

June 1, 1926.

O. W. PENDERGAST

1,586,915

PROCESS OF MANUFACTURING GROUPS OF SHEETS CONSECUTIVELY NUMBERED.

Filed Feb. 18, 1926

2 Sheets-Sheet 1

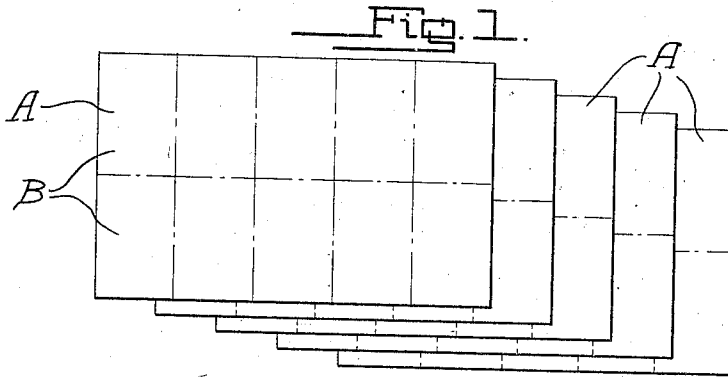


Fig. 2.

000	100	200	300	400
500	600	700	800	900

A bracket labeled 'B' is positioned to the right of the table, spanning both rows.

Fig. 3.

001	101	201	301	401
501	601	701	801	901

A bracket labeled 'B' is positioned below the table, spanning both rows.

Fig. 4.

098	198	298	398	498
598	698	798	898	998

A bracket labeled 'B' is positioned to the right of the table, spanning both rows.

Fig. 5.

099	199	299	399	499
599	699	799	899	999

A bracket labeled 'B' is positioned below the table, spanning both rows.

Fig. 10.

000	001	002	003	004
005	006	007	008	009

A bracket labeled 'X' is positioned above the first table, and a bracket labeled 'Y' is positioned above the second table.

010	011	012	013	014
015	016	017	018	019

Inventor
Overton W. Pendergast

By *Laurel and Allwin*
Attorneys

June 1, 1926.

O. W. PENDERGAST

1,586,915

PROCESS OF MANUFACTURING GROUPS OF SHEETS CONSECUTIVELY NUMBERED

Filed Feb. 18, 1926

2 Sheets-Sheet 2

Fig. 6.

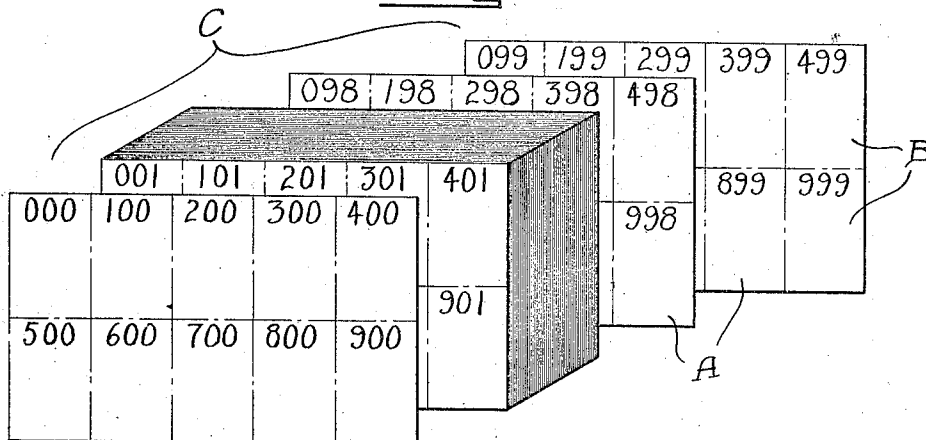


Fig. 7.

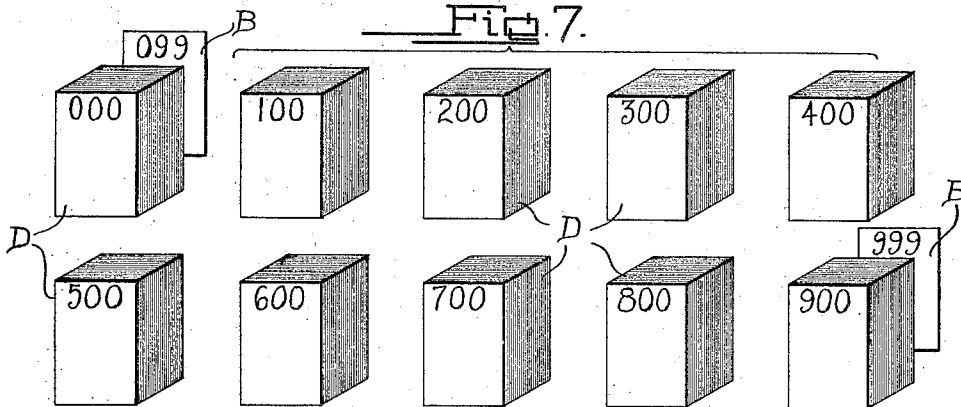
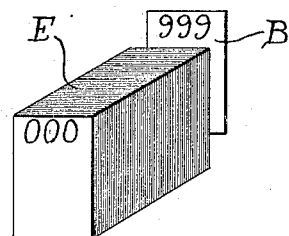


Fig. 8.

000	050	100	150	200
250	300	350	400	450
500	550	600	650	700
750	800	850	900	950

049	099	149	199	249
299	349	399	449	499
549	599	649	699	749
799	849	899	949	999

Fig. 9.



001	051	101	151	201
251	301	351	401	451
501	551	601	651	701
751	801	851	901	951

Inventor
Overton W. Pendergast

By *Lawson and Alliman*
Attorneys

UNITED STATES PATENT OFFICE.

OVERTON W. PENDERGAST, OF TERRE HAUTE, INDIANA.

PROCESS OF MANUFACTURING GROUPS OF SHEETS CONSECUTIVELY NUMBERED.

Application filed February 18, 1926. Serial No. 89,222.

The present invention relates to the art of printing, and more particularly to a novel method of manufacturing groups of sheets consecutively numbered for use such as shipping tags, stock tags, job tags, tabs, slips for printed forms of any kind.

The automatic numbering machines now on the market for printing numbers consecutively, cannot print in relatively large type owing to the mechanical construction thereof, and the cost of printing numbers consecutively on the ordinary type of printing press has been prohibitive owing to the amount of time required for the gathering operation. It is often desired to economically produce printed forms consecutively numbered with numerals larger than those that can be produced with ordinary press numbering machines on ordinary printing presses.

It is therefore a primary object of this invention to provide a novel and useful process of manufacturing groups of sheets containing consecutive numbers printed from type alone in a quicker and more economical manner than is possible by the methods now in common use.

A further object of the invention is the provision of a novel means of printing consecutive numbers on tags or forms whereby handling or gathering of the forms after being printed may be accomplished in a more expeditious manner than by methods heretofore used.

A still further object of the invention is to provide a novel method of producing groups of sheets consecutively numbered with relatively large numerals on an ordinary type of press in an expeditious and economical manner so that the sheets may be placed upon the market at a reasonable cost.

Other objects and advantages of the invention will be apparent during the course of the following detail description, taken in connection with the accompanying drawings, forming a part of this specification and in which drawings:

Figure 1 is a plan view of a number of the basic stock cards or sheets cut to a desired size for forming a given number of forms.

Figure 2 is a plan view of a basic card or sheet having the numerals printed thereon,

and forming the first card or sheet of a series of forms beginning with 000 and ending with 999.

Figure 3 is a plan view of the second printed sheet of the series.

Figure 4 is a plan view of the next to the last printed sheet of the series.

Figure 5 is a plan view of the last printed sheet of the series.

Figure 6 is a detail view illustrating the arrangement of the printed stock sheets after the first gathering operation in the process.

Figure 7 is a detail view illustrating the manner in which the basic sheets are divided following the gathering operation illustrated in Figure 6.

Figure 8 is a detail view illustrating a completed set of forms numerically arranged and consecutively numbered from 000 to 999.

Figure 9 is a view illustrating the arrangement of the numerals on basic stock sheets when it is desirable to print more than ten forms upon each sheet.

Figure 10 is a view illustrating the first and second stock sheets as printed by the process now in common use.

Referring to the drawings in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A may designate the basic stock cards or sheets cut to a desired size for producing a given number of symmetrical rectangular shaped forms B. In the drawings, the dot and dash lines have merely been shown for clearness in describing the various steps in the process, and indicates where the sheets are severed for providing the finished forms.

Referring particularly to Figures 1 to 6 inclusive, and in which the basic stock sheets have each been divided into ten equal forms, such sheets being of the largest size from which the largest numbers or forms can be cut as produced upon the printing press available. These stock sheets are then divided into one hundred lots of one hundred sheets each. Each of the sheets in one lot is then printed as in Figure 2, the first form being printed with 000, the second with 100, and the following forms progressively increased by 100, the last or tenth form bearing the numeral 900. As before stated, each sheet in the first set of one hundred sheets

is printed by this form. The second set of one hundred stock sheets may then each be printed as in Figure 3 with each correspondingly related form of the second set of a value of one greater than the corresponding form of the first set.

The remaining eight sets of sheets are then printed each progressively increasing by one so that the last two sets are printed with the numerals as illustrated in Figures 4 and 5, the sheets illustrated in Figure 5 representing the last set of sheets.

It may here be well to state that the method pursued throughout Figures 1 to 8 inclusive, is to produce one hundred groups of consecutively numbered forms, each group containing one thousand forms numbered from 000 to 999.

After one hundred sets of sheets each containing one hundred sheets, have been printed as above described, the first gathering operation is performed by gathering without cutting, one sheet from the top of each of the one hundred sets thus printed until a lot of sheets C as illustrated in Figure 6 has been attained, and as will be seen upon observing Figure 6, each form increases by one from the top set of forms to the lowermost set. This operation is repeated one hundred times, thus providing one hundred lots as illustrated in Figure 6.

The next process is to cut each of the lots as illustrated in Figure 6, along their dividing lines into ten distinct lots D of equal size with one set of forms to each lot such as is clearly illustrated in Figure 7.

The next step is to gather the ten small lots cut from each lot of the stock sheets into one lot E consecutively numbered as in Figure 8, the uppermost form bearing the digits 000 and the bottom form bearing the digits 999. Repeat this operation one hundred times until you have one hundred groups of forms each group containing forms consecutively numbered from 000 to 999, thus completing the process.

It will be seen that the method pursued by so arranging the numerals upon the sheets, that only eleven thousand gathering operations are necessary for producing one hundred groups of forms each containing one hundred forms consecutively numbered from 000 to 999. Summing up the gathering operation, it requires ten thousand gathering operations to produce one hundred lots as illustrated in Figure 6, and one thousand gathering operations after the severing operation in Figure 7 to produce one hundred sets of forms of one thousand sheets consecutively numbered as in Figure 8, thus requiring eleven thousand gathering operations in all.

Referring to the common practice of producing such sets of consecutively numbered forms, and which process is illustrated in

part in Figure 10, the groups of stock sheets are printed, the first group like the sheet marked "X", and the second group like the sheet marked "Y". The following eight groups of sheets are so consecutively printed, the corresponding form of each succeeding sheet increasing by ten.

The one hundred sheets in the last lot will contain ten forms consecutively numbered from 990 to 999. Cut each group of one hundred sheets into lots of ten finished forms and then lay out in numerical order each lot of ten finished lots making a total of one thousand lots of one hundred finished forms each, each finished lot containing one hundred finished forms each bearing the same numeral. Then, starting with the lot containing number 000, consecutively gather one sheet from each lot until a group of one thousand consecutively numbered forms have been gathered similar to the finished group of forms as illustrated in Figure 8. Repeat this operation one hundred times until you have one hundred lots of consecutively numbered form starting with 000 and ending with 999 which completes the process.

As will be seen, it requires one hundred thousand gathering operations to complete the process by the common method.

By the process as defined in the method as pursued in Figures 1 to 8 inclusive, it will be seen that the number of gathering operations required for producing consecutively numbered forms is greatly reduced, thus materially reducing the cost of production.

Referring to the practice as illustrated in Figure 9, and wherein L indicates one of the sheets of the first group, M one of the sheets of the second group, and N one of the sheets of the last group, it will be seen that each of the stock sheets contain twenty forms. By so arranging twenty of the forms upon each stock sheet, providing the printing press is of a size to accommodate such size sheets, it will be seen that the gathering operation for providing one hundred groups of forms each consecutively numbered from 000 to 999, would be still further reduced. With a method as illustrated in Figure 9, one hundred groups of stock sheets of fifty sheets each would be required for providing one hundred groups of finished forms consecutively numbered from 000 to 999. With reference to the number of gathering operations required for the method illustrated in Figure 9, only seven thousand gathering operations would be required.

It will be observed from Figure 6, and wherein the group contains one hundred sheets, that the forms progressively increase by one hundred, while in the method pursued in Figure 9 wherein each group contains but fifty sheets, the forms progressively increase by fifty. Thus it will be seen that the forms

of each sheet progressively increase by a number equal to the number of sheets contained in the group.

It will also be seen that groups of sheets consecutively numbered from 000 to 100 or to ten thousand or to one hundred thousand, etc., can be produced by this process with similar advantages in the gathering operations over the common practice now in use. From the foregoing description it will be apparent that a new and useful process of manufacturing groups of sheets containing consecutive numbers printed from type alone in a quicker and more economical manner has been provided, than is possible by the methods now in use.

Changes in detail may be made without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. Those steps in the method of producing a group of consecutively numbered forms printed from type alone, which consists of first providing a group of sheets each containing a like number of forms, printing numerals upon each form of each sheet, with the numerals upon each form of each sheet progressively increasing by the number of sheets in the group and with the correspondingly disposed form of each succeeding sheet increasing by 1, disposing the sheets in progressive superposed relation in a single lot with the sheet containing the highest numbered forms lowermost, severing the lot into consecutively and progressively numbered sets of forms, and then gathering the sets of forms into a single group of consecutively numbered forms.

2. Those steps in the method of producing groups of consecutively numbered forms printed from type alone, consisting of taking a number of groups of sheets each group containing a like number of sheets, and each sheet divisible into like numbers of forms, printing numerals upon each of the forms of each sheet of one group of sheets, progressively increasing by a number equal to the number of sheets in the group, suc-

cursively printing the remaining groups of sheets by increasing the value of the forms in each group by 1 with respect to their correspondingly disposed forms of the preceding group, successively gathering one sheet from the top of each group of printed sheets into separate lots of progressively numbered sheets, severing each lot symmetrically into a number of sets of forms, and gathering each set of forms into groups of like consecutively numbered forms.

3. Those steps in the method of producing groups of progressively numbered forms printed from type alone, consisting of providing a number of groups of sheets each group containing a like number of sheets and each sheet divisible into like numbers of forms, printing numerals of increasing value upon each form of one group, successively printing the remaining groups of sheets by increasing the value of the forms in each group with respect to the correspondingly disposed forms of the preceding group, successively gathering one sheet from the top of each group of printed sheets into separate lots of progressively numbered sheets, severing each lot symmetrically into a number of sets of forms, and gathering each set of forms into groups of like progressively numbered forms.

4. Those steps in the method of producing groups of consecutively numbered forms printed from type alone, consisting of providing a number of groups of sheets each sheet of each group divisible into a number of forms when multiplied by the number of sheets in the group will form the desired number of consecutively numbered forms to be produced, printing numerals upon each of the forms of each group of sheets so that when first successively gathering one sheet from the top of each group of sheets into a number of separate lots of sheets, severing each lot symmetrically into a number of sets of forms, and then gathering each set of forms into groups, groups of like consecutively numbered forms will be provided.

OVERTON W. PENDERGAST.