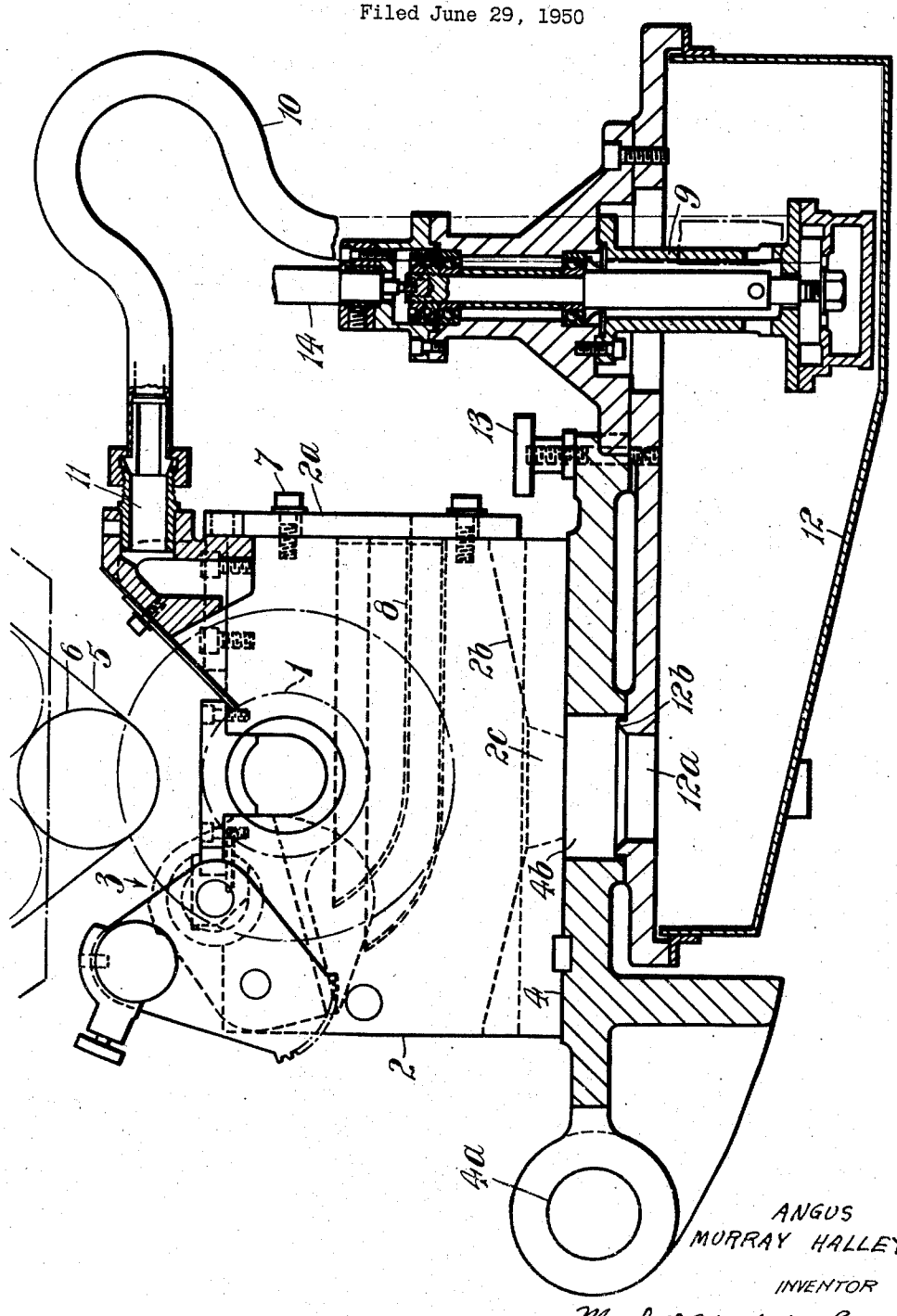
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ROTARY PHOTOGRAVURE PRINTING MACHINE

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ROTARY PHOTOGRAVURE PRINTING MACHINE

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5 Claims. (Cl. 101—157)

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This invention has reference to improvements connected with rotary photogravure printing machines of the kind wherein the image cylinder is rotatably mounted within a casing so that a portion only thereof projects beyond the casing, the lower portion of the said image cylinder being adapted to dip in ink contained in a tray within the casing.

The object of the present invention is to provide a machine wherein the main portion of the ink supplying mechanism is detachable and replaceable by similar unit so that the one unit may be in the process of being cleaned whilst the other is in operation on the machine, thus admitting of the ready change from one coloured ink to another.

The invention consists of a photogravure printing machine of the kind referred to characterised by the provision of a detachable ink tank incorporating a pump with detachable drive and supply pipe and having an aperture adapted to register with a drain in the casing before referred to.

The invention will now be described with particular reference to the accompanying drawing which illustrates in sectional side elevation sufficient of a rotary photogravure printing machine for an understanding of the present invention.

The image cylinder 1 of the machine is rotatably mounted in a casing 2 incorporating the doctor blade mechanism and associated parts generally designated 3, this casing 2 is capable of being rocked together with a sub-frame 4 about a pivot 4^a by pneumatic means not shown so as to admit of the periphery of the image cylinder 1 being moved into contact with the printing medium 5 being fed around the impression cylinder 6. The main portion 2^a of the one wall of this casing 2 is detachable by means of bolts 7 and carries a tray 8 which extends beneath the image cylinder 1 and is adapted to receive ink from a pump 9 through a supply pipe 10 connected to a port 11 situated in the upper portion of the casing 2 above the detachable wall 2^a. The lower portion of the periphery of the image cylinder 1 is adapted to dip into the ink in the tray 8 and any overflow of ink from this tray falls on to an inclined floor 2^b of the casing provided with a central drain 2^c.

According to the present invention there is provided partially below the casing 2 and sub-frame 4 a detachable ink tank 12 having an aperture 12^a in its upper face around which is an upstanding flange 12^b adapted to fit closely within a hole 4^b registering with the drain 2^c of the casing 2. This tank is adapted to be secured to the sub-frame by means of a pair of knurled headed bolts 13 which co-operate with open ended slots in an extension of the sub-frame 4. The tank 12 extends from beneath the sub-frame 4 and incorporates in its lowest portion a vertically disposed ink pump 9 which is adapted to be driven from a power source through a flexible shaft 14 which can readily be detached from the upper end of the pump 9. A flexible supply pipe 10 which is also readily detachable from the pump 9 unit is connected to the port 11 in the upper portion of the casing 2.

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Assuming that the machine is in operation and it is desired to change the colour of the ink, then it is only necessary to stop the machine, remove the detachable portion 2^a of the wall of the casing together with the attached ink tray 8 for cleaning or replacement by a similar part and then to detach the flexible shaft 14 and flexible pipe 10 from the pump when nuts 13 can be slackened and the ink tank 12 together with the pump 9 can be removed for replacement by another similar unit. It is to be appreciated that it would be necessary to wash out the lower portion of the casing 2 and the drain 2^c before commencing operation with a different coloured ink.

From the foregoing it will be understood that the time required for changing from one coloured ink to another is comparatively short and the cleaning of the tank 12 is greatly facilitated when detached from the machine.

I claim:

1. In a rotary photogravure printing machine, in combination, a rockable casing for the image cylinder having a drain in its base and a port for the ingress of ink, an ink tank, an ink pump in said ink tank, a flexible connection from said pump to the port in the casing, a flexible drive to the pump and means for detachably securing the ink pump and the ink tank to the under side of the casing with a hole in the tank in register with the drain in the casing.

2. In a rotary photogravure printing machine, in combination, a rockable sub-frame, an image cylinder casing mounted on said sub-frame with a drain therein in register with a hole in the sub-frame, a port in the upper portion of the casing, an ink tank, a pump in said ink tank, a flexible ink delivery pipe from said pump to the port in the casing, a flexible drive to the ink pump, and means for detachably connecting the ink pump and the ink tank to the under side of the sub-

frame with a hole in the tank in register with the hole in the sub-frame.

3. In a rotary photogravure printing machine according to claim 2 a flange around the hole in the ink tank fitting closely within the hole in the sub-frame.

4. In a rotary photogravure printing machine, in combination, a rockable sub-frame, a casing on said sub-frame having a drain in register with a hole in the sub-frame, an image cylinder in the casing, a detachable plate forming a part of a wall of the casing, an ink tray on said detachable plate extending in the casing beneath the image cylinder, a port in the casing above the ink tray, an ink tank detachably secured beneath the sub-frame with a hole therein in register with the hole in the sub-frame, a pump in the ink tank, means for detachably mounting the pump, a flexible delivery pipe connecting the pump to the port in the casing and a flexible shaft drive to the pump.

5. In a rotary photogravure printing machine according to claim 4 screw means on the ink tank engaging open ended slots in the sub-frame for securing the tank to the sub-frame.

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