Aug. 21, 1951

W. J. GEORGE

2,564,657

DEVICE FOR PRINTING THE PERIPHERAL SURFACE OF CYLINDRICAL OBJECTS

Filed July 26, 1949

2 Sheets-Sheet 1

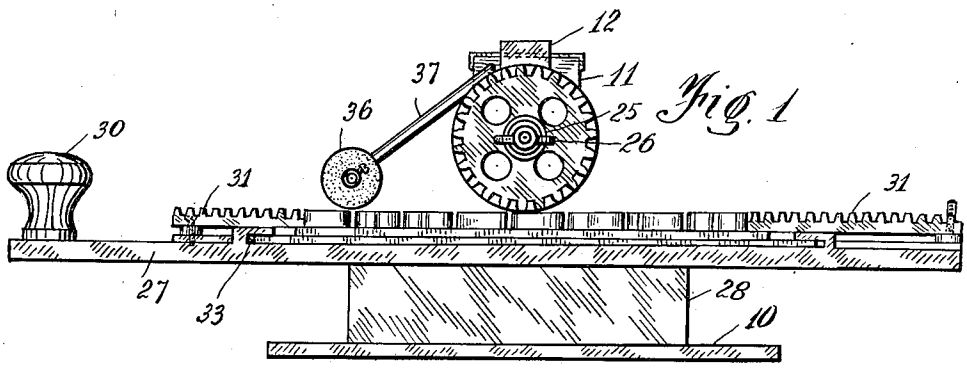


Fig. 1

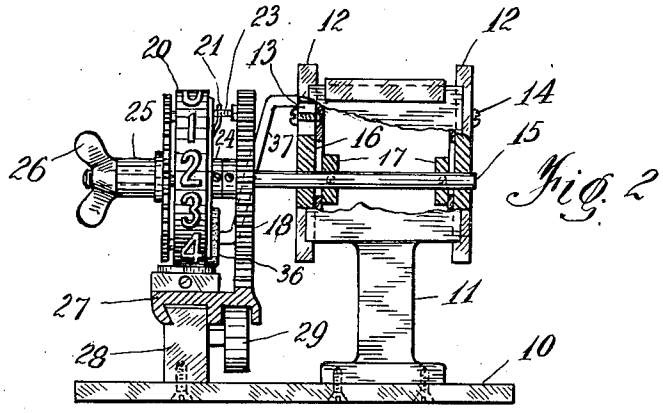


Fig. 2

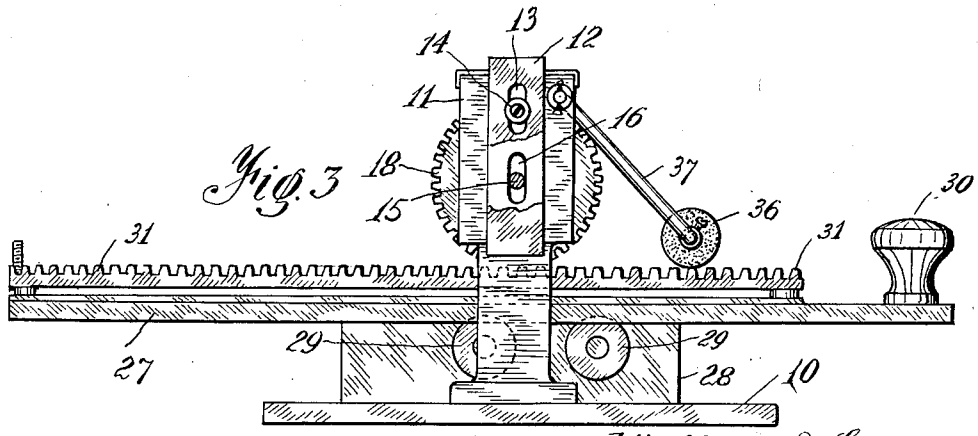


Fig. 3

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DEVICE FOR PRINTING THE PERIPHERAL SURFACE OF CYLINDRICAL OBJECTS

Filed July 26, 1949 2 Sheets-Sheet 2

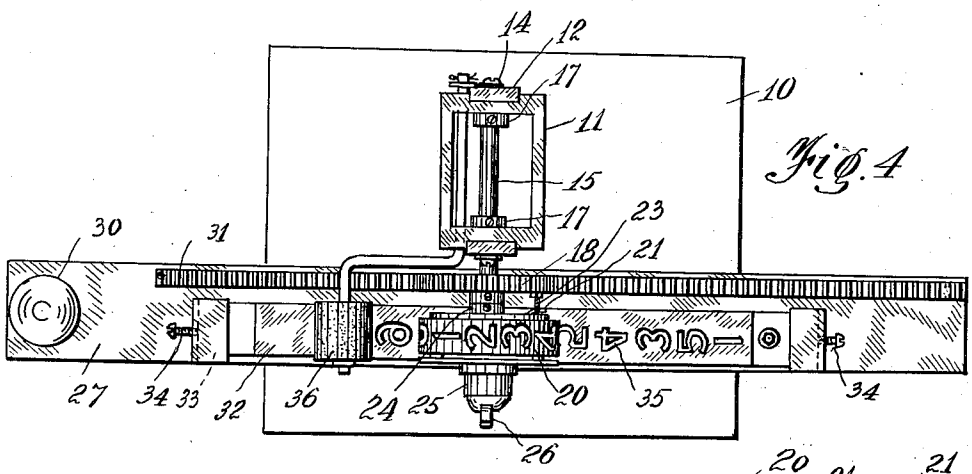


Fig. 4

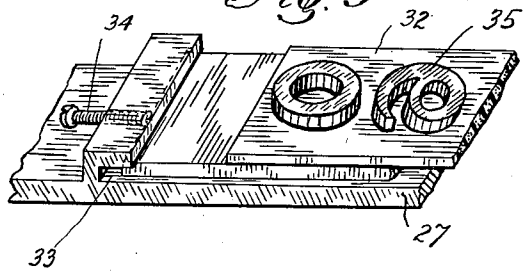


Fig. 5

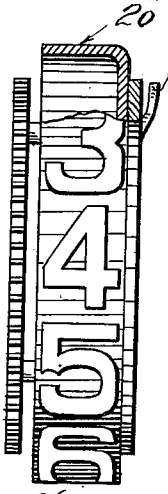


Fig. 6

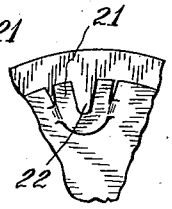


Fig. 7

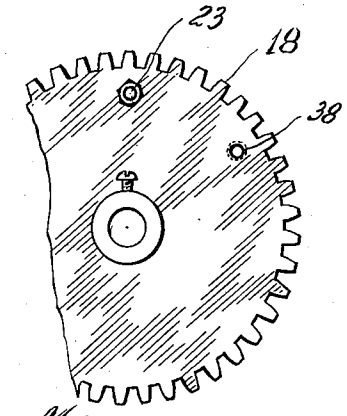


Fig. 8

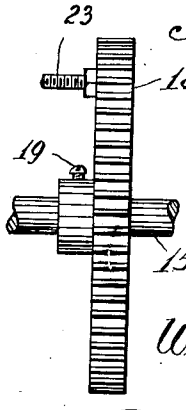


Fig. 9

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UNITED STATES PATENT OFFICE

2,564,657

DEVICE FOR PRINTING THE PERIPHERAL SURFACE OF CYLINDRICAL OBJECTS

William J. George, Canonsburg, Pa.

Application July 26, 1949, Serial No. 106,754

1 Claim. (Cl. 101—36)

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This invention relates to a device for printing the peripheral surface of a cylindrical object and particularly to a device for printing upon a cylindrical object upon which the printed matter must appear in fixed relation to an index point on the object.

Cylindrical objects having printed matter, either letters or numerals, are used in many and varied devices such as, for example, computing wheels in gasoline meters or gasoline dispensing pumps. In many applications, such objects must have the printed matter appearing in fixed relation to an index point on the object. Such an application is the aforementioned computing wheel for use in gasoline meters and gasoline dispensing pumps.

Various methods have been suggested for printing such cylindrical objects, but none of these methods has proved entirely satisfactory. Such methods as have been heretofore suggested are open to many objections. The principal objection is the inability of such methods to be readily adjustable so as always to place the printed matter in proper relation to the index point on the object. Heretofore used methods have been inefficient and generally unsatisfactory.

This invention provides a device for printing or reprinting such cylindrical objects which avoids the difficulties of the prior art devices. By this invention a cylindrical object is readily printed so that the printed matter thereon always appears in proper relation to an index point on the object to be printed.

In general, the device of this invention comprises a frame, a housing mounted on the frame and adapted to receive a bearing block in vertically slidable relation thereon, a spindle journalled in said bearing block and movable therewith, a toothed wheel keyed to said spindle, means on said spindle for receiving and holding the cylinder, means on the toothed wheel for holding the cylinder to be printed in fixed relation thereto, a printing bar slidably mounted on the frame beneath the spindle and at right angles thereto, a resilient rack bar mounted on said printing bar engaging the toothed wheel on the spindle, said rack bar being mounted on the printing bar so that depressing the bar disengages it from the toothed wheel, and a printing plate on the printing bar in tangential register with the periphery of the cylinder to be printed.

While the device of this invention is generally applicable to the printing of cylindrical objects upon which the printed matter must appear in fixed relation to an index point on the object, it will be particularly described as applied to printing numerals on computing wheels for gasoline dispensing pumps.

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In the accompanying drawings illustrating a preferred embodiment of my invention:

Figure 1 is a side elevation of the device of this invention.

Figure 2 is an end elevation, partly cut away, of the device of Figure 1.

Figure 3 is a side elevation of the device of Figure 1 from the opposite side.

Figure 4 is a top view of the same device.

Figure 5 is a perspective view of a segment of the printing bar and printing plate of the device in Figure 1.

Figure 6 is a front elevation partly cut away of a computing wheel for a gasoline dispensing pump.

Figure 7 is a segmental view of the computing wheel of Figure 6 showing a V-shaped pin engaging opening characteristic of such wheels.

Figure 8 is a partial side elevation of the toothed wheel of the device of Figure 1.

Figure 9 is a front elevation of the toothed wheel of Figure 8.

Referring first to Figure 1 there is illustrated a printing device having a rectangular frame 10 upon one side of which a housing 11 is mounted. Bearing blocks 12 are slidably mounted on the housing 11. Slots 13 in the bearing blocks engage adjusting screws 14 in the housing so that the bearing blocks may be held in any selected vertical position with respect to the housing 11. A spindle 15 passing through slots 16 in the housing 11 is rotatably mounted in the bearing blocks 12 and is held in position therein by stops 17 within the hollow housing interior. A toothed wheel 18 is removably keyed on the spindle 15 by a tightening screw 19 so that rotation of the toothed wheel imparts corresponding rotation to the spindle. The cylinder to be printed, in this case a computing wheel 20 for gasoline dispensing pumps, is mounted on the spindle so that a pin engaging member 21 having a V-shaped opening 22 is in engagement with an adjustable pin 23 on the toothed wheel 18. The cylinder (computing wheel) 20 is firmly fastened to the spindle between a collar 24 fixed on the spindle and a sliding collar 25 forced against the wheel by a wing nut 26 threaded on the end of the spindle. A printing bar 27 is slidably mounted beneath the wheel 20 on a stand 28 attached to the frame 10. A pair of wheels 29 on the stand 28 are provided to support the printing bar and

provide for ease of movement. A hand knob **30** is mounted on one end of the printing bar for moving it slidably over the wheels **29** and stand **28**. A resilient rack bar **31** is fixed at its ends on the printing bar so that the portion intermediate the ends may be depressed. The rack bar in its normal position is in engagement with the toothed wheel and the pitch of the rack and wheel are in the same plane as the periphery of the computing wheel to be printed. A printing plate **32** is adjustably held in slots **33** formed on the surface of the printing bar by adjusting screws **34** so that the surface of the type **35** is in a plane tangential to the periphery of the computing wheel.

An inking roll **36** journaled on a freely moving arm **37** extending from the housing **11** may be provided to ink the printing automatically as it is withdrawn from beneath the computing wheel **20**, to be printed, is placed on the spindle **15** which has been properly adjusted as to height by adjusting the position of the bearing blocks **12** on the housing **11** and which carries a toothed wheel **18** of proper diameter. The thumb screw **26** is tightened against the sliding collar **25** to force the wheel **20** into engagement with the fixed collar **24**. Adjusting screw **23** on the toothed wheel **18** is brought into engagement with the V-shaped opening **22** in the computing wheel.

The printing bar is roughly adjusted to proper position with respect to an index point on the wheel by depressing rack bar **31** until it disengages toothed wheel **18** and moving the printing bar to approximately the correct position. Final adjustments in the position of the type are then made by the adjusting screws **34**. When the printing bar is in proper position it is moved slidably beneath the computing wheel with the surface of the numerals in contact with the computing wheel which turns and is printed about its periphery.

Where a different index point is used for different wheels of the same size, as, for example, when one wheel is printed to rotate in the clockwise direction and another to rotate in the counterclockwise direction, a second threaded opening **38** may be provided in the toothed wheel into which the adjustable pin **23** may be placed.

While I have illustrated and described a present preferred embodiment of my invention, it may be otherwise embodied within the scope of the following claims.

I claim:

A device for printing the peripheral surface of a cylindrical object upon which the printed matter must appear in fixed relation to an index point on the object comprising a frame, a housing mounted on one side of said frame, bearing blocks adjustably mounted in said housing, a spindle journaled in said bearing blocks and movable therewith, said spindle extending from said bearing blocks and being unsupported at its outer end, a toothed wheel keyed to said spindle adjacent the housing, means on said spindle between the toothed wheel and the end of the spindle for receiving and fixedly holding the cylinder, screw stud means on the toothed wheel for engaging and holding the cylinder to be printed in fixed relation thereto, a printing bar mounted on the frame beneath the spindle and slidable at right angles thereto, a rack bar supported at its ends on the printing bar engaging the toothed wheel on the spindle, said rack bar being depressable intermediate its ends to disengage it from the toothed wheel, and a printing plate on the printing bar tangential with the cylindrical surface to be printed.

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