Jan. 4, 1944. A. W. MILLS ET AL 2,338,195

STENCIL MOISTENING MACHINE

Filed April 16, 1942 3 Sheets-Sheet 1

FIG.1.

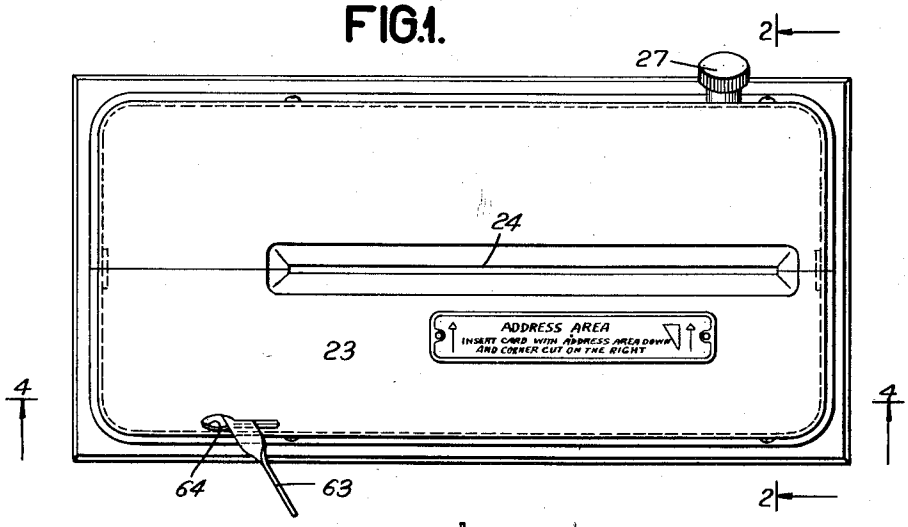
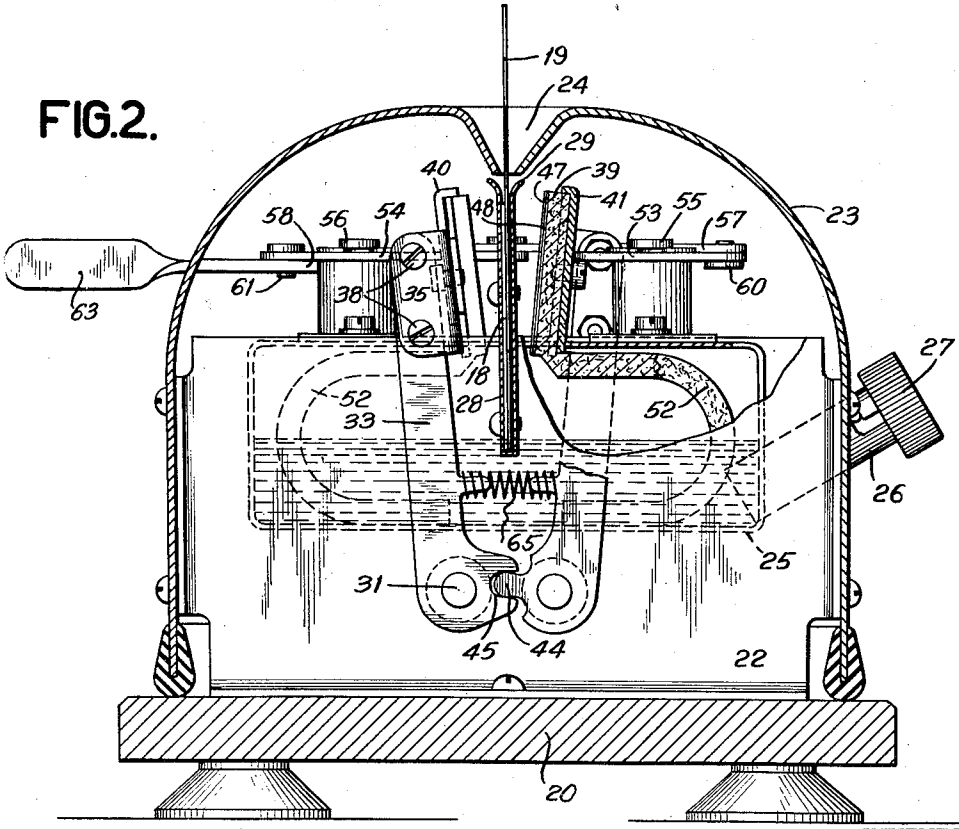


FIG.2.



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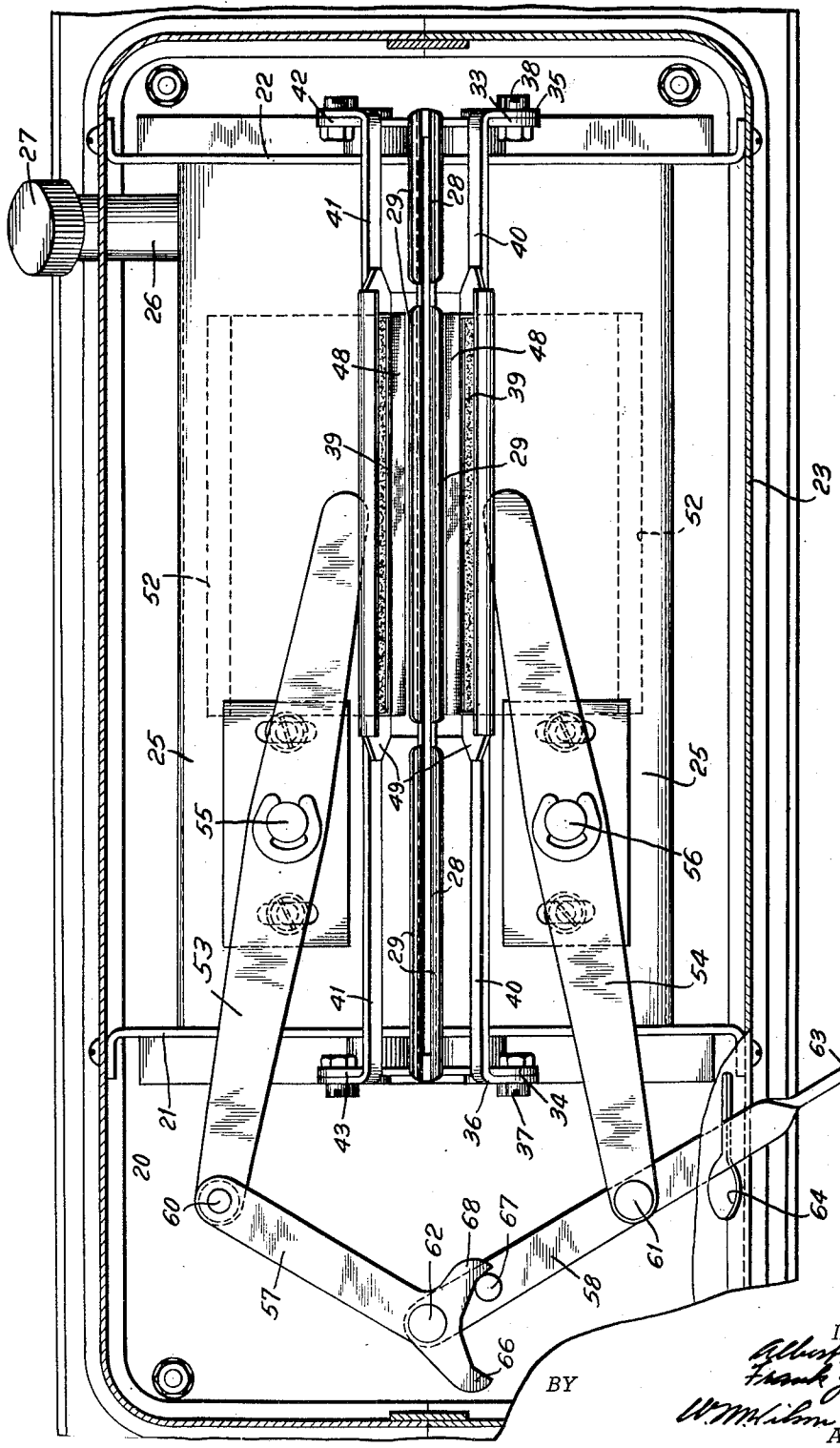


FIG.3.

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STENCIL MOISTENING MACHINE

Filed April 16, 1942 3 Sheets-Sheet 3

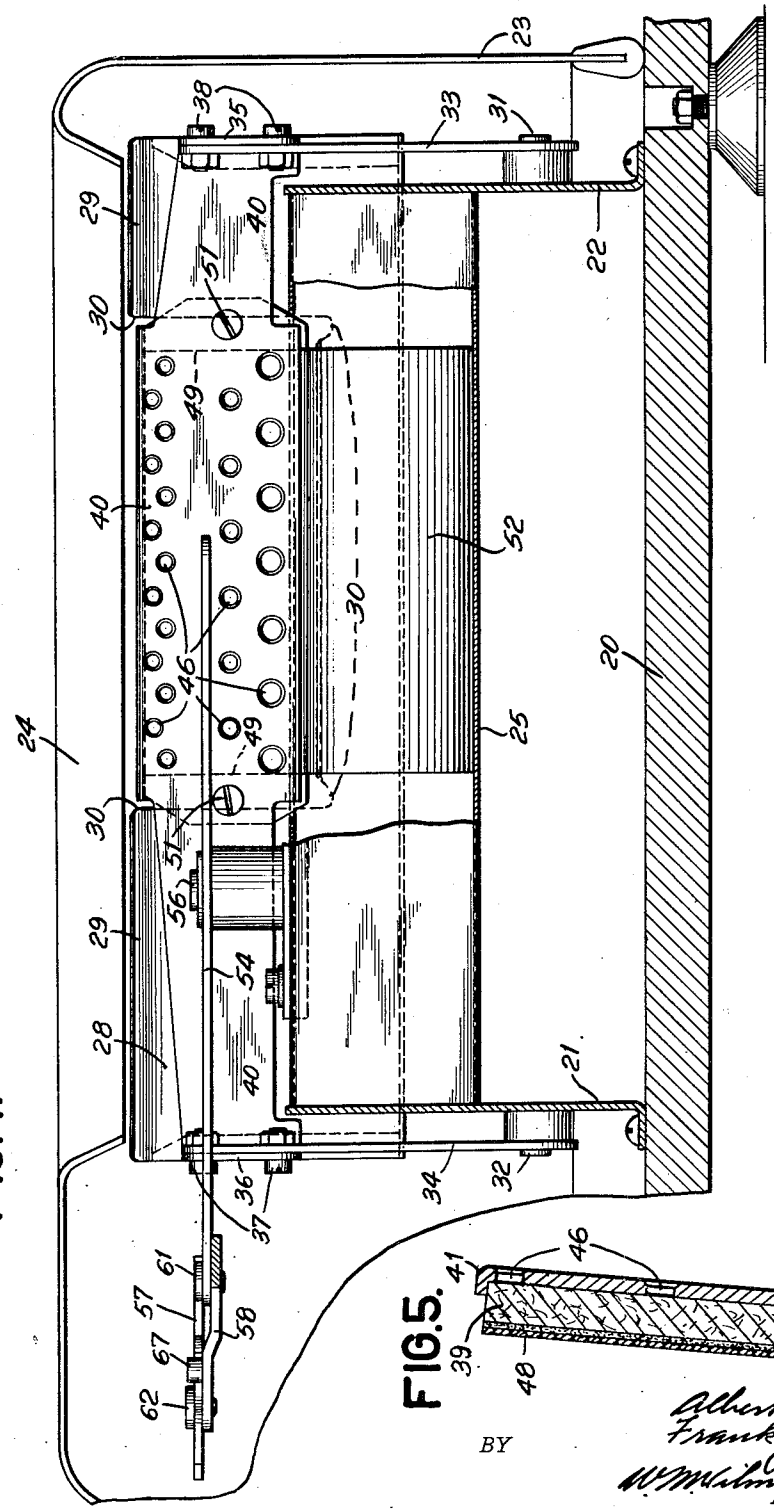


FIG.4.

FIG.5.

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STENCIL MOISTENING MACHINE

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Application April 16, 1942, Serial No. 439,202

3 Claims. (Cl. 91—47)

This invention relates to moistening machines and more particularly to the type which is adapted to moisten stencils utilized for printing addresses by addressing machines.

The principal object of the present invention is to devise a simple portable stencil moistening machine with an improved moistening arrangement that will efficiently function to moisten the stencil area to the predetermined degree and to effect such moistening evenly over the stencil area.

The stencils utilized are usually of card form provided with an interior window comprising the stencil area which is usually a strip of yoshino paper which has been coated with a suitable composition rendered soft when moistened, so that the coating can be displaced by the blows of type elements of a typewriting machine for the purpose of "cutting" them or indenting them. Through these indentations the ink passes so as to effect the printing impression by the addressing machine.

The solution used for moistening the stencil area comprises a greater percentage of water and its use brings about a certain problem, namely the elimination of excessive wetting. Furthermore, to produce legible stencil printing the stencil area should be evenly moistened to thereby produce even printing impressions by the addressing machine. An efficient stencil moistening machine requires a satisfactory solution of the problem of excessive moistening as well as uneven moistening of the stencil area and the present machine discloses an arrangement which provides a satisfactory solution to these important problems. Furthermore, the solution of such problems is effected by the construction of a machine which is simple and can be easily manipulated by the operator, which is usually a girl, so that efficient moistening of the stencils can be performed before they are used in a typewriting machine for stencil cutting operations.

The solution of a simple moistening arrangement is provided for by oppositely disposed moistening pads which are of a construction found to be, in practice, very efficient in the moistening function. Preferably, each moistening pad consists of a strip of hard felt over which is superimposed a strip of blotting paper of the usual paper material, and over the blotting paper is disposed a sheet of cotton fabric cloth. The blotter functions as a filter and the overflow of the liquid absorbed by the felt pad is carried through holes formed in the plate which carries the moistening pad. The solution is carried to the moistening pads by integral wicks which dip in the moistening solution.

The contact of the moistening pads with the interposed card stencil is provided for by the manipulation of a simple lever. This lever is operable exteriorly of the machine and through a toggle system the moistening pads are brought together and retained in such position for the desired period of time which has been found in practice to be necessary for complete and efficient moistening of the stencil area. The release of the lever enables the relative displacement of the moistening pads so that the inserted stencil card can be removed for its insertion in the typewriting machine.

The moistening pads provide for moistening the stencil area to the predetermined degree by the length of time which is usually required to cut one of the stencil cards. Therefore, while a stencil card is being moistened in the improved machine the operator may perform the cutting of a previously moistened stencil and thus stencil moistening operations may be carried out without holding up the operator and the latter may, therefore, continue with the cutting of successive stencils without loss of time.

A still further object of the present invention is to provide for the moistening of only the stencil area without wetting the surrounding card stock. The stencil cards moistened by the present machine are employed in connection with addressing machines and comprise tabulating cards provided with a perforated area and a stencil area. These tabulating cards are perforated at one portion thereof so as to represent data related to the address stencil data and it is important, of course, that the perforated card area be kept dry since wetting would interfere with the efficient control of the machine by such perforations. The area of the tabulating card which is moistened is restricted by the size of the moistening pads and since the area of the tabulating card which is moistened is thereby limited to the stencil area, the remaining area of the tabulating card will not be affected.

Other objects of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose, by way of example, the principle of the invention and the best mode, which has been contemplated, of applying that principle.

In the drawings:

Fig. 1 is a plan view of the improved moistening machine shown on a scale reduced with respect to the remaining figures.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a view of the machine with the top of the cabinet cover shown cut away so as to more clearly show in plan view the construction of the interior parts.

Fig. 4 is a longitudinal sectional view of the machine and is taken on line 4—4 of Fig. 1.

Fig. 5 is a sectional view on an enlarged scale showing the construction and parts of the moistening pads.

The machine is provided with a base 20 which supports parallel upstanding support plates 21 and 22 resting upon and secured to the base plate 20. The machine has a cover plate 23 covering the interior operating parts and said cover plate 23 is provided with a downwardly flared longitudinal slot 24 (Fig. 2) in which is manually disposed the stencil card 19 to have the stencil area 18 thereof moistened. The moistening tank consists of a rectangular shaped tank box 25, the ends of which are formed by the side plates 21 and 22 and soldered inside to be liquid tight. Projecting in the tank 25 is a filler tube 26 which extends downwardly through the back wall of a cover plate 23 which is normally covered by a cap 27 and which is removed when the moistening fluid is to be poured in the tank 25 through the filler tube 26. The top walls of the tank 25 and support plates 21, 22 are provided with a longitudinal slot in which is fitted a stencil card receiving assembly consisting of a U-shaped plate 28, the upper edges 29 (Fig. 2) being flared outwardly so as to register with the slot 24 of the cabinet cover plate 23. The stencil card receiving assembly 28 is soldered at the corners meeting the tank walls to prevent the solution in the tank from getting in the card receiving assembly.

It will be noted that the front and rear walls of the U-shaped plate 28 are cut out to provide a rectangular notch 30 which is shown in Fig. 4 for the front plate of the assembly 28. This rectangular notch is so located that when the bottom of the stencil card rests on the bottom of the U-shaped plate 28 the stencil area of the stencil card will be in registration with the rectangular notches 30. To this end the stencil card receiving assembly 28 is so disposed in the tank 25 a sufficient distance, as shown in Fig. 2, to effect the registration of the notch 30 and the stencil area.

Pivoted by the pivots 31 and 32 are upstanding support arms 33 and 34. A plate 40 is provided with bent ears 35 and 36 so that by assembly screws 37 and 38 the ears 35 and 36 can be attached to the respective support arms 33 and 34 to support plate 40 thereby. The above described assembly is provided at the front of the machine and at the rear of the machine a plate 41, similar to the plate 40, is provided and in a similar manner is carried by a pair of arms 42 and 43. To insure simultaneous rocking movement of the related arms 33—42 and 34—43, the related arms are interconnected as shown in Fig. 2 for the arms 33 and 42. The arm 42 has an extension 44 fitting in a recess 45 of the arm 33. Hence, when one arm is rocked in one direction the interconnection causes the related arm to be rocked in the other direction. In a similar manner arms 34 and 43 are interconnected so that movement given to the two pairs of interconnected arms in opposite directions will cause plates 40, 41 to approach each other and each towards the stencil card 19 inserted in the receiving assembly 28. The moistening pads for moistening the stencil area are of a special construction and the moistening is so controlled that excessive wetting of the stencil area is effectively prevented. Preferably each moistening pad is constructed as follows; noting particularly Fig. 5.

The plate 41 has cemented thereto a piece of medium hard felt 39 by a cement that is not affected by the moistening solution. It will be observed from Fig. 4 that the plate 40, for example, is provided with a series of holes 46 through which holes the surplus moistening liquid squeezed out flows back to tank 25 when pressure is applied between the moistening pads. Over the felt pad 39 there is disposed a sheet of blotting paper 47 which is of the usual material. Over the blotting paper 47 there is disposed a piece of cloth 48 which is preferably a piece of finely woven cotton fabric similar to the fabric used for typewriter ribbons. By any suitable clamping construction such as clamp plates 49 the blotting paper and cloth may be clamped over the felt pad and are held in proper position by screws 51 which thread in clamp plates 49 to hold the ends of the cloth against the plates 40 or 41. The function of the blotting paper is to act as a filter limiting the flow of the fluid from the felt to the fabric ribbon in contact with the stencil area. By experience it has been found that this form of moistening control produces a uniformly moistened stencil area not too wet but sufficiently wet so that the coating of the yoshino stencil paper may be softened to be cut by the typewriter for indenting the data to be represented thereon.

It is also to be understood that the plate 41 similarly carries the same form of moistening pad and it is to be further understood that both of these pads project through the rectangular notches 30 of the card support assembly 28. Projecting through the notches in this manner the cloth fabric will come in contact with the stencil paper of the stencil card, thus moistening it to predetermined degree.

To provide for continuous moistening of the moistening pads, the solution in the tank 25 saturates felt wicks 52 each of which is preferably an integral extension of the felt pads 39 carried by the plates 40 and 41. The felt wicks 52 are immersed in the solution in the tank 25 and by capillary attraction the moistening fluid will flow to the pads of the moistening units and in this manner continual moistening of the pads to the predetermined degree is provided for.

Any suitable means may be provided so that the moistening pads may be brought together and preferably this is provided by scissors rock arms 53 and 54 which are pivoted at 55 and 56, respectively at the top plate of the tank 25. The free ends of the rock arms 53 and 54 are in engagement with the plates 40 and 41. Pivoted to the arms 53 and 54 by pivots 60, 61 are toggle levers 57 and 58 which are joined together by a pivot 62. The toggle lever 58 has a handle extension 63 which projects through an aperture 64 in the cover plate 23 so that the handle 63 may be manipulated exteriorly of the machine. With the toggle system in the position shown in Fig. 3 it will be observed that as the handle 63 is moved to the left the toggle levers 57 and 58 will be straightened, the pivot 62 moving to the right until the pivot connection 60, the pivot connection 61, and the pivot 62 are all in a straight line. During this positioning of the

toggle system, the free ends of the arms **53** and **54** approach each other and by contact with the plates **40** and **41** will rock the moistening pads together to effect the moistening function. When the interconnected arms **33** and **42** and **34** and **43** are brought together, springs **65** interposed between the interconnected levers are compressed and when the aforementioned toggle system is in the off-center position the toggle system will be stable and remain in such position to enable the moistening pads to be retained in contact with the stencil area for the length of time that it is desired. When the toggle system approaches its position off center, movement beyond such position will be prevented by the contact of an extension **66** of the toggle lever **57** with the stud **67** carried by the toggle lever **58**. Separation of the moistening pads is effected by the return of the operating handle **63** to its normal position shown in Fig. 3. The springs **65** (Fig. 2) assist the toggle system to assume the other off-center position shown in Fig. 3 and movement beyond this position is prevented by the cooperation of the extension **68** of the toggle lever **58** with the stud **67**.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claims.

What is claimed is:

1. An apparatus for moistening the stencil areas of card stencils comprising a stencil card receiving assembly, a pair of moistening pads each disposed on opposite sides of the card receiving assembly, each of said pads comprising a sheet of absorbent felt, a sheet of blotting paper, and a sheet of cotton fabric over said blotting paper, said blotting paper being interposed between the felt and cotton fabric to function as a filter for limiting the flow of fluid from the felt to the cotton fabric, which latter is in contact with the stencil area to be moistened and a pair of reciprocable support plates each supporting the related pad, and provided with overflow apertures in registration with the contacting felt sheet through which apertures the surplus fluid absorbed by the felt and held back by the blotting paper passes.

2. An apparatus for moistening the stencil areas comprising a channel shaped stencil support, a pair of pivoted reciprocable support plates each carrying a stencil moistening pad, resilient means for retaining said support plates with the pads normally out of contact with each other to enable the free insertion of a stencil card in said support between said pads, and means for rocking said pads in contact with each other against the action of said resilient means comprising a pair of scissors arms the free ends of which engage said support plates, and toggle levers pivoted to opposite ends of said arms to cause by the off-center stable position of the toggle levers the rocking of said scissors arms to rock the support plates to bring the moistening pads in contact with the stencil area to be moistened and maintain said contact; and by the opposite off-center stable position of the toggle levers effect at the will of the operator the separation of the support plates and the moistening pads carried thereby when the extent of moistening has been secured.

3. An apparatus for moistening the stencil areas comprising a channel shaped stencil support, a pair of pivoted reciprocal support plates each carrying a stencil moistening pad, resilient means for retaining said support plates with said pads normally out of contact with each other to enable the free insertion of a stencil card in said support between said pads, each of said pads comprising a sheet of absorbent felt, a sheet of blotting paper, and a sheet of cotton fabric over said blotting paper, said blotting paper being interposed between the felt and cotton fabric and acting as a filter for limiting the flow or fluid from the felt to the cotton fabric, which latter is in contact with the stencil area to be moistened and means for rocking said pads in contact with each other against the action of said resilient means comprising a pair of scissors arms the free ends of which engage said support plates, toggle levers pivoted to opposite ends of said arms, to cause by the off-center stable position of the toggle levers the rocking of said scissors arms to rock the support plates to bring the moistening pads in contact with the stencil area to be moistened; and maintain said contact and by the opposite off-center stable position of the toggle levers effect at the will of the operator the separation of the support plates and the moistening pads carried thereby when the extent of moistening has been secured.

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