

Jan. 9, 1940.

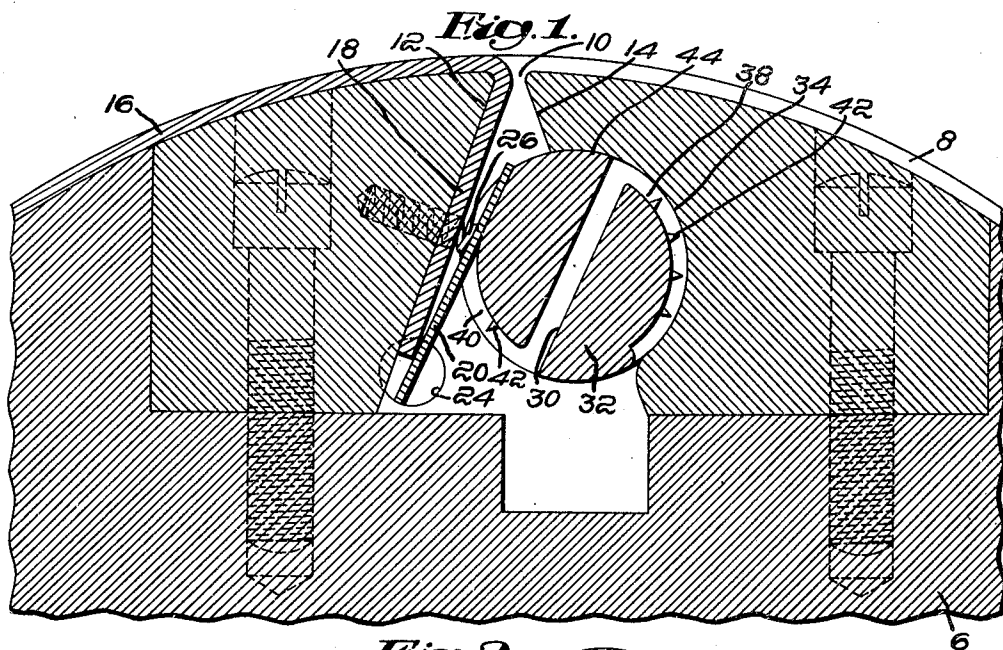
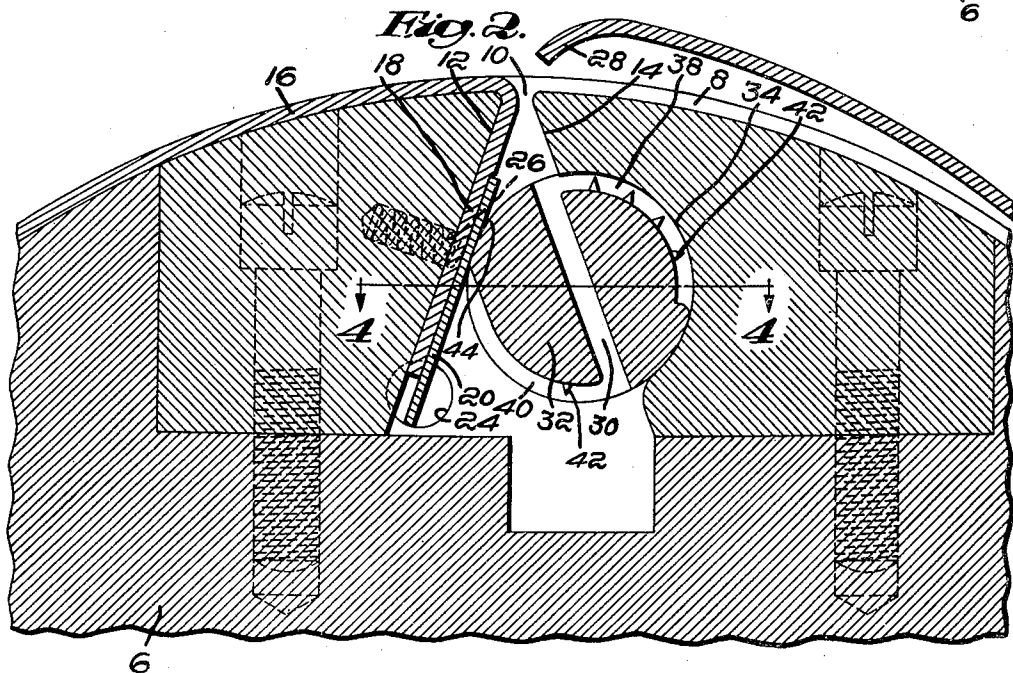
C. A. MEISEL

2,186,764

PRINTING CYLINDER

Filed March 29, 1938

2 Sheets-Sheet 1



Inventor:
Charles A. Meisel,
by Emory B. Smith, Attorney

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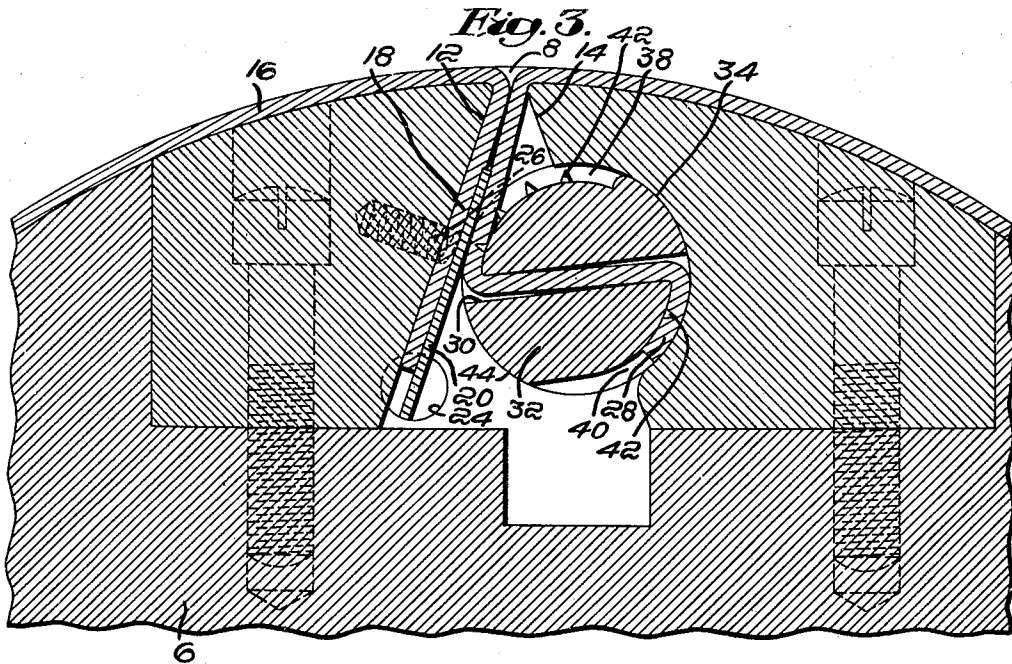
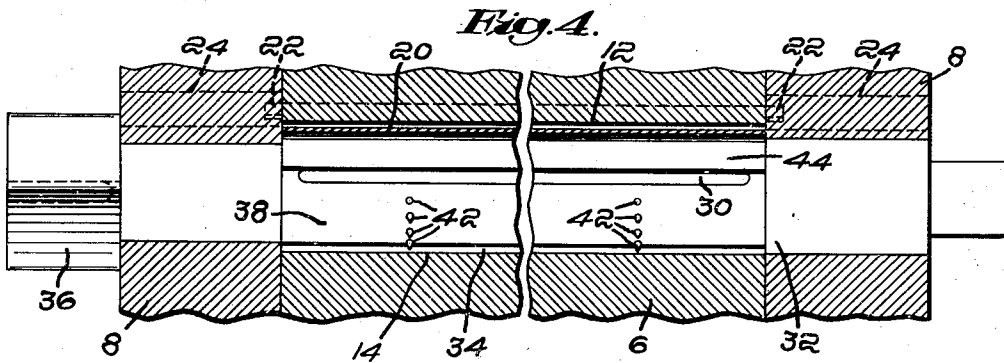
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PRINTING CYLINDER

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2 Sheets-Sheet 2



Inventor:
Charles A. Meisel,
by Emory B. Tamm and Milton M. Meiser
Attys

UNITED STATES PATENT OFFICE

2,186,764

PRINTING CYLINDER

Charles A. Meisel, Milton, Mass., assignor to
Meisel Press Manufacturing Company, Boston,
Mass., a corporation of Massachusetts

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7 Claims. (Cl. 101-415.1)

The invention relates to cylinders and the object is to provide an improved construction facilitating the application of a flexible member to the surface of the cylinder and its secure retention thereon.

My invention will be well understood by reference to the following description taken in connection with the accompanying drawings, wherein:

Figs. 1, 2 and 3 are partial transverse sections through the cylinder illustrating successive steps in securing ends of flexible members thereto; and Fig. 4 is a broken section on the line 4-4 on a smaller scale, the flexible member being omitted.

Referring to the drawings, I there show a printing cylinder 6 organized between the usual terminal bearers 8 (Fig. 4). The body of the cylinder between the bearers is provided with a gap 10 opening to the surface of the cylinder through a narrow longitudinal slot beneath which lie the opposed diverging walls 12 and 14. About the surface of the cylinder is wrapped a flexible member 16, such, for example, as a rubber blanket or a rubber printing plate, and either the two ends of a single encircling member or the opposed ends of separate members, the opposite ends of which are secured to the cylinder in the same or some other manner at other points in the circumference, are adapted to enter the gap and be secured within the same. For convenience I will in the following description refer to the flexible member as a blanket.

One end 18 of the blanket may be folded over the corner provided by the intersection of the walls 12 with the cylindrical surface and may be clamped against that wall by means of the clamping bar or plate 20, herein shown as pivoted adjacent its lower edge by the trunnion-like ears 22 (Fig. 4) which find a bearing in holes 24 in the bearers at either end of the gap. Springs 26 normally tend to rock the clamping plate 20 to the open position shown in Fig. 1, permitting the insertion of the end 18 of the blanket between the wall 12 and the clamping plate 20 and the latter is pressed toward the former to clamp the end 18 by means presently to be described.

The other blanket end 28 which is secured within the gap 10 may be engaged in a diametral slot 30 in a reel rod 32 located within the gap and opposing the wall 12. Herein this rod is journaled in the bearers 8, as indicated in Fig. 2, and also finds a support in the segmentally cylindrical bearing recess 34 in the wall 14. One end, as seen at the left in Fig. 4, may project

beyond the bearers and be equipped with a squared collar 36 to provide for its rotation.

At opposite ends of the slot 30 the rod is cut away in opposite directions or, if we consider the direction of rotation about the center, in the same sense of rotation measuring from the extremities of the slot 30, to provide the portions of relatively reduced radius 38 and 40. The depth of these cut-away portions is preferably slightly less than the thickness of the blanket to be received therein, and their surfaces may be provided with sharp pins or points 42 to impale the blanket. Between the reduced portion 40 and that margin of the slot 30 which is in advance, considering a movement of rotation of the rod tending to wind up a member attached thereto, the undiminished radius of the rod provides a rise portion 44.

Assuming the parts to be in the position shown in Fig. 1, the reduced portion 40 of the reel rod is opposed to the clamping plate 20, releasing the latter to the springs 26 so that an opening is provided between that plate and the wall 12 of the gap into which the end 18 of the blanket may readily be inserted. If now the rod is turned slightly counterclockwise to the position of Fig. 2, the rise portion 44 presses the plate 20 into clamping relation to the end 18 of the blanket to hold it firmly while the opposite end 28 is being stretched around the cylinder and secured in position. When moved to the position of Fig. 2, the slot 30 is brought into a position pointing to the opening of the gap at the surface of the cylinder and in a position to receive the blanket end 28 when it is thrust downwardly into the gap. Inspection to determine when the slot in the rod is so positioned will likewise determine whether the end 18 of the blanket is properly clamped. In other words, we automatically clamp the end 18 when we so position the reel rod as to permit engagement of the end 28 of the blanket therewith. The end 28 of the blanket may then be threaded into the slot 30 and the reel rod turned to the position of Fig. 3. Then, as the rod is turned, the extreme end of the blanket will enter the cut-away portion 40 and be received snugly between the same and the opposed cylindrical wall of the groove 34, bent over at an angle to prevent its ready withdrawal from the slot and impaled by the pins 42 formed on said reduced portion 40 if these are present. At the other side of the slot the blanket wraps around the surface of the reel rod at the cut-away portion 38. The rise portion 44 will leave the plate 20, but, on the other hand, the surface

of the blanket, back-supported by the surface 38 of the reel rod, will move into substantially the same position, maintaining pressure on the end 18 of the blanket, the clearance of the surface 38 from the opposed wall 12 of the gap being such that a clamping pressure will be exerted on the two interposed blanket ends and the clamping plate. This pressure firmly holds the reel rod in its adjusted relation until positively backed off.

Viewing Fig. 3, it will be seen that, while the parts are clamped in the position there shown, the reel rod may be further rotated if desired or necessary to put the desired tension on the blanket 16.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A printing cylinder having a gap over one edge of which an end of a flexible member may be engaged, a reel rod rotatably mounted in the gap and opposing the wall thereof beneath said edge, the rod having a transverse opening to receive another end of a flexible member and having a rise portion effective to clamp said first end against said wall when the mouth of the opening is presented outwardly to the gap to receive the second mentioned end.

2. A printing cylinder having a gap over one edge of which an end of a flexible member may be engaged, a reel rod rotatably mounted in the gap and opposing the wall thereof beneath said edge, the rod having a transverse opening to receive another end of a flexible member and having successively a portion of relatively small radius to provide a clearance from said wall to permit application of the first mentioned end thereover, a portion of relatively great radius effective to clamp said end against said wall when the mouth of the opening is presented outwardly to the gap to receive the second mentioned end, and a portion succeeding the opening of a radius effective to press against said wall superposed portions of the two ends.

3. A printing cylinder having a gap defining interior opposed walls, a segmental cylindrical recess in one of said walls, a reel rod rotatably mounted in the gap having a transverse slot and having a cylindrical body of the same diameter as said recess but cut away at opposite ends of said slot in opposite directions therefrom, the intervening portions being adapted to bear on said recess.

4. A printing cylinder having a gap defining interior opposed walls, a segmental cylindrical

recess in one of said walls, a reel rod rotatably mounted in the gap having a transverse slot and having a cylindrical body of the same diameter as said recess but cut away at opposite ends of said slot in opposite directions therefrom, the intervening portions being adapted to bear on said recess, the cut-away portion which when the rod is in the drawn up position opposes the wall of the recess being of such depth as snugly to receive between the surface of the same and the wall of the recess the thickness of the member to be secured.

5. A printing cylinder having a gap defining interior opposed walls, a clamping member adapted to receive between it and one of said walls an end of a flexible member, a segmental cylindrical recess in the opposed wall, a reel rod rotatably mounted in the recess having a transverse slot and having a cylindrical body of the same diameter as said recess but cut away at opposite ends of said slot in opposite directions therefrom, the intervening portions being adapted to bear on said recess, the cut-away portion which when the rod is in the drawn up position opposes the wall of the recess being of such depth as snugly to receive between the surface of the same and the wall of the recess the thickness of the member to be secured, the other cut-away portion having such clearance from the first-mentioned wall which it opposes as to provide for clamping pressure against the wall of the combined thickness of the two ends and said clamping member interposed between the wall and said last-mentioned cut-away portion.

6. A printing cylinder having a gap over one edge of which an end of a flexible member may be engaged, a reel rod rotatably mounted within the gap and opposing the wall thereof beneath said edge, the rod having means for engaging another end of a flexible member extending over the other edge of the gap to draw the member thereover when rotated and by reason of its mounting being positioned to exert pressure through the portion of said other end reeled up thereon against the first end to clamp it against the wall.

7. A printing cylinder having a gap, a bar movably mounted adjacent one wall of the gap to receive between itself and the wall an end of a flexible member extending over the adjacent edge of the gap, a member rotatably mounted within the gap having provision for engaging another end of a flexible member and constructed and arranged alternatively on movement to and from positions of rotative adjustment to press the bar toward said wall to clamp said first mentioned end and to release said bar to relieve its clamping pressure.

CHARLES A. MEISEL. 60