

[54] SIMPLIFIED, SELF-INKING HAND STAMP

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[51] Int. Cl. B41k 1/50

[58] Field of Search 101/327, 333, 405, 371, 101/406, 125; 40/2

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[57] ABSTRACT

An improved stamping device including a porous stamping block adapted to remain in a retracted position above the lower edges of an outer frame as long as the device is not used, so that the block will not touch and stain an adjacent object, and be lowered to the lower edges of the outer frame, thereby permitting impression, and means for enabling continuous use of the device without use of a stamp pad.

3 Claims, 4 Drawing Figures

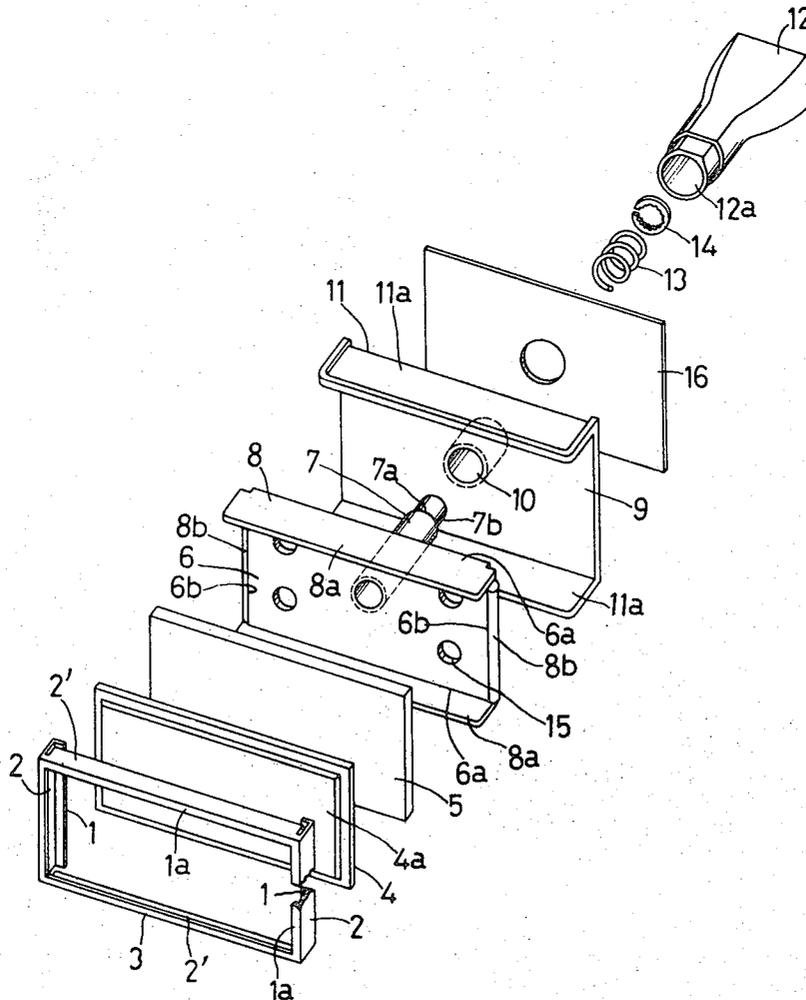


FIG-1

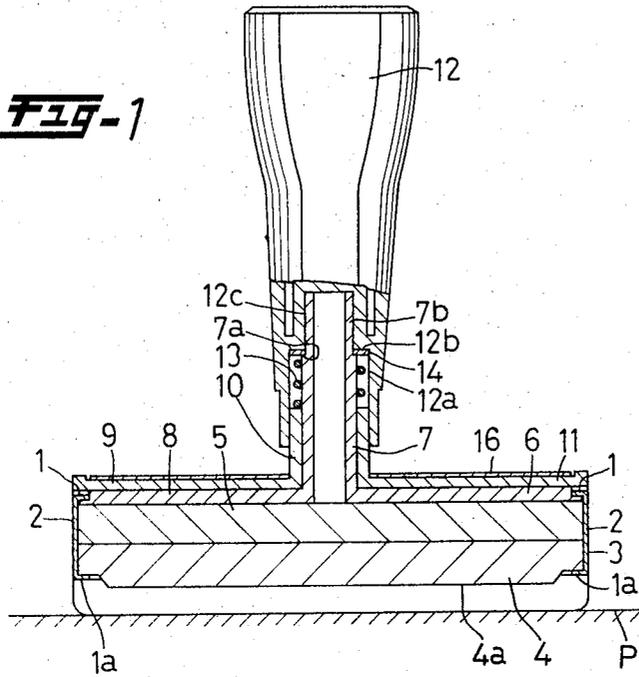


FIG-2

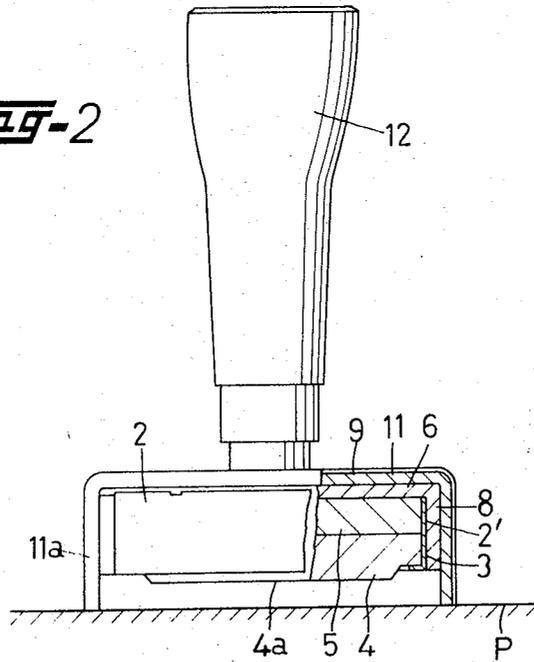


FIG-3

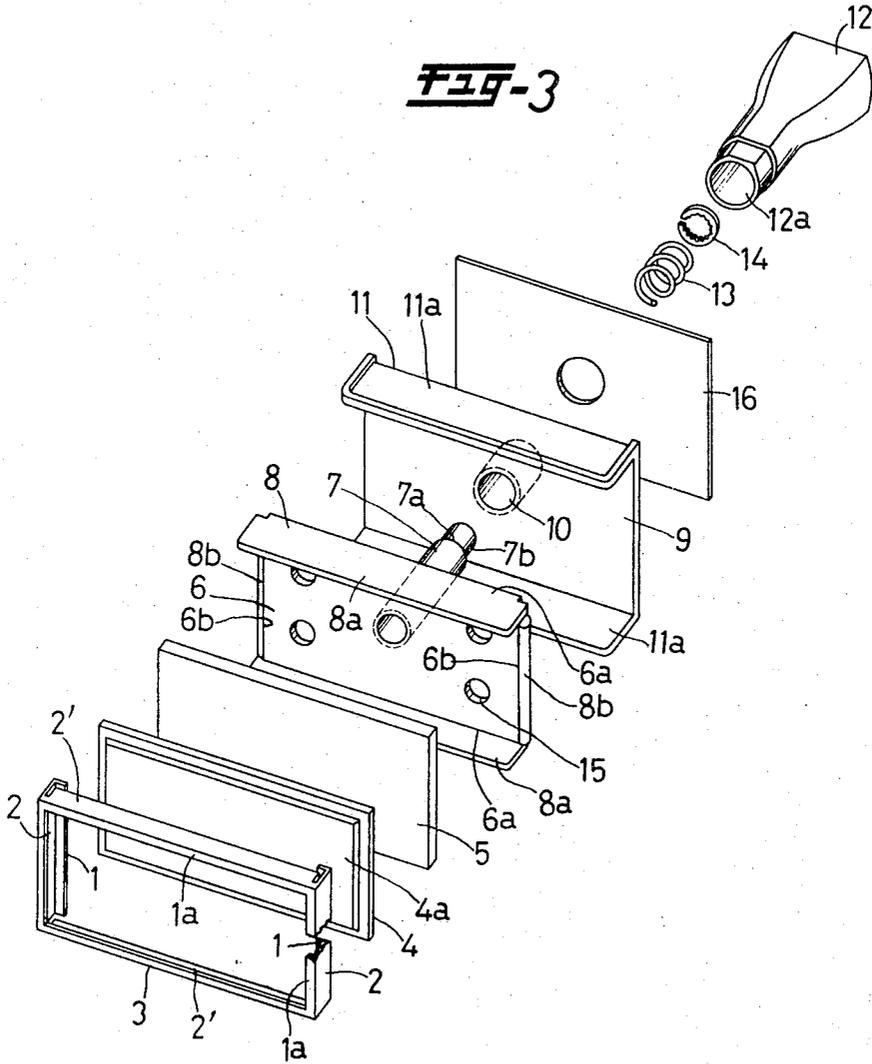
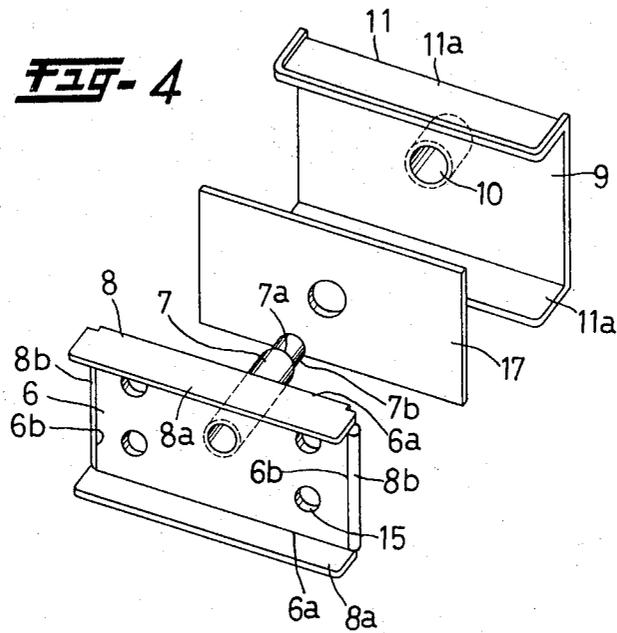


FIG- 4



SIMPLIFIED, SELF-INKING HAND STAMP

This invention relates to an improved stamping device, and more particularly to a stamping device including a porous stamping block which remains in a retracted position when the device is not in use, and thereby prevents ink from staining any adjacent object with which the device may inadvertently be brought into contact when the device is not used.

In the prior art, there has been available a stamping device which includes a stamping block having numerous continuous pores and eliminates the necessity of impregnating the face of the stamping block with ink each time the device is used for impression. But this stamping device has been liable to stain an adjacent object because of the exposure of the stamping face having ink oozing thereon even when the device is not in use. In order to solve this problem, a hood has been provided on the stamping device in the prior art. This hood is such that when the device is not used, the lower edges of the hood stay below the stamping face, while when the device is used for stamping service, the lower edges of the hood are raised to be flush with the stamping face. But the device having such a hood is fairly complicated in construction, hence requiring complicated steps in the manufacture thereof. Moreover, such a hood easily becomes unable to move smoothly.

It is, therefore, an object of this invention to provide an improved stamping device in which the above mentioned drawbacks of the prior art can be eliminated.

The stamping device according to this invention comprises a metal frame, an ink storage block enclosed in the metal frame and disposed to occupy approximately the upper half of the inside space thereof, a stamping block of porous material having numerous continuous pores, said stamping block being disposed within the metal frame in such a manner that it occupies approximately the lower half of the inner space of the metal frame and that the lower or stamping face of the block projects beyond the lower edges of the metal frame, an inner frame provided with a tubular portion for supplying ink into the ink storage block, said inner frame being mounted on the ink storage block and engaged with the metal frame, an outer frame constructed substantially in the shape of a channel and enclosing the metal frame, the side walls of said outer frame having a larger width than those of said metal frame so that the stamping block may be held by a spring in its retracted position above the lower edges of the side walls of the outer frame as long as the device is not used for impression, and a grip member inserted over said tubular portion of the inner frame and adapted to be pressed down to lower the stamping block to make the stamping face thereof flush with the lower edges of the side walls of the outer frame and permit the device to impress the letters and/or other symbols inscribed on the lower or stamping face of the stamping block on one sheet of paper after another without use of a stamp pad.

A preferred embodiment of the invention will now be described with reference to the accompanying drawings, in which:

FIG. 1 is a front elevational view, partly in section, of a preferred embodiment of the invention;

FIG. 2 is a side elevational view, partly in section, of the stamping device shown in FIG. 1;

FIG. 3 is an exploded view, partly broken away, of the stamping device shown in FIG. 1; and

FIG. 4 is an exploded view of a part of another embodiment of the invention.

Referring to the drawings, a frame 3, which may be made of metal and which is generally rectangular in plan, comprises two pairs of oppositely disposed depending side walls 2, 2 and 2'2'. The walls 2, 2 and 2', 2' are not fully joined together at their ends, see FIG. 3. The lowermost portions of the side walls, 2,2 and 2',2' are inwardly bent to form an integral supporting edge 1a. The upper edge of each of the side walls 2,2 is formed with an inwardly projecting flange 1. A stamping block 4 made of porous material which may be characterized by numerous continuous pores, such as exists in sponge rubber, is housed within the metal frame 3, and is carried on the supporting edge 1a. The lower surface 4a of the stamping block 4 projects downward through the opening defined by the supporting edge 1a.

A substantially rectangular ink storage block 5 is also housed within the frame 3 and is mounted on the stamping block 4. An inner frame 8 made of ink-resistant synthetic resin may comprise a substantially rectangular top plate 6 (see FIGS. 1 and 3) and a pair of oppositely disposed side walls 8a, 8a depending from the longer edges 6a of the top plate 6. The lower edges of the side walls 8a, 8a of the inner frame 8 terminate in a position above the lower face 4a of the stamping block 4. An engaging member 8b projects from each of the shorter edges 6b of inner frame 8. As shown in the drawings, the top plate 6 of the inner frame 8 is provided, approximately in the center thereof, with a vertically extending tube 7. The tube is reduced in outer diameter at shoulder 7a to define a portion 7b extending therefrom. The top plate 6 may be further provided with a plurality of holes 15. The inner frame 8 is inserted over the metal frame 3 with the side walls 8a, 8a enclosing the longer side walls 2', 2' of frame 3; the members 8b, 8b being engaged by and under the flange 1 at each end of the frame 3. It will be noted that because the frame 3 is constructed of metal, such as stainless steel, it is of elastic nature and therefore urges the side walls 2', 2' against the side walls 8a,8a of the inner frame 8 and thereby prevents the inner frame 8 from being disengaged from the frame 3. It will further be noted that the top plate 6 of the inner frame 8 presses the ink storage block 5 against the stamping block 4, so that the stamping block 4 is firmly supported on the supporting edge 1a of the frame 3.

An outer frame 11 made of plastic material such as acrylonitrile-butadiene-styrene resin comprises a substantially flat top plate 9, and a pair of oppositely disposed side walls 11a, 11a depending from the longer edges of the plate 9. The outer frame 11 is inserted over the inner frame 8.

The height of the depending side walls 11a, 11a of outer frame 11 is greater than the height of side walls 8a, 8a of inner frame 8 so that the latter are recessed within the latter when the stamping device is standing at rest on the surface.

The stamping device hereof is characterized by letters or symbols to be produced upon the operation thereof. The letters and/or other symbols are inscribed both on the stamping block 4 and on the top surface of plate 9 of the outer frame 11 also. A transparent cover 16, made for example for a transparent plastic, is

placed on the outer frame 11. The top plate 9 of the outer frame 11 is formed approximately in the center thereof with a tubular portion 10. The tube 7 of the inner frame 8 is slidably passed through the tubular portion 10 of the outer frame 11 and extends beyond the upper end of the tubular portion 10 when the outer frame 11 is inserted over the inner frame 8. The cover 16 may be omitted.

A grip member 12 has a longitudinally formed substantially cylindrical bore 12a extending through the lower portion thereof. The bore 12a is reduced in external diameter at shoulder 12b (FIG. 1) to define a longitudinal bore 12c communicating with the bore 12a and having a smaller diameter than the bore 12a. Portion 7b extending from the inner frame 8 is frictionally engaged with the walls of bore 12c, and the tubular portion 10 extending from the outer frame 11 and housing the tube 7 is received within the lower bore 12a of the grip 12 in such a manner that the grip 12 can move in relation to the tubular portion 10 when it is pressed down or released.

A snap ring 14 is fitted around the tube 7, as at portion 7b, and rests on the tube shoulder 7(a). The grip 12 is inserted over the portion 7(b) and rests on the snap ring 14 at shoulder 12b. A compression spring 13 is located around portion 7b of the tube 7 and in the space defined between the snap ring 14 and the upper edge of the tubular portion 10. Accordingly, as long as the device is not in use, the inner frame 8 is kept by the spring 13 in its raised position, the inner frame 8 being urged against the outer frame 11, thus causing the lower surface 4a of the stamping block 4 to be in a retracted position above the lower edges of the side walls 11a of the outer frame 11.

In operation, the stamping device according to this invention is placed on the paper P on which the letters and/or other symbols inscribed on the stamping block are to be reproduced. The grip member 12 is then pressed down thus compressing the spring 13. The pressure thus applied on the grip 12 is received on the portion 7b, and lowers the inner frame 8, the ink storage block 5, the stamping block 4 and the metal frame 3 all together, whereupon the lower surface 4a of the stamping block 4 becomes flush with the lower edges of the outer frame 11 and makes an impression on the paper P. Upon completion of the stamping operation, the stamping block 4 is brought back to its raised or retracted position by the expansion of the spring 13. Since the stamping block 4 is made of porous material having numerous continuous pores and is capable of receiving a constant supply of ink from the ink storage block 5, clear impressions can be obtained continuously by simply pressing down the grip 12 without using a stamp pad.

It will be quite apparent from the foregoing description that the stamping block 4, which is kept in its retracted position above the lower edges of the outer frame 11 as long as the grip 12 is not pressed down for stamping service, will never be inadvertently brought into contact with and stain any adjacent object. Furthermore, as the same letters and/or symbols are those inscribed on the stamping block are engraved on the top surface 9 of the outer frame 11, no trial impression is necessary to see that a particular stamping device is the right one to be used in a particular situation. As an alternative, the outer frame 11 may be made of transparent synthetic resin, and an indicating plate 17 carry-

ing the same letters and/or symbols as those inscribed on the stamping block may be inserted between the inner frame 8 and the outer frame 11. It will be understood that various modifications may be made by those skilled in the art to the embodiments hereinabove described without departing from the scope of the invention as defined by the appended claims.

What is claimed is:

1. A hand stamping device comprising:

a frame means (3) for carrying a stamping block and an ink storage block thereabove;

a stamping block (4) of porous material held within said frame means and disposed so that a surface of the block is exposed for the stamping function;

an ink storage block (5) mounted within said frame means and in abutting relation to said stamping block so that ink may readily transfer from said ink storage block to said stamping block;

a top plate (6) having a pair of opposingly disposed side walls (8a) depending from said top plate (6) said top plate and side walls being inserted over said frame means and cooperating with said frame means to hold said stamping block and ink storage block in fixed position within said frame means, said top plate being provided with an aperture therein;

a tube (7) affixed to said top plate and communicating at one end with the aperture therein;

an outer frame (11) inserted over said top plate and provided with an aperture that is aligned with the aperture of said top plate, said outer frame having a pair of opposingly disposed depending side walls (11a, 11a), the height of said side walls being greater than the height of the depending side walls (8a) of said top plate 6 so as to maintain said stamping block above the lower edges of said outer frame side walls when the stamping block is in an inoperative position;

a tubular portion (10) integrally connected with said outer frame and extending from the aperture therein, said tubular portion (10) slidably receiving the tube (7) therethrough, the slidable relation of said tube within said tubular portion thereby enabling sliding displacement of said top plate (6) relative to said outer frame (11), said tube protruding through said tubular portion and out of the end upper thereof;

a grip (12) fixedly connected to the protruding end of said tube (7) extending from said tubular portion and said grip slidably operates with respect to said tubular portion;

shoulder means formed on said grip to obstruct continued slidable movement of the grip with respect to on the tubular portion; and

a spring means having one end thereof abutting said shoulder means and the other end thereof resting on said tubular portion so as to maintain and resist movement of said grip with respect to said tubular portion, thereby maintaining said grip in raised position unless pressure is applied to said grip to push said grip toward said top plate, said spring and the surfaces abutting the ends thereof cooperating to maintain said stamping block in a raised, inoperative position.

2. The hand stamping device of claim 1 wherein said frame means (3) comprises opposingly disposed depending side walls having upper and lower edges, at

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least two of said opposed side walls having upper edges which includes an inwardly directed bend therein which forms supporting edges for said ink storage block, the lower edges of said opposing side walls including inwardly directed bends which form supporting edges for said stamping block, said upper and lower edges thus cooperating to maintain said ink storage block and stamping block within said frame means.

3. The hand stamping device as defined in claim 1 wherein said opposingly disposed side walls of said top plate include upper and lower edges, the lower edges

of the side walls of said top plate terminating at a position above the face of the stamping block, said top plate further including a pair of engaging members (8b) integrally connected thereto and projecting outwardly from the edges thereof, said engaging members being received under and frictionally engaged by the inwardly directed bends at the upper edges of the side walls of said frame means (3) to thereby secure said frame means, stamping block, ink storage block and top plate in integral relation.

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