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HAND PRESS FOR AFFIXING SEALS

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4 Claims. (Cl. 81—9.1)

The invention relates to hand presses for affixing seals to cords and more particularly to an improved manually operated sealing press for affixing a two part seal consisting of a capsule and a disc, of the type disclosed in my co-pending application Serial No. 430,057, filed February 9, 1942, to a cord or the like.

The object is to provide an improved portable tool for curling the rim of a cup or capsule inwardly over the edge of a circular disc, with the ends of the cord or wire to be sealed placed between said cup and said disc.

Another object is to improve the construction of the novel tool so that the latter is compact and cheap to manufacture, lending itself readily to mass production.

A still further object is to construct a tool which affixes seals in a uniform and neat manner, so that any tampering with the seal can be readily detected.

Other aims and advantages will appear by inspection of the drawing, wherein:

Fig. 1 is a side view of the improved hand press with one half of the housing removed to show the component parts;

Fig. 2, a perspective detail view of a housing half;

Fig. 3, a side view of a modified form of the hand press with one half of the housing removed;

Fig. 4, a section taken on line 4—4 of Fig. 3;

Fig. 5, a section taken through a capsule and disc as they are placed into the die prior to curling over of the rim of the seal; and

Fig. 6, a sectional side view of the curling die and cooperating members showing a seal interposed after the curling operation is complete.

Describing the invention now more in detail and referring to Fig. 1, there is shown a housing 2 consisting of two halves, one of which is removed and is opposite hand to that shown. Part 2 is shown in detail in Fig. 2. When the opposite half is assembled to it, line 3 forms the joint between the two halves. The latter are firmly held together by studs 4, 5, and 6, and clamp die 7 in place, to accommodate which the housing has slots 8 engaging the crown of the die. To hold die 7 firmly against front portion of housing 2, I provide a projection 9 in both housing halves. Thereby it is possible to make the web of the housing halves substantially flat, so that they may be produced as inexpensive stampings.

Stud or pin 4 not only serves as a spacer to secure the two housing halves together, but also

as a pivot or anchor pin for a pair of links 10 whose upper end has a fulcrum pin 11 to support a lever 12 engaging a punch 13 through a slot 14 by means of a pin 15. The lower face of punch 13 is shaped to conform with the back of a seal. A torsion spring 16 placed between said links 10 serves to urge the press into its "off" position, as shown in Fig. 1, whereby an arm or projection 17 serves as a stop to limit the retractile movement of lever 12. Spring 16 also serves to hold punch 13 against the front part of the housing, to be perfectly aligned with die 7. To further safeguard lever 12 and punch 13 against manipulation to move them out of their proper position in respect to housing 2 and die 7, I place spacer pin 5 near links 10.

The curling die 7 has an annular groove 18 serving to curl the rim of a seal when affixing it to a cord. The crown of the curling die has a pair of diametrically opposed slots 19 to accommodate the ends of a cord or wire when attaching the seal thereto. A central bore in said die has slidable therein an ejector pin 20 urged into its upward or "open" position by a spring 21, and retained by a nut 22. An abutment 23 serves to provide a definite stop in the closed position, so that all seals are closed in the same degree and are of uniform appearance. The upper portion or face of the ejector pin may have a desired engraving or stamp 24 to impress a numeral or other identification into the disc of the seal.

In Fig. 3 a modification is shown with a different lever arrangement to eliminate links 10 and to use instead a fixed fulcrum consisting of a pin 25 similar to pin 4 in construction and firmly secured to the housing 26 which is identical with part 2 except for additional holes for securing pin 25 and the omission of holes for spacer pin 5. Pin 25 supports a lever 27 whose short arm is in engagement with a roller 28 turning on a pin 29 supported in punch 30, which has a slot 31 to provide clearance for lever 27 and roller 28. A pin 32 serves to engage lever 27 for the retractile movement of punch 30. A tension spring 33 is provided to urge the press into the "off" position.

In order to hold lever 27 in its proper position laterally, a pair of spacers 34 are provided, as shown in Fig. 4. These also serve to keep punch 30 in axial alignment with die 7.

In operation, the capsule 35 and disc 36 are assembled as indicated in Fig. 5, with the ends of a cord or wire 37 interposed. While the sealing tools is in the open position, as shown in Figs. 1

and 3, this assembly is placed into die 7 so that wire 37 is seated in slots 19. Fig. 5 shows the correct relative position of the assembly of the component parts of the seal as it is placed into the tool shown in Fig. 1 or Fig. 3. After the seal assembly is seated in the die of the sealing tool, the levers are closed by hand to press the punch member against the die. This action presses disc 36 firmly against the bottom of capsule 35 and forces wires 37 into the channel 38. When disc 36 rests firmly on the bottom of capsule 35, further closing of the tool causes spring 21 to yield, furthermore, the rim of capsule 35 is urged to follow the contour of groove 18 in the curling die so that it is curled inwardly and over disc 36 to retain it permanently. When the seal is sufficiently formed ejector pin 23 abuts against the bottom of the bore in die 7 so that a definite stop is provided for the curling operation. At the same time an impression is made in disc 36 if an embossing 24 is provided in ejector pin 23. In this position the sealing press is closed and the seal is completed or affixed, as illustrated in Fig. 6. After the manual grip on lever 12 or 27 is released spring 16 or 33, respectively, automatically urges the sealing tool into its "open" position, whereby spring 21 expands until nut 22 is seated on the bottom of curling die 7, and the finished seal is ejected from the die by ejector pin 23.

While two embodiments are herein shown by way of example, I wish to make it understood that the invention can be carried out in ways different from those shown and applied to seals of different construction, therefore, I do not wish to limit the scope of the invention, or the construction to these particular embodiments, except as defined by the terms of the appended claims.

I claim:

1. A hand press for affixing a two part seal consisting of a capsule and a disc to a cord or the like, said hand press having a housing consisting of two stamped halves, a curling die to curl the rim of said capsule over said disc, an ejector pin slidable within said curling die backed by a resilient member, a punch in axial alignment

with said curling die to press said capsule against said curling die when said hand press is in a closed position, a lever to actuate said punch member, said housing halves being shaped to form a guide for said punch member so that the latter may move in axial alignment with said die, one end of said housing being extended to serve as a lever, and resilient means urging said hand press in an open position.

2. A hand press for affixing a two part seal consisting of a capsule and a disc to a cord or the like, said hand press having a curling die to curl the rim of said capsule over said disc, a plunger in axial alignment with said curling die to press said capsule against said curling die when said press is being closed, an ejector pin slidable in said curling die, resilient means to urge said ejector pin in an open position in which a finished seal is ejected from said curling die, a stop to limit the insertion of said ejector pin into said curling die and to provide a definite limit for the closure of said plunger and said curling die, a housing consisting of a pair of stamped halves supporting said curling die and providing a guide to enable said plunger to slide in axial alignment with said curling die, said housing being formed to serve as a lever arm, an operating lever fulcrumed to said housing to actuate said plunger, and a roller rotatably secured to said plunger to transmit the action of said lever to said plunger, the extremity of said lever in contact with said roller having a cam shape to provide an increased pressure and a better mechanical advantage near the end of the stroke, said housing and said lever being opposed to each other, whereby the hand press may be carried in and operated by one hand.

3. The construction as claimed in claim 2, where said ejector pin is provided with a raised character to impress a marking into the seal upon closure of the hand press.

4. The construction as claimed in claim 2, where said curling die has two diametrically opposed cord recesses.

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