B. ROMAN.

DRAFTING IMPLEMENT.

APPLICATION FILED AUG. 1, 1907.

965,945.

Patented Aug. 2, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

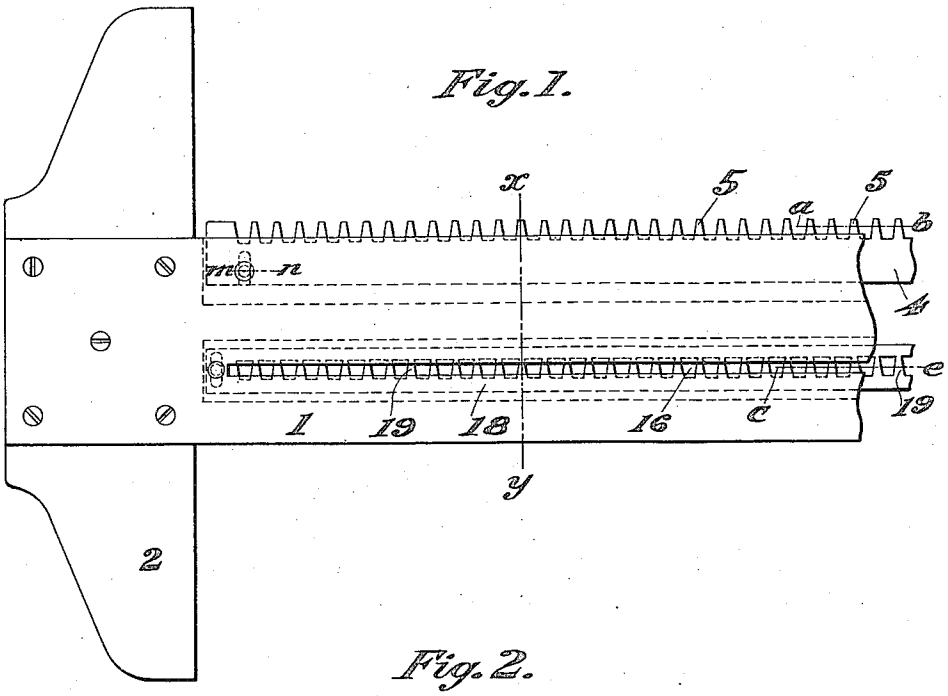

Fig. 2.

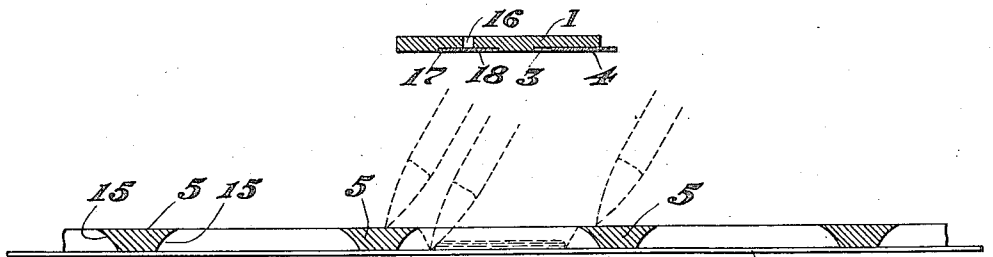

Fig. 6.

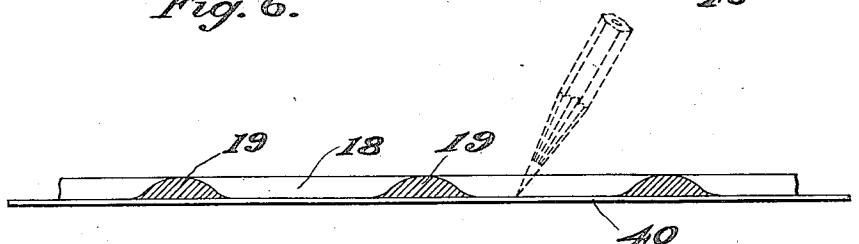

Fig. 5.

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2 SHEETS—SHEET 2.

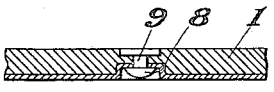

Fig. 3.

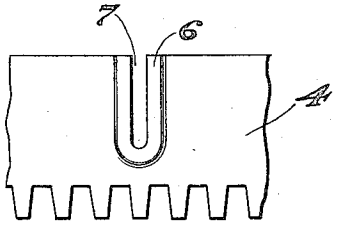

Fig. 4.

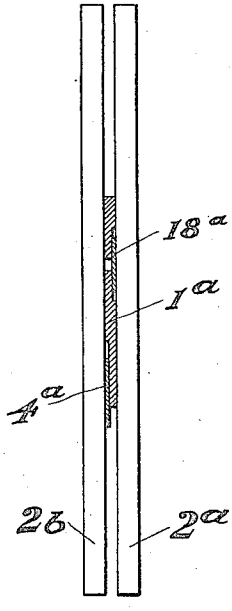

Fig. 7.

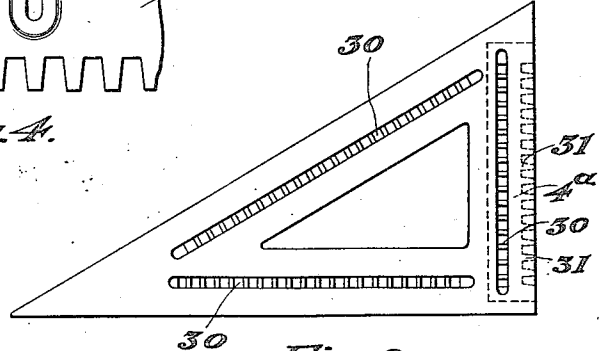

Fig. 8.

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UNITED STATES PATENT OFFICE.

BENJAMIN ROMAN, OF NEW YORK, N. Y.

DRAFTING-IMPLEMENT.

965,945. Specification of Letters Patent. Patented Aug. 2, 1910.

Application filed August 1, 1907. Serial No. 386,512.

To all whom it may concern:

Be it known that I, BENJAMIN ROMAN, residing in the city of New York, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Drafting Implements, of which the following is a full, clear, and exact specification.

This invention relates to drafting implements.

The object of the invention is to provide such implements with simple and efficient means for rapidly drawing dotted lines and the like.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the claims without departing from the spirit of the invention.

In the accompanying drawing, Figure 1 is a plan view, partly broken away, through a drafting implement provided with the improvements of the present invention. Fig. 2 is a section on the line *x—y* of Fig. 1. Fig. 3 is a section on the line *m—n* of Fig. 1. Fig. 4 is a detail view. Fig. 5 is a section on an enlarged scale on the line *c—c* of Fig. 1. Fig. 6 is a section on an enlarged scale on the line *a—b* of Fig. 1. Fig. 7 is a view, partly in elevation and partly in section, illustrating a modified construction. Fig. 8 is a plan view showing the improvements applied to a triangle.

Like reference numerals indicate corresponding parts in the different figures of the drawing.

The dotted line attachment of the present invention can be applied to almost any style of drafting implement. In Fig. 1, for example, the attachment is shown as applied to an ordinary form of T-square comprising a blade 1 having a ruling edge and a cross-piece or head 2. As shown in Fig. 2, the blade 1 is formed in one face thereof with a recess 3, in which is slidably mounted a plate 4. The plate 4 is formed along its front edge with teeth or separated arms 5, which preferably are tapered in form, as shown. The plate 4 is formed of any suitable material, such for example, as brass, and is slidably mounted in the recess in any suitable manner. For example, as shown in Figs. 3 and 4, one portion of the plate 4 is struck or bulged upward, as indicated at 6, and is provided with a longitudinal slot 7. The bulged portion 6 slides in a groove 8 formed in the blade 1 of the T-square. One or more bolts or rivets 9 are secured to the blade 1 and extend through the slot 7 of the plate 4, as shown clearly in Fig. 3, the enlarged head of each rivet 9 being located within the bulged portion 6 of the plate 4. When the plate 4 is drawn outward as shown in Fig. 1, so as to expose the separated arms 5 along the straight edge of the blade 1, a pen can be drawn along said separated arms so as to produce a dotted ink line in a rapid and efficient manner. By reason of the fact that the separated arms 5 are tapered or gradually decreased in width from their inner to their outer ends, dotted lines of different characters can be produced. For instance, if the plate 4 be adjusted outward a considerable distance, so that the pen will run along the broad, inner ends of the separated arms 5, the dotted line will consist of short dots separated by comparatively long spaces, and if the plate 4 be adjusted inward, so that merely the narrow, outer ends of the separated arms 5 are exposed, the dotted line which will be produced will have comparatively long dashes, separated by short spaces.

When ink is employed, the separated arms 5 should be peculiarly formed in order to prevent smears when the dotted line is drawn and when the drafting implement is moved away from the dotted line. For this reason the separated arms 5, as shown in the enlarged section (Fig. 6), are under-cut or beveled and concaved, as indicated at 15. The path of the pen, in moving over the separated arms 5, is indicated by the dotted lines in Fig. 6, in which 40 represents a sheet of paper being drawn upon. It will be seen that no portions of the separated arms 5 will be sufficiently near to the ink lines to cause smearing. The tapered form of said arms 5, as shown in Fig. 1, also serves, in conjunction with the under-cut faces 15, to prevent smearing of the ink line when the instrument is moved away from the line, as will be readily understood.

For the purpose of drawing dotted lines with a pencil, a longitudinal slot 16 is cut through the blade 1. This slot 16, as shown in Fig. 2, opens into a recess 17, in which is

slidably mounted a plate 18, provided with tapered separated arms 19; as shown in Figs. 1 and 5. The plate 18 is slidably connected with the blade 1 in the same manner as the plate 4. In view of the fact, however, that in using a pencil there is no danger of producing smears or blots, the upper surfaces of the separated arms 19, as shown in Fig. 5, are curved, or, in other words, said arms are approximately crescent or bow-shaped in cross-section, whereby the lead pencil will slide easily over said arms in the operation of producing a dotted line, a pencil being indicated by dotted lines in Fig. 5. The plate 18 can be adjusted with respect to the slot 16 so as to produce dotted lines of different character. In the modification illustrated in Fig. 7, two cross-pieces 2^a and 2^b are connected with opposite sides of the blade 1^a to produce an ordinary reversible T-square. Furthermore, the plate 18^a is mounted on one side of the blade 1^a, and the plate 4^a is mounted on the other side thereof. In this construction either side of the blade 1^a can be placed against the paper and either the front or rear edge of said blade can be used as an ordinary straight edge. The details are otherwise the same as illustrated in Fig. 1.

In the modified construction illustrated in Fig. 8, the triangular drafting implement preferably is formed of xylonite or other transparent material, and is provided with grooves 30 parallel with the different edges thereof. Extending across each of the grooves 30 is a plurality of separated arms 31 for producing dotted lines in the manner described. The drafting implement shown in Fig. 1 can be made of any suitable material. Some ink will adhere to the teeth in the course of time; by reason of the fact that the slot 7 in the bulged portion 6 is open-ended, however, the entire plate 4 can be removed and cleaned whenever it becomes dirty with ink. The plate 18 in Fig. 1 preferably is formed of xylonite or similar transparent material.

As shown in the modification shown by Fig. 8, the separated arms can be made integral with the drafting implement. If it be desired to produce curved, fancy or scroll shaped dotted lines, the implement will be given any desired shape without departing from the spirit of the invention.

In Fig. 8 a sliding plate 4^a is employed, which is adapted to be slid or adjusted from the slot 30 to the outer edge of the triangle, so that a single set of separated arms can be used for the slot 30 and the outer edge of the implement, as will be understood.

The improvements of the present invention are strong, simple, and inexpensive in construction, as well as thoroughly efficient in operation.

What is claimed is:

1. A drafting implement of the character set forth, having a ruling edge, and tapered arms mounted adjacent to and adjustable transversely of the ruling edge for use in drawing different kinds of dotted lines.

2. A drafting implement of the character set forth, having a ruling edge and provided with a recess therein adjacent to said ruling edge, and separated tapered arms mounted in said recess and adjustable transversely to said ruling edge for use in drawing different kinds of dotted lines.

3. A drafting implement of the character set forth, having a ruling edge and undercut tapered arms mounted adjacent to and adjustable transversely of said ruling edge for use in drawing different kinds of dotted lines.

4. A drafting implement having a slot and tapered arms extending across said slot and adjustable across said slot, for use in drawing different kinds of dotted lines.

5. A drafting implement having a recess, a plate mounted in said recess and having a bulged slotted portion extending upward into the drafting implement, means slidably connecting said bulged slotted portion with said drafting implement, and tapered, undercut arms connected with said plate, for use in drawing dotted lines substantially as described.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

BENJAMIN ROMAN.

Witnesses:
HERMAN J. SCHWARTZ,
OSCAR BIRNBAUER.