M. F. WILSON.

DIE FOR CUTTING BLANKS FOR NECKED PAPER BOXES.

No. 266,572. Patented Oct. 24, 1882.

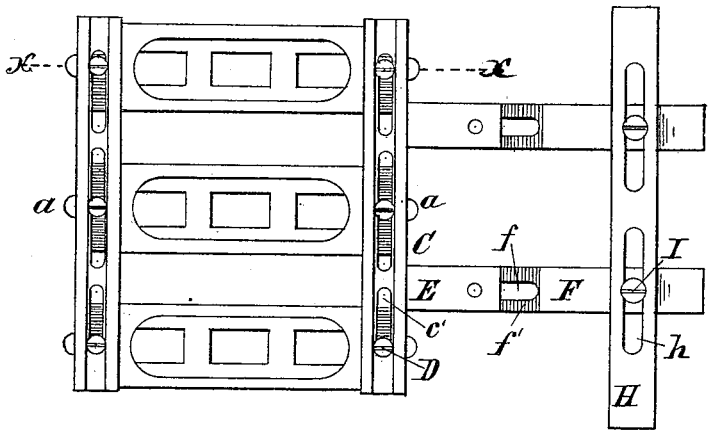


Fig 1

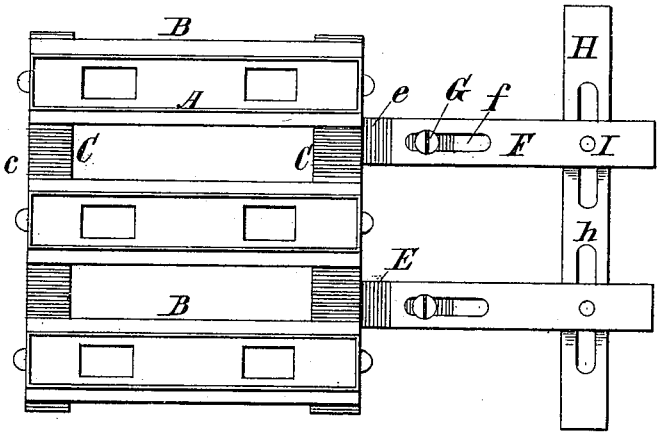


Fig 2

Fig 4

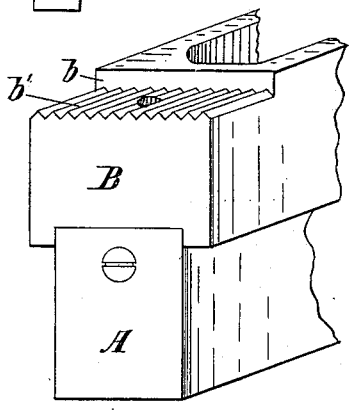
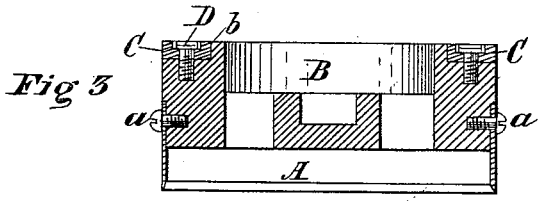


Fig 3



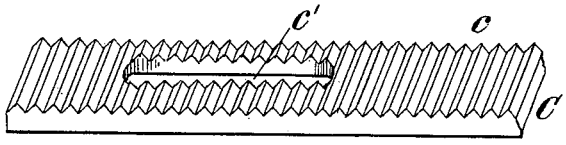


Fig 5

Witnesses

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UNITED STATES PATENT OFFICE.

MERRICK F. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO CHARLES R. STEELE AND V. CLARENCE PRICE, OF SAME PLACE.

DIE FOR CUTTING BLANKS FOR NECKED PAPER BOXES.

SPECIFICATION forming part of Letters Patent No. 266,572, dated October 24, 1882.

Application filed January 26, 1880.

To all whom it may concern:

Be it known that I, MERRICK F. WILSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dies for Cutting Blanks for Necked Paper Boxes, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of a set of dies embodying my invention; Fig. 2, a bottom plan of the same; Fig. 3, a vertical section taken on the line *x x*, Fig. 1; Fig. 4, a detail view, in perspective, of the end of one of the dies detached from the frame on an enlarged scale; Fig. 5, a similar view of one of the frame-bars to which the dies are attached.

The object of my present invention is to provide a series of cutting-dies mounted in a single frame, adapted to cut the blank shown and described in an application for a patent heretofore filed by me, December 15, 1879, intended for the manufacture of necked paper boxes in a series.

The invention consists in the peculiar construction of the dies and means for attaching them to a single frame, whereby they are rendered adjustable for the purpose of making blanks of different sizes adapted to form boxes of different sizes.

The construction and operation of the several devices necessary to the embodiment of my invention will be hereinafter fully described, and the new improvements particularly defined in the claims.

In the drawings, A represents the cutter of the die, being formed of a strip of steel plate bent in rectangular form, but of much greater length than width. This rectangular cutter is attached to a rectangular block or head, B, by means of screws *a*, or any other suitable device, the cutting-edges being arranged to project some distance below the block. At each end of the blocks is a rabbet, *b*, the face of which is notched or serrated, the notches *b'* being straight or cut to a rectangular scale—say, for instance, one-sixteenth of an inch apart, or any other distance which may be desired. The die-blocks are fastened together by attaching them at each end to a straight rectangular bar, C, which is carefully fitted to the rabbets on the ends of the blocks, and is provided with serrations *c* on its under side, corresponding exactly in arrangement and graduation with the serrations on the face of the rabbets. The bars are also provided with longitudinal slots *c'*, corresponding to the number of the blocks, and the latter are fastened to the bars by suitable fastening-screws, D, passing through the slots into the die-blocks. It will thus be seen that the cutting-dies may be adjusted at different distances from each other, and that the adjustment may be regulated with accurate measurement by means of the serrations, which serve not only for holding the die-blocks firmly in position, but also as a scale for determining their distance apart.

One of the bars C is provided with arms E, projecting outward at right angles thereto, the under sides of which are provided with serrations *e*, like those on the bars C. Rectangular bars F are attached at one end to these arms, being provided with slots *f*, through which fastening-screws G pass into the arms E. The inner ends of these bars are also provided with serrations *f'*, corresponding to the serrations on the arms E. It will thus be seen that the bars F are capable of longitudinal adjustment, setting them nearer to or farther from the dies. A rectangular bar, H, is arranged across the bars F, at right angles thereto, and is secured to them, near their outer ends, by means of fastening-screws I passing through slots *h*, whereby the said bar is rendered adjustable longitudinally. The die-blocks may have holes cut down through them, as shown in the drawings, to provide for clearing the cutters whenever occasion requires. The bars F are of such length that at their fullest outward adjustment the distance of their outer ends from the inner ends of the die-blocks is the same as or a little more than the length of the cutting-dies, and under this adjustment blanks for the largest-sized boxes are prepared. If the length of the boxes is to be diminished, the dies are set nearer to each other, and if the diameter is to be decreased the bars F are set inward until the distance of their outer ends from the die-blocks is equal to half the width of the required blank.

In using this device the sheets of board from which the blanks are to be cut are first

piled up in a right-angled form or gage. The dies, having been properly adjusted, are then set upon the top of the pile, and the gage-bar H set so that the end cutting-die will project half its width outside of the end edges of the boards. The gage-bars F are adjusted to correspond with the width of the blank, as described above. The cutters are then cut through the pile by any suitable mechanism, either a drop or other device. It is obvious that the result will be the production of a series of blanks with narrow recesses and notches cut half-way in on one side thereof, as shown and described in my application referred to above.

The details of construction may of course be varied somewhat, and I do not confine myself specifically to those herein shown and described. I find, however, that die-blocks are necessary in order to give the desired firmness to the cutters and at the same time provide for their adjustment.

A properly-graduated scale may be cut on one edge of one of the bars C, for convenience in adjusting the dies, if desired, and the gage-bars F and H may be provided with similar scales.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The cutters A, of rectangular form, and attached to suitable supporting die-blocks, in combination with supporting-bars C, to which the blocks are adjustably attached to permit the spaces between them to be regulated, the bars F, adjustably attached to the die-support, at one side thereof, and movable lengthwise to project more or less from the side of said support, and the gage-bar H, attached to the bars F, substantially as and for the purposes set forth.

2. The rectangular cutters A, in combination with the blocks B, provided with the serrations b', the supporting-bars C, provided with the serrations c and slots c', the clamping-screws D, the serrated arms E, attached to one of the bars C and projecting laterally therefrom, the serrated bars F, provided with slots f, the clamping-screws G, and the bar H, attached to the bars F by slots and screws, all constructed and arranged substantially as and for the purposes set forth.

MERRICK F. WILSON.

Witnesses:
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