This invention relates to a printing machine, and more particularly to a printing machine for use in printing price tags and the like for merchandise.

The object of the invention is to provide a printing machine which is especially suitable for use in printing tags such as price tags for merchandise, the machine of the present invention eliminating the necessity of setting of type by having the letters or figures directed into position for printing.

Another object of the invention is to provide a printing machine which includes a series of concentrically arranged rings which have a plurality of letters or figures thereon so that the letters or figures may be printed in a single line, the printing being accomplished by a ribbon crossing the type and passing between the type and the tags to be printed, the tags being tapped by a hammer to make the necessary impression.

A further object of the invention is to provide a printing machine which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a top plan view of the printing machine of the present invention, with parts broken away and in section.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a side elevational view of the printing machine.

Figure 4 is a fragmentary sectional view showing the means for rotating the rings.

Figure 5 is a fragmentary top plan view, with parts broken away and in section.

Figure 6 is a sectional view taken on the line 6—6 of Figure 5.

Referring in detail to the drawings, the numeral 10 designates a base which may be fabricated of any suitable material and the base 10 includes a horizontally disposed bottom wall 11 that is supported by flanges or legs 12, Figure 2. The base 10 is provided with a recessed portion 14 for a purpose to be later described.

Arranged in spaced parallel relation above the bottom wall 11 is a horizontally disposed platform or wall 15. Extending upwardly from the platform 15 is a plurality of spaced parallel vertically disposed sleeves 16 which are mounted on or supported on pins 17 that extend from the platform 15. Arranged in concentric relation about the pins or sleeves 16 is a plurality of rotatable rings 18. The rings 18 vary in diameter and the upper surface of each of the rings 18 is provided with suitable markings 19, and the markings 19 may be either numerals or letters as desired.

A manually operable means is provided for rotating the rings 18 to the desired position, and this manually operable means comprises a plate 20 which is slidably supported in the recessed portion 14 of the bottom wall 11. Extending upwardly from the plate 20 or formed integral therewith is a lug 21. A bracket 22 is secured to the top of the lug 21 by suitable securing elements such as screws 23, and the bracket 22 coacts with the top of the lug 21 to define therebetween a socket 23. Extending through the socket 23 is a handle or stem 25, and mounted on the handle 25 is a ball 24, the ball 24 being rotatably or swivelly mounted in the socket 23. A wheel 26 is mounted on the inner end of the handle 25, and the wheel 26 is adapted to move through the cut-out 27 in the platform 15 whereby the wheel 26 can be arranged in engagement with the lower surface of any of the rings 18. A knurled knob 28 is mounted on the outer end of the handle 25 for manipulating the wheel 26. Thus, the user can slide the plate 20 along the recessed portion 14 until the wheel 26 is below the ring 18 which is to be rotated. Then, the wheel 26 can be raised by handle 25 until it engages the lower surface of the ring 18 to be rotated, and then upon manual rotation of the knob 26 the ring 18 can be rotated to the desired location.

The upper surface of the plate 20 may be provided with a series of numerals or markings indicated by the numeral 30, Figure 5, and by lining up any of the numerals on the upper surface of the plate 20 with the edge of the case or bottom wall, then the driving disc or wheel 25 can be located. Arranged in spaced parallel relation above the platform 15 is a cover or top 32. The cover 33 is provided with a pair of opposed aligned slots 31 and 32 for a purpose to be later described. The cover 33 may be detachably connected to the rest of the structure by suitable securing elements such as screws 34.

The numeral 35 designates a tape or ribbon which may have ink thereon, and the tape 35 extends over the slots 31. One end of the tape 35 may be trained over a roller 36 which is rotatably supported by trunnions 37 in ears 38 that extend from the end of the machine. The other end of the tape 35 may be trained over a similar
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roller 39 which is rotatably supported in ears 43 extending from the opposite end of the machine. A suitable hammer 42 (broken lines Figure 3) is adapted to be used for causing the markings or indicia to be imprinted on the price tags or other material which pass beneath the hammer 42 and above the tape or ribbon 35. A knurled knob 41 is connected to the roller 39 whereby the tape 35 can be wound on the roller 39 as the tape or ribbon is used.

In use, the tags to be printed, which may be price tags for merchandise, are interposed between the hammer 42 and the tape or ribbon 35. The rings 18 are rotated individually until the desired arrangement of numbers or figures 19 are positioned below the slot 31. The user can tell which numbers or figures are below the slot 31 by simply looking through the window or slot 15, since the numbers or letters on the rings 18 are such that when a number or letter appears below the slot 32 there is the corresponding number or letter below the slot 31. The rings are manually rotated by means of the disc 26 which is turned by the knob 22, and the position of the plate 20 or disc 26 is ascertained by aligning the scale markings 25 with the edge of the base. The disc 26 engages the undersurface of the rings 18 so as to cause rotation of the rings 18. The ball 24 which is swivelly mounted in its socket permits the disc 26 to be shifted into and out operating position, and the knob 41 can be rotated in order to wind the tape 35 on its rolls.

The present invention uses a series of rings whereby twenty or more letters or figures may be printed on a line. Also, the present invention eliminates the setting of type by having the letter or figure dialed into position for printing. The printing is accomplished by a ribbon 35 which crosses the type on the upper surface of the rings 18, and the ribbon 35 passes between the type and the tag to be printed, the hammer 42 being tapped to make the necessary impression. The series of rings 18 are placed one within the other so that twenty or more letters or figures can be printed in a horizontal line. Sufficient clearance is provided between the rings 18 to allow for free turning of any one ring without turning the others and each ring 18 may have a blank space so that letters or numbers may be omitted when necessary.

I claim:

1. A printing machine comprising a base, including a horizontally disposed bottom wall provided with a recess, vertically disposed legs for supporting said base, a platform arranged in spaced parallel relation above said bottom wall, a plurality of spaced parallel vertically disposed guide pins extending upwardly from said platform, a plurality of concentrically arranged rings having markings thereon rotatably arranged around said pins, a cover detachably mounted above said platform and provided with a pair of opposed aligned slots, a marking ribbon extending across one of said slots, the other of said slots permitting visual observation of the markings on said rings and manually operable means for rotating said rings, said manually operable means comprising a plate slidably arranged in said recess, a lug extending upwardly from said plate, a bracket connected to said lug and defining a socket therewith, a handle having a ball thereon rotatably mounted in said socket, a knurled knob mounted on the outer end of said handle, there being a cut-out in said platform below one of said slots, and a wheel mounted on the inner end of said handle for projecting through said cut-out to selectively engage the lower surface of said rings.

2. A printing machine comprising a base including a bottom wall provided with a recess, legs for supporting said base, a platform arranged above said bottom wall, a plurality of guide pins extending upwardly from said platform, a plurality of concentrically arranged rings having markings thereon rotatably arranged around said pins, a cover detachably mounted above said platform and provided with a pair of opposed aligned slots, a marking ribbon extending across one of said slots, the other of said slots permitting visual observation of the markings on said rings and manually operable means for rotating said rings, said manually operable means comprising a plate slidably arranged in said recess, a lug extending upwardly from said plate, a bracket connected to said lug and defining a socket therewith, a handle having a ball thereon rotatably mounted in said socket, a knurled knob mounted on the outer end of said handle, there being a cut-out in said platform, and a wheel mounted on said handle for projecting through said cut-out to selectively engage the lower surface of said rings.

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