United States Patent

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[72] Inventor: **Charles Priesmeyer**
Park Ridge, Illinois

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[73] Assignee: Meyer & Wenthe Inc.
Chicago, Illinois
a Corp. of Illinois

[54] **PRINT-EMBOSSING SEAL PRESS**
18 Claims, Drawing Figs.

[52] U.S. Cl. 101/3, 101/125, 101/327, 76/107, 101/28
[51] Int. Cl. B44b 5/02
[50] Field of Search 101/3, 32, 28, 327, 119; 76/107

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Primary Examiner— Robert E. Pulfrey
Assistant Examiner— Clifford D. Crowder
Attorney— Watson D. Harbaugh

ABSTRACT: A seal press is provided with a female die structure which provides an internal portion of porous material for retention and flow control of a pigmented fluid for coating the crown portion of embossed characters formed in paper by the seal press.

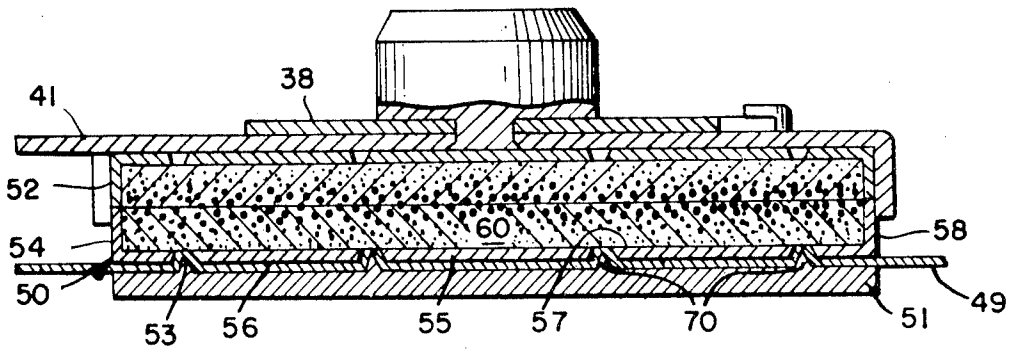


FIG. 1

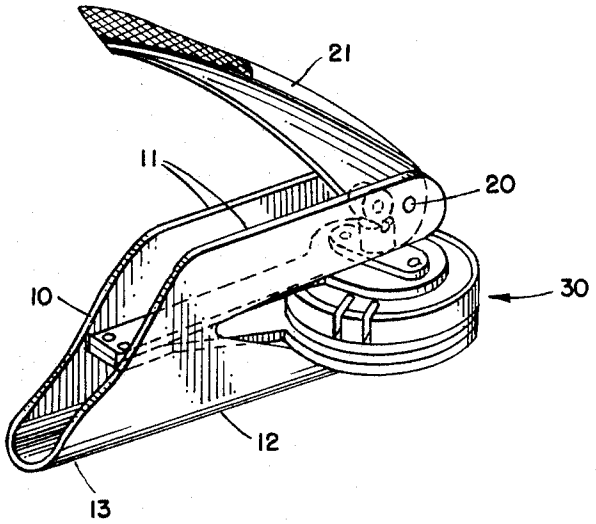
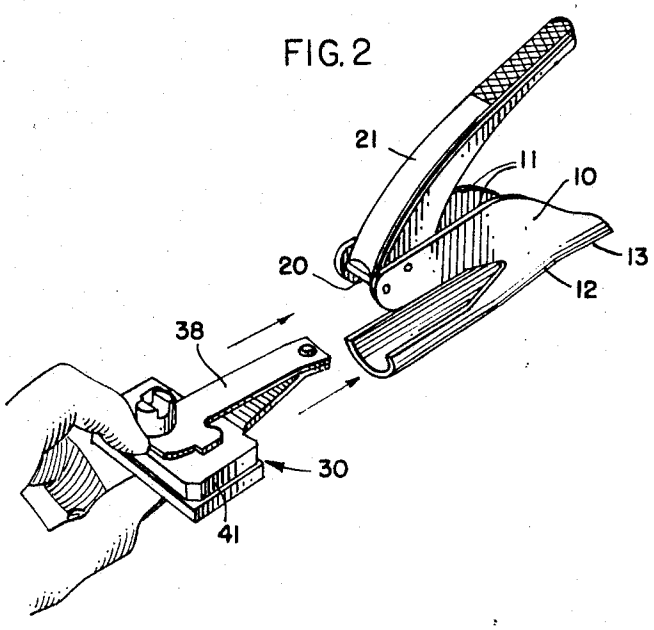


FIG. 2



INVENTOR:
CHARLES PRIESMEYER
BY
Victor J. Harbaugh
ATT'Y

FIG. 3

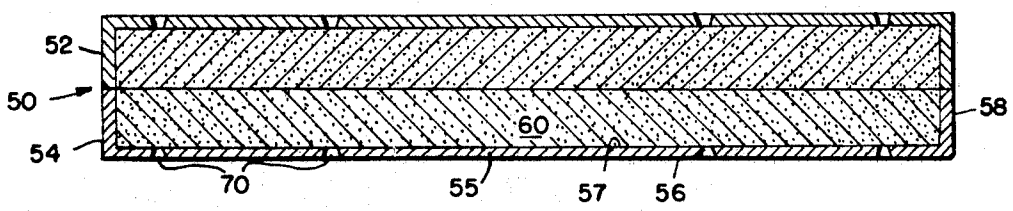


FIG. 3A

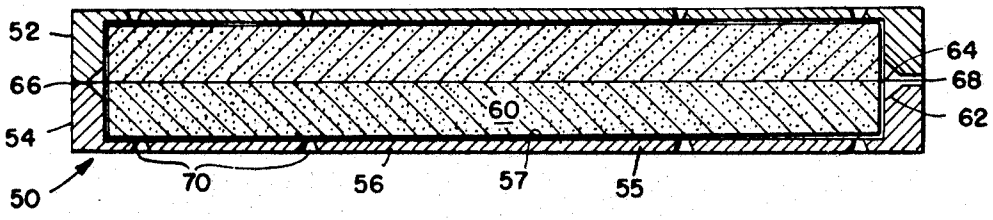


FIG. 4

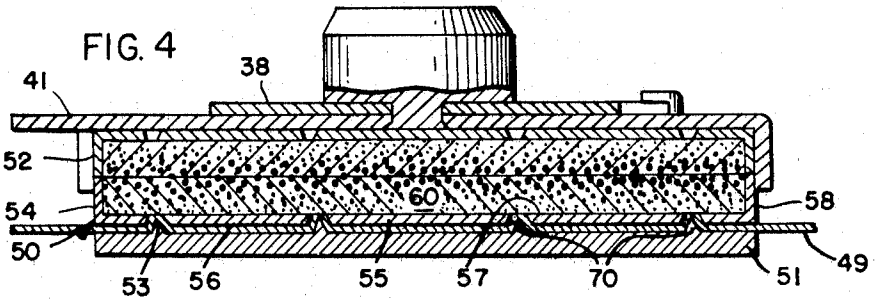


FIG. 5

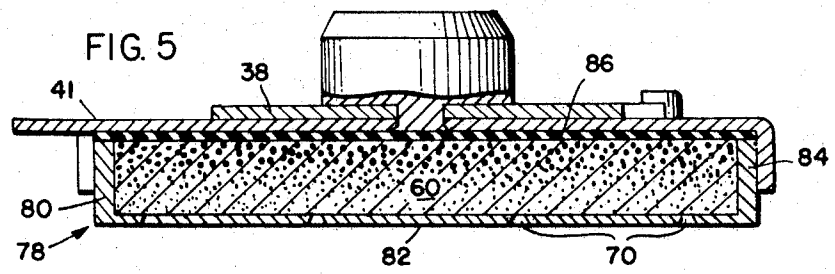
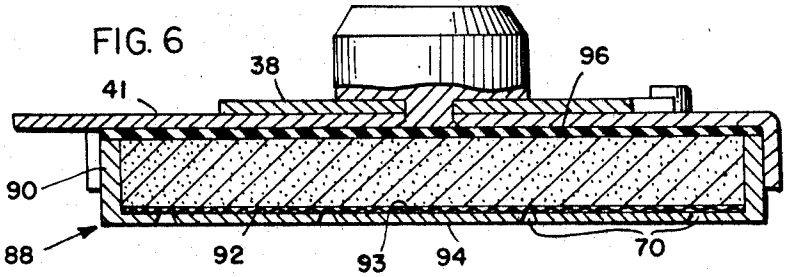


FIG. 6



INVENTOR:
CHARLES PRIESMEYER
BY
Watson D. Haubaugh
ATT'Y

FIG. 7

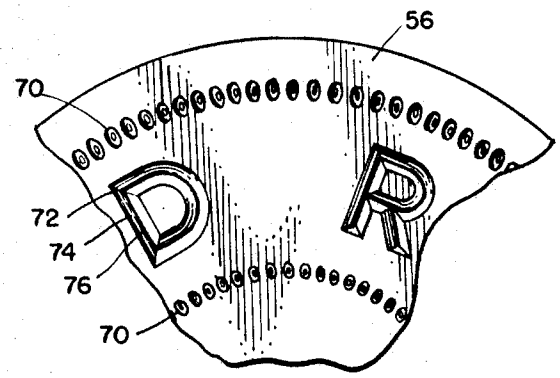
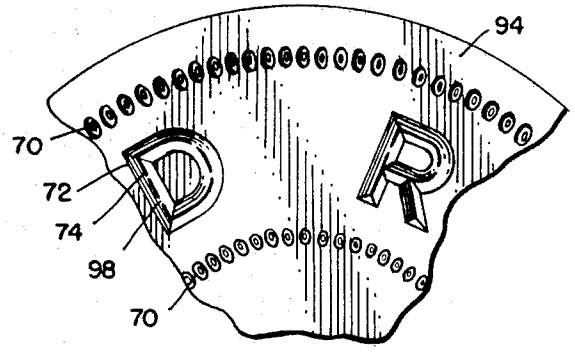


FIG. 8



INVENTOR:
CHARLES PRIESMEYER
BY
Watson D. Harbaugh
ATT'Y

U.S. PATENT 3,522,769

PRINT-EMBOSSING SEAL PRESS

This invention relates in general to a seal press assembly and more particularly to a seal press die structure for embossing and printing a seal.

Heretofore, it has been necessary to impress seals on many documents for a variety of reasons. Most seal presses, particularly of the hand-operated, portable variety, have dies orientated to present an upright impression when inserted over the edge of the document. The upright impression derived from the seal press provides the necessary permanency to the document due to the distortion of fibers of the material, but in recent years, with the vast multiplicity of agencies and recording offices, it has become necessary to provide additional copies of the original documents. Considerable difficulty has been encountered in being able to reproduce additional copies from these original documents even with today's modern photographic and reproducing equipment, because the seal impression on the original document cannot be legibly reproduced.

It is, therefore, the primary object of this invention to provide an improved seal press to present an upright impression on the document and to distinguish the crown portion of the characters of the seal whereby the impressed seal may be legibly reproduced on existing reproducing equipment.

A specific object of this invention is to provide an improved die structure for seal presses which permits embossing of paper with a plurality of characters and printing the characters at the same time.

Another object of this invention is to provide an improved female die structure of a die assembly for seal presses which provides an internal portion of porous material for retention and flow control of a pigmented fluid for printing the crown portion of embossed characters formed in the paper by the seal.

A further object of this invention is to provide an improved female die structure of a die assembly for seal presses having two parallel planar surfaces for the formation therein of desired seal characters with a portion of sintered material forming a reservoir for a pigmented fluid therebetween and exposed to the crown portion of said seal characters to permit the flow of the pigmented liquid to the paper as the seal is being impressed.

A still further object of this invention is to provide an improved female die structure of a die assembly for seal presses having an internal portion of porous material saturated with a pigmented fluid for flow to the paper as the seal is being impressed thereon and yet maintains the desired uniformity of overall external configuration for insertion into existing die supports.

Another object of this invention is to provide an improved die structure which permits printing and embossing of the desired characters formed in the surface thereof by a die maker and is of sufficient rugged construction to readily permit the formation of the characters by the die maker in the field with existing equipment.

A still further object of this invention is to provide an improved die structure for a seal press which is rugged in construction, simple in design, inexpensive to manufacture, yet provides the two desired features of embossing and printing of the seal characters at the same time.

These being among the objects of the invention, further objects and advantages will become apparent from the drawings and the descriptions relating thereto, in which:

FIG. 1 is a perspective view of a pocket seal press embodying a round, twin-faced die structure of this invention;

FIG. 2 is an exploded view in perspective showing the assembly of the two major components of a pocket seal embodying the die of this invention and illustrating a rectangular-shaped die structure;

FIG. 3 is a cross-sectional view in side elevation of the preferred twin-face die structure of this invention;

FIG. 3a is a cross-sectional view in side elevation illustrating an alternate construction of the preferred embodiment of **FIG.** 3;

FIG. 4 is a fragmentary cross-sectional view in side elevation illustrating the preferred die structure shown in **FIG.** 3 as releasably retained in a die holder;

FIG. 5 is a fragmentary cross-sectional view in side elevation illustrating the single-face die structure of this invention releasably secured in a die holder;

FIG. 6 is a fragmentary cross-sectional view illustrating another embodiment of a single-face die of this invention as shown in **FIG.** 5 and releasably retained in a die holder;

FIG. 7 is a fragmentary plan view of the face surface of the die of this invention illustrating the preferred formation of characters therein; and

FIG. 8 is a fragmentary plan view of the face surface of the die of this invention similar to that shown in **FIG.** 7 illustrating an alternate formation of the characters therein.

By way of generalization for a better understanding of the detailed description to follow, the die construction of this invention is characterized primarily by a hollow cuplike member which has the desired seal characters recessed in a planar surface thereof with the crown or uppermost portion of the characters severing the cup surface. Disposed within the hollow portion of the cup member is a hydroscopic or porous member that has been saturated with a pigmented fluid. As a mating die, having raised characters thereon, is received within the recessed characters of the die of this invention, with a paper document sandwiched therebetween, the paper not only be embossed, but as the paper is forced into the crown of the recessed characters, the fluid will be drawn downwardly by the absorbent characteristics of the paper to darken the crown portion of the embossed characters on the document.

Referring now to the drawings in further detail, the seal press assemblies embodying the die construction of this invention are illustrated in **FIGS.** 1 and 2. The operation, construction and relationship of the component parts of these assemblies are disclosed in my now pending applications, Serial No. 13,106, now abandoned but continuation of which is Serial No. 287,738 and 691,646, now Patent No. 2,998,766 reference thereto being made herewith, and consist generally of a frame 10 formed in a U-shaped cross section with parallel side walls 11; a handle 12 with the rear end drawn downwardly as at 13; a handle 21 pivotally mounted to the side walls 11 by a rivet 20 and a unitary die assembly 30 which is readily detachable as illustrated in **FIG.** 2. As specifically set forth in my pending application, Serial No. 13,106, previously referred to, the die holder 41 is rotatably secured to a spring member 38. The general relationship of these parts, holder 41 and spring 38, has been incorporated in **FIGS.** 4, 5 and 6 of this application only to illustrate the relationship of the die structure of this invention thereto and the adaptability of this die to existing seal press assemblies.

It is to be understood that the die structure of this invention may be employed for either circular dies as shown in **FIG.** 1, rectangular dies as shown in **FIG.** 2, or for any external side wall contour that may be desirable and may be readily and advantageously employed in all seal press assemblies. The pocket seal assembly is illustrated in the drawings only by way of example. It is to be further understood that the die structure of a seal press comprises two separate dies, one die 50 having recessed characters formed in its surface and a mating die 51 having raised characters formed thereon. The structure of this invention pertains to the die 50 having recessed characters on the face thereof.

Referring now specifically to **FIGS.** 3 and 4, the preferred embodiment of the die structure of this invention is illustrated and is indicated generally by the numeral 50 and provides an outer shell from two cup shaped members 52 and 54. The two cup-shaped members 52 and 54, being identical in configuration, the following description, for convenience, will relate to only the cup member 54. The cup member 54 is formed from a suitable rigid material, preferably brass, and provides a large

flat lower wall 55 having an outer facing surface 56 with the side walls 58 thereof extending upwardly therefrom at right angles. Disposed against the inner surface 57 of the wall 55 is a porous member 60. The member 60 may be formed from any suitable material which provides structure sufficient to withstand deformation from the force subjected thereto when a seal is applied, and is preferably formed from a sintered metal. The unitary cup member 54 may be formed by any of several known processes, such as taking a piece of thin, flat brass stock, preferably .015" in thickness and forming the side walls by a drawing or spinning operation. A plurality of metallic shot, preferably brass, is then placed within the cup member and subjected to a compressing force, the size of shot and the amount of compressive force varying with the degree of porosity desired. The cup member, with the shot in a compacted or compressed condition, is then elevated in temperature sufficient to effect a bonding of the shot adjacent to one another and to the inner wall surfaces of the cup member. The cup members are then secured in back-to-back relationship, the porous member is charged or saturated with a pigmented fluid, and the desired characters of the seal are then formed in the facing surface as will be explained.

Referring now specifically to FIGS. 3a and 4, an alternate construction of the preferred embodiment of the die structure of this invention is illustrated, like numerals are used throughout to indicate similar parts, and is indicated generally by the numeral 50, and provides an outer shell formed from two cup-shaped members 52 and 54. The cup members, preferably formed from brass, each provide an enlarged lower wall 55 having a flat facing surface 56 and a thin cross section in which the desired seal characters are recessed. Side walls 58 of the cup member, having a substantially greater thickness in cross section than the facing wall 55 extend upwardly therefrom at right angles.

The inner surface, adjacent the upper edge of the side walls 58, is beveled, as at 62, to provide an internal groove 64 about the inside of the die when the two cup-shaped members 52 and 54 are secured together in a back-to-back relation. The groove 64 provides a uniform flow channel for insertion of a pigmented liquid as will be readily understood as the description continues. The cup members 52 and 54 may be rigidly secured together in a leakproof relationship by any suitable means and has been illustrated in the drawings by means of welding as at 66. An opening 68 is formed through the joined side walls at a point of juncture of the two cup members and terminates in the groove 64 to provide means for replenishing the fluid supply upon depletion thereof.

Disposed within each of the cup members 52 and 54, filling the entire volume thereof, is a porous member 60 having a greater resistance to deformation than the material forming the wall 55. The porous member, such as sintered brass or steel, is securely bonded to the inner surface 57 of wall 55 to provide a solid unitary member. The two cup members 52 and 54, having a porous member secured thereto, are then secured together in back-to-back relationship as previously described If desired, the member 60, disposed within the cup members 52 and 54, may have a variable porosity with minimum porosity adjacent the inner surface 57 of face 56 and gradually increasing in porosity to the upper or outer surface of each cup member.

Referring now more specifically to FIG. 7, the formation of the desired recessed characters of the seal is shown in the fragmentary view of the face 56. The desirable border characters 70 are formed on both sides of the die at time of manufacture of the die with the remaining letter characters to be formed at a die shop in the field as desired by the ultimate purchaser. The border characters and letter characters are formed in the same manner as now commonly employed in the industry, that is, primarily by use of an engraving machine which cuts the desired contours, that is, having tapered side walls 74, of the characters 72 into the face of the surface 56. The cutter is set for a specific depth whereby the tip thereof will just sever the wall 55 to expose the porous member 60 along the crown portion 76 of the recessed characters. An alternate method of forming the desired recessed characters which may be employed is by selecting the desired character from a set of master dies having raised characters thereon, properly locating the master die on the surface 56 and embedding the master die into the surface 56 by a sharp, compressive force, except it is now desirable to have the force sufficient to have the crown edge of the master die just pierce the inner surface 57 of wall 55 to expose the porous member 60. It is now readily understandable why it is necessary to provide a porous material with a greater resistance to deformation or greater hardness than the material of surface 56. Otherwise, the compressive force of the master die would only create a large concaved area and possibly prevent the piercing of the wall 55. It is also desirable and readily understandable that the master die is formed from a material having substantially a greater hardness characteristic than the porous material 60 to prevent damage to the crown edge of the raised characters of the master die when forming the characters on the seal surface. Upon removal of the master die, a recessed character 72 is seen in the die surface 56 having tapered side walls 74 which terminate at a thin, centrally disposed bottom line 76, formed when the crown edge of the master die pierced the inner surface 57 to permit exposure of the porous member 60. It is obvious that if the more commonly used engraving device is used to form the recessed characters, the hardness characteristic of the porous member 60 may be substantially less.

Having formed the desired recessed characters of the seal on one side of the die, the porous member is saturated with a pigmented fluid, preferably a fluid which maintains a constant viscosity over a long period of time, by insertion through the opening 68 into the channel 64. When the saturation point is attained, the die is then placed in the releasably rotating die holder 41. A mating die, 51 having raised characters 53 formed thereon, is formed and positioned in the other die holder of the die assembly and when it is desired to form the seal on a paper, the paper is disposed between the two die units and the dies are brought together. As the paper is forced upwardly by the action of the raised characters of the one die entering mating recessed characters of the die of this invention, the desired embossing is accomplished. As the raised characters bottom in the mating recessed characters, the paper sandwiched therebetween is brought into contact with the fluid-saturated porous member 60. The absorbency of the paper draws the fluid from the member 60 to darken the upper or crown edge of the embossed characters, it being understandable that by having only the upper or crown edge portion of the embossed characters in contact with the fluid-saturated member, there is little likelihood of the fluid spreading from one character to the next character to cause any confusion as to the exact formation of the characters and provides the entire seal to be highly legible and readily reproduced by photograph or on reproducing equipment. The required permanency of the seal is further enhanced since not only are the fibers of the document distorted by embossment but the pigmented fluid is absorbed in the area of distortion rather than merely deposited on the surface of the document. This is more readily apparent where the document has a gloss or finished surface.

Referring now to FIG. 5, another embodiment of the preferred die construction of this invention is illustrated by the formation of a single-face die indicated generally by the numeral 78. In formation of a single-face die, a cup-shaped member 80, similar to members 52 and 54, is preferably formed from brass and provides a thin, wall 82, having the same thickness as wall 55, with upwardly extending side walls 84 attaining a height equal to the combined height of the side walls of cup members 52 and 54, less the thickness of a protective cover seal 86 formed from a flexible nonporous material such as a plastic-coated rubber. A porous member 60, of variable porosity, is securely bonded within the cup member 80 as previously described for cup members 52 and 54 and completely fills the entire volume thereof. The desired seal

characters are formed as previously described with reference to **FIG.** 7. The porous member **60** is saturated with a pigmented fluid through the open back of the cup-shaped member **80** which is then sealed to prevent contact with other surfaces by the cover seal **86**. The die is then inserted in the die holder **41** with the desired embossing and printing being accomplished as described for the twin-faced die construction of this invention previously explained.

Referring now more specifically to **FIGS.** 6 and 8, an alternate construction for the die of this invention is illustrated, indicated generally by the numeral **88**, and provides a cup-shaped member **90** having configuration identical to cup member **80** previously described. A fine mesh screen member **92** is disposed over the entire inner surface **93** of lower wall **94**. Placed on top of the screen **92** is a porous member **60**, to be saturated with a pigmented fluid, which completely fills the remaining volume of the cup member **90**. The porous member **60**, similar to the porous members previously described, is preferably of a material that has a resistance to deformation such as a sintered steel. A seal cover **96**, identical to cover **86** previously described, is placed over the open end of the cup to seal it from contact with other surfaces and to retain the fluid within the porous material.

The principal variations of this embodiment are in the formation of the recessed characters and the elimination of the necessity of securely bonding the porous material to the inner surface of the seal facing surface as previously described.

As best seen in **FIG.** 8, the recessed characters **72** are formed having tapering side walls **74** which terminate on a centrally disposed line **76** which is formed as the inner surface **93** of wall **94** is severed, similar to the severance as previously explained, except there is only a spaced severance since it is necessary to provide interconnecting strips **98** to retain the counters or center areas of the recessed characters, such as the D and R illustrated in the drawings. The interconnecting strips **98** were not required for the preferred embodiments in that the porous members **60** were secured to the inner surface **57** of wall **55** to which the counters or center areas of the characters were retained.

The recessed characters of this embodiment are formed in the face of the die in substantially the same manner as previously described by use of an engraving machine, An alternate way of forming the characters is accomplished by first disposing a hardened steel backing member within the cup. A master die, of the desired raised character, having recessed slots formed across the crown edge thereof, is selected and is embedded in the wall **94** by a sharp, compressive blow sufficient to pierce the inner surface **93** of wall **94**. The recessed slots in the crown edge of the master die permit the interconnecting strips **98** to be formed since the inner surface of wall **94** will not be severed at these points.

The size of mesh of the screen **92** will be determined by the size of the smallest counter of the characters formed in the die face since it is necessary that these areas are provided with a supporting back. By use of a fine mesh screen, the porosity of the fluid-saturated material will not have to be of a specific size. If it is preferable that the screen member is to be omitted, then the porosity of the fluid-saturated material will be determined by the smallest counter of the characters, it being obvious that the largest cavity in the porous material adjacent the inner face surface will have to be substantially less than the smallest counter of the characters formed therein.

The embossing and printing of the seal is accomplished exactly as previously described. The absorbency of the paper will draw the fluid downwardly, the portion of the paper blocked from contact with the fluid by the retaining strips **98** is so small and with the absorbent characteristics of the paper, the entire portion of the crown edge of the embossed characters will be printed or coated.

While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects. Accordingly, the aim of the appended claims is to cover all such changes and modifications as follows in the true spirit and scope of the invention.

I Claim:

1. In a hand operated embossing device including a frame means having opposed jaws and a lever means pivotally supported by said frame means, a combination of elements comprising a pad holding assemblage movable by said lever means, a pair of embossing plates arranged for cooperative embossing action when clamped upon a sheet of paper, a first of said plates mounted upon the pad holding assemblage and having openings defining a given indicia pattern, the second of said plates having projections defining a like indicia pattern adapted to mate within the openings of the first plate to emboss paper therebetween, and an inking pad arranged in the pad holding assemblage whereby the paper being embossed will be forced by the projections into engagement with the inking pad and be inked thereby.

2. In a hand operated embossing device according to Claim 1, wherein said projections are of a height at least equal to the thickness of said first plate.

3. In a hand operated embossing device including a frame means having opposed jaws and a lever means operatively supported by said frame means, a combination of elements comprising a pad holding assemblage, a pair of embossing plates arranged for cooperative embossing action when clamped upon a sheet of paper, a first of said plates mounted upon the pad holding assemblage and having openings defining a given indicia pattern, the second of said plates having projections defining a like indicia pattern adapted to mate within the openings of the first plate to emboss paper therebetween and an inking pad arranged in the pad holding assemblage, said pad holding assemblage being arranged so that movement of the lever means will cause relative movement between said plates whereby the paper being embossed will be forced by the projections into engagement with the inking pad and be inked thereby.

4. In a paper embossing seal press having a mating die with raised characters formed thereon, a die structure cooperating for embossing action with the mating die comprising a hollow member having a bottom wall defining an inner surface and an outer face subjected to working pressures applied between the dies to a sheet of paper disposed against said outer face, and means engaging said inner surface of said bottom wall and subjected to said working pressures including a porous member disposed within the hollow member and carrying a supply of printing fluid, said bottom wall having recessed seal characters mating with the raised characters on the mating die for embossing said paper under said working pressures and opening upon said inner surface to expose the paper embossment to contact with the porous member and the printing fluid carried thereby at said inner surface whereby a sheet of paper being embossed will be forced by the raised characters into engagement with the porous member and be inked thereby.

5. In a paper embossing seal press having a mating die with raised characters formed thereon, a female die structure cooperating with the mating die for embossing paper under pressure and comprising a hollow member having spaced parallel walls subjected to embossing pressures applied to a sheet of paper disposed between the dies and defining inner faces facing each other, and means for withstanding and transmitting said working pressures from one wall to the other including a porous member disposed between said inner faces within the hollow member and carrying a supply of printing fluid, one of said walls having recessed seal characters mating with the raised characters on the mating die for embossing said paper under said embossing pressures and said recessed seal characters opening upon said inner face of said one of the walls to expose the paper embossment to contact with the porous member and to the printing fluid carried thereby at said inner face whereby a sheet of paper being embossed will be forced into said recessed seal characters by the raised characters and into engagement with the porous member and be inked thereby.

6. In a paper embossing seal press having a mating die with raised characters formed thereon, a female die structure cooperating with the mating die under paper embossing pressure comprising a hollow member having a thin wall defining inner and outer faces subjected to embossing pressures applied between the dies to a sheet of paper disposed against said outer face, and means disposed against said inner face and subjected to said embossing pressures including a sintered metallic member disposed within the hollow member and carrying a supply of printing fluid, said thin wall having recessed seal characters mating with the raised characters on the mating die for embossing said paper under said embossing pressures and opening upon said inner face to expose the paper embossment to contact with the sintered metallic member and the printing fluid carried thereby at said inner face.

7. In a paper embossing seal press having a mating die with raised characters formed thereon, a female die structure cooperating with a mating die for embossing paper comprising a hollow member having a thin wall approximately .015 inches thick defining inner and outer faces subjected to working pressures applied between the dies to emboss a sheet of paper disposed against said outer face, and means engaging said inner face of said bottom wall and subjected to said working pressures including a porous sintered metallic member disposed against said inner face for holding a supply of printing fluid within the hollow member, said thin wall having seal characters formed in it recessed in the outer face and mating with a raised character on the mating die for embossing said paper under said working pressures and opening upon said inner face to expose the paper embossment to contact with the porous member and the printing fluid carried thereby at said inner face.

8. In a paper embossing seal press having a mating die with raised characters formed thereon, a female die structure cooperating with a mating die to emboss paper comprising hollow cup-shaped members each having a thin bottom wall and marginally engaging each other to support said walls in spaced relationship to define a compartment therebetween, each wall having inner and outer faces subjected to working pressures applied between the dies to a sheet of paper disposed against the outer face of one of said bottom walls, and means engaging said inner faces subjected to said working pressures including a porous member disposed within the compartment and carrying a supply of printing fluid, said bottom wall of each member having recessed seal characters, the seal characters in said one of said bottom walls mating with the raised characters on the mating die for embossing said paper under said working pressures and opening upon its respective inner face to expose the paper embossment to contact with the porous member and the printing fluid carried thereby at said inner face.

9. A seal press having a die structure to emboss and print the crowns of the embossed characters on paper comprising a thin metallic wall having an outer working face and an inner face, a porous member disposed behind said wall against said inner face, a member enclosing said porous member having an opening for replenishing said porous member with a printing substance, said wall having recessed characters formed in it extending from its working face and exposing said porous member at said inner face, means including a mating die with raised characters formed thereon mating with said recessed characters for forcing paper into the crowns of said recessed characters to contact the porous member at said inner face and absorb printing substance therefrom.

10. A seal press die structure to emboss and print seal characters on paper comprising a thin metallic wall approximately .015 inches thick having parallel faces, a sintered metallic member against one of said faces, said sintered metallic member retaining a printing substance, said characters being recessed through said wall from the other face and exposing said sintered metallic member at their crowns, a mating die with raised characters formed thereon mating with said recessed characters, said recessed characters tapering from said other wall to receive paper forced into them by said raised characters to emboss the characters thereon without rupturing the paper, the crown edges of said embossed characters contacting the sintered metallic member to absorb printing substance therefrom for printing the crown edges of the embossed characters at said one face.

11. A seal press die construction to emboss and print a seal embossed on paper comprising a first cup member having a thin flat wall, a second cup member having a thin flat wall, a rigid porous member containing a printing fluid secured against the inner faces of said walls of said first and second cup members, means holding said first and second cup members marginally together to seal the included space with a porous member between and in contact with said walls, recessed seal characters formed in said walls of said first and second cup members and exposing said porous member at the crowns thereof, and a mating die with raised characters formed thereon mating with said recessed characters to force paper into said recessed characters to the depth thereof to distort the fibers of the paper at the crowns of the embossment to absorb said fluid from said porous member and print the crown edges of the embossed characters.

12. A seal press die construction to emboss and print a seal on paper to enable legible reproduction of said seal comprising a first cup member having a thin flat bottom wall, a second cup member having a thin flat bottom wall, a porous member containing a printing fluid secured between and against said walls, means to secure said first and second cup members together as a unit, said unitary cup members having an opening for replenishing printing fluid in said porous member, said bottom walls having recessed seal characters formed therethrough with the crown edge of the recessed characters exposing the fluid saturated porous member, a mating die with raised characters formed thereon mating with said recessed characters to force the paper into the crown of the recessed characters for embossment and to absorb fluid from said porous member to print the crown edges thereof.

13. A seal press die to emboss and print a seal on paper to enable legible reproduction of said seal comprising a first cup member having a thin flat wall, a second cup member having a thin flat wall, a porous member containing a printing fluid secured between and against said walls, means to secure said first and second cup members together as a unit, said cup members having side walls provided with an opening therethrough and an internal groove along the line of junction between the cup members in communication with said opening interconnecting the atmosphere with said groove whereby replenishing fluid may pass through said opening and flow in said groove to aid and complete saturation of the enclosed porous member with printing fluid, and recessed seal characters formed through said flat walls with the crown of the recessed edge of said characters exposing the fluid saturated porous member whereby paper forced into the recessed characters for embossment will absorb fluid from said porous member to print the crown edges thereof.

14. A seal press die construction to print and emboss characters of a seal on paper to enable legible reproduction of said seal comprising a cup member having a side wall and a thin flat end wall of brass, a porous metallic member of rigid construction saturated with a printing fluid secured within and against said walls completely filling the space defined thereby, means including an end wall secured to the marginal edge of said side wall to close said cup member with a porous metallic member disposed therein, one of said walls having openings therethrough to conduct replenishing fluid to a porous metallic member, tapering recessed seal characters formed through one of said end walls to expose the fluid replenished porous metallic member, a mating die with raised characters formed thereon mating with said recessed characters to force paper into said recessed characters to the bottom thereof to emboss the seal thereon and distort the paper fibers at the crown thereof to absorb fluid from said porous metallic member to print the crown of the characters.

15 The invention as set forth in Claim 14 wherein the porous metallic member has a structure of varying porosity with minimum porosity disposed adjacent to said flat end wall and maximum porosity remote therefrom.

16. The process of manufacturing a seal press die construction for embossing paper comprising forming a metallic container having a thin solid brass wall, compressing and sintering a porous metallic member within said container against the inner face of said wall, recessing seal characters into the outer face of the wall and through the wall with tapering sides into said metallic member to expose said sintered metallic member only at the crowns of said recessed seal characters, charging said porous member with a printing fluid, and forming a die with raised characters mating with said recessed characters to emboss and force paper into said recessed characters in contact with said porous member to absorb printing fluid therefrom.

17. The process of manufacturing a seal press die arrangement for embossing and printing paper comprising forming a first cup-shaped member with a thin solid bottom wall, securing a porous metal member within said first cup member against said wall to reinforce it against die working pressures, forming a second cup-shaped member with a thin solid bottom wall, securing a porous metal member within said second cup against the wall to reinforce it, securing said first and second cup members together with said members in contact with each other and said walls away from each other in spaced parallel relationship, recessing inwardly tapering seal characters into and through said walls to expose said respective porous members at the crests of said seal characters, saturating said porous members with a printing substance, and providing a mating die having mating characters thereon received within the recessed characters for forcing paper therebetween into said seal characters to absorb printing substance from said porous members.

18. The process as called for in Claim 17 wherein said saturating of said porous members is accomplished by injecting the printing substance into said porous member through the openings defined by said seal characters.