J. M. DRIVER.

SECTIONAL SUPPORTING MEANS FOR IMPRESSION RULES.

APPLICATION FILED JUNE 30, 1915.

1,189,073.

Patented June 27, 1916.

2 SHEETS—SHEET 1.

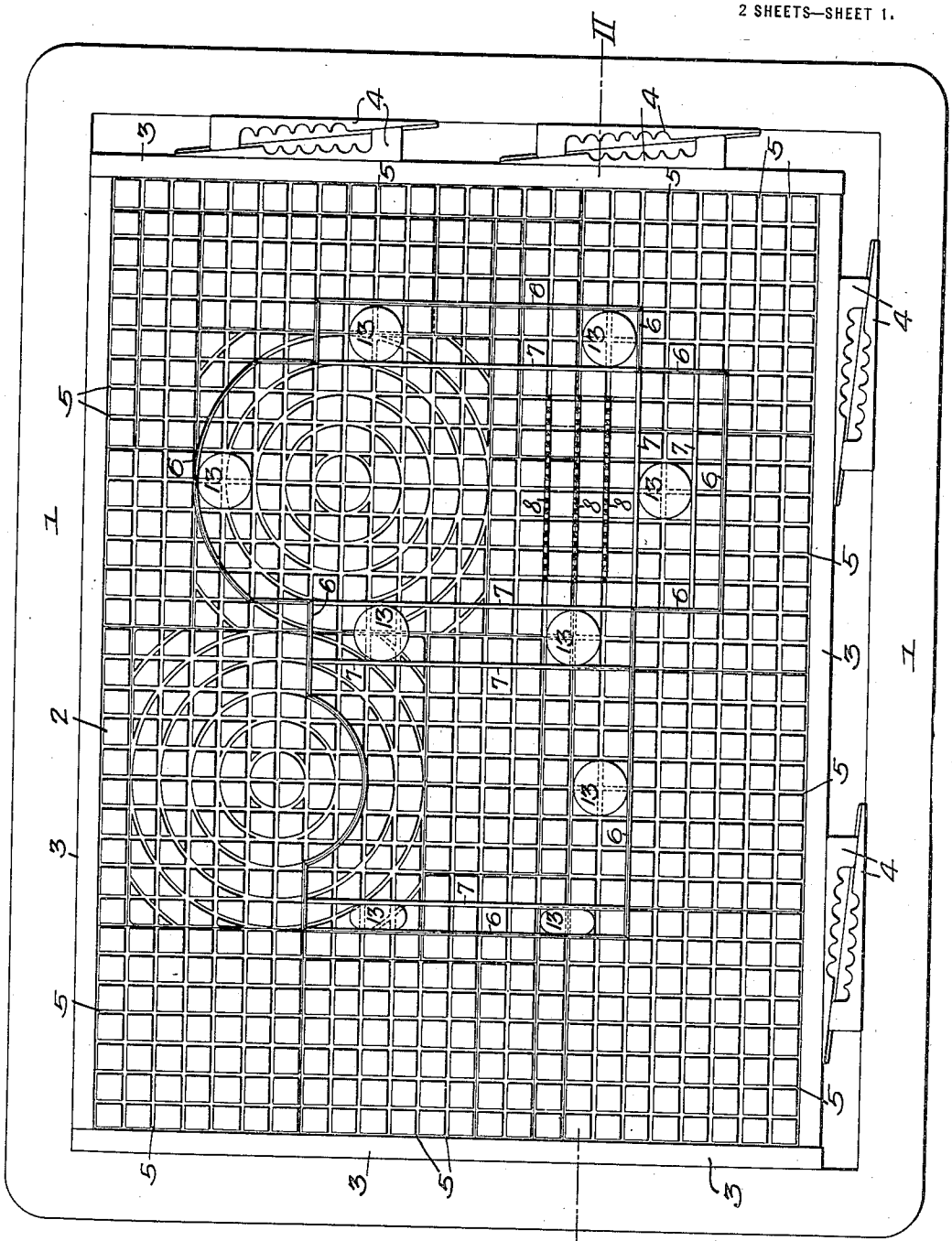


Fig. 1.

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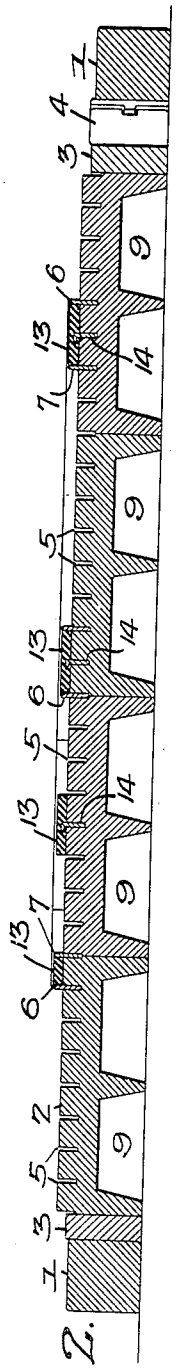


Fig. 2.

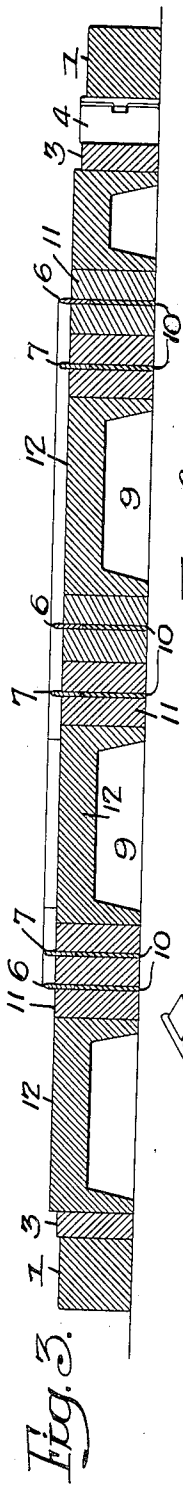


Fig. 3.

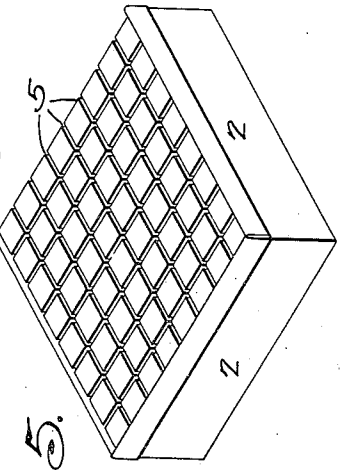


Fig. 5.

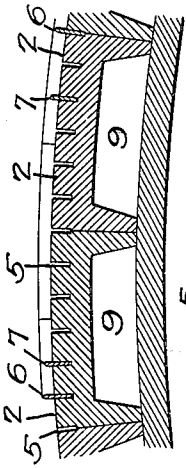


Fig. 4.

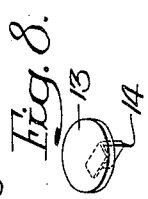


Fig. 8.

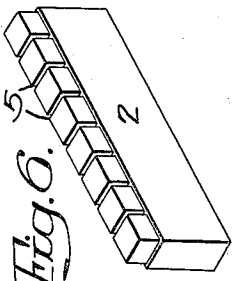


Fig. 6.

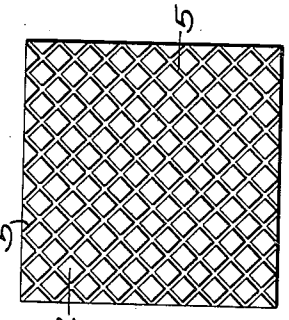


Fig. 7.

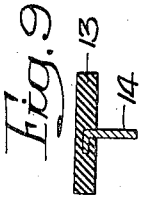


Fig. 9.

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UNITED STATES PATENT OFFICE.

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SECTIONAL SUPPORTING MEANS FOR IMPRESSION-RULES.

1,189,073. Specification of Letters Patent. Patented June 27, 1916.

Application filed June 30, 1915. Serial No. 37,395.

To all whom it may concern:

Be it known that I, JOHN M. DRIVER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Sectional Supporting Means for Impression-Rules, of which the following is a specification.

My invention relates to the cutting and scoring of paper, pasteboard and the like in the manufacture of carton blanks, cards, folders and paper novelties of various descriptions; and the object of my invention is to provide a simple form of supporting or carrying means for the cutting and scoring rules, which means shall be sectional in character, affording a wide range of adjustment, and permitting quick and easy changes in design or contour of the carton or other object to be cut and scored by the cutting and scoring rules.

A further object of my invention is to provide a similar arrangement for supporting printing rules whereby I am enabled to assemble type forms having line matter in a much simpler manner and in a much shorter time than heretofore; and a still further object is to provide means that will afford a cushion between the supporting base and the article operated upon and insure the stripping of the article from the cutting and scoring rules.

These and other features of my invention are more fully described hereinafter, reference being had to the accompanying drawings, in which:

Figure 1, is a plan view illustrating the sectional supporting means constructed in accordance with my invention with cutting and scoring rules mounted therein to cut and score a carton; Fig. 2, is a sectional view on the line II—II, Fig. 1; Fig. 3, is a similar sectional view illustrating a modified construction within the scope of my invention; Fig. 4, is a sectional view of a curved construction within the scope of my invention; Fig. 5, is a perspective view of one of the sectional supports for the scoring and cutting rules, showing a unit of relatively large size and scoring and cutting rules in place; Fig. 6, is a perspective view of one of the smaller sectional supports; Fig. 7, is a view of a sectional support having diagonally disposed grooves; Fig. 8, is a perspective view of a stripping device carried by the supporting means, and Fig. 9, is a sectional view of such stripping device.

My system of supporting scoring, cutting and printing rules comprises a plurality of members having units of division whose size is based upon the units of measurement employed in the printing art; the distance between the groove centers receiving the rules being "pica" length or "half pica" length; that is to say, one-sixth of an inch or one-twelfth of an inch, or they may be based upon the point system of measurement. For convenience, the unit blocks which I employ are made with one dimension usually not less than one pica; the other dimension varying, as may be desired. It will be understood, of course, that other units of measurement may be employed and other sizes of unit supporting blocks used without departing from my invention. The pica measurement or point system, however, is most familiar and convenient for use in the printing trade, to which my invention is peculiarly and particularly adapted.

In Fig. 1 of the drawings, 1 represents a chase comprising a frame of the usual character common to the printing trade, in which is locked the sectional rule supports 2; the usual practice being to employ strips of wood 3 between the walls of the chase or the locking means and the supports or other objects to be secured within the chase. The rule supports, like type, may be locked in the chase by means of the usual quoins 4.

The sectional rule supports shown at 2, comprise metal blocks having the upper face scored or grooved at 5 to receive the rules, which may be the cutting rules indicated at 6; scoring rules indicated at 7, or printing rules indicated at 8. The rule supports are usually hollowed out underneath, as indicated at 9, to reduce the weight of the same, and the grooves 5 on their upper face are of a width just sufficient to receive and frictionally hold the rules. These grooves may extend in lines at right angles to each other and parallel to the sides of the block or support; they may follow curved lines as indicated in Fig. 1, in order to provide the desired notched portion of the carton and the flap to fold into the body or shell of the latter when secured in final form or shape, or said grooves may extend diagonally with respect to the sides of the block as indicated in Fig. 7. No matter what form they may take, the grooves are of the same width and depth; they are a definite distance from center to center in all instances, following a

predetermined scale of measurement, and they are capable of exact registration with the grooves of all the other blocks.

For cutting purposes, the rules 6 are preferably of steel and provided with a sharp edge usually centrally disposed. The scoring rules 7 may also be of steel and have a rounded or blunted edge of any suitable shape or character, and the printing rules 8 are of any character that will take up and deliver ink in the usual manner common to type.

It will be understood, of course, that in some instances it may be possible to employ the cutting, scoring and printing rules with unit supports of various sizes and width, which are not grooved but merely spaced apart by leads or similar devices or members 10 of a definite width and height at the lower portion of the same, whereby grooves adjacent the face of a plurality of such supports are formed for the reception of the cutting, scoring or printing rules, as indicated in Fig. 3. In this arrangement, it will be necessary, of course, to employ a greater number of smaller unit blocks or supports 11 in order to build up the form, with which I may use blank blocks 12 occupying the larger spaces in the field of the carton or other object under operation. In connection with the use of grooved blocks as shown in Fig. 1, it will also be possible to employ perfectly plain supporting members in the field unoccupied by the rules.

In the use of a cutting device of this character, it is necessary to provide means for stripping the cut cards or cartons from the cutting rules, and for this purpose I propose to use resilient pads or cushions carried by the sectional supports adjacent to and substantially flush with the edge of the cutting rules. For this purpose I may employ pads 13 of rubber or similar material carried by supports 14 which are adapted to fit into the grooves of the sectional supports, as clearly indicated in the drawings. In lieu of a plurality of isolated pads or cushions, the whole area bounded by the cutting rules may be provided with such a pad or cushion.

It will be understood, of course, that I may employ type matter in connection with my improved form of supports for the cutting and scoring rules so that a card or carton may be printed simultaneously with the cutting and scoring of the same.

As may be readily understood, my improved system of supporting the scoring rules is a material advance upon the present practice of cutting the design from blocks of wood which must be assembled to receive the scoring and cutting rules and which, being of wood, can never be wholly accurate and, moreover, require the rules to extend to the full depth of the adjacent supports. In some instances special portions of a carton may require rules of an intricate contour, more easily prepared from wood, and such supports may be combined with the improved sectional supports forming the subject of my invention.

While I have referred in the foregoing specification to the use of cutting, scoring and printing rules which are mounted in the channels or grooves of the sectional supporting blocks and designed for cutting and scoring a sheet of paper, pasteboard or the like in the manufacture of cartons, cards, &c., and of printing lines, it will be understood that all of said rules may be termed impression rules, and this term I have employed in the claims. So far as the structure is concerned, it is of course, immaterial whether the rule mounted in the grooved or channeled supports be a cutting, a scoring, or a printing rule.

It will be understood, of course, that the impression rules, whether cutting, scoring or printing, may be set on the arc of a circle as well as on a flat base, and I have shown in Fig. 4 a curved chase having curved sectional supports adapted to receive, in addition to the straight rules, curved rules which may cut, score or print.

I claim:

1. The combination of a supporting block having channels in its face permanently spaced to represent a definite unit system, and a cutting and creasing rule having a continuous edge to fit said channels.

2. The combination of a supporting block having its face channeled in a plurality of directions with the channels spaced to represent definite unit systems, and spacing and creasing rules having a continuous edge adapted to fit the channels in said face.

3. The combination of a supporting block having its face channeled in a plurality of directions at an angle to each other, the channels thereof being equidistantly spaced to represent a definite unit system; and cutting and creasing rules having continuous edges to fit said channels said rules having their active faces in a substantially single plane.

4. The combination of a supporting block having a face provided with continuous channels, said channels being equidistantly spaced and lying at right-angles to each other and representing a definite unit system, and cutting and creasing rules having continuous edges to fit said channels.

5. In cutting and scoring means for the manufacture of cartons, the combination of a plurality of supporting blocks having their upper faces channeled with the channels permanently spaced to represent a definite unit system, and scoring and cutting rules having substantially continuous edges mounted in said channels.

6. In cutting and scoring means for the manufacture of cartons, the combination of a plurality of sectional supporting blocks having channeled upper faces, the distance between the channels of the blocks being based upon a definite unit system, and the edges of the blocks being recessed to provide channels with adjacent recessed blocks, and scoring and cutting rules having substantially continuous edges fitted within said channels.

7. The combination with an inclosing frame, of a plurality of blocks of substantially uniform height arranged to provide substantially continuous channels or grooves between the same along predetermined lines, said channels or grooves representing a definite unit system, and cutting and creasing rules having substantially continuous edges adapted to fit within said channels or grooves.

8. The combination with an inclosing frame of a plurality of blocks of substantially uniform height arranged to provide substantially continuous channels or grooves between the same along predetermined lines, said channels or grooves representing a definite unit system, and cutting and creasing rules having substantially continuous edges adapted to fit within said channels or grooves, the blocks and rules being substantially type height whereby the structure is available for use in a printing press.

9. The combination of a plurality of supports having substantially continuous channels spaced to represent a definite unit system, cutting and creasing rules having substantially continuous edges to enter said channels, and stripping means mounted adjacent said rules.

10. The combination of a plurality of supports having substantially continuous channels to represent a definite unit system, cutting and creasing rules having substantially continuous edges to enter said channels, and resilient stripping means mounted adjacent said rules.

11. The combination with an inclosing frame, of a plurality of blocks of substantially uniform height having channels or grooves along predetermined lines secured in said frame and permitting a definite unit system, and cutting rules having substantially continuous edges to enter and fit said channels and to be frictionally held therein.

JOHN M. DRIVER.