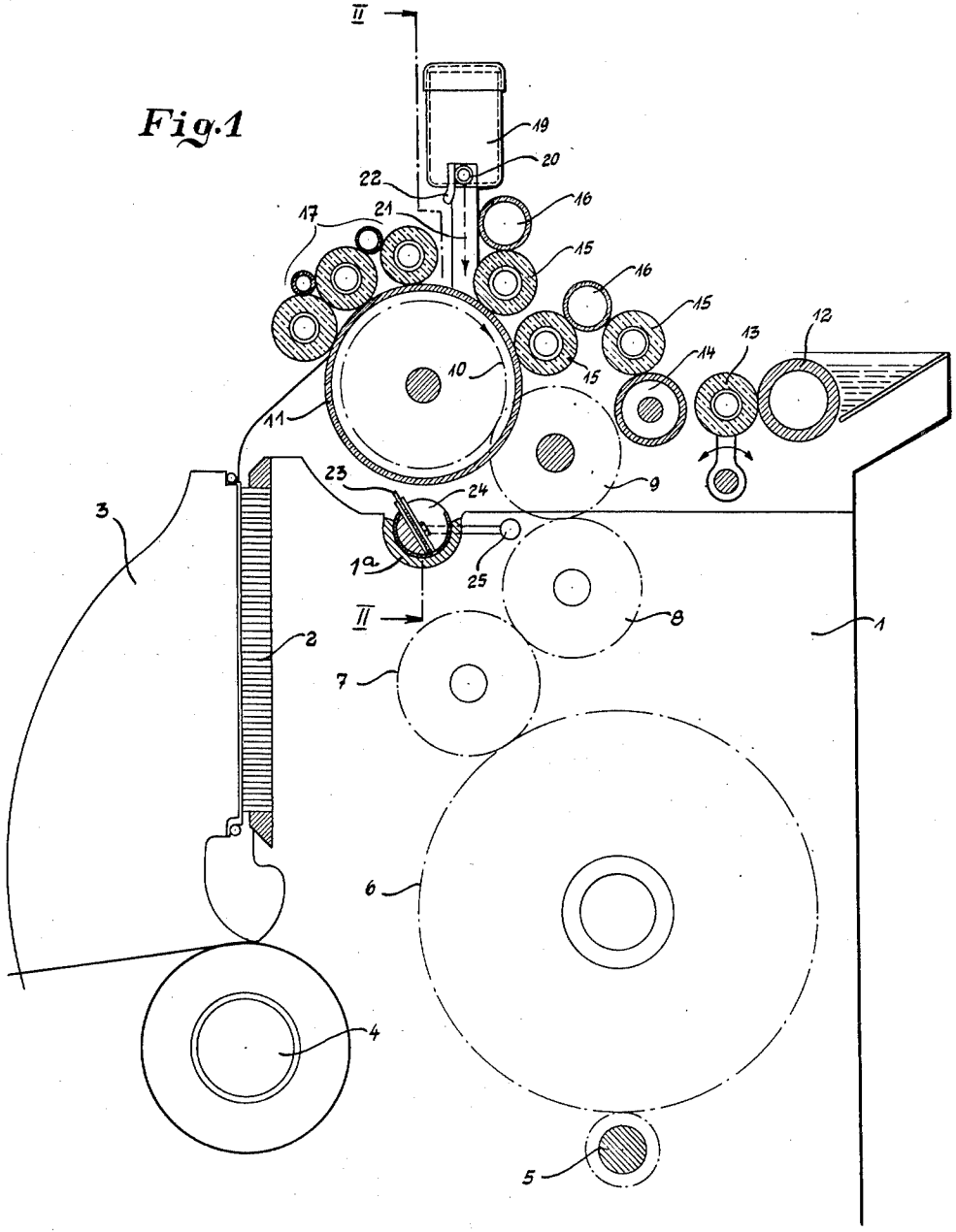
April 5, 1955 A. M. BÜTTNER 2,705,455

MEANS FOR CLEANING THE INKING ROLLER SYSTEM OF PLATEN TYPE PRINTING PRESSES

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Fig.1



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Fig. 2

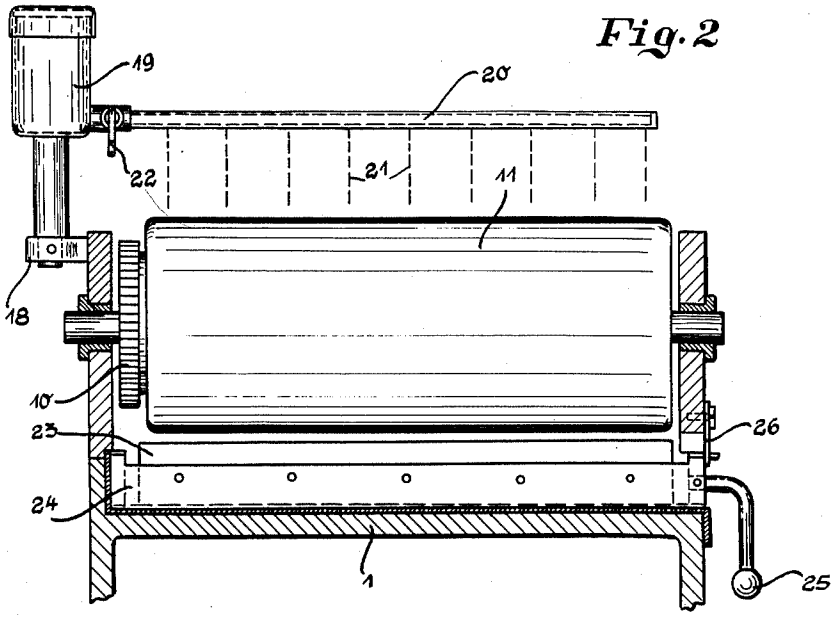
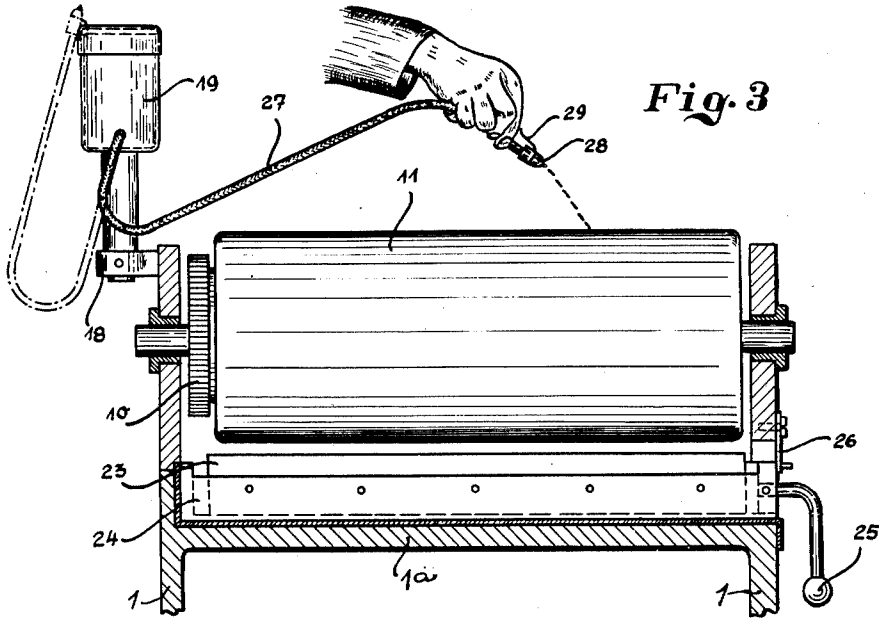


Fig. 3



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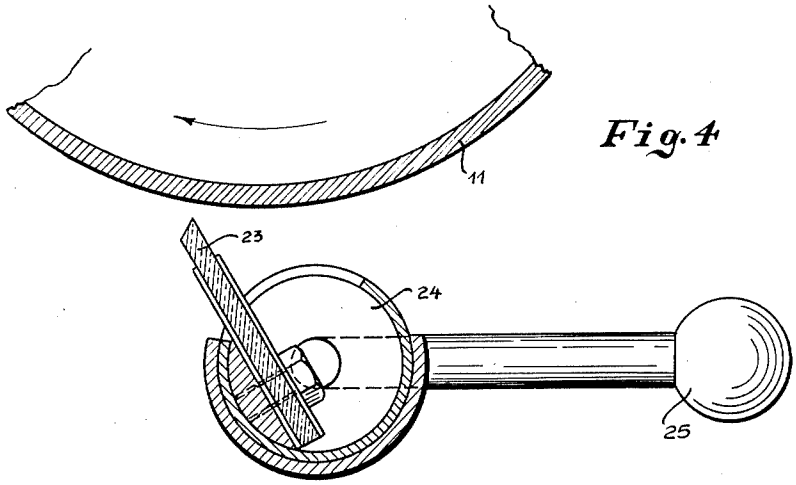


Fig. 4

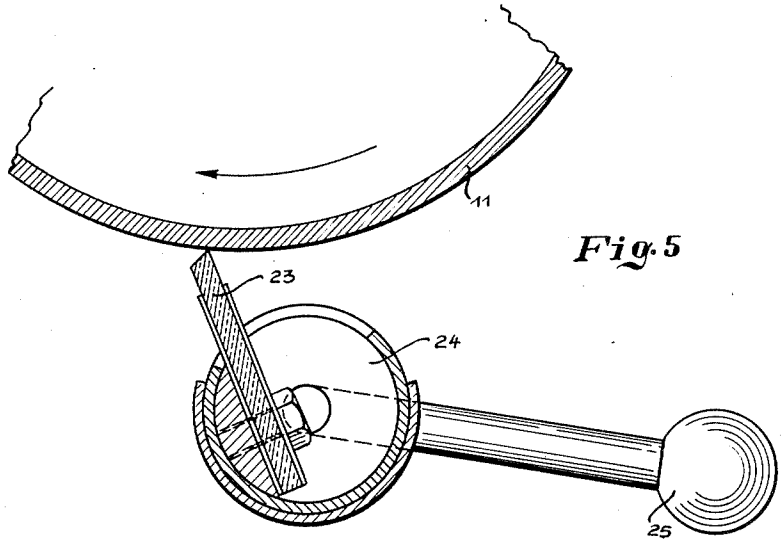


Fig. 5

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MEANS FOR CLEANING THE INKING ROLLER SYSTEM OF PLATEN TYPE PRINTING PRESSES

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5 Claims. (Cl. 101—425)

This invention relates to a method and means for rapidly cleaning all of the ink conveying members of the inking system of platen printing presses.

The inking system of platen printing presses comprises, in addition to the relatively large driven inking cylinder, a series of rollers, covered with rubber or similar materials and which cooperate with steel brayers of smaller diameter. As is well known, these rollers and steel brayers serve the purpose of distributing, spreading, and conveying the printing ink fed from the ink reservoir to the inking cylinder. In this manner the large inking cylinder is supplied with well distributed ink which is then conveyed by the inking rollers and passed on to the form. Depending on the size of the printing machine, this inking system comprises a greater or less number of rollers and steel brayers which in the known constructions must be taken out of the machine individually, the same as the inking cylinder, for cleaning purposes. This method of cleaning involves considerable expenditure of time and prolongs the periods of idleness of the printing machine, especially when the printing inks have to be changed often as happens to be the case particularly with high-speed automatic platen presses.

The principal object of the present invention is to avoid the foregoing objections by providing a practical and efficient method and means for accomplishing the desired results by providing above the inking system a distributor for a fluid cleaning agent, the said distributor being effective over the entire width of the inking cylinder which has a wiper associated therewith for removing the used cleaning agent with the ink dissolved by it. The distributor for the cleaning agent may consist of a perforated pipe mounted above the inking cylinder, the cleaning agent being fed to the said pipe under pressure, or the pipe may be replaced by a hose provided with a spray nozzle, the latter being moved by hand over the inking system. The wiper, which is preferably arranged under the lower half of the inking cylinder, is connected to a collecting receptacle and designed in such a way that it can be moved into and out of contact with the inking cylinder. The receptacle is preferably rotatable and can be pulled laterally out of the machine frame in the direction of its axis.

The built-in washing arrangement above set forth cleans all rollers in a few seconds by removing the adhering ink and results in great simplification of the servicing of such machines, at the same time increasing the efficiency and output of platen printing presses by reducing shut-down periods required for the cleaning of the rollers.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a diagrammatic sectional view of the cylindrical inking device with the new cleaning arrangement;

Figure 2 is a detail section along line II—II of Figure 1;

Figure 3 is a section similar to Figure 2 with a cleaning hose; and

Figures 4 and 5 show, on a larger scale, the wiper with the waste collecting receptacle.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

Frame **1** of a platen press supports, in the usual manner, the locking frame having the form **2**. Platen **3** is movable about axis **4** toward the said form. Flywheel shaft **5** drives the inking cylinder **11** by means of wheel **6** and the cooperating toothed wheels **7**, **8**, **9**, and **10**. The inking cylinder **11** thus rotates in the direction indicated by the arrow. The printing ink is conveyed from the

ink reservoir to the driven inking cylinder **11** by means of roller **12**; oscillating lifting roller **13**; alternating steel rollers **14**, **16**, and rubber rollers **15**. From the inking cylinder **11** the ink is passed on to the group of inking rollers **17** which, in the well-known manner, are moved over the form **2**, thus inking form **2** for printing.

To clean the rollers of the inking system **12—17** by removing the ink according to the present invention, machine frame **1** is provided with an arm or bracket **18** which supports a container or receptacle **19** for a suitable cleaning agent, such, for example, as gasoline, arranged over the inking cylinder **11**. According to Figure 2, this supply tank is connected through a stop cock **22** with a perforated pipe **20** which extends over the entire length of the inking cylinder and whose outlets **21** are directed toward the said cylinder.

In the construction shown in Figure 3, the pipe **20** is replaced by a hose **27** provided with a spray nozzle **28**. A hook **29** provided on nozzle **28** makes it possible to suspend nozzle **28** from the tank **19**, so that the mouth of the nozzle will occupy a position higher than the level of the fluid in tank **19**, thus eliminating the necessity of a special stop cock between tank **19** and hose **27**.

Under the inking cylinder **11**, the frame is provided with a troughed portion or recess **1a** extending continuously from one side of the frame to the other, said recess being closed at one end by a side wall of the frame and open at the other end to receive a waste collecting receptacle or pan **24**. This receptacle has a side opening and is closed at both ends. It is rotatably mounted in the recess and axially removable therefrom through the open end thereof.

The side frame adjacent the opening is provided with a pivoted latch bolt **26** for the purpose of locking or holding the receptacle in the recess except when it is to be removed for cleaning. The outer exposed closed end of the receptacle is provided with a hand lever **25** while the interior thereof has secured thereto a wiper blade **23** which extends across the entire length thereof and projects through the side opening of the receptacle. The handle or lever **25**, when the receptacle is held in place by the latch **26** may be axially rotated to cause the wiper **23** to bear against the inking cylinder **11** or move away from the periphery of said cylinder. Also the handle or lever **25** serves as a means for conveniently withdrawing the receptacle **24** from the recess **1a** when it is desired to clean the same. The wiper blade **23** is preferably made of rubber or any other suitable resilient material.

To clean the inking system, according to Figure 2, the cock **22** is opened, while the machine idles, so that the cleaning agent under pressure is conveyed through openings **21** to inking cylinder **11**, or, according to Figure 3, the hose **27** with spray nozzle **28** is manually moved over inking cylinder **11**. The cleaning fluid conveyed to inking cylinder **11** is distributed by cylinder **11** to rollers **15**, **13** and **17**, as well as to brayers **14**, **16**, so that it dissolves the ink adhering to these parts. At the same time, by working handle **25**, wiper **23** is brought in contact with inking cylinder **11** so that the mixture consisting of ink and the cleaning agent is taken off and deposited in the pan **24**. In this manner every particle of ink is removed from inking cylinder **11** and the cooperating rollers and steel brayers in the shortest possible time without necessity of taking these inking rollers out of the machine. From time to time pan **24** is laterally taken out of the machine frame, by raising latch bolt **26**, emptied and cleaned.

The use of hose **27** with the spray nozzle **28** has the advantage over nozzle pipe **20**, **21**, that the cleaning fluid can be directed against all inking rollers, as needed, and that it can be used also for rinsing the ink reservoir. The latch bolt **26** may be designed in such a way that in one final position, it locks hand lever **25**, and in an intermediate position it releases the hand lever to permit wiper **23** to move toward inking cylinder **11**, while, in the other final position it permits removal of the pan **24** from the machine frame.

The arrangement described provides a simple and practical cleaning means which can be put into operation at any time without necessity of dismantling the individual applies the cleaning agent to the inking cylinder and the

latter passes it on to the cooperating rollers and steel brayers. The wiper is caused to bear against the inking cylinder, thereby removing the ink dissolved by the cleaning fluid and trapping it in the collecting receptacle. From time to time the receptacle can be removed from the machine frame to be emptied. The inking system is kept in motion during the cleaning process, after disconnecting the conveying roller from the ink box, so that the conveyance between the various rollers and steel brayers results in a thorough cleaning of all rollers of the inking system.

I claim:

1. In an automatic printing press including a frame including side walls, an inking roller mounted in the frame, a form and a platen on the frame at one side of and below the inking roller, said frame below the inking roller provided with a substantially semi-circular recess closed at one end by one of said side walls and open for access at the other side wall, said recess being continuous from one side wall to the other and opening toward the inking roller, a waste pan of cylindrical cross section mounted for oscillatable movement in the recess and having an opening in its side wall and closed at its ends, said pan longitudinally insertable and removable in said recess from the open end thereof and its inner end, when the pan is in place, abutting the side wall of the frame opposite the opening, a handle on the outer end of the pan for manually altering its angular relation in the recess and withdrawing the same therefrom, latch means on the side wall of the frame at the open end of the recess for locking the pan against unintentional withdrawal from the recess, and a roller wiper blade secured on the pan oblique to its axis and having its roller engaging edge out of contact with the roller except when the roller is to be cleaned.

2. An automatic platen printing press of type described including in combination, a press frame, a platen on the frame arranged for rocking movement, a form on said press frame, an inking system carried by the press frame having a driven inking cylinder cooperating with rollers and steel brayers, the frame having a portion disposed beneath said inking cylinder and provided with a recess extending parallel to the axis of said inking cylinder, a washing liquid receiving pan mounted in the recess and

slidable therein and removable therefrom parallel to the axis of the inking cylinder, and a wiper fixed in the pan and engageable with the inking roller.

3. An automatic printing press according to claim 2 wherein the recess and the pan are cylindrical and the latter together with the wiper is rotatable in the former.

4. An automatic printing press according to claim 2, including, a lever at one end of the pan for manually rocking the pan to bring the wiper into or out of engagement with the inking cylinder and a latch bolt pivoted at the lever side of the frame for holding the pan axially in position.

5. In an automatic printing press, the combination comprising a frame including side walls, an inking roller mounted in the frame, a form and a platen on the frame and below the inking roller, the frame side walls being each provided with a semicircular recess registering with the other recess, one of the recesses being closed at one end and the other open at both ends and both opening toward the inking roller, a waste pan of cylindrical cross section mounted for partial rotation in the recesses and having an opening in its side wall and closed at its ends, said pan being longitudinally insertable in and removable from the recesses through the outer end of the other recess and when the pan is in place abutting the closed end of the first recess, a handle on the outer end of the pan for manually altering its angular position in the recesses and withdrawing same therefrom, latch means on the side wall of the frame adjacent the other recess for locking the pan against inadvertent withdrawal from the recesses, and a roller wiper blade secured on the pan oblique to its axis and having its roller engaging edge out of contact with the roller except when the roller is to be cleaned.

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