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ADJUSTABLE WORK SUPPORT FOR PRINTING CYLINDER

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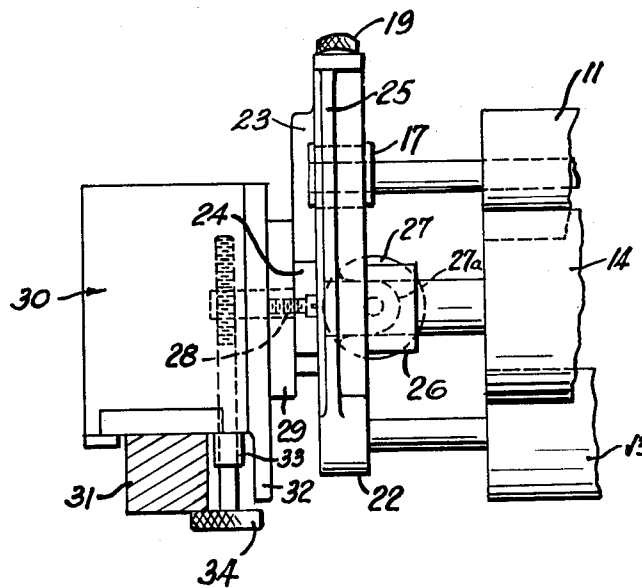


Fig. 3

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ADJUSTABLE WORK SUPPORT FOR PRINTING CYLINDER

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4 Claims. (Cl. 101—407)

This invention relates to a device for preventing the felt blanket used in multi-color printing machines from wrinkling and creeping.

The blanket is substantially an endless belt rotating around three spaced rollers and supports the material to be printed against an engraved cylinder.

It is an object of the instant invention to provide a device for facilitating the changing of the blanket.

Another object is to give the proper amount of tension to the blanket.

An additional object is to give a uniform circumferential dimension to the blanket.

It is also an object to give the desired amount of contact between the blanket and the engraved roller.

A further object is to prevent the creeping or walking of the blanket normally caused by raising or lowering one end of an adjustable blanket roller.

Other objects of the instant invention will become apparent in the course of the following specification.

In the attainment of the aforesaid objectives, the device is constituted of a bracket rotatably supporting the rollers at one end in such a manner that one roller is vertically adjustable, and all three rollers are both horizontally and limitedly rotatably adjustable. By making one roller vertically adjustable facilitates the changing of the blanket, and gives the proper amount of tension to the blanket as well as equal circumferential dimension throughout the width thereof. By making all three rollers horizontally adjustable gives the desired amount of contact between the blanket and the engraved cylinder. By making all three rollers limitedly rotatable eliminates wrinkling and creeping of the blanket normally caused by raising or lowering one end of one of the rollers.

The invention will appear more clearly from the following detailed description when taken in conjunction with the accompanying drawings showing by way of example a preferred embodiment of the inventive concept.

In the drawings:

Figure 1 is a side view of the device constructed in accordance with the principles of this invention;

Figure 2 is a sectional view along the line 2—2 of Figure 1; and

Figure 3a is a right end view of the device shown in Figure 1.

Referring now in greater detail to the drawings where like reference numerals indicate like parts, reference numeral 10 indicates the blanket, 11 the top roller, 12 and 13 the bottom rollers, and 14 the engraved cylinder. The bottom rollers 12 and 13 are in spaced horizontal and parallel arrangement as illustrated, and the top roller 11 and the bottom roller 13 in spaced vertical and parallel arrangement with the engraved cylinder 14 in tangential contact with the outer surface of the blanket 10 intermediate the top roller 11 and the bottom roller 13.

The blanket 10 is the known endless belt for supporting the material (not shown) to be imprinted by the engraved cylinder 14 which carries the design or impression to be imprinted upon the material. The blanket 10 is rotated by any suitable means (not shown) around the rollers.

While both ends of the rollers could be similarly supported, at least the ends of each roller on the same side of the machine are rotatably supported in a known manner by a bracket 15. The axis 16 of the top roller 11 is rotatably mounted in a slide 17 adjustable in a substantially vertical slideway 18 by the adjustment screw 19. The thickness of the slide may be sufficient for the thread-

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ed insertion of the screw 19 through the slide with the top of the screw rotatable through a cover 36 over the top of the slideway and with the bottom of the screw rotating against the bottom 20 of the slideway. Any suitable means (not shown) may be provided for protecting the screw from the end of the axis 16 in the slide and adjacent the screw. The center line of the slideway 18 when extended may, as illustrated, form an acute angle with a vertical plane through the axis of the engraved cylinder 14.

The bracket 15 extends vertically downwardly from the top roller 11 for the rotatable support of the bottom rollers 12 and 13 in the bearings 21 and 22 (Fig. 2).

The ends of the top roller 11 and the bottom rollers 12 and 13 on the same side of the machine are horizontally adjustable relative to the engraved roller 14 in the following manner: On the side of the bracket 15 opposite the rollers is a substantially horizontal slide 23 (Fig. 3a). Supporting the bracket in a vertical plane is a slideway 24 in the slide 23 and along which the slide 23 is horizontally adjustable. The slideway 24 has at the outer end extremity a protuberance 26 directed toward the ends of the rollers (Fig. 2) and in which the horizontal adjustment screw 27 is threaded. The inner or free end of the screw 27 is rotatably inserted in a member 27a, integrally formed with a connector 25 intermediate the bearings 21 and 22 for the rotatable support of the ends of the axes of the bottom rollers 12 and 13, respectively so that as the horizontal adjustment screw 27 is rotated clockwise or counterclockwise the connector 25 and the bracket 15 to which it is connected will be moved toward or away from the engraved cylinder 14.

The top roller 11 and the two bottom rollers 12 and 13 are made limitedly rotatable toward and away from the engraved roller 14 by the pivot pin 28 (Fig. 2) inserted through the slideway 24 into a plate 29. The plate 29 is attached in a known manner to a support 30 slidable on a base 31. Intermediate the base 31 and the downwardly extended protrusion 32 of the support 30 and secured to the base in a known manner not shown and extending therefrom on the end opposite the engraved roller 14 is a bar 33 as illustrated. Rotatably mounted through the extended end of the bar 33 (Fig. 2) is the limitedly rotatable adjustment screw 34 threaded through a member 35 fastened as desired at one end to the bar 24. Of course, the screw 34 is prevented in a well known way from moving longitudinally through the bar 33.

The operation will be apparent from the foregoing detailed description.

While there is above disclosed but one embodiment of the device, it is possible to produce still other embodiments without departing from the inventive concept herein disclosed, and it is desired therefore that only such limitations be imposed on the appended claims as are stated therein, or required by the prior art.

What is claimed is:

1. In a printing machine having two bottom rollers in horizontally spaced parallel arrangement and one top roller in vertically spaced and parallel arrangement with one of the bottom rollers for the rotation of an endless blanket with the blanket over the vertically spaced top and bottom rollers tangent to an engraved cylinder rotatably mounted in juxtaposition with the outer surface of the blanket intermediate the vertically spaced top and bottom rollers; the improvements comprising a device for the substantially vertical adjustment of at least one end of the top roller, the device comprising a bracket, the bracket having a slideway formed therein at the top, the center line of the slideway extended forming an acute angle with a vertical plane through the axis of the engraved cylinder, a slide for the slideway means for rotatably supporting the axis of the top roller in the slide, means for varying the position of the slide in the slideway, means for rotatably supporting the axes of the bottom rollers in the bracket, and means for the vertical support of the bracket.

2. In a printing machine having two bottom rollers in horizontally spaced and parallel arrangement and one top roller in vertically spaced and parallel arrangement

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with one of the bottom rollers for the rotation of an endless blanket with the blanket over the vertically spaced top and bottom rollers tangent to an engraved cylinder rotatably mounted in juxtaposition with the outer surface of the blanket intermediate the vertically spaced top and bottom rollers; the improvements comprising a device for the limitedly rotatable adjustment of the ends of the rollers on at least one side of the machine, the device comprising a bracket, means for rotatably supporting the top roller adjacent the top and the bottom rollers adjacent the bottom of the bracket, a support for the bracket in opposed relationship therewith on the side opposite the rollers, a pivot pin disposed through the bracket and support intermediate the top and bottom rollers, and means through the support in operable engagement with one end of the bracket for limitedly rotating the bracket around the pivot pin.

3. In a printing machine having two bottom rollers in horizontally spaced and parallel arrangement and one top roller in vertically spaced and parallel arrangement with one of the bottom rollers for the rotation of an endless blanket over the vertically spaced top and bottom rollers and tangent to an engraved cylinder rotatably mounted in juxtaposition with the outer surface of the blanket intermediate the vertically spaced top and bottom rollers; the improvements comprising a device for the limitedly rotatable adjustment of the ends of the rollers on at least one side of the machine and for the vertical adjustment of at least one of the rollers on the same side of the machine, the device comprising a bracket, the bracket having formed therein a substantially vertical slideway, a slide for the slideway, means for rotatably supporting the end of one roller in the slide and means for vertically adjusting the slide in the slideway, and means for rotatably supporting the remaining rollers in the bracket; the device further comprising a vertical support for the bracket in opposed relationship therewith on the side opposite the rollers, a pivot pin disposed through the bracket

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and support intermediate the top and bottom rollers, and means on the vertical support in operable engagement with the bracket for limitedly rotating the bracket about the pivot pin.

4. In a printing machine having two bottom rollers in horizontally spaced and parallel arrangement and one top roller in vertically spaced and parallel arrangement with one of the bottom rollers for the rotation of an endless blanket over the vertically spaced top and bottom rollers and tangent to an engraved cylinder rotatably mounted in juxtaposition with the outer surface of the blanket intermediate the vertically spaced top and bottom rollers; the improvements comprising a device for the substantially horizontal and the limitedly rotatable adjustment of the ends of the rollers on at least one side of the machine and for the vertical adjustment of at least one of the rollers on the same side of the machine, the device comprising a bracket, the bracket having formed therein a substantially vertical slideway, a slide for the slideway, means for rotatably supporting the end of one roller in the slide, means for vertically adjusting the slide in the slideway, and means for rotatably supporting the remaining rollers in the bracket; the bracket further having formed thereon a substantially horizontal slide on the side opposite the rollers, a horizontal slideway for the horizontal slide, means intermediate the horizontal slideway and the bracket for the substantially horizontal reciprocable movement of the bracket, a base for the bracket, a support slidable on the base, means for pivotally securing the horizontal slideway to the support, and means intermediate the base and the horizontal slideway for the limitedly rotatable movement thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

746,786	Burdick	Dec. 15, 1903
2,054,152	Wood	Sept. 15, 1936