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AUTOMATIC DIPPING MACHINE

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Fig.1

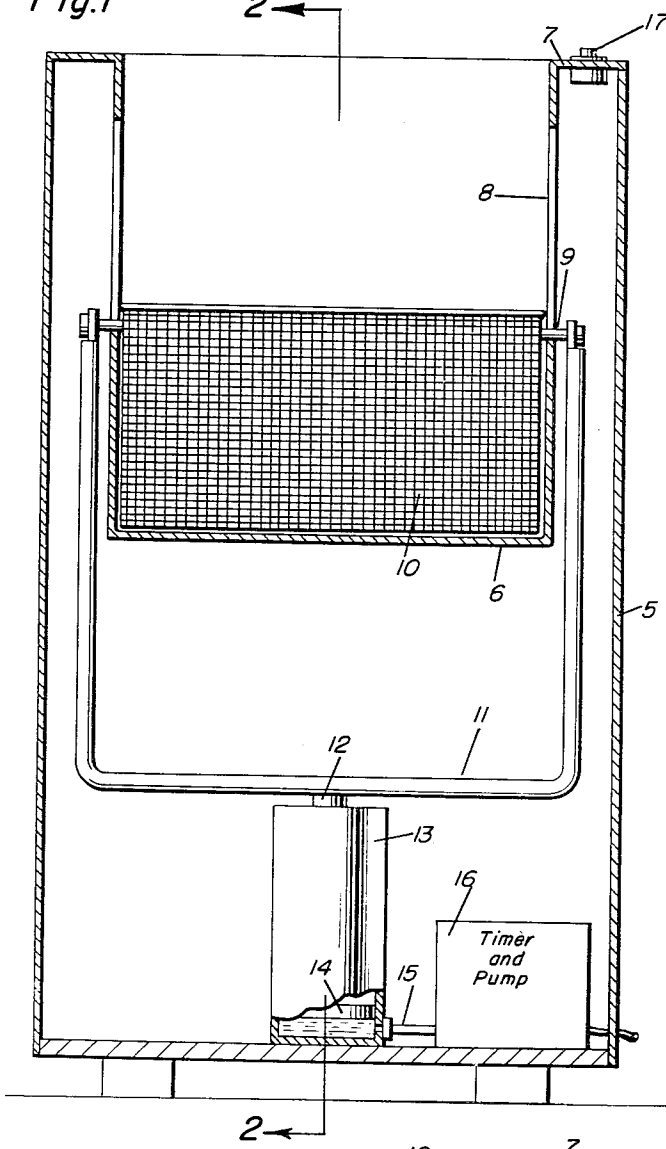
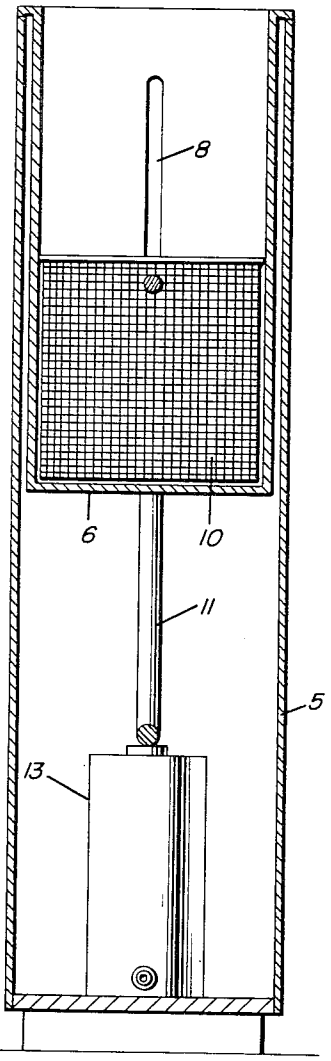


Fig.2



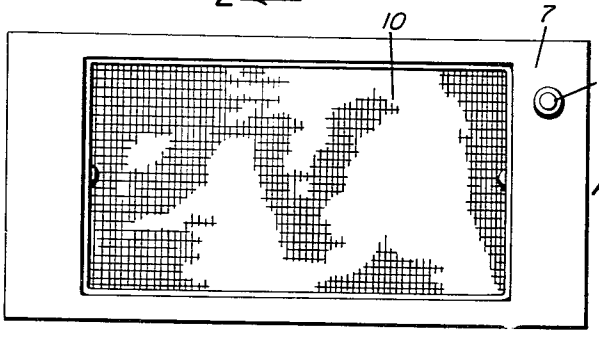


Fig.3

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AUTOMATIC DIPPING MACHINE

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2 Claims. (Cl. 134—141)

The present invention relates to new and useful improvements in machines for dipping articles in a bathing solution and wherein means are provided for automatically raising the articles from the bath following a predetermined interval of submersion.

An important object of the invention is to provide a tank containing a solution and in which a basket is lowered and subsequently raised by time controlled mechanism following submersion in the solution for a predetermined period.

Another object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purpose for which the same is intended.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a vertical sectional view of the tank;

Figure 2 is a vertical sectional view of the tank taken on a line 2—2 of Figure 1; and

Figure 3 is a top plan view.

Referring now to the drawing in detail, wherein for the purpose of illustration we have disclosed a preferred embodiment of our invention, the numeral **5** designates a main or outer tank in which an inner tank **6** is supported by an outwardly projecting flange **7** on the inner tank resting on and suitably secured to the upper portion of the main tank to support the inner tank in an elevated position in the main tank. The inner tank **6** is adapted to contain a bath solution and is formed with vertical slots **8** in its upper opposite side portions in which trunnions **9** are slidable and which project outwardly at the upper side portions of a basket **10** of wire or other suitable foraminous construction.

A yoke **11** is attached at its upper end portions to the outer ends of the trunnions **9** and the yoke underlies the inner tank **6** and to the lower central portion of which the upper end of a piston or plunger rod **12** is secured or united. Rod **12** extends downwardly into a cylinder **13** and is provided with a piston or plunger **14** at its lower end having a working fit in the cylinder.

A pipe **15** connects the lower portion of cylinder **13** to a sump (not shown) in a housing **16** for a pump (not shown) to subject the underside of the piston to fluid

pressure to raise the basket **10** in inner tank **6**. The pump is controlled by a timer mechanism (not shown) of a conventional type and also installed in housing **16** to raise and hold the basket in a raised position out of the bath solution contained in the inner tank. The cylinder **13** and pump housing **16** are placed in the bottom of main tank **5**.

A push button switch **17** is mounted externally of main tank **5**, preferably on the flange **7** of the inner tank, and is connected in a circuit (not shown) with the pump and timer mechanism to cut off the pump and allow the basket to gravitate in inner tank **6** so that the weight thereof forces the fluid in the cylinder **13** back into the pump sump.

The lowering of the basket immerses the contents therein of in a bath solution in the inner tank for a predetermined interval as set by the timer mechanism.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A dipping machine comprising an outer tank, an inner tank supported in an elevated position in the upper portion of the outer tank, said inner tank being adapted to contain a bath solution and having vertical slots in its opposite sides, a basket in the inner tank and having trunnions slidable in the slots, a yoke underlying the inner tank and connected to the trunnions, and fluid pressure operating means in the outer tank for raising and lowering the yoke.

2. A dipping machine comprising an immersion tank, a basket disposed in said tank, and means operatively mounting said basket in said tank for movement of said basket between an immersed and a drainage position in response to the passage of a predetermined interval of time, said means comprising a fluid piston and cylinder operating assembly operatively connected with a pump and a pump operating timer, a yoke including a bight portion disposed below said tank and a pair of spaced, parallel arms extending upwardly along opposite sides of said tank, said tank having vertical slots in the upper portions of the sides thereof, elements slidably received in said slots connecting said basket and said yoke arms, and means rigidly connecting said bight portion and said piston for unitary movement.

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