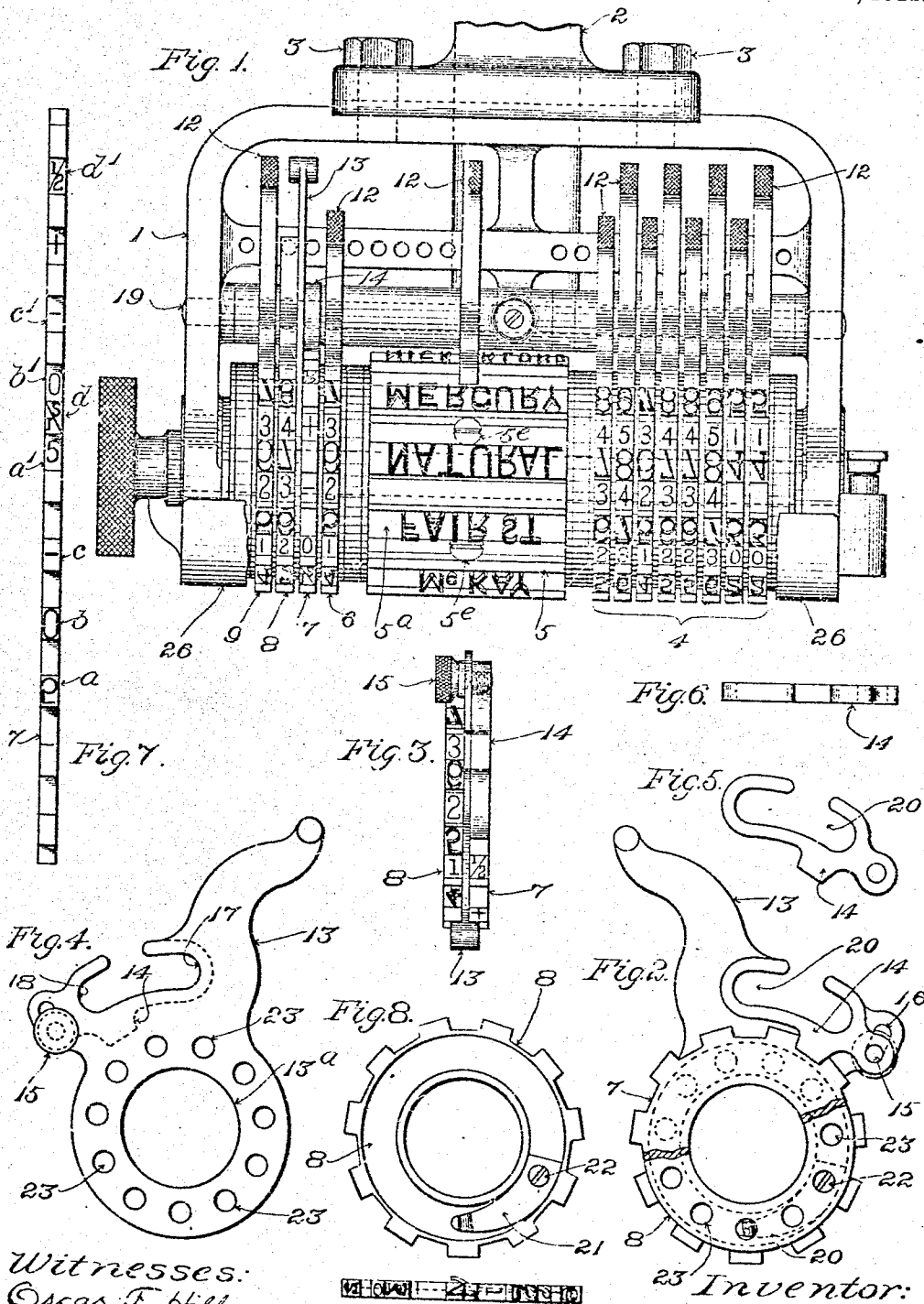


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STAMPING, MARKING, OR NUMBERING MACHINE.
APPLICATION FILED JULY 20, 1908.

984,588.

Patented Feb. 21, 1911.



Witnesses:
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Fig. 9.
by

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UNITED STATES PATENT OFFICE.

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STAMPING, MARKING, OR NUMBERING MACHINE.

984,588.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed July 20, 1908. Serial No. 444,339.

To all whom it may concern:

Be it known that I, FRANK W. MERRICK, a citizen of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Stamping, Marking, or Numbering Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My present improvements in stamping, marking, or numbering machines have reference to the printing-heads thereof, and are designed primarily for application to machines for marking parts of shoes, and cartons for containing shoes, although not necessarily restricted in this respect.

The invention consists in devices of novel character which, in addition to being arranged to cause a half-size or other special character to print or not, as required, are provided with a plurality of half-size or other special characters of different kinds, and are constructed to enable any one thereof to be called into service at will. The said devices have combined therewith means whereby, at the same time that the half-size or other special character in use is moved from its position for printing into a position in which it does not print, an adjoining type-wheel, which in the case of a half-size marker will be a size-wheel, is advanced a step to present the next succeeding character thereof in position for printing.

An embodiment of the invention is illustrated in the drawings, in which latter,—

Figure 1 shows in front elevation a printing-head containing such embodiment, the name-plate holding devices being partly broken away for the sake of clearness. Fig. 2 is a detail view of the half-size devices and the size-wheel, the lower portion of the half-size wheel being broken away. Fig. 3 is a plan view of the parts of Fig. 2. Fig. 4 shows the half-size lever in side elevation separately. Fig. 5 is a side elevation of the movable dog which is connected with the half-size lever for the actuation of the half-size wheel. Fig. 6 is a plan of the said dog. Fig. 7 is a development in a plane of the periphery of the half-size wheel. Fig. 8 shows the size-wheel in side elevation. Fig. 9 is an edge-view of the size-wheel.

Having reference to the drawings,—at 1, Fig. 1, is the frame or housing of a print-

ing-head, and at 2 is a portion of the carrier to which the printing-head is attached by screws 3, 3, and by means of which the printing-head is supported and operated. Within the printing-head a set of printing-wheels 4, 5, 6, 7, 8 and 9 is arranged. The group of wheels 4 is adapted to be employed in printing the case number of a lot of shoes, the wheel 5 may be used for printing names or the like, and the remaining wheels may be used for printing sizes and widths. The respective wheels are individually settable to bring the printing characters thereof to the printing line as desired. The particular provisions for setting the same are not essential to the invention, save in the case of the half-size wheel 7 and size-wheel 8. Various methods of setting printing-wheels in stamping, marking, and numbering machines are known in practice. It therefore is unnecessary to show or describe such provisions, although reference may be made to the latch or detent-levers 12, 12, etc., Fig. 1, which are arranged to engage by their lower ends between projecting portions at the peripheries of the respective wheels, so as to hold the wheels from turning movement until pressure applied to the upper end of a given lever disengages its lower end from the corresponding wheel, permitting the latter to be turned.

The printing characters with which the half-size wheel 7 is furnished comprise a "5" at *a*, an "0" at *b*, a dash at *c*, and a "1/2" at *d*. This variety includes the different half-size characters which are at present in general use, and provides me with the means of marking in accordance with any of the prevailing modes. In practice, the said wheel may be furnished with any other special characters which may be required. Like the other wheels, the said wheel 7 is provided as usual with index characters as at *a'*, *b'*, *c'*, *d'*, in depressions between its raised portions, to assist in setting the wheel by showing when the desired character has been given the position for printing.

For the purpose of operating the half-size wheel 7 to shift the selected character into and out of its printing position, a lever or handle 13 is provided. This lever or handle is shown applied to the printing-head in Fig. 1. It is also shown in operative relations with the half-size wheel 7 and the

size-wheel 8 in Figs. 2 and 3, and separately in Fig. 4. To enable it to be mounted upon the same support as wheels 7 and 8 it is provided with a hub portion formed with a circular opening 13^a which surrounds such support. It is fitted between the said wheels 7 and 8, and adapted to be swung around the support. To cause the half-size wheel 7 to accompany the lever or handle in the movements of the latter, a dog 14 is provided. This dog is shown connected with the lever or handle in Figs. 1, 2, 3 and 4, and separately in Figs. 5 and 6. It has a portion that is shaped to enter between two of the type-projections at the periphery of the half-size wheel, and engage with such projections. Through such engagement the wheel is locked to the lever or handle and compelled to turn in unison therewith in whichever direction the lever or handle may be swung. Thus, when the lever or handle is swung upward and rearward, the character on wheel 7 which is properly disposed for use will be moved into position to print. When it is swung forward and downward, the said character will be moved away from working position and will not print.

As has been indicated herein, the wheel 7 is furnished with a variety of printing characters, and an important aim of the invention is to enable any one of such characters to be employed in printing, at will. To permit the change from one character to another to be effected, I make provision for disengagement of the dog and wheel from each other so as to leave the wheel capable of being turned independently of the lever or handle. Thus, in the illustrated embodiment of the invention, the dog is secured in place upon the lever or handle by means of a clamping screw 15. The head of this screw is located at one side of the body of the lever or handle and the dog is at the other side, and the stem of the screw passes through a slot 16 in the said body extending outwardly from the wheel 7. This slot is intended to provide for movement of the stem of the screw in and out within the same. When the dog is engaged with the wheel the stem of the screw occupies a position inwardly within the slot, and being tightened serves to clamp the dog in the position occupied by it in Figs. 2 and 4. When the screw is loosened, the dog may be moved outward and disengaged from the wheel. After such disengagement the wheel and lever or handle may be shifted relative to each other to place them in proper relation to bring the desired character into service. Then the dog and wheel are reengaged so as to lock them together again for movement in unison, the dog is clamped in place, and the half-size marker is in readiness for operation with the new character. The latter may then be thrown or shifted into or out of working po-

sition by simply swinging the lever or handle in the manner which has been explained.

I am enabled to employ either the "1/2" or the "5", or the dash, for the half-size mark, according to the method of marking that it is desired to follow, and the "0" or any other special character with which the wheel 7 may be provided may be used when required. My invention renders it unnecessary to dismantle and dis-assemble the printing-head and wheels in order to replace one half-size printing device by another to enable a different mode of marking to be followed, as is required in the case of machines heretofore in use.

The extent of the swinging movement of the half-size lever or handle in either direction is fixed by engagement of the stop-surfaces 17, 18, of such lever or handle with the transversely-extending rod 19 on which the detent-levers 12, 12, etc., are pivotally mounted. The said stop-surfaces are constituted by the end-walls of a curved slot in the lever or handle 13 which accommodates the said rod. The said slot, and a corresponding slot 20 in the dog 14, are open-topped to enable the lever or handle and dog to be applied to the rod or removed therefrom without it being necessary to withdraw the rod from its position in the housing or frame of the printing-head.

In cutting-out and stamping or marking the parts for a case of shoes, it is customary in the art to work through the sizes consecutively, as 2, 2½, 3, 3½, 4, 4½, and so on. After marking for a 2½ shoe, or other half-size, the half-size printing character is thrown out of working position and the 2 is replaced by a 3, and so on. My invention includes means for shifting the size-wheel 8 by the same action that places the half-size character out of working position, enabling me to change from 2½ to 3, or the like, without a separately effected hand-adjustment of the size-wheel. This means is shown in Figs. 2, 4, 8 and 9. It is contrived to cause the half-size lever or handle, in being returned by hand to its normal position for the purpose of placing the half-size character out of printing position, to automatically actuate the size-wheel to advance the latter from one character thereof to the next. Such means comprises a dog or pawl carried by one of the said parts, and a series of teeth or the equivalent thereof provided in connection with the other. In the drawings the dog or pawl is shown at 21, it being constituted of a spring piece occupying an annular groove in the side of wheel 8 next the body of the lever or handle 13, and secured in such groove by a screw 22. See Fig. 8. The free end of such spring piece is bent and projects toward the lever or handle. Such end is adapted to project laterally from the side of wheel 8 as in Fig. 2. The

body of the lever or handle has formed therein a circular series of holes 23, 23, etc., constituting the equivalent of a series of teeth. The bent end of the dog will fly into any one of such holes which may be located in position to receive it, as in Fig. 2. When the lever or handle is turned in placing the acting half-size character in working position, the movement is in the same direction as the spring piece extends, and consequently the end of the spring piece merely is pressed back laterally into the groove of wheel 8 as the edge of the hole is carried past such end, the lever or handle turning without communicating any movement to the wheel 8. As the lever or handle comes to rest the next hole in its body is presented to the end of the dog, which presses into the same. When, now, the lever or handle is moved in the reverse direction, to carry the half-size character away from its working position, the edge of the latter hole engages with the end of the spring piece so as to compel the wheel 8 to partake of such movement of the lever or handle. The temporary clutching of the lever or handle of the half-size marker, and the size-wheel 8, while the former is being operated to move the half-size character away from its printing position, shifts or sets the size-wheel so as to present the next higher printing character thereon in position for printing. The wheel 8 is provided with trade-plates 5c, each bearing appropriate printing characters, such as names or terms employed in the art in connection with shoes.

At 26, 26, are portions of a holder for a relatively fixed name-plate such as sometimes is employed to print in connection with wheels such as those marked 4 to 9, as above.

What is claimed as the invention is:—

1. In a stamping, marking, or numbering machine, in combination, a series of settable type-carriers, detent-levers therefor, a supporting-rod on which said detent-levers are mounted, a settable type-carrier bearing a plurality of printing characters, a shifting lever having a slot which receives the said supporting-rod, engagement of the end-walls of such slot with the supporting-rod limiting the extent of the strokes of the said lever, a dog movably connected with said lever for connecting said type-carrier adjustably with the lever to place the said characters interchangeably in printing relations, movement of the lever operating the type-carrier to shift the character which has been adjusted into printing relations alternately into and out of action as required.

2. In combination, a settable type-carrier having peripheral type-projections bearing a plurality of printing characters, an operating lever, and means locking the said type-carrier adjustably to the said lever by en-

gagement with the said type-projections to enable the required character to be brought into position for action, movement of said lever in opposite directions operating to shift such character reversibly into and out of action to print, as required.

3. In combination, a settable type-carrier having peripheral type-projections bearing a plurality of printing characters, a swinging shifting device, and a dog which by engagement between two adjacent type-projections locks the said type-carrier adjustably to the said device, enabling the required one of such characters to be brought into position for action, swinging movement of the said device in opposite directions placing the selected character reversibly in and out of action to print.

4. In combination, an oscillating half-size marker, a type-wheel bearing a series of printing characters, and means by which through each movement of the half-size marker in one direction the type-wheel is advanced to present a fresh character in position to print, such means leaving the type-wheel at rest during the movement of the half-size marker in the other direction.

5. In combination, a half-size marker having an operating handle, by which it may be shifted to place its printing character in position to print or retract such character from the said position, an adjacent type-wheel, and a dog operating in the retracting movement of the said half-size marker to advance the type-wheel to present a fresh character in position to print.

6. In combination, an oscillating half-size marker, a type-wheel, one of said elements having a series of teeth, and a dog which is operated by the other of said elements and engages the teeth successively to advance the type-wheel by steps.

7. In a machine of the class described, the combination with a printing-head, and a plurality of individually settable type-disks carried by the printing-head, of an additional type-disk also carried by the printing-head and having a half-size character thereon, an actuator for said latter type-disk having provision to move said latter type-disk in both directions and one of the first mentioned type-disks in one direction only.

8. In a machine of the class described, the combination with a printing-head, a plurality of individually settable type-disks carried by said printing-head, certain of said type-disks having type thereon to print a whole number indicating the size of the shoe and another of said disks having a plurality of different characters thereon each of which indicates the half size, and an actuator for said type-disk having movement to move the type-disk to carry the half size character into and out of operative position, said

disk being adjustable relative to the actuator to bring either one of the half size characters into operative position.

9. A printing machine comprising a printing head having a plurality of type-disks, certain of which are adapted to print the whole number, and one of which has characters for printing a half number, an oscillatory actuator for the latter type-disk to carry the half number character into and out of printing position, and means to actuate an adjoining type-disk having unit digits thereon by movement of said actuator in one direction while permitting the actuator to move in the other direction without moving said type-disk.

10. A printing machine comprising a printing head having a plurality of type-disks, certain of which are adapted to print the whole number, and one of which has characters for printing a half number, an actuator for the latter type-disk to carry the half number character into and out of printing position, and means to actuate an

adjoining type-disk having unit digits thereon by the movement of the actuator which brings the half size character from its printing to its inoperative position while permitting said actuator to have its reverse movement without operating said type-disk.

11. In a machine for marking the soles of shoes, the combination with a printing-head having a plurality of type-disks adapted to print characters indicating a whole size, of an additional type-disk having a character thereon to indicate a half size, means to actuate the latter type-disk to move the half size character into and out of operative position, said means being constructed to actuate an adjoining type-disk having unit digits thereon in one direction only.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK W. MERRICK.

Witnesses:

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