

C. P. HOUSUM.
 Manufacture of Paper Boxes.
 No. 235,682. Patented Dec. 21, 1880.

Fig. 1.

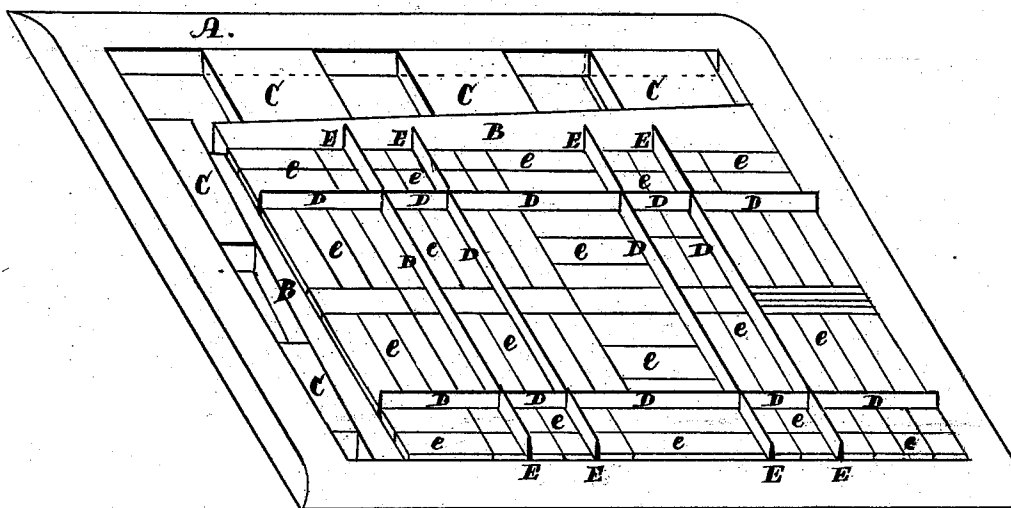


Fig. 2.

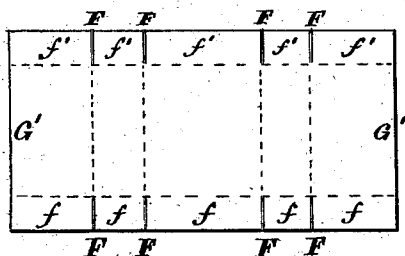


Fig. 3.

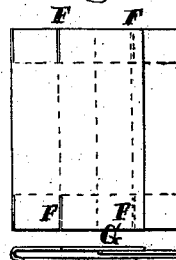
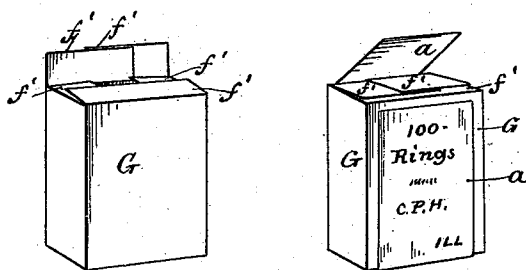


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES P. HOUSUM, OF DECATUR, ILLINOIS.

MANUFACTURE OF PAPER BOXES.

SPECIFICATION forming part of Letters Patent No. 235,682, dated December 21, 1880.

Application filed January 29, 1878.

To all whom it may concern:

Be it known that I, CHARLES P. HOUSUM, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Paper-Box Blanks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a form for cutting and scoring the blanks. Fig. 2 is a plan of the blank cut and scored. Fig. 3 represents, in top view and end view, the blank folded and pasted. Fig. 4, in one of its parts, represents the box nearly closed, and in the other part represents the box closed and ready to be secured by its surrounding label.

My invention relates to blanks for making paper boxes. Simple mechanical means for cutting and scoring said blanks at one operation are also described hereinafter.

Previous to my invention paper-box blanks of various forms have been cut and made into paper boxes. The boxes made therefrom were generally provided with independent covers; or, if provided with covers in one piece with the box, the blanks to produce them were cut away in various places, and, a portion of the material being removed, required generally expensive machines in their manufacture.

The object of my invention is to produce a rectangular paper-box blank that can be cut and scored automatically at one operation, without waste of material, with such simple means as straight knives set into a printer's chase, and retained in place therein with printer's furniture, the form of the blank being such that the chase will not become clogged by a series of blanks cut in succession thereupon, and the blank can be folded after being pasted.

The invention will first be described in connection with the means used to produce it, and then pointed out in the claim.

In the drawings, A represents a chase to be used with a printing-press, in which the form is locked up by means of the side-sticks B B and quoins C C. D D are the scoring-knives, and E E the cutting-knives, which are made higher and kept sharper than the scoring-

The form is made up of any number of pieces

of metal furniture *ee*, common in all printing-offices, with the scoring-knives and the cutting-knives, to obtain the desired size of blank and to hold the knives vertically and rigidly in any position in which they have been set. After the form is made up it is placed on the bed and under the platen of a press, as in printing from a form of type. The tympan-sheet should be of sufficient thickness to keep the cutting-knives from touching the platen. As by their peculiar form there is no waste produced in cutting the blanks, a large number can be cut and scored at the same moment from a large sheet upon a large form prepared for that purpose; or the paper blanks may first be cut of the right size and fed into the press one after the other, as is usual in printing paper.

It is evident that an analogous operation could be accomplished with cylindrical revolving presses by recessing the scoring-knives at intervals apart for the reception of the tapes, grippers, &c., used with that class of presses.

In Fig. 2 is shown one of the blanks cut and scored by the form. The cuts are shown at F F and the scoring by the dotted lines, and, as can be seen, there is no waste of material or cuttings produced.

Fig. 3 shows the blank folded flat, with the two ends G' overlapping and pasted at G. In this condition a number of them can be packed for transportation or storage without taking any more space than the same weight of blank-paper.

Fig. 4 shows the box completed. To produce it the folded and pasted blank shown in Fig. 3 is opened until it forms a rectangular box or pipe with open ends. One end, *f*, of this pipe is then bent and folded in at the scored line, so that the parts or flaps *f* on one side will overlap the opposite parts *f* to form one end of the box. The box is then filled and the other end, *f'*, is folded over the contents. A pasted strip of paper or label a little narrower than the box, as shown by the dotted lines *a*, is then applied and secured to two of the sides and over the ends of the box, thus completing and closing it securely. The box is thus made from paper without any waste cuttings.

I am aware that serrated and sharp-pointed

rule has been used with paper-folding and other machines; that plain rules have been used in connection with forms and printer's furniture, and that scoring-rules and cutting-rules have been used, in connection with retaining-blocks made specially for the purpose intended, to cut paper or garments; that special cutting and creasing tools have also been used, as in envelope-machines.

10 I am also aware that the blanks of paper boxes have been cut or punched with cutters attached to the cylinder of rotary presses; but these blanks are different in form from mine, and produce, as a result, different boxes.

15 Having thus described my invention, I claim—

A rectangular paper-box blank consisting

of a single thickness of paper divided lengthwise into three rectangular parts by two straight-scored lines, the central or larger part 20 being divided into five rectangular parts by means of four scored lines at a right angle with the first to form four sides of a box, and the rectangular top and bottom of said blank divided into ten rectangular parts by cuts at 25 F F to form rectangular flaps *f f'* to close the box, whereby waste of material or removal of waste cuttings is avoided, substantially as and for the purpose set forth.

CHARLES P. HOUSUM.

Witnesses:

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CHAS. E. RICKETTS.