Dec. 20, 1938. G. N. WETZEL 2,141,073

INKING DEVICE

Filed April 14, 1937

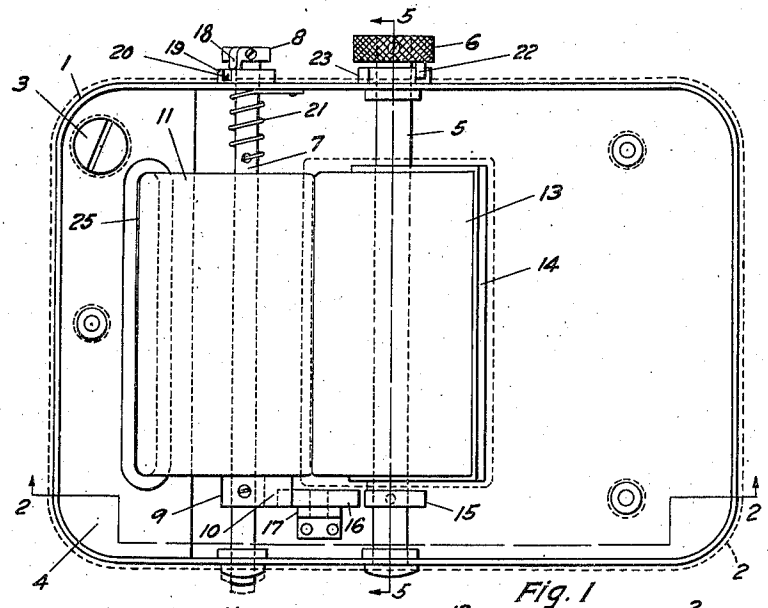


Fig. 1

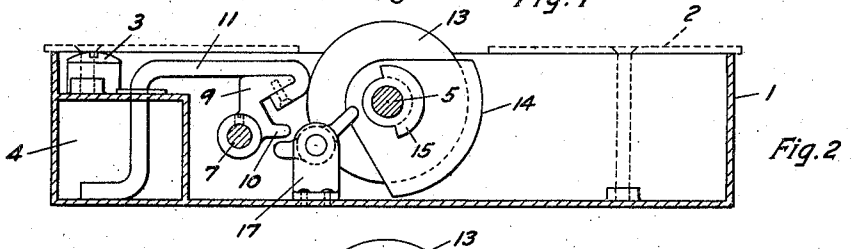


Fig. 2

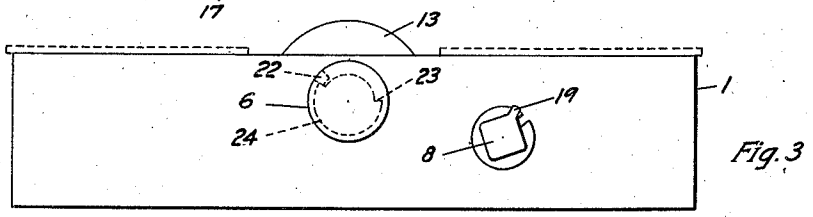


Fig. 3

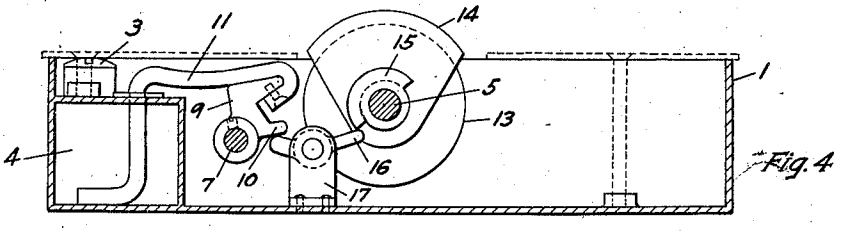


Fig. 4

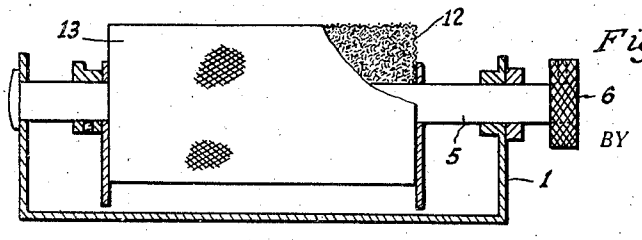


Fig. 5.

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INKING DEVICE

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12 Claims. (Cl. 91—48)

The invention to be hereinafter described relates to inking devices for inking rollers.

In the packing departments, shipping rooms, and warehouses of department stores, various commercial establishments, and many other places, parcels, packages, and other "pieces" in a great variety of sizes and types and in very large numbers, daily, must be marked in one or another way. One of the most universally used ways of so marking is by rubber stamp which is used on the well known pad. One form of pad of widespread use, is a roller. In one form of this type, ink is fed from a reservoir to the roller surface. A great difficulty is that the continuous feed is inclined to flood the roller or get it oversupplied so that it leaves on the marking device a surplus and results in blurred marking. And in these known devices, the rolls are of felt which does not provide even distribution on the roll surface. The part of the roll receiving ink will be much wetter and more fully supplied than the rest of the roll. The felt will absorb the ink quickly in a radial direction which makes absorption on a surface or circumferential direction slow. Consequently, the felt roll with continuous ink feed supplies ink irregularly to the marking device, some parts being oversupplied and some insufficiently supplied. As a result, the marking will be poor—some blurred and some faint.

The present invention avoids the above objections and provides an inking device and roller of simple, efficient, compact and inexpensive construction in which ink is applied to the roller only when desired; as applied, is uniformly distributed over the surface of the roller; and the roller may be shielded when not in use to protect against dust and damage and to decrease evaporation, the feed of ink being automatically cut off as the shield is operated and maintained cut off until feed is again desired.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawing forming part of this application. Throughout the several figures of the drawing, like reference characters designate the same parts in the different views.

In the drawing:

Fig. 1 is a top plan view, with inker operative, the top plate position being indicated in dotted lines;

Fig. 2 is a rear elevation of Fig. 1, with rear wall removed on line 2—2 of Fig. 1;

Fig. 3 is a front elevation of Fig. 1;

Fig. 4 is a view similar to Fig. 2, but with inker and roll inoperative and roll shield raised; and

Fig. 5 is a cross section on line 5—5 of Fig. 1, looking in the direction of the arrows.

The working parts may be suitably contained or housed in a simple ordinary box or case 1 of the desired proportions and any suitable material, with a removable cover 2. The cover has a suitable opening for the roller and for removal of a plug 3 for closing a filling opening of an ink reservoir 4 from which ink is fed to the roller, as will later appear. The reservoir may be either integral or built into the box, or it may be separate and suitably secured in the box, according to individual desires. Suitably journaled in the walls of the box and extending across the width of the box is a shaft or rod 5, one end of which is provided with a knurled head 6 for rotating, turning or rocking the shaft, for purposes to be later disclosed. Preferably, this head is removable from the shaft 5 but secured thereto by the usual set screw. This set screw connection, also, permits the head to be set at any point about the circumference of the shaft, as will later appear. The opposite end of the shaft is provided with an enlarged head or equivalent. Thus, when the shaft is in place and the knurled head is secured by its set screw, the shaft is held against lengthwise movement through the walls of the case or box, as will be clear.

Between roller shaft 5 and reservoir 4, a rock shaft or rod 7 is mounted in the walls of box 1. It is parallel with shaft 5. Shaft 7 is provided with a head or knob integral with or fixed to one end and a removable head 8 is secured by set screw or the like on the other end. By removing head 8, rocker shaft 7 may be slipped into or out of position, as desired. Removably secured to the rocked shaft 7, by set screw or the like, is an inker or dauber bracket 9 provided with a toe, finger or rib 10, for a purpose to be later disclosed. A felt or similar wick 11, for feeding ink from reservoir 4 to the roll on shaft 5 by capillarity, is extended about the bracket and has an edge suitably secured to an under face of the bracket by screws or the like, in usual and well known manner so that as the bracket is rocked toward the roll the saturated wick will be brought into contact with the roll surface to ink it, whereas, in travelling in the reverse direction, the wick will be moved away from the roll. This wick extends back from the bracket, through a slot 25 in the reservoir top and into the ink supply. Of course, as the inker is moved away, the inking is discontinued. Obviously, the felt may be secured to the bracket

by an adhesive which is not affected by either the moisture or the chemicals in the ink, or it may be secured by any other means desired. Screws, as shown, are preferable. This movement, toward and from the roll 12 is very slight, being only enough to definitely take the felt out of contact with the roll. Shaft 7, unlike shaft 5, is capable of slight longitudinal movement in the walls of the box or case, for a purpose to be later disclosed.

An inking roller 12 of felt or similar absorbent material is revolubly or freely mounted on shaft 5 and is covered with canvas or like capillary material 13. The textile material of this cover has a very high degree of capillarity. As the ink saturated wick contacts the canvas cover, capillarity quickly carries the ink to every part of the cover substantially equally, and from the canvas cover the felt body absorbs it, the absorption being approximately equal and uniform. The canvas cover acts as a quick and even distributor.

Removably secured to and movable with roller shaft 5 is a roll shield and guard in the form of an arc shaped or segment plate 14, concentric with and very slightly spaced from the roll. This shield, when in operative position, protects the roll against injury, shields it against dust, etc., and greatly reduces evaporation. From the ends of the shield extend radially directed segments provided with openings for passage of shaft 5. One of these segments carries a small hub through which a screw or the like may be passed to removably secure the shield to the shaft, to travel therewith. The hub carries an eccentric 15. Positioned to be engaged and actuated by this eccentric is a small bell-crank lever or the like 16 fulcrumed in a small plate, post or bracket 17. One branch of the bell-crank extends under the toe or finger 10. Consequently, when the eccentric engages the bell-crank lever and depresses its end, the opposite end of it will rise, carrying with it the toe 10 and rocking bracket 9 to inoperative position—Fig. 4. In assembling, the shield is secured to shaft 5 in such position that, as it swings to operative position, the eccentric 15 will approximately complete operation of bell-crank 16, thereby moving the inker bracket and its saturated felt back to inoperative position, as the shield reaches its operative position—Fig. 4.

In order to hold the inker bracket in this inoperative position, a prong 18 on head 8 is provided. This rides freely over an annular plate or washer 19 on the box wall until it reaches a socket, notch or cut out portion 20. As prong 18 reaches notch 20, spring 21, having its opposite ends made fast to the shaft 7 and to the box, respectively, will force shaft 7 lengthwise, a very short distance, seating the prong in the notch. The action of the spring, yieldingly retains this engagement, preventing unintentional return of the inking bracket to operative position.

Spring 21 is both a compression and a torsion spring. As shaft 7 is rocked back by the bell-crank, the torsion is increased. So, to swing the inker bracket to operative position again, it is only necessary to move shaft 7 from the rear toward the front so that prong 18 passes out of the notch 20, permitting the torsion of spring 21 to swing the bracket and felt into engagement with the canvas cover 13 of the roll 12. But, first, the shield should be swung back from the operative position of Fig. 4 to the position of Figs. 1 and 2, so that eccentric 15 will be clear of the bell-crank which must be free to swing to the position of Fig. 2, as the inker bracket returns to operative position.

To limit the travel of shield 14 and eccentric 15, head 6 is provided with a prong, finger, toe or the like 22 adapted to engage one or the other of the two shoulders 23 on a small plate 24 fixed to the box wall. This prevents the shield passing beyond the full operative position in one direction or full inoperative position in the other direction.

The operation of the invention is as follows: With the parts in the positions of Fig. 1, the rubber stamp, lettering, or other device to be inked, is run over the roller and inked. When finished, the shield is turned to the position of Fig. 4, swinging the inker bracket to the position of Fig. 4, in which position it is locked by the seating of prong 18 in notch 20. At the same time, prong or toe 22 will engage shoulder 23 and prevent further travel of the shield, holding it in operative position. The inker bracket will remain in that position as the shield is swung back to inoperative position, but, after swinging the shield back, movement of the shaft 7 to disengage toe 18 from notch 20, releases shaft 7 to the torsion action of spring 21, which rocks the bracket and felt into engagement with the roll, again.

The inker bracket may be moved to inoperative position, without moving the shield to its operative position. To do this, it is only necessary to turn head 8, with its shaft 7, until the prong 18 reaches the notch 20. Spring 21 will then seat the prong in holding position, just as when the parts are moved to that position by the bell-crank lever 16.

From the above it will be clear that the inker is automatically moved to inoperative position and supply to the roller cut off every time the shield is swung over the roll to its operative position and that this relation is maintained until the inking bracket is deliberately and purposely released and, also, that the inker may be rendered inoperative and supply cut off by simple manual operation independently of the movement of the shield.

The whole mechanism is very simple, capable of inexpensive quantity production, has a minimum number of parts, and is easily and quickly assembled or dismantled. And, because of this ease of dismantling, any repairs may be easily and quickly made. By turning out the respective set screws, shaft 5 or 7 may be removed, the inker bracket may be removed from shaft 7, or the shield may be removed from shaft 5. And, of course, these same set screws provide simple means for adjusting or setting the several parts at their various proper relative positions.

In use, the supply of ink to the inking roller is under complete control, so that waste of ink is avoided, as well as flooding or excess in the roll. And, reversely, scanty supply or insufficiency is avoided. And such ink as is supplied is quickly, properly and uniformly distributed.

It is thought that the construction, operation and use of the invention will be clear from the preceding detailed description.

Many changes may be made in the construction, arrangement and disposition of the several parts of the invention, within the scope of the appended claims without in any degree departing from the field of the invention and it is meant to include all such within this application wherein only one preferred form has been illustrated, purely by way of example and with no intent to in any degree limit the claims thereby.

Having thus described my invention, what I

claim and desire to protect by Letters Patent is:

1. An inking device comprising a revoluble roll, means for applying ink to said roll, a revoluble shield for said roll and means operated by said shield for automatically spacing said roll and said applying means as said shield is moved to operative position, to discontinue application of ink.

2. An inking device comprising a revoluble roll, a movable shield therefor, an inking felt cooperating with said roll, means for moving said felt into contact with said roll, and a bell-crank lever for moving said means to inoperative position, said bell-crank being automatically operated by said shield as it approaches operative position.

3. An inking device comprising a revoluble roll, a movable shield therefor, an inking felt cooperating with said roll, means for moving said felt into contact with said roll, a bell-crank lever for moving said means to inoperative position, said bell-crank being automatically operated by said shield as it approaches inoperative position, means for retaining said felt moving means inoperative, and means for returning said felt moving means to operative position.

4. An inking device comprising a revoluble roll, an ink reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

5. An inking device comprising a revoluble roll, an ink reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll, means securing said dauber bracket out of contact with said roll, means returning said dauber bracket into contact with said roll upon release of said securing means, and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

6. An inking device comprising a revoluble roll, and ink reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll, means for rocking said dauber bracket out of contact with said roll, means for securing said dauber bracket in non-contacting position as it reaches the limit of its disengaging travel, and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

7. An inking device comprising a revoluble roll, an ink reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll, means for rocking said dauber bracket out of contact with said roll, means for securing said dauber bracket in non-contacting position as it reaches the limit of its disengaging travel, means for releasing said securing means, means for returning said dauber to contacting position as it is released, and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

8. An inking device comprising a revoluble roll, a reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll, a movable shield for said roll, a trip actuated by said shield as it approaches operative position, said trip engaging and actuating the aforesaid dauber bracket to non-contacting position and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

9. An inking device comprising a revoluble roll, a reservoir, a dauber bracket between said roll and reservoir rockable relatively to said roll and to said reservoir for to and from contact with said roll, a moveable shield for said roll, a trip actuated by said shield as it approaches operative position, said trip engaging and actuating the aforesaid dauber bracket to non-contacting position, means securing said dauber bracket in non-contacting position, means returning said dauber to contacting position upon release of said securing means, and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

10. An inking device comprising a revoluble roll, a dauber bracket adjacent said roll and rockable to and from said roll, a trip for rocking said dauber bracket from contact with said roll, a movable shield for said roll, and means carried by said shield and engaging and actuating said trip as said shield reaches a predetermined position.

11. An inking device comprising a revoluble roll, a dauber bracket adjacent said roll and rockable to and from contact with said roll, a trip for rocking said dauber bracket from contact with said roll, a movable shield for said roll, means carried by said shield and engaging and actuating said trip as said shield reaches a predetermined position, means automatically securing said dauber bracket in non-contacting position as it reaches such position and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

12. An inking device comprising a revoluble roll, a dauber bracket adjacent said roll and rockable to and from contact with said roll, a trip for rocking said dauber bracket from contact with said roll, a movable shield for said roll, means carried by said shield and engaging and actuating said trip as said shield reaches a predetermined position, means automatically securing said dauber bracket in non-contacting position as it reaches such position, means for releasing said securing means, means returning said dauber to contacting position as it is released and a flexible ink feeding wick having one end continuously immersed in said reservoir and extending therefrom across and about the operative face of said dauber bracket to supply ink to said roll as the dauber bracket moves to operative position.

GUY N. WETZEL.