March 31, 1931. C. SPIELMAN 1,798,177

NUMBERING MACHINE

Filed Nov. 27, 1928

FIG. 1

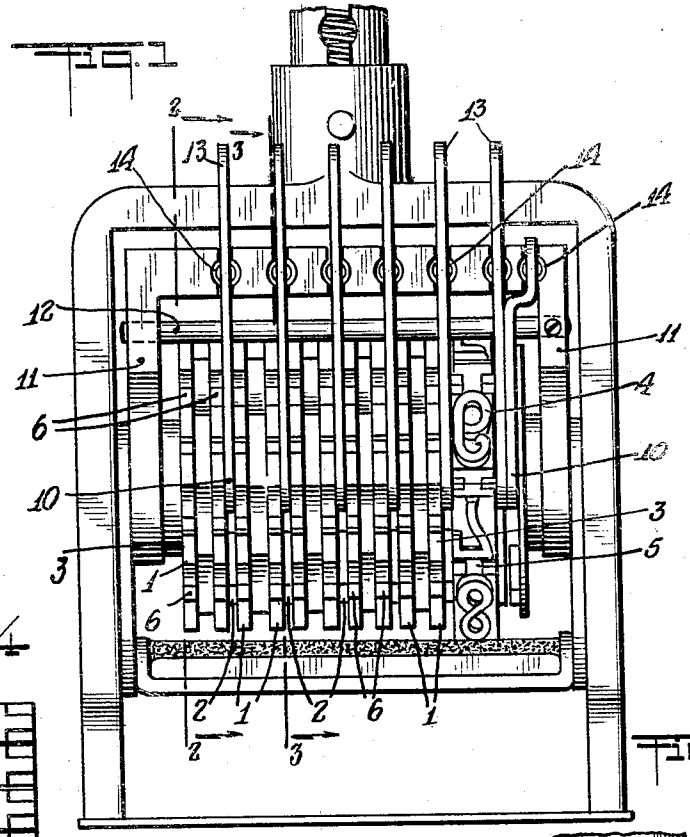


FIG. 4

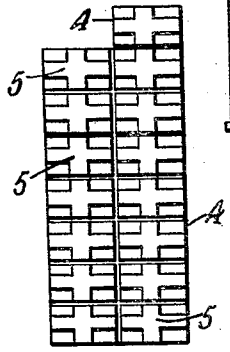
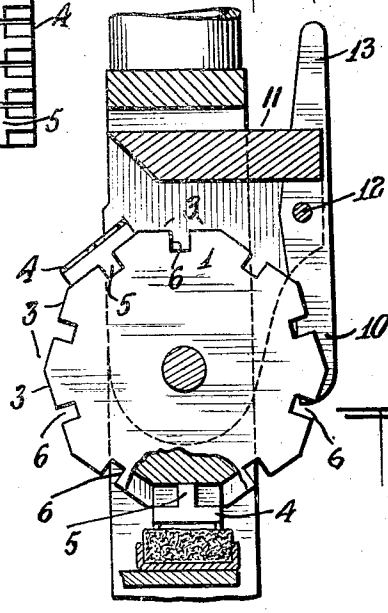


FIG. 3

FIG. 2



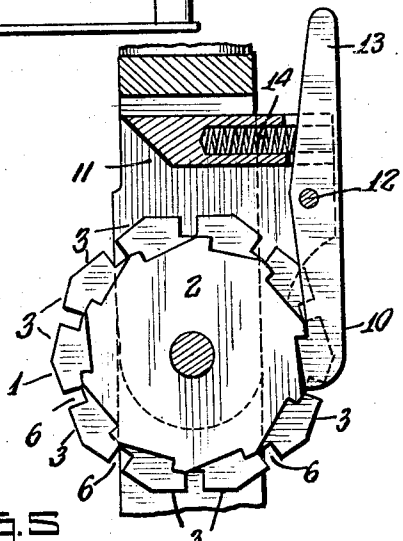
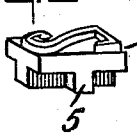


FIG. 5



Charles Spielman
INVENTOR

BY Robert H. Gillespie
ATTORNEY

Patented Mar. 31, 1931 1,798,177

UNITED STATES PATENT OFFICE

CHARLES SPIELMAN, OF RICHMOND HILL, NEW YORK, ASSIGNOR TO WM. A. FORCE & COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

NUMBERING MACHINE

Application filed November 27, 1928. Serial No. 322,230.

My invention relates to improvements in automatic numbering machines, particularly those used in consecutively numbering packing cases, cartons and the like, and it is my object to produce a machine which may be quickly and easily set without injuring the type wheel characters and in which damaged characters may be removed and replaced quickly by anyone.

Such machines are provided with metal type wheels to the faces of which rubber printing characters have been cemented. In setting such wheels to any desired number by hand the pressure is applied to the rubber characters. Due to the pawl pressure the wheels can be turned in but one direction and only by the application of some force. This loosened the rubber characters and they had to be re-cemented to the metal wheels. The machine could not be used again until the cement dried.

My invention is designed to overcome these difficulties by providing mechanism by means of which each type wheel may be freely moved in either direction without resistance and in so constructing the backs of the rubber characters and the faces of the wheels that the characters are mechanically locked to the wheel without the use of cement.

In the drawing Fig. 1 is a view of the head of a numbering machine embodying my invention, with some of the rubber characters removed; Fig. 2 a sectional view of the structure of Fig. 1 on the line 2—2 thereof; Fig. 3 a sectional view of the structure of Fig. 1 on the line 3—3 thereof; Fig. 4 a back view of a font of characters before cutting apart; and Fig. 5 a perspective view of a rubber character.

The numbering machine is of the usual type in which downward pressure on the handle inks the characters, prints them on the surface to which they are to be applied and moves the type wheels in accordance with the setting of the machine.

The type wheels 1 are formed of metal and have the usual ratchets 2 on one side thereof. The edge of each wheel has a plurality of flat faces 3 evenly spaced, which carry the characters, usually 1 to 0.

In the machine herein described the characters 4 are moulded in soft rubber with a raised cross 5 on the back of each. In commercial production these characters are moulded in block form as shown in Fig. 4 and then cut apart.

Each flat face 3 on a type wheel has a cross 6, which is a counterpart of the cross on the back of a character, cut into it. This sunken cross is slightly smaller than the cross on the back of the rubber character so that when the two are engaged the rubber will be compressed sufficiently to hold the character to the type wheel. The cross form of interlock has been selected for commercial purposes as it holds the characters against movement in any direction and gives the greatest gripping surface between the rubber and metal and carries the grip to all four edges of the character. Other shaped interlocks may be used without departing from my invention.

In order that the character faces may be held to the printing line a pawl 10 is pivoted to the frame 11 at 12 with its lower end engaging the ratchet 2 on a type wheel, as best shown in Fig. 3. One pawl is provided for each wheel. A finger piece 13 on the pawl extends above the pivot 12 and is thrown outwardly by a spring 14 seated in a recess in the frame which forces the lower end of the pawl to engage the ratchet 2 on a type wheel. When the pawls and ratchets are engaged the type wheels are held in printing line and can move in but one direction under the action of the operating mechanism.

When a type wheel has to be set by hand the finger piece is pressed so that the pawl will disengage the ratchet on the type wheel and the latter is then a free wheel which can be turned in either direction without liability of tearing off any of the rubber characters on the type wheel.

Should a rubber character become damaged it is picked off the wheel and a new one inserted when the machine is ready for further use. This construction also enables the user to apply any desired characters to the wheels without the necessity of returning it to the factory for this purpose.

I claim:—

A type wheel for numbering machines having a flat face on the edge thereof provided with a substantially cross shaped depression therein, a rubber character block having a counterpart cross shaped raised portion on the back thereof interlocked with the depression in the type wheel whereby the character is detachably secured to the face of the wheel against movement in either direction.

In testimony whereof I have affixed my signature.

CHARLES SPIELMAN.