

No. 871,831.

PATENTED NOV. 26, 1907.

E. L. STONE.
PRINTING PRESS.
APPLICATION FILED APR. 23, 1907.

2 SHEETS—SHEET 1.

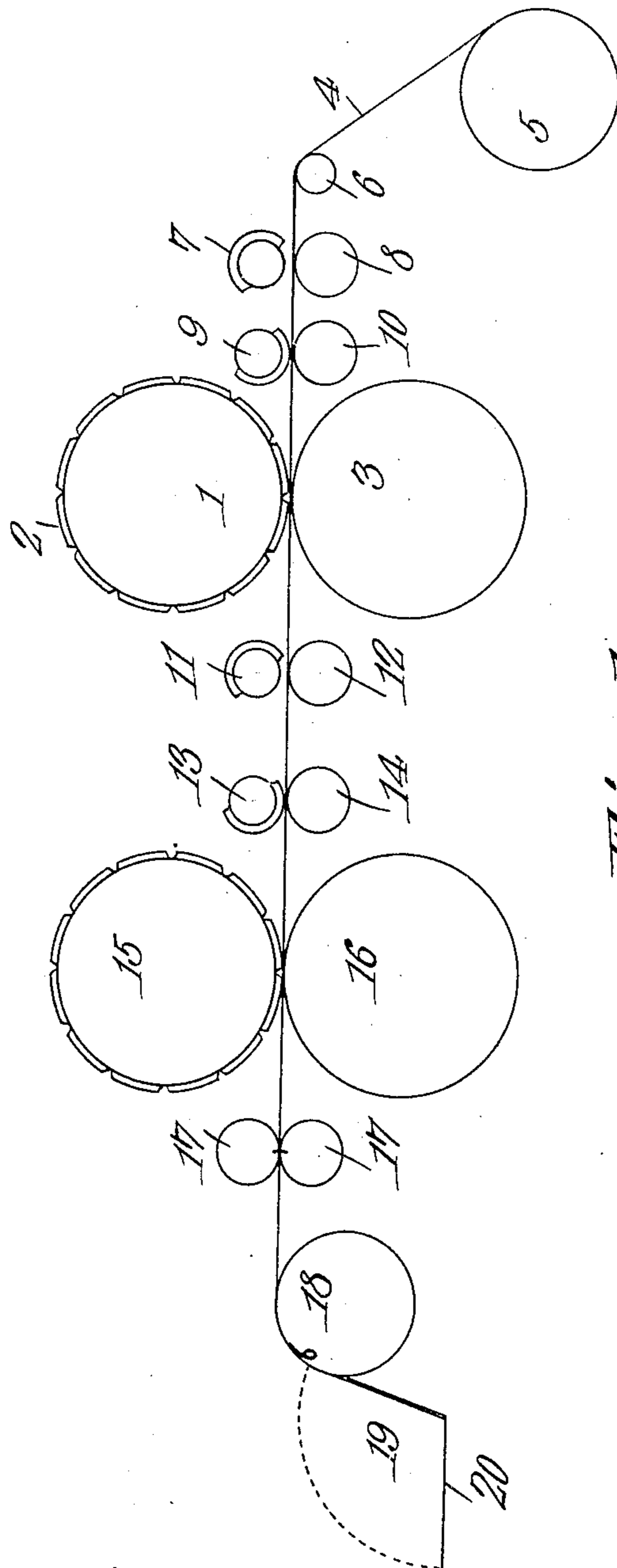


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

| | | | | | | |
|-----------------------|------|------|------|------|------|------|
| 7 TH MONTH | | | | | | |
| 1907 | | | | | | 1907 |
| Sun. | Mon. | Tue. | Wed. | Thu. | Fri. | Sat. |
| | 1 | 2 | 3 | | 5 | 6 |
| | 8 | 9 | 10 | 11 | 12 | 13 |

Fig. 3.

| | | | | | | |
|-----------------------|------|------|------|------|------|------|
| 7 TH MONTH | | | | | | |
| 1907 | July | | | | | 1907 |
| Sun. | Mon. | Tue. | Wed. | Thu. | Fri. | Sat. |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |

Fig. 4.

| | | | | | | |
|-----------------------|------|------|------|------|------|------|
| 7 TH MONTH | | | | | | |
| 1907 | July | | | | | 1907 |
| Sun. | Mon. | Tue. | Wed. | Thu. | Fri. | Sat. |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |

Fig. 5.

| | | | | | | |
|-----------------------|------|------|------|------|------|------|
| 7 TH MONTH | | | | | | |
| 1907 | July | | | | | 1907 |
| Sun. | Mon. | Tue. | Wed. | Thu. | Fri. | Sat. |
| J | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |

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UNITED STATES PATENT OFFICE.

EDWARD L. STONE, OF ROANOKE, VIRGINIA.

PRINTING-PRESS.

No. 871,831.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed April 23, 1907, Serial No. 369,814.

To all whom it may concern:

Be it known that I, EDWARD L. STONE, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Printing-Press, of which the following is a specification.

This invention has reference to improvements in printing presses, and its object is to provide a press wherein means are provided for printing upon a web of paper a continuous series of imprints in regularly repeated order, and, without disturbing such matter, to imprint other matter thereon which matter may be of changeable character.

The invention is designed particularly for the printing of calendars and calendar pads wherein many imprints of the calendar proper are made while advertising or other matter to be placed thereon will be varied from time to time as the exigencies of the case may demand.

For this purpose the invention consists in providing a printing press with one or more printing rolls carrying as a permanent imprinting surface, to be changed only at long intervals, say, once a year, a series of twelve plates corresponding to the twelve calendar months, and other rolls carrying such matter as headings or other matter which may be readily changed at small expense, so that the only matter in the press that need be disturbed in order to print calendars for a large number of different customers with different headings will be the matter which corresponds to the said headings.

All this will be apparent from the following detailed description taken in connection with the accompanying drawings, in which,—

Figure 1 is a diagrammatic representation of a web printing press with all extraneous parts, except those directly connected with the present invention, omitted; Fig. 2 is a view of a calendar sheet showing one step of printing with the press; Fig. 3 is a similar view showing another step when a two-color press is employed; Fig. 4 is a similar view showing still another step; and Fig. 5 is a view showing the final step in the process of printing.

Referring to the drawings, there is shown a large cylinder 1 upon which are mounted twelve plates to correspond so far as the calendar indications are concerned with the monthly sheets of a yearly calendar. Between this cylinder 1 and the impression cyl-

inder 3 there passes a continuous paper web 4 coming from a roll 5 over a roller 6 past a heading plate cylinder 7 and its corresponding impression cylinder 8 and another heading plate cylinder 9 and its corresponding impression cylinder 10. From between the cylinders 1 and 3 the web then passes between another heading plate cylinder 11 and its impression cylinder 12 to still another heading plate cylinder 13 and its impression cylinder 14 to a second large twelve-monthly calendar plate cylinder 15 and its impression cylinder 16 and finally through rotary sheet-cutting cylinders 17 and over the collating cylinder 18 to the fly 19 by which the cut sheets are delivered to the table 20, from which latter they may be collected and secured together in the usual manner.

From the printing press just described all extraneous parts, such as inking rolls and driving mechanism, have been omitted for the sake of clearness, and it is designed more particularly for a two-color calendar although multicolor impressions in themselves form no part of the present invention.

The cylinder 1 with the heading cylinders 7 and 9 are designed for printing from black ink, while the cylinder 15 with the heading cylinders 11 and 13 are designed to print with red ink. However, any other colored inks may be used and in practice all colors desired may be employed, it simply being necessary to provide a sufficient number of rolls for this purpose.

When it is desired to prepare calendars for sale to merchants or others to distribute for advertising purposes, it is common to set up the calendar and the heading and print the same simultaneously, it being necessary to then take the plates off from the press, remove the old heading and substitute a new heading when it is desired to print more calendars for another customer. Now, by setting up at the beginning of a season twelve monthly forms, stereotyping them and placing them in regular order upon a large cylinder, and leaving blank the spaces in the plates for changeable matters, the unchangeable portions of the calendar may be left upon the press cylinder as long as needed to print all the calendar sheets needed at any time and for as many different customers as may be desired.

In conjunction with the large printing cylinder carrying the entire series of twelve monthly calendar plates, there are provided

small printing cylinders, upon which any desired headings for the calendar sheets may be placed, which cylinders may be readily handled and which also may be coupled up to the driving mechanism of the press so as to make several rotations and as many impressions to one rotation of the calendar printing cylinder, which latter, in the one rotation, makes twelve different impressions.

The impression for the heading may be taken directly from type, or, if desired, stereotyped plates may be made in the usual manner.

It will be seen from the foregoing that by my invention I am enabled to make many impressions of varying matter arranged in orderly series, the series being successively repeated as often as desired; and that in connection with these imprint series, each series being composed of individually different imprints, I am enabled to include in the same imprint, in spaces reserved for the purpose, other imprints all of like character but readily changeable from time to time.

Now, it will be seen that in the printing of calendars my invention is particularly applicable for the twelve page imprints corresponding to the yearly calendar may be printed in very large numbers and varying headings to suit different customers may be imprinted at the same time by simply changing these headings without disturbing that portion of the press upon which are mounted the plates from which the calendar sheets are printed.

Referring to Fig. 1 of the drawings, the roll 1 is designed to print the twelve calendar sheets in black, while the heading rolls or cylinders 7 and 9 will print upon the web the desired headings before the web reaches the large roll carrying the calendar plates. The roll or cylinder 16 is designed to print those portions of the calendar which are usually printed in some other color than black, say, red; such, for instance, as the title of the month and the monthly numbers corresponding to Sundays or holidays. The heading rolls 11 and 13 are designed to print upon the web colored impressions in the headings such as the customer may desire; for instance, interspersed red letters, or trade mark designs, or any other imprint other than the imprints made by the heading rolls 7 and 9.

In Fig. 2 a calendar sheet produced by a press constructed in accordance with my invention is shown as it would appear if printed from the roll 1 only. In Fig. 3 is shown the same sheet as it would appear if passed under the rolls 1 and 15 in succession and it had received the black imprint showing, say, the border lines, yearly dates, week names and secular day numbers other than holidays, and with the monthly name, holidays,

Sundays and division lines printed in red. In Fig. 4 is shown the appearance of a calendar sheet which has passed under the rolls 1 and 15 and under a heading roll 7 or 9. In Fig. 5 a complete calendar sheet, showing the heading in black with an imprint in red thereunder and an arbitrary symbol in one of the blank date spaces, printed in red, is shown as indicative of advertising matter.

It will be understood that the printing may be carried on in the order in which it has been described with reference to Figs. 2, 3, 4 and 5, but in the particular arrangement of parts shown in Fig. 1 the black heading will be first impressed upon the web, then the twelve black calendar impressions, then the red heading, and, finally, the omitted red calendar impression may be placed upon the web in the order named and such advertising matter as will be carried by the cylinder 15.

The purpose of using a collating cylinder in connection with the large calendar printing cylinder is that I am enabled thereby to take care of the collating of the calendar sheets in monthly order so that no further collating has to be done.

It will be observed that I have shown two heading rolls for each calendar printing cylinder. It is, of course, evident that one heading roll might be used, making twelve rotations and a corresponding number of impressions to each rotation of the large calendar printing cylinder, but it is equally practicable to use two or more heading rolls so timed as to print the web in alternation in the spaces to be occupied by corresponding imprints of monthly calendar impressions. For instance, the roll 7 may imprint a heading for the calendar imprint of January; the roll 9 may imprint for the calendar impression for February; and the roll 7 may make the imprint for the calendar impression of March, and so on, and in the drawings I have indicated the arrangement whereby this may be done since the rolls 7 and 9 are arranged to print in alternation, the same being true of the rolls 11 and 13.

While, as before stated, a single heading roll may be used, it is within the scope of my invention to use two heading rolls if so desired since it will enable two pressmen to attend to the make-ready at one time, if this be desirable, thus making the stoppage of the expensive machine as short as possible.

When it is desired to insert advertising matter into the body of the calendar, such as indicated in Fig. 5 of the drawings by the arbitrarily chosen letter J, such matter will be inserted in the spaces left in the calendar imprinting plates carried by the cylinders 1 and 15, and this matter can be readily changed without disturbing the calendar plates already on said large cylinders. These blank spaces, of course, vary in each monthly calendar sheet, and, therefore, such adver-

tising matter must be inserted in the calendar plates themselves.

For printing calendar pads, such as are used by art calendar manufacturers, the small printing rolls will, of course, not then be used, since these calendar pads contain no headings.

It will also be understood that in Fig. 1 the parts are not shown in the proper proportion either as to size or distance, since this figure is largely diagrammatic and is intended to illustrate only the salient features of my invention.

Instead of using a printing roll or cylinder of such size as to take the entire series of individually different imprinting surfaces in regular order on its periphery, the cylinder may be made twice as long, and one-half the plates may be placed around the cylinder at one end thereof and the other half of the plates may be placed around the cylinder at the other end thereof. That is, instead of making the cylinder of such diameter as to take the twelve plates necessary to print a twelve sheet yearly calendar in regular order, the cylinder may be of less diameter and twice as long, to take the twelve plates in two sections, side by side.

I claim:—

1. A printing press provided with a large printing roll having a complete series of individually different imprinting surfaces, of nonchangeable matter or matter from which many imprints are to be taken, and another small printing roll or rolls having a single printing surface arranged to make like impressions in each of the individually different imprints from the large roll, the printing surface on the small roll or rolls being readily changeable.

2. In a printing press, a large printing roll having a series of individually different imprinting surfaces, of nonchangeable matter or matter from which many imprints are to be taken, and arranged to impress the same in regular series on an imprint-receiving web, and a small roll or rolls carrying a single readily changeable imprinting surface and timed to make like imprints in each of the individually different imprints of the large roll.

3. A calendar printing press comprising a large roll carrying upon its surface a yearly series of monthly calendar plates and including only such matter as is common to all calendars, and a small roll carrying upon its surface other matter to be imprinted in con-

junction with each impression of the large roll corresponding to a monthly calendar sheet, the matter upon the large roll being of a comparatively permanent character and the matter upon the small roll being readily accessible for frequent changes.

4. A calendar printing press comprising a large roll having thereon as many printing plates as there are sheets to be printed for a yearly calendar and a small roll carrying other matter to be printed upon said calendar sheets and timed to make an imprint for each of the individual plates on the large roll, the printing plates on the large roll being of a comparatively permanent character and not readily changeable and the matter on the small roll being readily accessible and changeable.

5. A calendar printing press comprising a large roll having a series of individually different calendar plates corresponding in number to the number of sheets for a yearly calendar and containing only those portions to be printed in a certain color, a small roll or rolls containing imprinting surfaces of matter extraneous to the calendar imprint and designed to print in one color only, another large roll containing a series of plates corresponding in number to the first-mentioned series and designed to print the missing parts of the first-mentioned series in another color, and another small roll or rolls containing extraneous matter to be printed in conjunction with the first-mentioned extraneous matter but in another color.

6. A calendar printing press provided with a printing roll having a complete series of individually different imprinting surfaces corresponding to the yearly series of monthly calendar sheets and arranged to impress the same in regular series upon an imprint-receiving web, a small roll or rolls carrying other matter to be printed upon said calendar sheets and timed to make as many imprints as there are individual plates on the large roll a collating cylinder for collating the entire series of monthly calendar sheets, and a fly to which said collated sheets are delivered.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD L. STONE.

Witnesses:

AL. A. STONE,
L. B. MCCLINTOCK.