T. H. BOSS.

NUMBERING MACHINE.

APPLICATION FILED DEC. 15, 1910.

1,091,279.

Patented Mar. 24, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

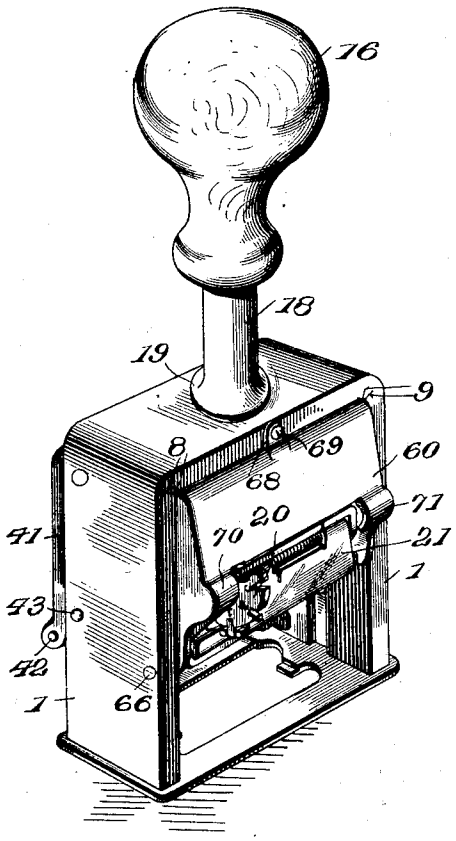


Fig. 5.

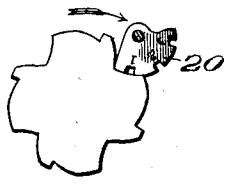


Fig. 2.

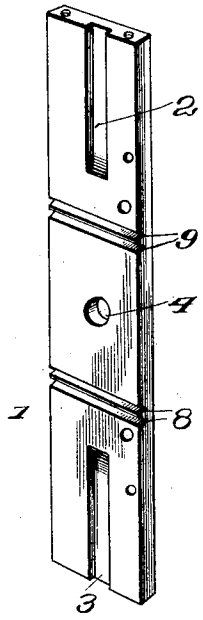


Fig. 3.

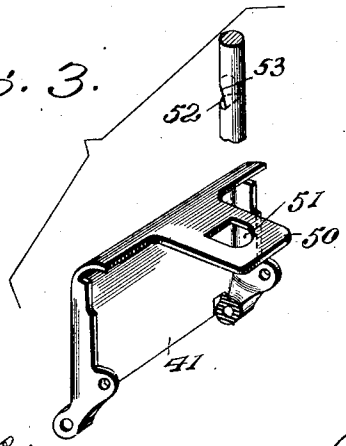
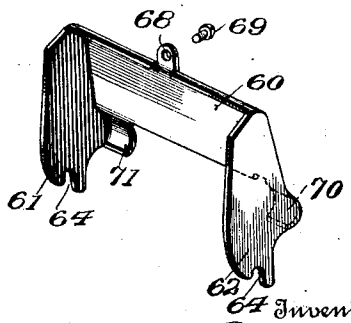


Fig. 4.



Witnesses

W. A. Williams.

Henderson F. Hill

Inventor

Thomas H. Boss

By Robertson & Johnson Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

T. H. BOSS.

NUMBERING MACHINE.

APPLICATION FILED DEC. 15, 1910.

1,091,279.

Patented Mar. 24, 1914.

2 SHEETS—SHEET 2.

Fig. 6.

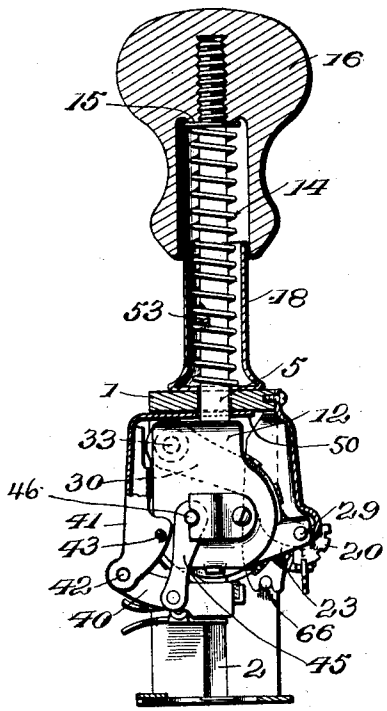


Fig. 7.

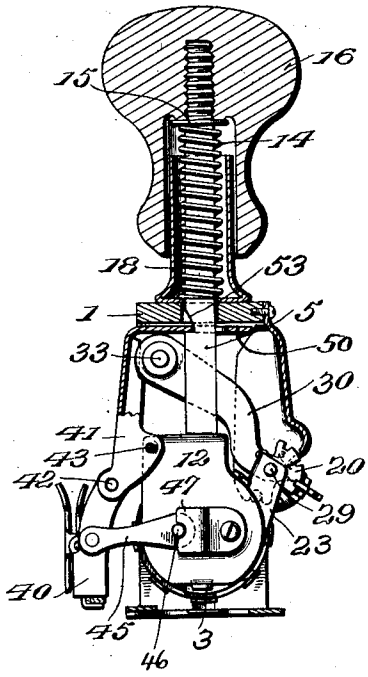


Fig. 8.

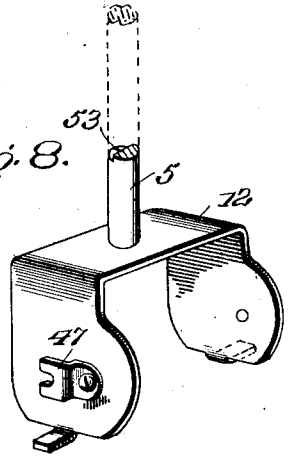


Fig. 9.

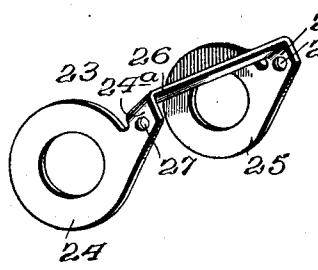
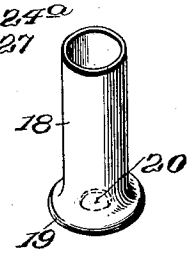


Fig. 10.



Witnesses

W. A. Williams.

Henderson F. Hill

Inventor

Thomas H. Boss.

By Robertson & Johnson Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS H. BOSS, OF MUSKEGON, MICHIGAN, ASSIGNOR OF ONE-HALF TO HILL-INDEPENDENT MFG. CO., OF MUSKEGON, MICHIGAN, A CORPORATION OF ILLINOIS.

NUMBERING-MACHINE.

1,091,279. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed December 15, 1910. Serial No. 597,457.

To all whom it may concern:

Be it known that I, THOMAS H. BOSS, a citizen of the United States, and a resident of Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Numbering-Machines, of which the following is a specification.

This invention relates to improvements in numbering machines, and more particularly to that class of machines which are designed to enable a user to print numbers consecutively or, by adjustment, to "repeat" the number before changing, or by another adjustment, to print the same number over and over again.

The object of the invention is to improve this type of machine and the invention consists, in the preferable embodiment, in the numbering machine as will be hereinafter described and then definitely claimed.

In the drawings accompanying and forming part hereof—Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is a perspective view of the blank for forming the U-shaped frame. Fig. 3 is a perspective view of the member employed to lock the parts in their depressed positions. Fig. 4 is a perspective view of a removable dust shield. Fig. 5 is a diagrammatic view of the pawl and its cam wheel. Fig. 6 is a vertical central section of the parts in their upper position. Fig. 7 is a view similar to Fig. 6 with the parts locked in their lower positions. Fig. 8 is a perspective view of the yoke detached. Fig. 9 is a perspective view of a swinging frame detached. Fig. 10 is a perspective view of the shell or casing for the spring detached.

Referring now to the details of the drawings by numerals: 1 designates the U-shaped frame generally employed in this type of machine, and the blank for this frame is illustrated in Fig. 2. It is very desirable to provide a frame which will be so formed that the inside lines forming the interior of the U-shaped frame will be exactly at right angles to each other and will not be rounded as in some machines. In order to accomplish this I form the U-shaped frame from the blank shown in Fig. 2 from which it will be seen that the blank consists of a rectangular piece of metal having grooves 2 and 3 for the purpose of guiding the numbering head, with a central opening 4 for the passage of the usual stem 5, and also with two pairs of V-shaped grooves or recesses 8 and 9. These latter are on opposite sides of the central opening 4 and the same distance from said opening and are at just the proper position to determine the points at which the blank is bent to form the U-shaped frame shown in Fig. 1. The object of these recesses 8 and 9 is to make it possible, and in fact to insure a bend of the character shown, which as stated, shall be formed at right angles and without any curves, so as to permit the numbering head to pass upward against the inside of the U-shaped frame. I regard this construction as important. To this U-shaped frame is generally secured by riveting, or otherwise, a tubular member through which passes a hollow spindle or stem within which is located a spring for normally holding the numbering head in its upper position. I prefer to change this construction as will now be described.

The yoke 12 carrying the numbering head in my present machine has connected directly to it a stem 5, and this stem, as before referred to, passes through the central opening 4 of the U-shaped frame, and a spring 14 is passed over this stem 5 and bears against a washer or other device 15 secured in any preferred way to the said stem 5. This construction is such that when the handle 16 which is screwed to the stem 5 is depressed against the tension of spring 14, the stem 5 with its yoke 12 and numbering head is forced down against the pressure of the said spring and when the handle 16 is released, the spring forces the parts upward to their normal positions. In order to cover or inclose the spring 14 and the stem 5, I employ a tube or shell 18, shown in perspective view in Fig. 10. This is preferably drawn and seamless, and comprises a tube proper, designated 18, and a flanged base 19 with an opening 20 large enough to permit the passage of the stem 5 but not large enough to pass the spring 14. Hence when the parts are in the positions shown, the shell 18 rests upon the top of the U-shaped frame 1 and is held in position by the pressure of the spring 14 which bears upon the upper surface of the flanged bottom 19. The handle 16 is formed with an opening large enough to receive the shell 18, and the handle incidentally prevents the shell from be-

ing displaced laterally. It will therefore be seen that this shell does not need to be riveted, soldered or brazed and yet is held in position and forms a perfect closure for the spring 14 and stem 5. I also consider the construction of importance.

Within the yoke 12 hereinbefore referred to, I support the numbering head comprising the wheels, etc. Nothing new is claimed in the wheels with the exception of the duplicating cam wheel shown in Fig. 5. This cam is made so that the pawl which coacts with it may be made of very small size, and to this end I form the deep notches of the cam of such shape and size that the pawl can enter very deep therein, the pawl entering clear to the bottom of the notch, thus making a full stop without any lost motion. This pawl, which I have designated 20 and the pawl carrier 21 are carried by a swinging frame 23 shown best in Fig. 9 and this frame is formed of two rings 24 and 25 journaled on the inside of the yoke 12 and having extensions 24^a connected by an integral member 26, the extensions having perforations as 27 to receive the pin 29 on which the pawl 20 and its carrier 21 are pivoted. In order to give this frame 23 the necessary swinging movement, I employ a pair of links 30 (one on each side) each of which is pivoted to the end of the pin 29 and the other end is pivotally connected to the inside of the U-shaped frame as indicated at 33. Thus whenever the handle 16 is depressed, the numbering head and its parts are moved downward, and this movement, owing to the fact that the pin 29 (projecting through the pawl carrier and the frame 23) is harnessed to the main frame by the link 30, causes the frame 23 to swing with relation to the numbering head from the position shown in Fig. 6 to the position shown in Fig. 7 and thereby move the pawls over the wheels and cam to engage the next notch in the cam or in the ratchet teeth on the numbering wheels. And when the head is moved upward under the influence of the spring 14, the frame 23 and its pawls are moved relatively downward so as to move the proper numbering wheel on its axis.

The inking pad frame, numbered 40, is pivotally connected to and supported by a hood or frame 41 by pivots 42 (one on each side of the hood or frame), and this hood or frame 41 is itself pivotally connected to the main U-shaped frame by short stud-pivots 43. In order that this ink pad frame 40 may be caused to swing away from the numbering wheels when the numbering head is depressed, I connect the said frame 40 by links 45 to short studs 46 projecting from the sides of the yoke 12, and offset members 47 are employed to afford a bearing for the free end of said studs 46 as shown in Figs. 6, 7 and 8. The aforesaid hood or frame 41 in addition to forming a hood to keep dust out of the machine and providing a means of support for the inking pad frame, also serves a third function, to wit: of co-acting with the stem 5 to lock the parts in the position shown in Fig. 7 whenever it is desired to do so for the purpose of adjusting the wheels, or for any other purpose. In order to perform this third function, the hood or frame 41 is provided with an off-set 50 which has an opening 51 through which passes the stem 5. Said stem has a recess 52 which is so located that, when the parts are moved to the position shown in Fig. 7, the recess 52 will be opposite the offset, and the hood or frame 41 may then be pushed so that it will swing on its pivots 43 so that part of the offset will enter the recess 52 and prevent the stem 5 and its connected parts from being elevated under the influence of the spring 14. When it is desired to release or unlock the parts so that the spring may force them upward, it is merely necessary to force the handle 16 slightly downward and the incline 53 of the recess 52 will move the offset 50 so that the offset will no longer be in position to hold the stem 5, and the opening 51 will permit the stem 5 to be forced upward under the influence of its spring 14. In order to form a dust guard for the other side of the machine I employ a shield or guard 60 of the shape shown best in perspective view in Fig. 4. This shield or guard comprising the main part 60 and two side members 61 and 62 each of which has a recess 64 which is adapted to fit over pins 66, one on each side of the U-shaped frame, and then the said shield or guard may be swung on these studs 66 as pivots until the upper end fits against the upper part of the U-shaped frame, a lug 68 being provided by which the shield or guard 60 may be held in position by means of a screw 69. The shield or guard also has two curved portions 70 and 71 to cover the ends of the pivotal pin 29 when the parts are in the position shown in Fig. 6. This shield, as will be seen from a comparison of Figs. 6 and 7, will effectively screen the parts of the machine from dust when they are in the inactive position shown in Fig. 6, and will yet permit the parts to be moved downward as illustrated in Fig. 7.

It will be evident that various modifications and changes may be made without departing from the spirit of my invention, and I therefore refer to the appended claims in which the scope of the invention will be indicated.

What I claim as my invention is:

1. In a machine of the character described, in combination with the frame thereof and a numbering head movable up and down in said frame, of a shield or guard projecting over the side of the numbering head, sub-

stantially parallel to the frame thereof to protect it from dust, and having a member projecting substantially at right angles thereto over the numbering head and co-acting with said head to lock the same in position.

2. In a machine of the character described, in combination with the frame thereof and a numbering head movable up and down in said frame, of a shield or guard projecting over the side of the numbering head, substantially parallel to the frame thereof to protect it from dust, and having a member projecting substantially at right angles thereto over the numbering head and pivoted to said frame and movable to lock said head with respect to said frame.

3. In a machine of the character described, the combination of a frame, a numbering head movable up and down with respect to the frame, a stem projecting from said head and having a recess therein, and a shield or guard projecting over the side of the numbering head, substantially parallel to the frame thereof to protect it from dust, and having a member projecting substantially at right angles thereto over the numbering head and co-acting with the recess in said stem to lock the stem and head in position.

4. In a machine of the character described, the combination of a frame, a numbering head movable up and down with respect to the frame, a stem projecting from said head and having a recess therein, a spring to hold said head in its normal position, and a shield or guard projecting over the side of the numbering head, substantially parallel to the frame thereof to protect it from dust, and having a member projecting substantially at right angles thereto over the numbering head and co-acting with the recess in said stem to lock the stem and head in position, against the tension of the said spring.

5. In a machine of the character described, the combination of a frame, a head movable up and down with respect to the frame and comprising numbering wheels, a stem projecting from said head and having a recess therein, a spring to hold said head in its normal position, and a shield or guard protecting the head and its wheels from dust and movable with respect to said stem, the movement of said shield causing it to enter said recess to lock the stem and head in position, against the tension of said spring.

6. In a machine of the character described, the combination of a frame, a head movable up and down with respect to said frame, a spring to hold said head in its normal position, a stem projecting from said head, and a shield or guard pivoted to the frame to move with respect to said stem and protecting the head from dust, and having a member provided with an opening through which said stem passes, the movement of said shield or guard causing said member to co-act with the stem to lock the parts in position against the tension of the spring.

7. In a machine of the character described, the combination of a U-shaped frame, a head movable up and down with respect to said frame and having a stem passing through the frame, a sheet metal shield or guard protecting the head from dust and having its sides pivoted to the sides of said U-shaped frame, said shield or guard having an offset with an opening through which the stem passes, and said offset and said stem having complemental portions whereby when said shield or guard is moved on pivots, the offset will lock said stem and its head in position.

8. In a machine of the character described, the combination of a U-shaped frame having pins projecting from the insides thereof, a head working within the frame and having wheels thereon and a pawl and pawl spindle, and a shield or guard comprising a main part as 60 covering said head, two integrally curved parts as 70 and 71 protecting said pawl spindle and two side members having notches within which the pins of the U-shaped frame fit whereby the shield or guard may be swung into position and secured to the frame by a single screw at its upper end.

9. In a machine of the character described, a main frame, a numbering head, a shield or guard protecting said head from dust and movable to lock said head in one position, an ink-pad frame pivotally connected both to said shield or guard and to said head, whereby when the head is moved downward, the pad is swung on said shield or guard.

10. In a machine of the character described, a main frame, printing characters carried thereby, said main frame comprising a U-shaped member having a central opening in the horizontal member of the U, the metal forming the U-shaped frame having a portion removed at each bend of the U, each of said bends therefore having a right angled interior and a rounded or cylindrical exterior whereby the printing device may move clear up against the horizontal member of the U.

11. In a hand stamp machine, the combination with a main frame, of a reciprocatory printing member mounted therein, and a combined lock and shield element movably mounted on the frame and detachably engaging the printing member to hold the same against movement, said element extending over the printing member to cover the same.

12. In a hand stamp machine, the com-

bination with a main frame, of a reciprocatory printing member mounted therein and including a handle stem having a notch, and a combined lock and shield element pivoted on the main frame and detachably engaging in the notch of the stem to hold the printing member against movement, said element including a plate that extends over the printing member when the same is elevated.

Signed by me at Muskegon this 13 day of December 1910.

THOMAS H. BOSS.

Witnesses:
MAUD JACOBSEN,
ROBERT A. STEWART.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."