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LOCKING MEANS FOR BELT TYPE STAMP IMPRINTING DEVICES

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Fig. 1

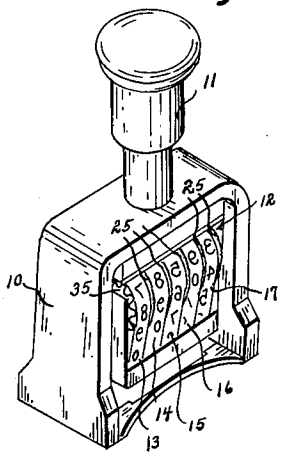


Fig. 2

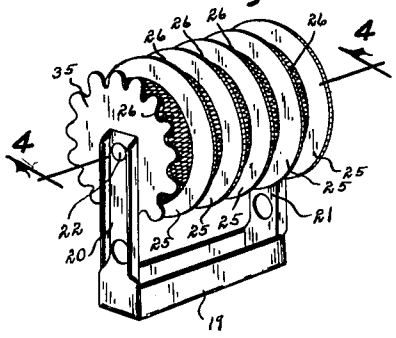


Fig. 3

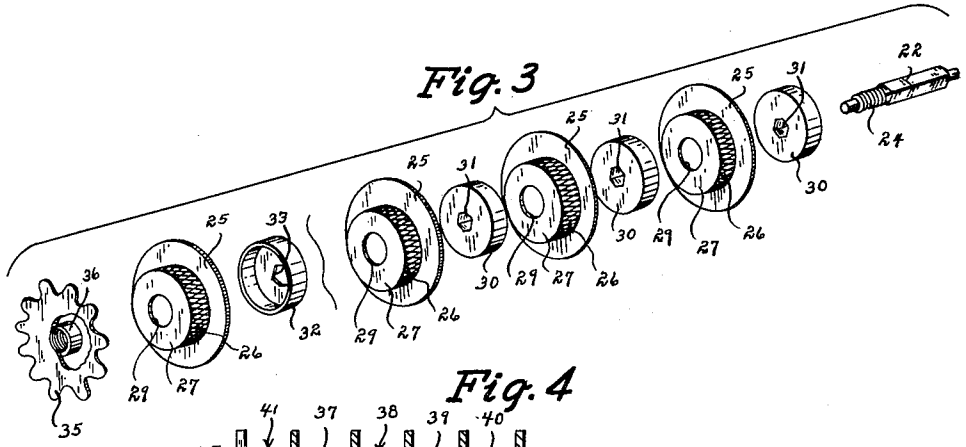
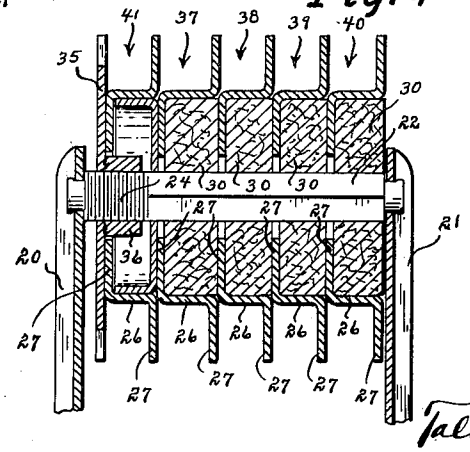


Fig. 4



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LOCKING MEANS FOR BELT TYPE STAMP IMPRINTING DEVICES

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This invention relates to locking means for belt type stamp imprinting devices and more particularly to a locking means for preventing the accidental rotation of the belt printing element or elements.

Stamp printing devices are old. They usually consist of a plurality of side by side adjustable belts each having character strokes for receiving ink and depositing the same onto a print receiving surface. The belts may each have numerals, or alphabetic letters or symbols. The belts of such devices may print the time, day, month, and year. Some will have dollar and cent signs and numerals for use in price branding merchandise in stores. Obviously, the indicia to be printed is constantly changing and to accomplish this each individual belt is manually rotated to bring the desired character stroke into the correct position for printing. Most of such printing devices have the unit holding the belts vertically movable and/or swingable so that when the handle is manually forced downwardly the printing unit will be lowered onto the surface to be printed. This upward and downward movement of the belt unit is to permit the inking of the characters on the belts between each actuating stroke of the device. The belts are usually of rubber-like material and the difficulty is that often a belt or belts will accidentally rotate during usage and which results in the imprinting of false data. This can be very serious when the device is imprinting dates or price brands on merchandise.

Therefore one of the principal objects of my invention is to provide a means for locking the belts of stamp printing devices against accidental rotation.

A further object of this invention is to provide a locking means for stamp printing devices that is easily and quickly actuated.

A still further object of this invention is to provide a locking means for stamp printing devices that locks all belts simultaneously in one operation.

Still further objects of my invention are to provide a locking means for belt type stamp printing devices that is economical in manufacture and durable in use.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangements, and combination, of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, specifically pointed out in my claims, and illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view of a stamp printing device using my invention;

FIG. 2 is an enlarged perspective view of my device mounted on the belt unit;

FIG. 3 is an exploded view of most of the parts of my device; and

FIG. 4 is an enlarged cross-sectional view of my locking means taken on line 4—4 of FIG. 2 and more fully illustrates its construction.

In the drawings I use the numeral 10 to designate the frame portion of an ordinary stamp printing machine having the usual handle 11. The belt holding and printing unit is generally designated by the numeral 12. This unit 12 is usually movable upwardly and downwardly relative to the frame 10. The printing belts are designated by the numerals 13, 14, 15, 16 and 17. These belts each extend around a rigid bar 19 and which acts

as a back up support to that portion of each of the belts that will make the print impression onto a print receiving surface. Each belt also extends around a sectional spool. It is to such a device that I apply my invention and which I will now describe in detail. Specifically, my invention involves the sectional spool of the print stamping device. Herebefore these sectional spools were made up of a plurality of belt grooves produced by a plurality of discs having hubs rotating on a shaft. My structure is somewhat different as will be obvious by viewing the drawings. From each end of the usual bar 19 is an arm. These two arms 20 and 21 are not only operatively connected to the frame 10, but hold in spaced relation to the bar 19, the spool portion of the unit 12. As heretofore indicated, my invention is the replacement of a different kind of spool means for the unit 12. Extending through and fixed against relative rotation to the two arms 20 and 21 is my shaft 22. The major portion of the length of this shaft is rectangular in cross section as shown in FIG. 3. On the left end area of the shaft and adjacent the arm 21, I have threaded the area at 24. For a five belt unit I have five duplicate circular plate members. Each plate has an outwardly extending circular flange portion 25, a laterally and to the left hub portion 26, and a central area 27 offset from but parallel with the outer portion 25, as shown in FIG. 3. The central area 27 has a central hole 29 which embraces, but does not touch the shaft 22. The outer surface of each hub portion is knurled, serrated or roughened to prevent belt slippage. Within the cavity produced by the portions 26 and 27 of the first four plate disc members is a circular bearing plate 30, as shown in FIG. 4. Each bearing plate 30 has a central rectangular hole 31 slidably embracing the shaft 22. The width of each circular bearing plate is slightly greater than that of the depth of the depression into which it fits. Therefore the bearing plate farthest to the right will engage the inside of the arm 21, and the next circular bearing plate will contact the central area 27 of the disc plate in which the first circular bearing plate resided. This construction of circular bearing plates and disc plates continues until the last disc plate or one at the right end of my assembled multi-grooved spool. In the central depression of this last disc plate to the left, instead of a circular bearing plate, I have a metal cup bearing 32 with its open end facing the bottom of the depression of this last disc plate. This cup bearing also has a rectangular center hole 33 slidably embracing the shaft 22. The outer periphery of each of the disc plates is knurled or notched to facilitate their manual adjustable rotation. When the device is in unlocked condition, each of these five disc plate members may be rotated. Inasmuch as each hub portion is embraced by a belt which also extends around the bottom and sides of the bar 19, the rotation of any selected disc plate member will also rotate the belt embracing its hub portion. The numeral 35 designates a disc wheel embracing the threaded portion 24 of the shaft and adjacent the arm 20. This disc wheel is notched in its periphery for easy grasping and is adjacent the outer side of the central area of the disc plate member farthest to the left. Secured to the disc wheel and extending into the compartment created by the left disc plate and cup bearing member is a nut 36. This nut is threaded onto the portion 24 of the shaft 22. When the disc wheel is rotated in one direction it and its nut will move outwardly on the shaft 22 thereby loosening all the assembled members for adjustable rotation. After the belts have been rotated to bring the selected character strokes below the bar 19, the wheel disc is rotated in the opposite direction, thus moving it inwardly on the shaft. This obviously tightens the entire assembly

and locks all the disc plate members against accidental rotation. The disc wheel will bear on the left disc plate member, the cup bearing will bear on the second disc plate member, the left disc bearing will bear on the third disc plate member, and so on, until all parts but the disc wheel are incapable of rotation. The disc wheel, however, when in tightened condition will frictionally engage the hub portion of the left disc plate member and be prevented from accidental rotation. This disc wheel with the disc plate members provides the five groove areas **37**, **38**, **39**, **40** and **41** for the five belts. The circular bearing plates **30** may be of a good friction material such as plastic, hard rubber, or like. When it is desired to reset a belt or belts, the disc wheel **35** is rotated in the proper direction to loosen the assembly. After the belts have been properly rotatably positioned by rotating the proper disc plate members, the disc wheel is rotated in the other direction to tighten and lock the assembly.

Some changes may be made in the construction and arrangement of my locking means for belt type stamp imprinting devices without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In a lockable belt type stamp imprinting device, comprising, in combination,

a frame portion,

two spaced apart arms operatively secured to said frame,

a bar extending between the forward ends of said two arms,

a shaft connected to and extending between said two arms and spaced apart from said bar,

a plurality of disc plate members each having a hub portion in the form of a cup operatively rotatably slidably embracing said shaft, a belt embracing the hub portion of each disc plate member and said bar,

and a circular bearing plate in the cup hub portion of each of said disc plate members having a thickness greater than that of the depth of the cup hub portion in which it resides;

said shaft extending through rectangular holes in said circular bearing plates and being rectangular in cross section where it extends through said bearing plates.

2. In a lockable belt type stamp imprinting device, comprising, in combination,

a frame portion,

two spaced apart arms operatively secured to said frame,

a bar extending between the forward ends of said two arms,

a shaft extending between said two arms spaced apart from said bar, and operatively fixed to said two arms against independent rotation relative to said two arms,

a plurality of disc plate members each having a hub portion in the form of a cup operatively rotatably slidably embracing said shaft,

a belt embracing the hub portion of each disc plate member and said bar,

a circular bearing plate in the cup hub portion of each of said disc plate members having a thickness greater than that of the depth of the cup hub portion in which it resides to space adjacent disc plate members from each other and one of the outer disc plate members from the adjacent arm,

and a member threaded onto one end portion of said shaft and between the other outer disc plate member and the other arm, said threaded member being adapted to betightened against the adjacent disc plate member forcing said bearing plates having a disc plate adjacent thereto into locking engagement therewith, and said bearing plate member adjacent said one arm into locking engagement therewith, and

said shaft extending through rectangular holes in said circular bearing plates and being rectangular in cross section where it extends through said circular bearing plates.

3. In a lockable belt type stamp imprinting device, comprising, in combination,

a frame portion,

two spaced apart arms operatively secured to said frame,

a bar extending between the forward ends of said two arms,

a shaft extending between said two arms spaced apart and from said bar, and operatively fixed to said two arms against independent rotation relative to said two arms,

a plurality of disc plate members each having an integral hub portion in the form of a cup operatively rotatably slidably embracing said shaft,

a belt embracing the hub portion of each disc plate member and said bar,

a circular bearing plate in the cup hub portion of each of said disc plate members having a thickness greater than that of the depth of the cup hub portion in which it resides to space adjacent disc plate members from each other and one of the outer disc plate members from the adjacent arm,

and a member threaded onto one end portion of said shaft and between the other outer disc plate member and the other arm, said threaded member being adapted to be tightened against the adjacent disc plate member forcing said bearing plates having a disc plate adjacent thereto into locking engagement therewith, and said bearing plate member adjacent said one arm into locking engagement therewith, and

said shaft extending through rectilinear holes in said circular bearing plates plates and being rectilinear in cross section where it extends through said circular bearing plates.

4. In a lockable belt type stamp imprinting device, comprising, in combination,

a frame portion,

two spaced apart arms operatively secured to said frame,

a bar extending between the forward ends of said two arms,

a shaft extending between said two arms spaced apart from said bar, and operatively fixed to said two arms against independent rotation relative to said two arms,

a plurality of disc plate members each having an integral hub portion in the form of a cup operatively rotatable and slidably embracing said shaft, each of said hub portions extending in the same direction whereby one of said hub portions is adjacent one of said arms,

a belt embracing the hub portion of each disc plate plate member and said bar,

a circular bearing plate in the cup hub portion of each of said disc plate members having a thickness greater than that of the depth of the cup hub portion in which it resides to space adjacent disc plate members from each other and the end disc plate member from said other arm,

and a locking member threaded onto said shaft and disposed between said one hub portion and said one arm; said threaded member being adapted to be tightened against said one hub portion forcing said bearing plates having a disc plate hub portion adjacent thereto into locking engagement therewith, and said bearing plate in said end disc plate member into locking engagement with said other arm, and

said shaft extending through retilinear holes in said

bearing plates and being retilinear in cross section where it extends through said bearing plates to prevent said bearing plates from rotating relative thereto.

5. The structure of claim 4 wherein said bearing plate in said one hub portion is in the form of a circular cup opening into said one hub portion, to form a compartment and said threaded member has a threaded portion adapted to extend into said one hub portion and thereby into said compartment, and said threaded locking member having finger engaging means on its periphery for

moving it into and out of locking engagement with said one hub portion.

References Cited in the file of this patent

UNITED STATES PATENTS

25,036	Norton	Aug. 9, 1859
718,251	Hill	Jan. 13, 1903
1,247,014	Rogers	Nov. 20, 1917
1,340,122	Shafer	May 11, 1920
1,362,329	Lang	Dec. 14, 1920
1,514,109	Stenstorm	Nov. 4, 1924