

Aug. 23, 1932.

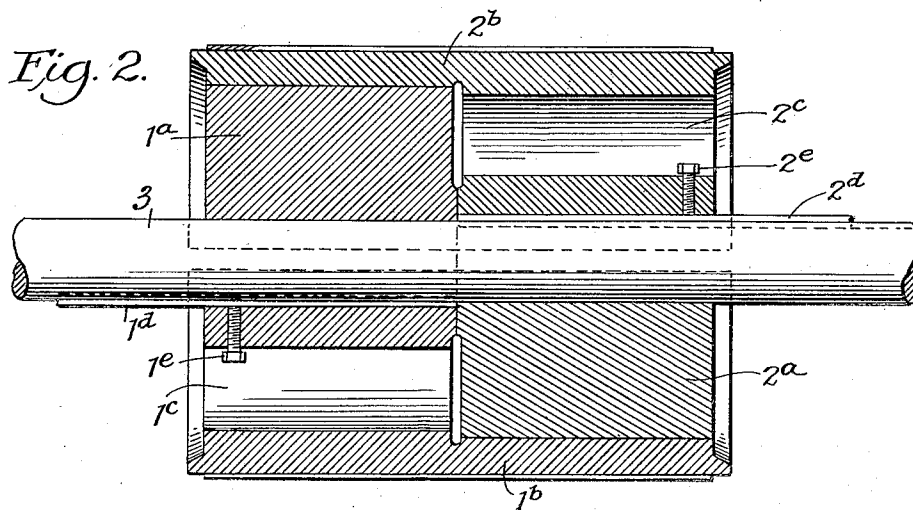
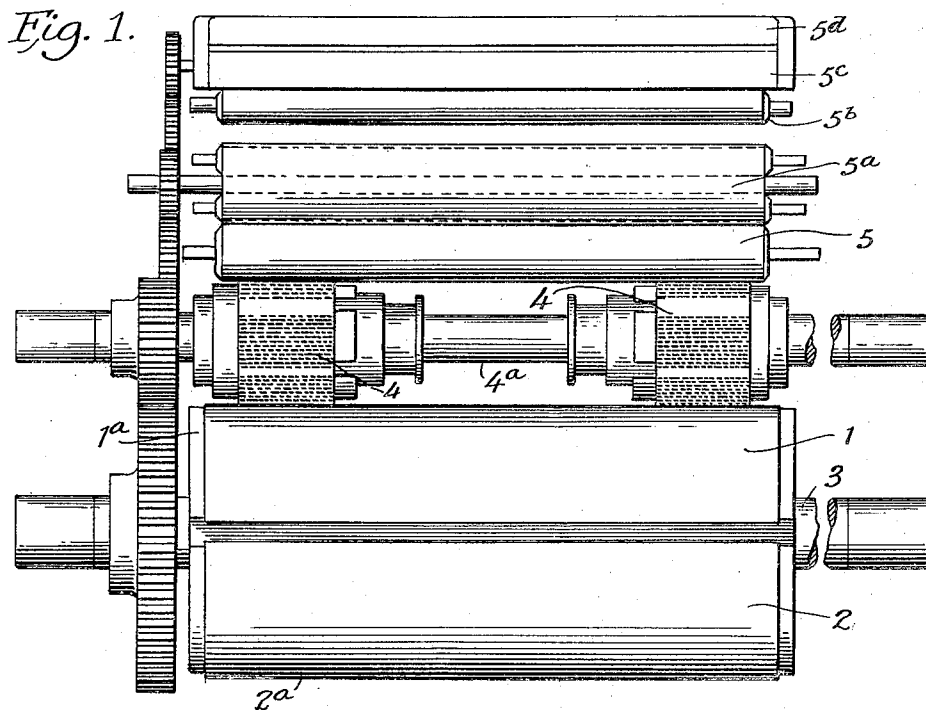
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1,873,301

PRINTING PRESS AND FUDGE ATTACHMENT

Filed July 16, 1930

2 Sheets-Sheet 1



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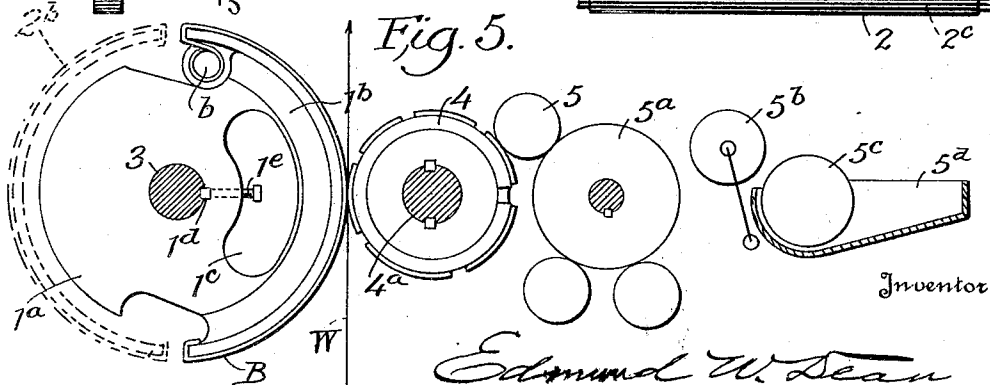
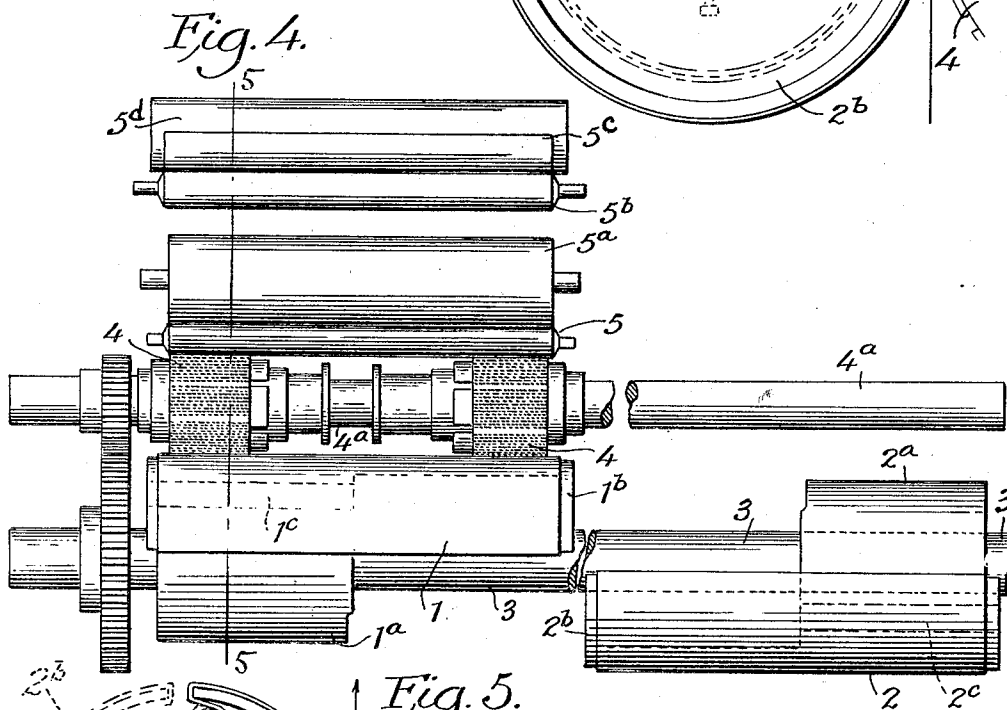
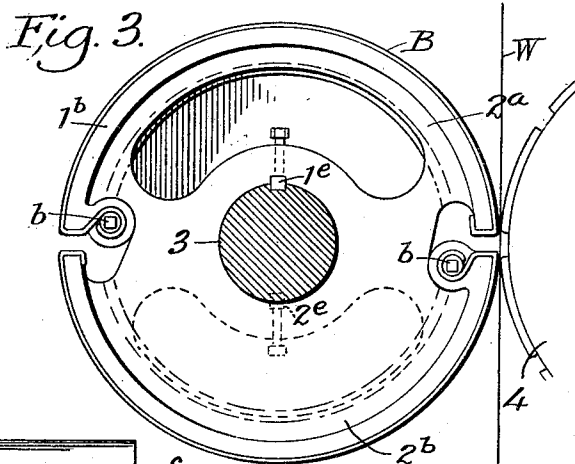
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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PRINTING PRESS AND FUDGE ATTACHMENT

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This invention is a novel improvement in printing presses, and is especially adapted for use as a "fudge" attachment for printing presses for printing late news, but it is also adapted for use in many types of printing presses where "hit and skip" printing may sometimes be desired on alternate sheets or where a divided cylinder would be useful.

An essential feature of my present invention is a divided impression cylinder, each part of which has a semi-cylindrical impression surface, and such parts can be adjusted toward each other to constitute a complete cylinder two-pages around adapted to print two pages like an ordinary rotary press cylinder; or the parts may be separated so that only one of them will be in operative position and consequently will only print every alternate sheet during the rotation of the cylinder, every other sheet being "skipped".

In the accompanying drawings I have illustrated one practical embodiment of the invention as utilized in a "fudge" printing attachment for web printing presses, but an explanation and understanding thereof will enable others to adopt and use the invention not only for "fudge" printing, but in other places in the printing art where hit and skip printing or a divided cylinder may be desirable. In the claims following the description I have set forth the essentials of the invention and the novel features of construction and novel combinations of parts for which protection is desired.

In said drawings:

Fig. 1 is a top plan view of a "fudge" printing mechanism embodying my invention, the parts of the divided cylinder being shown adjusted so as to print every successive sheet.

Fig. 2 is an enlarged longitudinal section through the novel cylinder the parts thereof being adjusted so that they both will act upon the web like an ordinary sized two-page-around impression cylinder.

Fig. 3 is an end view of the novel cylinder showing the positions of the blanket and reel rod of each part.

Fig. 4 is a view similar to Fig. 1 showing the parts of the cylinder arranged so that only every other sheet will be printed, as on

the "hit and skip" plan which is necessary when the sheets are being "collected".

Fig. 5 is a section on the line 5—5 Fig. 4.

Referring to Figs. 2 and 3; 1 and 2 designate the similar complementary parts or halves of an impression cylinder. The part 1 has a body portion 1a which is about half the length of the cylinder and is splined upon a supporting shaft 3 so that it can be adjustable longitudinally on its shaft. One half of the body portion is of less diameter than the cylinder proper. The opposite half is of the full diameter of an ordinary impression cylinder and has a longitudinally extending portion 1b at one end. The half 1b of the part 1 is a full page in area and is substantially twice as long as the body 1a. The body 1a is cored out as at 1c at the side adjacent the part 1b (see Figs. 2 and 5) in order to practically counterbalance the part 1 on the shaft 3. The part 1 is longitudinally adjustable on the shaft 3, and is preferably splined thereto as shown at 1d, Fig. 5, and can be fastened when adjusted by a set screw 1e or other suitable means.

The part 2 of the cylinder is similar to but the reverse of part 1, and has a body portion 2a, and extension 2b, is cored out as at 2c and splined upon the shaft 3 as at 2d, and can be secured thereon by a screw 2e (see Figs. 2 and 5).

The parts 1b, 2b are complementary and are arranged at diametrically opposite sides of the shaft 3, and substantially counterbalance one another, and they can be adjusted longitudinally of the shaft relative to each other.

Each half of the cylinder is adapted to carry a blanket B of the usual type, one end of which may be fastened to one edge of the part 1b or 2b, and its other end can be wound upon a rod b in a recess at the other side of the part 1b or 2b as indicated in Fig. 3.

In Figs. 1, 2 and 3 the parts 1 and 2 are shown as adjusted close together and form a short one-page-long two-page-around impression cylinder. When thus adjusted the parts 1a, 2a will alternately coact with the plate or fudge cylinder 4 to print successive sheets.

The fudge cylinder may comprise one or more fudge boxes 4, 4 of usual construction

(see Figs. 1 and 4) adjustably mounted upon a shaft 4a, parallel with the shaft 3. Each fudge box can carry printing surfaces of any suitable type. In the example shown the boxes are one half the diameter of the full impression cylinder 1 and 2. In order to avoid duplication of the fudge matter it is desirable to have the fudge cylinder or boxes only one sheet in circumference; but the invention is not limited to any particular size of fudge cylinder or boxes.

Ink can be supplied to the fudge cylinder by any suitable means. As shown a form roller 5 receives ink from a drum 5a to which ink is supplied by a ductor 5b from a fountain roll 5c in a fountain 5d. The inking mechanism is not specifically claimed herein, and needs no further description.

When sheets are run to the folder to be folded without "collecting", it is desirable to print the fudge matter on every sheet; and in such case the cylinder halves 1 and 2 are adjusted as in Figs. 1, 2 and 3 so that every successive sheet that passes between the fudge cylinder and the impression cylinder (1 and 2) will be printed; the impression surfaces 1b and 2b alternately coacting with the fudge cylinder to print every passing sheet.

If the sheets are being "collected" at the folder, then only every alternate sheet should be printed by the fudge cylinder. At such time only one of the parts 1 or 2 of the impression cylinder should be used; and, for example, as indicated in Figs. 4 and 5, the part 2 of the cylinder is shifted on shaft 3 to a point where it will not contact with the fudge cylinder, but the part 1 of the impression cylinder is left in position to co-operate therewith. Therefore with parts adjusted as in Figs. 4 and 5 at each revolution of the shaft 3 only every other passing sheet will be printed by the coaction of the fudge cylinder and the part 1 of the impression cylinder; and every alternate sheet will be skipped and not printed as the part 2 of the impression cylinder is not in position to print, although it rotates with shaft 3.

This "hit and skip" method of printing only alternate sheets will be clear from Fig. 5, in which it will be seen that at one time the web W is printed between the fudge cylinder 4 and the part 1b of the cylinder during one half revolution of shaft 3, but during the remaining half revolution of shaft 3 the web will not be printed as there is nothing to impress it against the fudge cylinder 4. But if both parts 1 and 2 are adjusted as shown in Figs. 1, 2 and 3, then every sheet of web W passing the fudge cylinder will be printed by the alternate coaction of the parts 1 and 2 with the fudge cylinder 4.

The utility and advantages and adaptability of my novel cylinder will be obvious to those skilled in the art; and although I have illustrated my novel divided impression

cylinder as used in connection with a fudge cylinder, obviously such divided cylinder might be used in connection with other plate cylinders or for other purposes in the art where it is desirable at times to utilize the full diameter of a cylinder, and at other times to utilize only half of its diameter. Also while I have described the two part cylinder as an impression cylinder, such cylinder could obviously be used as a plate or printing cylinder if printing surfaces were substituted for the blanket B.

I claim:

1. A cylinder comprising longitudinally separable complementary parts, each having a parti-cylindric operative surface said parts being relatively longitudinally adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the cylinder.

2. A cylinder comprising complementary parts, each part having a parti-cylindric operative surface, the operative surfaces being disposed at different points in the circumference of the cylinder, said parts being relatively longitudinally adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the cylinder.

3. A cylinder comprising two longitudinally separable complementary halves, each half having a semi-cylindric operative surface, the halves being relatively longitudinally adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the axis of the cylinder.

4. A cylinder comprising complementary parts, and means for supporting said parts in axial alinement, said parts being relatively longitudinally adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the cylinder.

5. A cylinder comprising two longitudinally separate complementary halves, and means for supporting said halves in axial alinement; said halves being relatively longitudinally adjustable on the supporting means and adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the cylinder.

6. In a printing press, an impression cylinder comprising similar complementary parts each part having a body portion of less diameter than the cylinder proper and a parti-cylindric portion projecting beyond one end thereof; and means for supporting the parts in axial alinement; said parts being relatively longitudinally adjustable.

7. In a cylinder two similar complementary

halves, each half having a semi-cylindric operative surface, said halves being relatively longitudinally adjustable so that the operative surfaces can be brought diametrically

5 ly opposite to operate alternately upon successive sheets, or may be separated so that they will not so operate upon the sheets.

8. In a printing press, an impression cylinder comprising two similar complemental parts each part having a body portion of less diameter than the cylinder proper and a semi-cylindric portion projecting beyond the body portion at the side next to the other half; and means for supporting the parts in axial

15 alinement; said parts being relatively longitudinally adjustable.

9. In combination a shaft, a cylinder mounted thereon consisting of two similar complemental parts, each part having a semi-cylindric surface, the parts being relatively

20 longitudinally adjustable upon the shaft and adapted to be brought together to form a complete cylinder and operate upon successive sheets, or to be separated to operate upon

25 alternate sheets.

10. In a printing press, a shaft, an impression cylinder comprising a plurality of complemental parts mounted on the shaft, each part having a body portion of less diameter

30 than the cylinder proper and a parti-cylindric portion projecting beyond the body portion at the side next to the adjacent part; the parts being relatively longitudinally adjustable upon the shaft so that their operative

35 surfaces can be brought into position to operate alternately upon the same section of the web, or may be separated so they will not operate upon the same section of the web.

11. In a fudge printing attachment for

40 printing presses; a fudge cylinder; means for inking the same; and an impression cylinder coacting with the fudge cylinder and comprising longitudinally separate complemental parts each having a parti-cylindric

45 operative surface.

12. In a fudge printing attachment for

printing presses the combination of a fudge cylinder, and means for inking the same, with an impression cylinder coacting with

50 the fudge cylinder and comprising complemental parts each having a parti-cylindric operative surface, the operative surfaces being disposed at different points of the circumference of the cylinder, said parts being

55 relatively longitudinally adjustable axially of the cylinder and adapted to be aligned circumferentially to form a complete cylinder, or to be spaced apart longitudinally of the cylinder.

13. A fudge printing attachment for

60 printing presses comprising a fudge cylinder, means for inking the same, an impression cylinder coacting with the fudge cylinder and comprising two longitudinally separated complemental halves, and means for

65 supporting said halves in axial alinement; said halves being relatively longitudinally adjustable.

14. In a fudge printing attachment for printing presses the combination of a fudge

cylinder, and means for inking the same; with an impression cylinder coacting with

70 the fudge cylinder and comprising similar complemental parts, each part having a body portion of less diameter than the cylinder proper and a parti-cylindric portion projecting

75 beyond one end thereof; said parts being relatively longitudinally adjustable; and means for supporting the parts in axial alinement.

15. In a fudge printing attachment for printing presses, a fudge cylinder, means for inking the same, an impression cylinder co-

80 acting with the fudge cylinder and comprising two similar complemental parts each having a semi-cylindric surface, the parts being relatively longitudinally adjustable and adapted to be brought together to form

85 a complete cylinder and operate upon successive sheets, or to be separated to operate upon alternate sheets.

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