

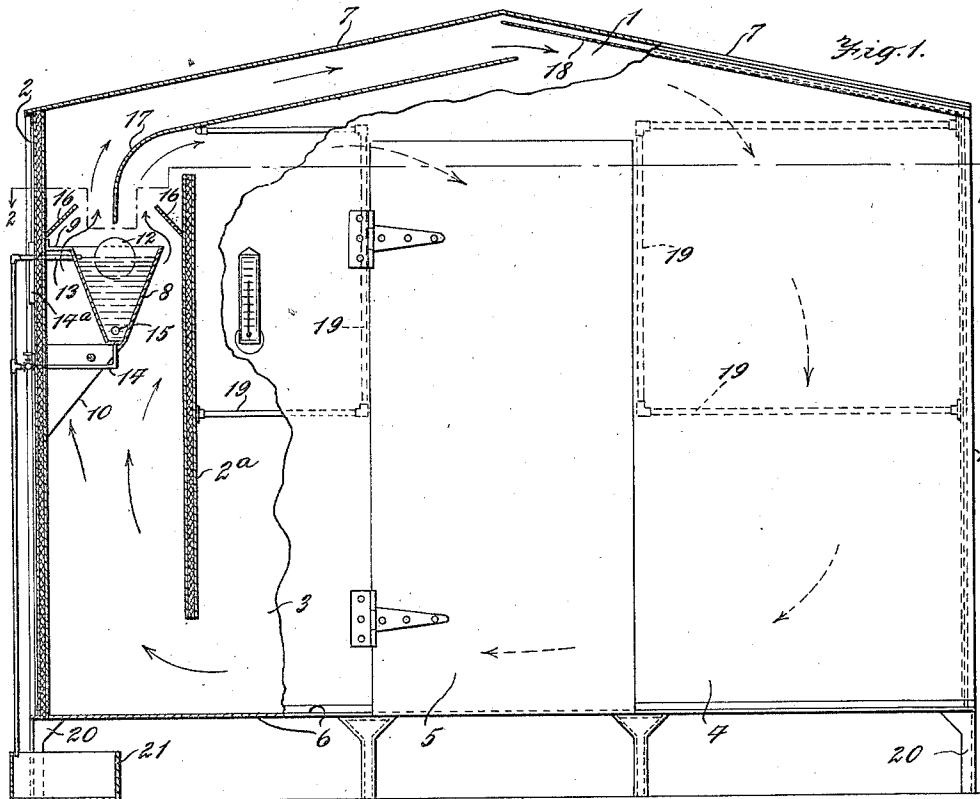
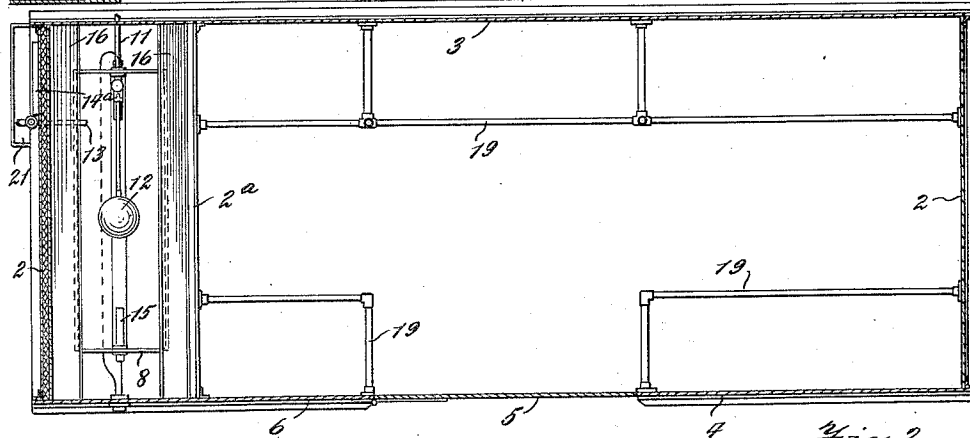
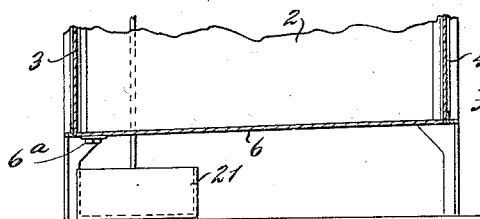
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MULLING CABINET

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MULLING CABINET.

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This invention relates to apparatus for conditioning sheets of leather prior to its use in the manufacture of leather articles and is particularly applicable to mulling cabinets for conditioning and softening shoe leather to withstand the stretching and forming strains accompanying the forming of leather into shoes.

As is well known in the shoe making art the sections of leather that go to make up the uppers and soles of shoes are subjected to strains during the lasting and sole laying operations. There are times when these operations extend over a substantial length of time and consequently it has been the custom to precondition the leather by "tempering" or softening the leather by applying water to it in various ways.

It is the purpose of this invention to provide a conditioning cabinet or mulling cabinet in which leather may be placed and be moistened so as to make it readily pliable. In accordance with this invention a closed cabinet is provided having means therein for maintaining the air within the cabinet substantially saturated with moisture. As a means for maintaining this condition in the cabinet this invention contemplates placing a heated open water tank in an insulated portion or chamber of the cabinet with suitable baffle walls to direct the induced current of moistened air arising from and around the tank.

A more detailed description will now be given in connection with the drawings in which:

Fig. 1 is a front elevation partly in section of a cabinet embodying the principles of this invention;

Fig. 2 is a horizontal section taken along line 2—2 of Fig 1; and

Fig. 3 is a fragmentary end section showing the pitch of the floor.

The cabinet 1 may be made of sheet metal and is entirely closed and is composed of two sides or ends 2, a back 3, a front 4 having a door 5 therein, a pitched floor 6 and a pitched roof 7 joined together in any convenient manner so as to form an enclosure or cabinet. The floor 6 is pitched to the rear to drain any condensation rearwardly and out of the outlet 6^a in the rear of the floor. One side or end 2 is insulated with a layer of insulating material such as asbestos and

an insulating partition 2^a is supported between the front and back at a relatively short distance from the insulated end thus forming an insulated conditioning chamber therebetween. This partition extends from back to front and may be supported thereupon by angle pieces, but does not extend from top to bottom, the partition stopping short thereof to allow air to enter below the partition and pass out above the partition. Within the insulated conditioning chamber and near the top is mounted an open trough-like water tank 8 the side walls of which converge toward the bottom. The tank is approximately as long as the depth of the cabinet and is about two-thirds the width of the chamber so as to leave air passages up each side of the tank, and may be conveniently supported centrally of the chamber by brackets 9 and 10 secured to the side 2 of the cabinet. Water is fed to the tank through an inlet pipe 11 and is maintained at a constant level by means of a ball float valve 12. An overflow pipe 13 and drain pipe 14 are also provided. An inspection hole is cut into the side wall adjacent the float valve and is covered with a suitable insulated cover 14^a to enable one to inspect and regulate the valve. In the bottom of the water tank there are provided two heating elements 15 such as electric heating elements one being positioned at each end of the tank. Attached to the two insulated walls adjacent the top edges of the water tank are two horizontal baffle plates 16 which are inclined upwardly and extend partially over the open tank. A third baffle plate 17 is supported so that one end portion is suspended vertically over the center of the water tank and from this end it curves upwardly and parallels one side of the pitched roof a short distance down therefrom. A sheet of fabric 18 is suspended very close to the other side of the pitched roof to absorb any condensation that may drip from the sheet metal top. The baffle 17 will catch any condensation that may drip from the roof upon that side of the cabinet.

The major portion of the cabinet is supplied with railings 19 upon which the leather to be treated is hung, it being obvious that trays or any other supporting means may be employed, for that purpose.

The entire cabinet is mounted upon four

legs 20 and a pan 21 is placed under the opening in the floor of the cabinet to catch the drainage water from the floor and the overflow and drain water from the tank.

5 The conditioning chamber between the two insulating walls having a warm body of water therein will be at a higher temperature than the rest of the cabinet and consequently there will be a tendency for the air
10 to rise in the chamber and circulate. The hot inclined side walls coacting with the insulated partition and the outer wall of the cabinet will give a double chimney effect to the conditioning chamber and induce a
15 strong current of air upwardly. This current of warm air indicated by the arrows will be directed across the open tank of water by the horizontal baffles and will absorb considerable moisture. The current
20 will then be directed upwardly by the baffle 17 and across the cabinet to the apex of the roof and from there it will drop down as it becomes cooler and travel across the floor and again up the conditioning chamber completing the cycle.

In this manner a continuous current of substantially saturated air is kept circulating through the cabinet without the aid of blowers or any moving mechanism.

30 It is obvious that changes may be made in the embodiment herein disclosed by way of illustration without departing from the scope of the invention as defined in the appended claims.

35 I claim:

1. A mulling cabinet comprising an enclosure having a conditioning chamber therein formed by an insulated partition member extending across the depth of the enclosure
40 and intermediate of the top and bottom of the enclosure and means within the chamber for establishing a circulation of air in said enclosure including a water tank therein having diverging sides and an open top,
45 means for heating said tank and baffle plates for directing the induced current of air across the tank and the enclosure.

2. A mulling cabinet comprising an enclosure, a conditioning chamber therein
50 formed by an insulated partition member extending across the depth of the enclosure and lying intermediate of the top and bottom of the enclosure and means within said chamber for inducing a current of air in said
55 chamber including a water tank therein having diverging sides and an open top, means for heating said tank and baffle plates for di-

recting the induced current of air across the open top of said tank.

3. A mulling cabinet comprising an enclosure, a conditioning chamber therein
60 formed by an insulated partition member extending across the depth of the enclosure and lying intermediate of the top and bottom of the enclosure and means within said
65 chamber for inducing a current of air in said chamber including a water tank therein having diverging sides and an open top, means for heating said tank, inclined horizontal baffle plates for directing the induced
70 current of air across the water tank and a baffle plate for directing the induced current of air across the top of the enclosure and for collecting and returning products of condensation to said tank.

4. A mulling cabinet comprising an enclosure, a conditioning chamber therein
75 formed by an insulated partition member extending across the depth of the enclosure and lying intermediate of the top and bottom of the enclosure and means within said chamber for inducing a current of air in said chamber including a water tank therein having diverging sides and an open top, means for heating said tank, inclined horizontal baffle
80 plates for directing the induced current of air across the water tank and a baffle plate for directing the induced current of air across the enclosure, said latter baffle plate being suspended with a vertical portion disposed substantially midway of the open top
85 of the tank.

5. A mulling cabinet comprising an enclosure, a conditioning chamber therein
90 formed by an insulated partition member extending across the depth of the enclosure and lying intermediate of the top and bottom of the enclosure and means within said chamber for inducing a current of air in said chamber including a water tank therein having diverging sides and an open top, means for heating said tank, inclined horizontal baffle
95 plates for directing the induced current of air across the water tank, a baffle plate for directing the induced current of air across the enclosure, said latter baffle plate having a vertical portion disposed substantially midway of the open top of the tank and an inclined portion disposed parallel to a portion
100 of the top of the enclosure.

In witness whereof, I hereunto subscribe my signature.

VERNON CANO.