plunger case mutually locking the parts securely in position as shown in Fig. 3.

I claim as my invention:

1. The herein described typographic machine having a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and a plunger casing, said plunger being mounted so as to reciprocate in its casing, and provided with a spring, said plunger casing being adapted for attachment immediately to the main frame, without the interposition of shafting or driving rods, and operating mechanism inclosed within the combined main frame and plunger casing adapted to convert the reciprocal motion of the plunger to an oscillatory motion of the pawl swing.

2. The herein described numbering machine, comprising a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and operating means connecting said plunger and swing, a case for said plunger adapted to fit the end of the main frame but separable from said main frame, mutually engaging lugs on the main frame and on the plunger case and means for locking the same together.

3. The herein described numbering machine, comprising a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and operating means connecting said plunger and swing, a case for said plunger adapted to fit the end of the main frame but separable from said main frame, side plates for the machine and mutually engaging lugs on each side plate, main frame and case, and means for securing the same together.

4. The herein described numbering machine, comprising a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and operating means connecting said plunger and swing, a case for said plunger separable from said main frame, said main frame having two pairs of duplicate lugs separated from each other on each side thereof, said plunger case having a recess into which the double set of lugs may fit, a side plate, a lug on the side plate adapted to fit between one pair of lugs of the main frame, and a pin adapted to pass through the lugs of the frame, case and side plate.

5. The herein described numbering machine, comprising a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and operating means connecting said plunger and swing, a case for said plunger adapted to fit the end of the main frame but separable from said main frame, said plunger case comprising a recessed portion for the plunger, a spring for the plunger, recesses on either side of the main recess, stop pins in said last recesses and secured to the plunger.

6. The herein described numbering machine, comprising a main frame, a shaft therefor, number wheels and their ratchets, a pawl swing and its pawls, a plunger and operating means connecting said plunger and swing, a case for said plunger adapted to fit the end of the main frame but separable from said main frame, said plunger case comprising a recessed portion for the plunger, a spring for the plunger, recesses on either side of the main recess, stop pins in said last recesses and secured to the plunger, a recess in the face of the plunger, the main shaft penetrating the recess, and an operating arm within the recess and on the shaft comprising a portion of the operating mechanism.

7. The herein described numbering machine, comprising frame, shaft, wheels and their ratchets, pawl swing and its pawls, plunger and its spring, operating mechanism connecting the plunger and the swing in combination with side plates, each having a lug thereon, adapted to fit into a recess of the machine proper, and a pin for pinning said lug in place, said side plate having a spring at the end opposite said lug adapted to engage a recess in the frame.

8. A numbering machine comprising a shaft, wheels, ratchets, pawl swing and pawls, plunger and spring, in combination with an operating mechanism comprising an oscillating arm mounted on the shaft on the exterior of the frame, a pin penetrating the frame and engaging the pawl swing, a recess in the plunger face fitting said oscillating arm.

9. A numbering machine comprising a frame, shaft, number wheels, ratchets, pawl swing and its pawls, a plunger and its spring, operating mechanism between the plunger and the swing, a number slide in the top surface of the plunger and positive means for locking said number slide in place, said positive means comprising an undercut slot in the plunger for the slide, a notch in the edge of the slide, a spring pressed pin in the plunger adapted to be projected across the slot and engage the notch.

10. A numbering machine comprising a frame, shaft, number wheels, ratchets, pawl swing and its pawls, a plunger and its spring, operating mechanism between the plunger and the swing, a number slide in the top surface of the plunger and positive means for locking said number slide in place, said positive means comprising an undercut slot in the plunger for the slide, a notch in the edge of the slide, a spring pressed pin in the plunger adapted to be projected across the slot and engage the notch, the plunger having an opening of less diameter than the pin above the pin in the plunger.

11. A numbering machine comprising a frame, shaft, number wheels, ratchets, pawl swing, pawls, plunger and operative means between the plunger and the swing, a detaining pawl for the units ratchet, a shaft on which it is mounted, a pin projecting from the unit detaining pawl and bearing against the end of the case, a wire spring on the shaft of the unit pawl and bearing against said pin, whereby all motion of the unit detaining pawl towards the frame is prevented by said pin.

12. A numbering machine comprising a main frame, a shaft therefor, projecting through one end of the frame, a slot on each side of the shaft through the end of the frame, holes in the pawl swing opposite said slots, a pair of extending lugs separated from each other at both sides of the frame, an operating oscillating arm having two pins projecting through the slots, and engaging the holes in the pawl swing, a plunger having a recessed face in which the oscillating arm is located, a plunger case for the plunger and a spring therein, means for limiting the motion of the plunger in the case, a recess and lugs on either side thereof in the case adapted to fit over and under the lugs of the frame, and a U shaped pin adapted to be inserted through the lugs of the case and the main frame.

13. A numbering machine comprising a main frame, a shaft therefor projecting through one end of the frame, a slot on each side of the shaft through the end of the frame, holes in the pawl swing opposite said slots, a pair of extending lugs separated from each other at both sides of the frame, an operating oscillating arm having two pins projecting through the slots and engaging the holes in the pawl swing, a plunger having a recessed face in which the oscillating arm is located, a plunger case for the plunger and a spring therein, means for limiting the motion of the plunger in the case, a recess and lugs on either side thereof adapted to fit over and under the lugs of the frame and a U shaped pin to be inserted through the lugs of the case and the main frame, side plates having lugs adapted to fit between the lugs of the main frame and adapted to be engaged by said U shaped pin.

Signed at New York city this 22nd day of August 1908.

FRANK SANDER.

Witnesses:
F. Warren Wright,
Mabel Dittenhoefer.