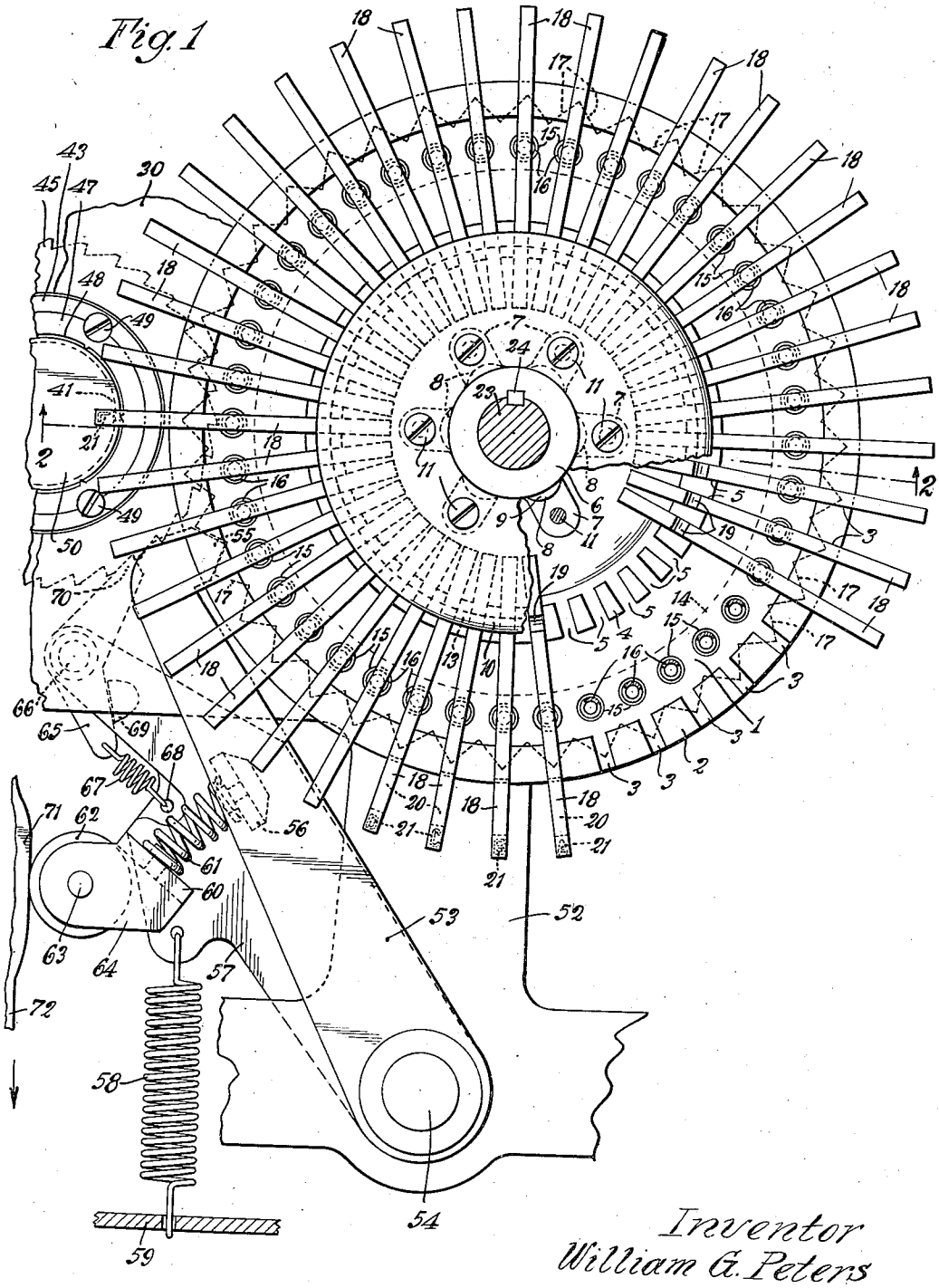
Dec. 9, 1941. W. G. PETERS 2,265,813

MARKING APPARATUS

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Fig. 1



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Fig. 2

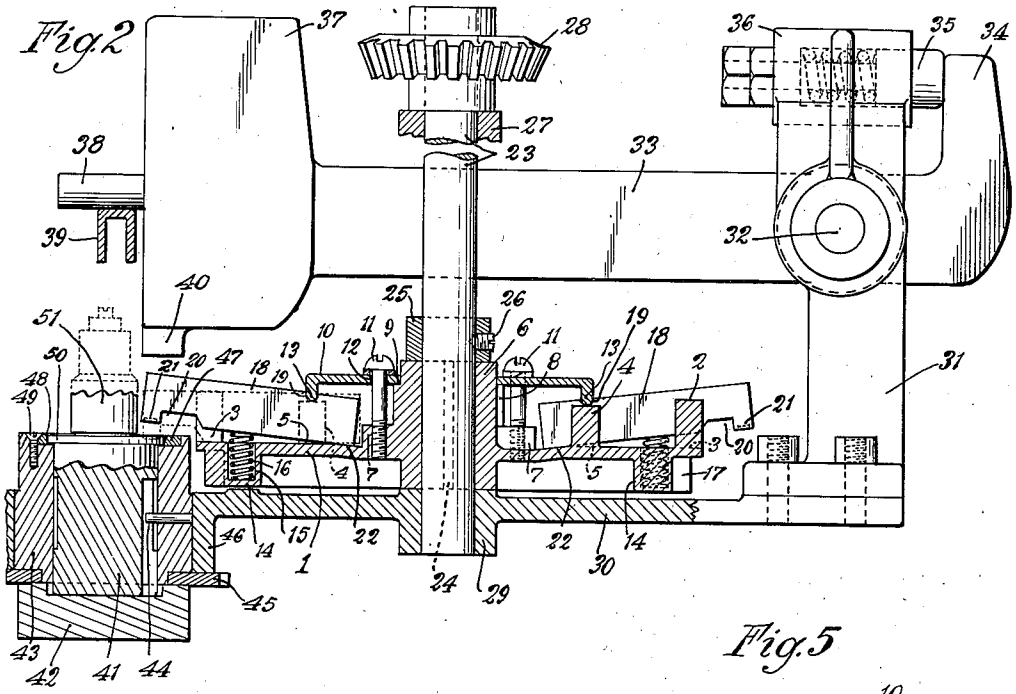


Fig. 3

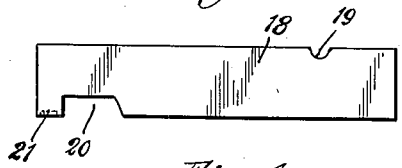


Fig. 4

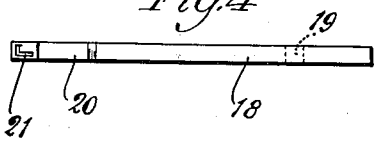
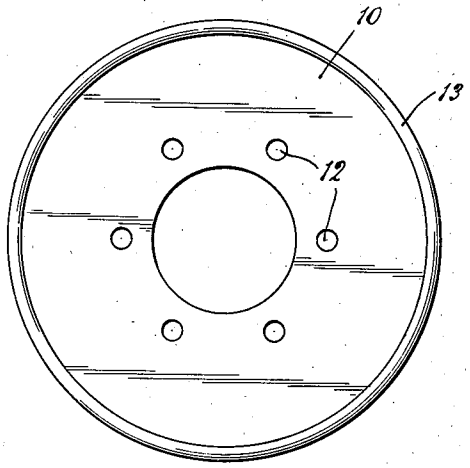


Fig. 5



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UNITED STATES PATENT OFFICE

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MARKING APPARATUS

William G. Peters, Oak Park, Ill., assignor to Richard Groetchen, Chicago, Ill.

Application June 15, 1939, Serial No. 279,277

7 Claims. (Cl. 197—6.7)

This invention relates to a marking means or apparatus and has for one object to provide an assembly of type bars or marking members and means for operating them. Another object is to provide an assembly of type bars in which the means that carry the bars are arranged for ready and economical assembly with the bars. Another object is to provide means for moving the type bar assembly. A still further object is to provide means for supporting a member which is to be marked and for moving the supporting means in synchronism with the type bar assembly.

Other objects will appear from time to time throughout the specification and the claims.

The invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

Figure 1 is a plan view with parts omitted and parts broken away;

Figure 2 is a transverse, vertical section on a reduced scale taken at line 2—2 of Figure 1 and showing parts additional to those illustrated in Figure 1;

Figure 3 is a side elevation of one of the type bars or marking members;

Figure 4 is a bottom plan view of the type bar of Figure 3;

Figure 5 is a bottom view of the type bar retainer.

Like parts are designated by like characters throughout the specification and the drawings.

While the type bar carrier or assembly is shown as associated with other parts—particularly, those for carrying a member to be marked and for moving that member and the type assembly—the type assembly itself could be associated with other moving, positioning and carrying members.

The type assembly comprises a main carrier 1. As shown, this carrier is relatively disc-shaped. It is provided along its upper edge with a flange 2 which is slotted or notched as at 3 to receive the various type bars. Positioned inwardly from its edge is an annular upstanding flange 4 which is slotted as at 5. For each slot 3, there is a corresponding slot 5, the two being positioned upon a single radius. The disc-like member 1 is attached to and preferably integral with a hub 6. A plurality of enlargements 7 may be formed integrally with the hub and with the disc 1. Upstanding enlargements 8 may, also, be formed and they terminate at their upper ends in shoulders or projections 9. The members 8 may be omitted and, instead, a shoulder might be formed about the hub 6. The purpose of the projections 9 or the shoulder which is suggested is to furnish both a seat and a limit for the type bar retaining member 10 which is positioned upon the shoulder or upon the projections 9 and held in place by screws 11 which pass through corresponding perforations 12 in the member 10 and are engaged in suitably threaded perforations or sockets in the enlargements 7. Obviously, other means might be substituted for the screws, but the construction shown is convenient. The retainer 10 carries a downwardly facing, peripheral flange 13 which engages the type bars in a manner described below. The disc-like member 1 is provided on its lower surface with an enlarged and preferably annular portion 14 within which are formed sockets 15. The sockets 15 are formed one for each type bar and each socket is, thus, preferably radially aligned with a pair of grooves 3, 5. Within each socket is positioned a spring 16. If desired, the outer edge of the carrier may be provided with centering and positioning means. In the particular form here shown, this means includes outwardly facing teeth 17 which are formed peripherally in the enlargement 14. They might be otherwise positioned.

The marking members, which in the form here shown are type bars, comprise bar-like members 18, each of which is provided in its upper surface with a rounded notch 19. Each type bar is positioned so that it extends through pairs of grooves 3, 5 and over a spring 16. The type bars may be cut away as at 20 and carry type faces or type members 21. As here shown, the type members are sunk. They might project outwardly but the invention is not limited to any particular arrangement of type. Of course, any desired symbols, letters, numerals or the like may be used.

The flange 13 of the retainer 10 fits into the grooves or notches 19 and the type bars are, thus, held in place. They rotate up and down about the flange 13 as a fulcrum. The flange 13 may rest upon the upper edge of the member 4 as illustrated in Figure 2 in particular. The disc-like member may be flat or of any desired shape. As shown, particularly in Figure 2, it has a depression 22 adjacent the hub and adjacent the enlargements 7 and the inner ends of the type bars lie in this depression. The inclination of the surface of the depression may be such that when the type bars are in the raised position—that is to say, the full line position of Figure 2—their bottom surfaces adjacent their inner ends lie flat or flush upon the surface of the depression 22.

As above noted, the type bar assembly may be used in several associations and with different

carriers and means of rotation. In the one illustrated, however, the hub 6 is secured to a shaft 23 by a key 24 so that it turns with the shaft. A collar 25 may, also, be positioned about the shaft and held in place by a set screw 26. The shaft may be of any desired length and may lie within a bar 27. Any desired means for rotating the shaft may be used. As shown, a beveled gear 28 is secured upon the shaft. It might mesh with another beveled gear through which the shaft could be rotated.

At its lower end the shaft is received in a bearing 29 formed in a frame or base member 30 which forms part of the total machine. Extending upwardly through the machine is a bracket 31 within which is journaled at 32 a hammer arm 33. At one end, the hammer arm carries an upward projection 34 which may strike against a shock absorber 35 which is itself adjustably mounted in an extension 36 of the bracket 31. At its opposite end, the hammer arm 33 carries a hammer head 37. An extension 38 from the hammer head may be provided. 39 is a lifting means, the details of which are not here shown since they form no essential part of the present invention. By any suitable means, the lifting member 39 may be raised to raise the hammer and may be freed to permit the hammer to fall. The hammer preferably has a striking point or extension 40 of suitable size and shape to strike a single type bar 18 when the hammer is released for falling. When this occurs, the type bar will be forced downwardly against the resistance of its spring 16 and an impression will be made, provided a suitable article has been moved into position to be contacted by the type bar.

One means for carrying an article to be marked is shown in Figures 1 and 2. This means comprises an anvil 41 which rests upon a base 42. The anvil, as shown, is received within a rotary housing 43 to which it is connected by a key 44 so that the two rotate together. Secured to the housing 44 is a ratchet 45 by means of which the housing 43 and anvil 41 may be rotated. The housing is mounted for rotation in a bearing portion 46 which may, as here shown, be integral with the support or frame member 30. Adjacent its upper end, the housing member 43 carries a centering and receiving ring 47 which is rounded or beveled at its inner edge as at 48 and removably held in place on the housing 43 by screws 49 or otherwise.

While the present invention may be used to mark devices of many shapes, the particular article carrying and supporting means here shown is primarily applicable for handling a round token or medal such as that shown at 50 in Figure 2. Means will ordinarily be provided to hold the article 50 or any other article that is to be marked in place during marking. This is indicated diagrammatically at 51. It rests upon the member to be marked and permits rotation of that member when the housing 43 and the anvil 41 are rotated. The invention is not limited to the particular details of this holding mechanism.

As shown in Figure 1, the frame 30 is provided with an extension or an attachment 52 upon which a positioning and centering lever 53 is journaled as at 54. This lever is provided with a point 55 which fits between the teeth or notches 17 in the periphery of the disc-like member 1. A spring abutment 56 is formed on the lever 53.

An actuator lever 57 is, also, journaled at 54 or concentrically with the lever 53. A spring 58 is secured to the lever 57 at one end and at the other end to a base or support 59 which may be any fixed point in the total assembly. A spring abutment 60 is formed on the lever 57 and a spring 61 bears at one end upon this abutment and at the other end upon the abutment 56 of the lever 53. A cam roller 62 is journaled as at 63 in an extension 64 which is secured to the lever 57. A dog 65 is pivoted to the lever 57 as at 66. To one arm of the dog 65 is secured a spring 67, the other end of the spring being secured to the lever 57 at 68. A stop 69 is provided on the lever 57 for the dog 65. The nose 70 of the dog 65 may engage the teeth of the ratchet 45.

While the levers 53 and 57 may be operated by a variety of means, one such means comprises a cam 71 mounted on a member 72 which, by means not here shown, may be reciprocated.

Although I have shown an operative form of my device, it will be understood that many changes in the form, shape and arrangement of parts might be made without departing from the spirit of my invention; and I wish that my showing be taken as in a sense diagrammatic.

The use and operation of this invention are as follows:

In the particular form shown, the device is arranged to imprint type impressions on a disc-like member 50. Ordinarily, letters will be imprinted but, obviously, other symbols may be used and the word "type" where used in the specification and claims includes any symbol and is not limited to a letter or number.

The type bar assembly forms normally a part of a total mechanism including an apparatus for storing and supplying and moving the tokens and for rotating the token carrier or holder and for rotating the type-carrier and for raising the hammer to cause it to fall to impress the particular type which has been selected upon the token. The total operating mechanism may be but a handle which causes the member 72 to reciprocate. In other words, each time the member 72 is reciprocated the hammer is raised and allowed to fall so that a type bar is depressed. In addition to this movement, reciprocation of the member 72 brings the cam portion 71 under the roller 62, forcing it to the right, as shown in Figure 1. The lever 57, upon which the roller 62 is supported, is, thus, rotated in a clock-wise direction about its pivot 54 and since the nose 70 of the dog 65 engages a tooth of the ratchet 45, the latter is rotated in a counter clock-wise direction. This rotation of the ratchet is imparted to the housing 43 to which the ratchet is secured, to the anvil 41 within the housing and to the token 50. When the member 72 is returned in the reverse direction, the spring 58 moves the lever 57 in the counter clock-wise direction and the dog 65 rides over one of the teeth of the ratchet 45 and the parts just described remain stationary and ready for another movement after the hammer has fallen again. If the member 72 is reciprocated repeatedly while the type assembly is not moved, the same type bar will be repeatedly depressed by the hammer and will, thus, mark the same type symbol many times upon the token.

Ordinarily, a user will wish to change the type repeatedly; as, for example, in placing a name upon the token. That is accomplished by rotating the type assembly through rotation of the

shaft 23. Some suitable handle may be provided and it may include a gear which will engage the gear 23. Ordinarily, some gauge or index will be associated with the handle to show the user what letter he is using and how many letters have been used. The type carrier is provided with teeth 17 and the centering nose 55 of the lever 53, which is held against the type carrier by the spring 61, properly centers each type member. When the assembly is rotated, the lever 53 moves counter clock-wise as the spring 61 yields.

As shown, the type carrier is preferably made by a single die-casting. The type bars are readily assembled in the grooves or notches provided in the members 2 and 4 after the springs 15 have been put in place. With the springs and type bars suitably assembled, the holding or retaining member 10 is fastened in place. Shoulders 9 or similar parts are provided to prevent the retainer being pushed down too far in assembly. If this were to occur, it would interfere with the proper reciprocation of the type bars. The type bars turn about the flange 13 of the member 10 which rests within the notches 19; the flange 13, thus, serves as a fulcrum point. The details of the token-carrying mechanism and the means for moving it to and from the anvil and housing are omitted as they form no essential part of the present invention, which is not limited to any particular token or token-handling means.

I claim:

1. In a marking apparatus a type bar carrier comprising a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned type bar receiving notches in the two upwardly projecting flanges, and positioning teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, the upper surface of the disc being concave immediately adjacent the inner periphery of the inner flange, there being a plurality of spring pockets in the lower flange in register with the radially aligned notches, and upwardly open through the body of the disc.

2. In a marking apparatus a type bar carrier comprising a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned type bar receiving notches in the two upwardly projecting flanges, and positioning teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, the upper surface of the disc being concave immediately adjacent the inner periphery of the inner flange.

3. In a marking apparatus a type bar carrier comprising a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned type bar receiving notches in the two upwardly projecting flanges, and positioning teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches.

4. In a marking apparatus a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned notches in the two upwardly projecting flanges, and centering teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, a movably mounted centering member, positioned to engage said teeth, there being a plurality of spring pockets in the lower flange in register with the radially aligned notches, and upwardly open through the body of the disc, a type bar loosely socketed in each pair of radially aligned notches and pivoted to the disc, and a spring in each spring pocket adapted to yieldingly rotate the outer end of the associated type bar upwardly.

5. In a marking apparatus a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned notches in the two upwardly projecting flanges, and centering teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, a movably mounted centering member, positioned to engage said teeth, there being a plurality of spring pockets in the lower flange in register with the radially aligned notches, and upwardly open through the body of the disc, a type bar loosely socketed in each pair of radially aligned notches, a spring in each spring pocket adapted to yieldingly rotate the outer end of the associated type bar upwardly, and a cover plate secured to the disc and downwardly flanged to engage the inner flange on the disc and to engage semi-circular notches in the type bars.

6. In a marking apparatus a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned notches in the two upwardly projecting flanges, and centering teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, a movably mounted centering member positioned to engage said teeth, the upper surface of the disc being concave immediately adjacent the inner periphery of the inner flange, there being a plurality of spring pockets in the lower flange in register with the radially aligned notches, and upwardly open through the body of the disc, a type bar loosely socketed in each pair of radially aligned notches, a spring in each spring pocket adapted to yieldingly rotate the outer end of the type bar upwardly, and a cover plate secured to the disc and downwardly flanged to engage the inner flange on the disc and to engage semi-circular notches in the type bars, the type bars being so positioned that when forced upwardly by their respective springs, such movement is limited by engagement between inner un-

der surfaces of the type bars and the concave upper surface of the disc.

7. In a marking apparatus a horizontally disposed rotatably mounted disc, a pair of flanges projecting upwardly therefrom, a flange projecting downwardly from the disc, all of the flanges being concentric with the axis of rotation of the disc and one of the flanges on each face of the disc being substantially peripheral, there being radially aligned notches in the two upwardly projecting flanges, and centering teeth projecting peripherally from the downwardly extending flange in register with the radially aligned notches, a movably mounted centering member positioned to engage said teeth, the upper surface of the disc being concave immediately adjacent the inner periphery of the inner flange, there being a plurality of spring pockets in the lower flange in register with the radially aligned notches, and upwardly open through the body of the disc, a type bar loosely socketed in each pair of radially aligned notches, a spring in each spring pocket adapted to yieldingly rotate the outer end of the type bar upwardly, a cover plate secured to the disc and downwardly flanged to engage the inner flange on the disc and to engage semi-circular notches in the type bars, the type bars being so positioned that when forced upwardly by their respective springs, such movement is limited by engagement between inner under surfaces of the type bars and the concave upper surface of the disc, and characters disposed on the under surface of the type bars beyond the peripheral upper flange.

WILLIAM G. PETERS.