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HIDE STAMPER

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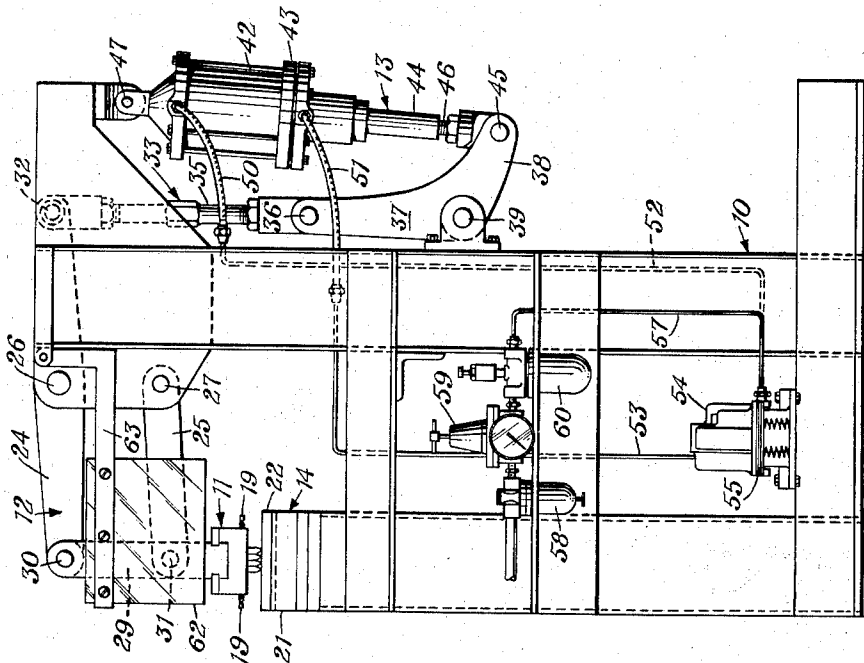


Fig. 1

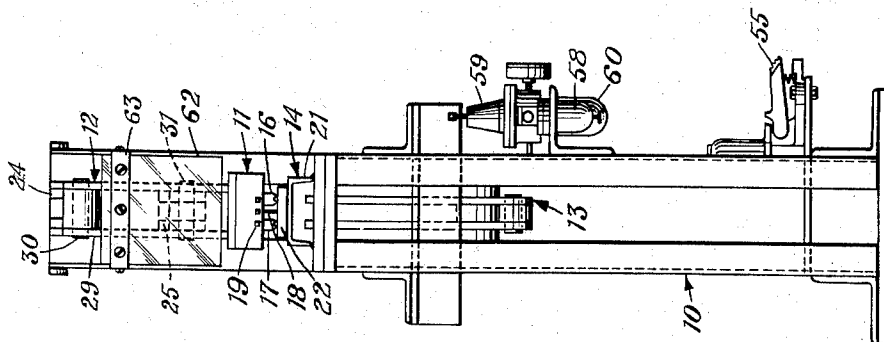


Fig. 2

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HIDE STAMPER

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The present invention relates to a method and apparatus for use in the stamping of identification data on hides.

It is the usual practice to stamp both halves of a hide with standard identifying information before the hide is cut and processed. A hide that still has hair on it and has not been processed is commonly termed a "green hide." While in the past machines have been used for this purpose, the machines that have been in common use operate on an impact principle which results in difficulties and expense. The impact of the stamp on the platen causes damage to the teeth over a period of time even though the platen is of wood or a synthetic material. This is aggravated where rock salt in the hide is caught in the impact between the indicia on the stamp and the platen. When the indicia on the stamps are damaged they must be replaced inasmuch as hides that are poorly identified can create serious problems.

Furthermore, the impact of the stamps on the platen, particularly where a fairly soft platen is used in order to protect the teeth, rapidly chews out the platen, requiring that the machine be shut down regularly for replacement of these platens or stamping bases. The principal object of the present invention is to provide a stamping machine in which there will be no impact between the stamps and the platen, whereby the problems that result with the impacting type of machine, as previously outlined, will not be present. A principal advantage of this invention that aids in achieving the foregoing object of the invention is the ability to adjust and control the movement of the stamp very accurately, whereby the stamp can be made to touch the platen just sufficiently to implant the identifying information in the hide and yet without damaging the indicia on the stamps or the platen.

A further advantage of the present invention is that the velocity of movement of the stamp as the stamp approaches the platen gradually reduces from the starting velocity, with the velocity of the stamp approaching zero as the stamp gets close to the platen. This, coupled with the fact that the stamp will just "kiss" the platen, eliminates the disadvantages attendant upon the use of an impact type of device.

A further object of the invention is to have the stamps meet the platen at substantially a right angle so that the force applied by each of the stamps in marking the hide will be substantially equal. This assures the legibility of all of the marking applied to the hide. Many types of prior art devices operated on the principle of the stamping head moving in an arc around a pivot point to strike or press the hide against the platen. Variations in the length of the stamps or in the manner in which the stamps were fitted into the stamping head or even wear in the machine would tend to cause certain of the stamps to be a greater or lesser distance from the platen than other of the stamps with the result that the marking was uneven. This is overcome in the present invention by having the stamps positioned at all times normal to the face of the platen. Furthermore, the stamps are moved

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along a substantially vertical line. As a result of these factors it will be seen that with a proper mounting of the stamps in their holder, the travel of each of the stamps with respect to the surface of the platen will be equal.

Furthermore, it is a relatively easy matter to mount the stamps properly in the holder by using the platen as a guide.

Another object of the invention is to provide a method and apparatus for facilitating the retaining of the identification on each of the halves of the hide. Preferably the stamping of the hide is done by applying a set of marking indicia to each side of the line of the backbone, with the hide subsequently being split along the line of the backbone between the two markings. If care is not exercised in the cutting of the hide, one of the indicia may be partly or wholly cut from the half of the hide on which it is supposed to appear. In fact it is sometimes difficult to avoid doing this because of the fact that the hair on the green hide hides the markings making it difficult for the hide cutter to be sure that he cuts between them with his splitting knife. This problem is eliminated by the method and apparatus that I have devised by placing the markings on either side of a cut in the hide. This cut not only indicates to the splitter where the indicia are so that he will not remove part or all of one of the indicia, but also forms a good starting point for the insertion of the splitting knife.

Further objects and advantages will become apparent from the following description taken in conjunction with the drawings in which:

Figure 1 is a side elevation of an embodiment of the invention; and

Figure 2 is an end elevation of the embodiment of Figure 1.

The method I have devised for preventing the cutting of all or a part of the indicia from one half of the hide on which it is placed is to imprint the indicia on either side of a slit cut in the side along the line of the backbone, i. e., the line along which the hide is supposedly split. This enables the operator to readily identify where the indicia are placed so that he can properly make the cut. It will be noted from the following description that this method has been incorporated in the embodiment illustrated in Figures 1 and 2 of the drawing.

The mechanism of the stamper I have devised is mounted on a frame, generally 10, and comprises a stamp holding head, generally 11, a movable mounting means, generally 12, for said head 11, a power means, generally 13, connected to the mounting means to provide movement of the stamp holding head 11, and a platen, generally 14, against which the stamping pressure is employed.

The stamp holding head 11 has three recesses (not shown) in the bottom side thereof, two of which are for receiving separate sets of stamps 16 and 17, respectively, and the third for receiving a knife blade 18. Set screws 19 at each side of the head 11 project into the recesses and clamp the stamps 16 and 17 and the knife 18 in the recesses.

The platen against which the pressure is applied by the stamps 16 and 17 and the knife 18 is fixably mounted on the frame intersecting the line of movement of the head 11. Preferably the platen 14 is formed of two parts, one a metal base 21 and the second a wooden or synthetic pad 22 suitably secured to the base 21.

The mounting means 12 for the head 11 comprises a pair of levers 24 and 25 pivotally secured to frame 10 by pins 26 and 27, respectively. A support 29 for the head 11 is attached to the ends of levers 24 and 25 by pins 30 and 31, respectively, which pins allow the support to pivot with respect to each of the levers. The pin connections are positioned so that the portion of support

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29 between pins 30 and 31, the portion of the frame 10 between pins 26 and 27, the portion of lever 24 between pins 26 and 30, and the portion of lever 25 between pins 27 and 31 form a parallelogram. By reason of this fact and by positioning the top of platen 14 at right angles to the line between pins 26 and 27, the position of support 29 will always be normal to the top of the platen.

The other end of lever 24 is pivotally secured by means of a pin 32 to one end of a toggle, generally 33, making up a portion of power means 13. One leg 35 of toggle 33 is in the form of a turnbuckle to provide an adjustment of the position of the bottom end of the stamps 16 and 17 with respect to the top of the platen 14. Leg 35 of the toggle 33 is connected by means of a pin 36 to the other leg 37 of the toggle. Leg 37 is in the general shape of an L, having a projecting arm 38. At the base of the L a pin 39 connects the toggle 33 to the frame 10.

Preferably power is applied by means of a double acting fluid piston operating within a cylinder 42 carried by a cylinder frame 43. The piston rod 44 is connected by means of a pin 45 to arm 38 of the leg 37 of the toggle. Preferably the length of piston rod 44 is adjustable as seen at 46. Cylinder frame 43 is secured to the main frame 10 by a pin 47.

Flexible hoses 50 and 51 communicate with the interior of the cylinder 42 to either side of the piston thereof and are connected to pipes 52 and 53, respectively. Pipes 52 and 53 connect with a conventional 4-way valve 54, the details of the structure of which form no part of the instant invention. The valve is actuated by a foot pedal 55. Fluid pressure is supplied to the valve through a pipe 57 from a suitable source of supply. Preferably the fluid supply pipe 57 includes in the line a moisture trap 58, a pressure regulator 59 and an oiler 60.

A transparent guard 62 is placed about the outer portion of the mounting means 12. The guard 62 may be in the form of a transparent plastic resin such as methyl methacrylate resin which is sold under the trademark "Lucite." It is held in place by bracket 63 secured to frame 10.

After the stamps 16 and 17 and the knife 18 are fastened in the holder 11, the toggle 33 is adjusted so that the stamps just "kiss" the top of the platen 14 when the toggle is straight, as illustrated in Figure 1. Adjustment 46 is then set so that the position of toggle 33 is straight when the piston rod 44 is fully retracted.

Starting with the position illustrated in Figure 1, foot pedal 55 is used to change the position of the valve 54 so that air pressure is applied to the upper end of the cylinder 42 through hose 50 and the lower end of the cylinder 42 is exhausted through hose 51. The movement of the piston rod 44 rotates the leg 37 of the toggle in a clockwise direction to draw down the upper end of the toggle, as represented by pin 32. This raises the other end of lever 24 and also raises head 11.

The hide is then inserted between the stamps and the platen, with the knife blade 18 aligned with the line of the backbone of the hide. In the usual practice the identification is made in the neck area of the hide. The position of the valve 54 is again changed by an actuation of foot pedal 55 so that air pressure is applied to the lower end of the cylinder through hose 51, with the upper end of the cylinder being exhausted through hose 50. The upward movement of the piston rod 44 straightens the toggle to bring the head 11 down and stamp the identifying markings on each side of the backbone line of the hide, with a cut being made by knife 18 along that backbone line.

If the adjustment 46 of piston rod 44 is not exactly right and there is an overtravel of the toggle 33, no harm will be caused because the travel of the toggle beyond the straight line position will merely again raise the head 11 slightly above the top of the platen 14 and there will

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be no tendency to chew the top of the platen. Furthermore, as the toggle approaches the straight line position, the velocity of movement of pin 36 in the direction represented by the line between pins 39 and 32 will become gradually smaller and smaller, with, of course, the velocity coming to zero at the straight line position. At the same time, tremendous pressures can be developed by the toggle coming to the straight line position. This combination of gradually reducing velocities with increasing pressures is very advantageous in the application of the stamping indicia to the hides.

The foregoing description of a specific embodiment is for the purpose of compliance with 35 U. S. C. 112 and should not be construed as imposing unnecessary limitations on the appended claims.

I claim:

1. A stamping machine for use with stamps having a marking face, said machine including a frame, a stamp holding member, said member having means for holding two separated groups of stamps and means for holding a knife blade of a length approximately equal to the length of a group in a position between said groups, a first generally horizontal lever pivotally attached to said frame, a second generally horizontal lever pivotally attached to said frame, a generally vertical support pivotally attached to said levers in a position such that the two levers, the support and the portion of the frame to which the levers are attached form a parallelogram, said member being attached to the lower end of said support in a position such that the face of the stamps held thereby project directly downwardly, a toggle attached to said frame and to one of said levers in a position such that as the toggle straightens the member will lower, said toggle being adjustable as to length whereby the extent of lowering of said member may be controlled, one half of said toggle having a projecting arm, a double acting fluid actuated mechanism comprising a cylinder means and a piston means, one of said means being attached to said arm and the other of said means being attached to said frame whereby the toggle may be turned toward and away from the straight position, and a platen affixed to said frame and positioned below said member in a horizontal position.

2. A stamping machine for use with stamps having a marking face, said machine including a frame, a stamp holding member, a first generally horizontal lever pivotally attached to said frame, a second generally horizontal lever pivotally attached to said frame, a generally vertical support pivotally attached to said levers in a position such that the two levers, the support and the portion of the frame to which the levers are attached form a parallelogram, said member being attached to the lower end of said support in a position such that the face of the stamps held thereby project directly downwardly, a toggle attached to said frame and to one of said levers in a position such that as the toggle straightens the member will lower, said toggle being adjustable as to length whereby the extent of lowering of said member may be controlled, one half of said toggle having a projecting arm, a double acting fluid actuated mechanism comprising a cylinder means and a piston means, one of said means being attached to said arm and the other of said means being attached to said frame whereby the toggle may be turned toward and away from the straight position, and a platen affixed to said frame and positioned below said member in a horizontal position.

3. A method of processing hides in the manufacture of leather which includes the steps of stamping an identification on either side of the backbone line of the hide while simultaneously cutting the hide generally parallel to said line only in the area between said stamped identifications, and subsequently severing the hide into two parts commencing at the cut made between said identifications.

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