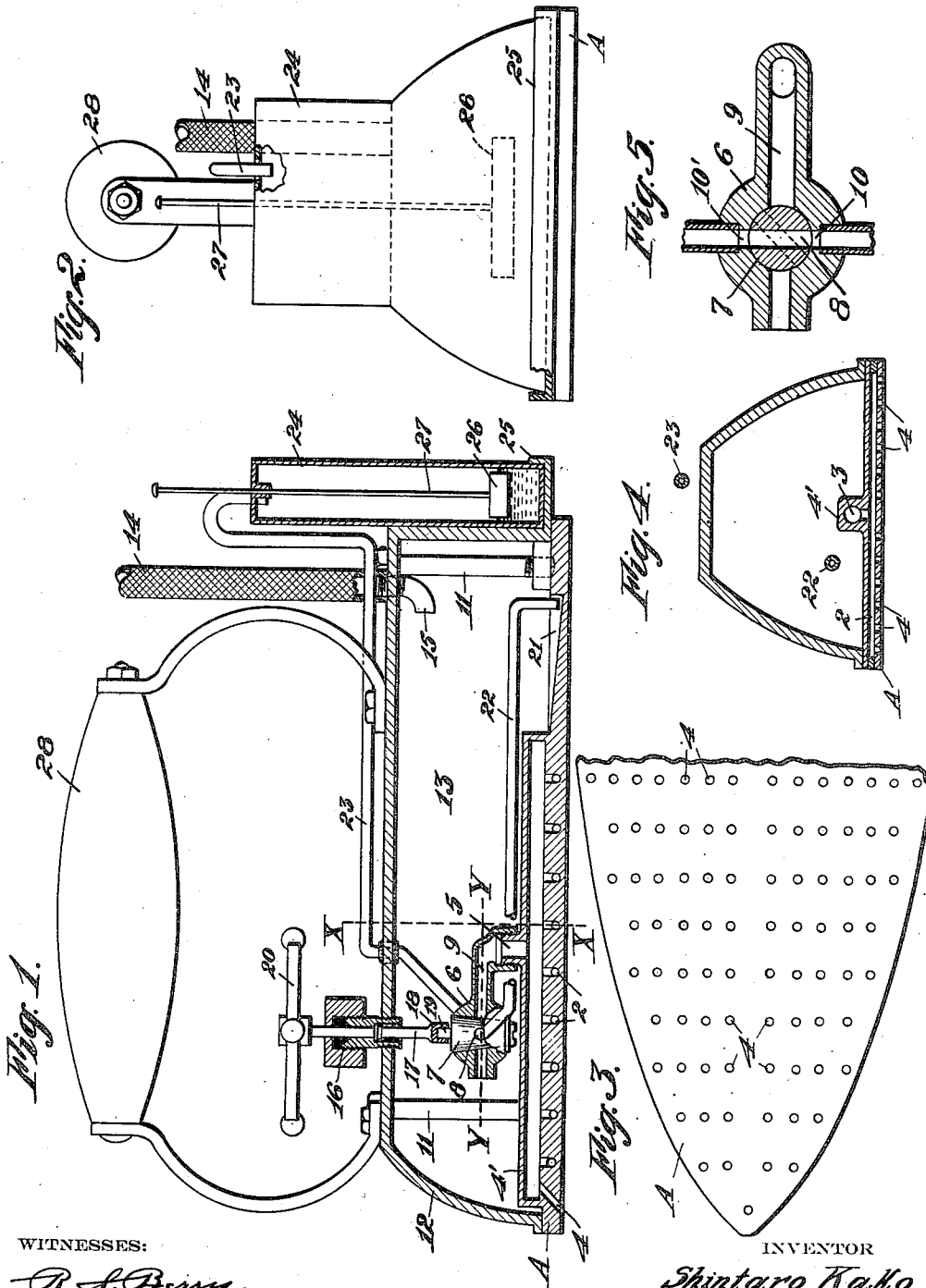


S. KAKO.
SAD IRON.

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1,065,873.

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WITNESSES:

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SAD-IRON.

1,065,873.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SHINTARO KAKO, a subject of the Emperor of Japan, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Sad-Irons, of which the following is a specification.

This invention relates to a sad-iron, and particularly pertains to that class of sad-irons which is heated by steam.

It is the object of this invention to provide a steam heated sad-iron in which the steam may be utilized for moistening the goods being ironed, or may be employed merely for the heating of the iron.

Another object is to provide a simple and efficient means for controlling the flow of steam to the iron, and for removing such water as may accumulate in the iron due to the condensation of the steam.

A further object is to provide a container or receptacle on the iron for receiving the water, with means for indicating the quantity of water contained in the reservoir, so that there will be no danger of an overflow.

Another object is to provide an iron of the above character which is simple in construction and readily assembled, and which may be easily and quickly regulated.

The invention primarily resides in a perforated base portion, a steam chamber on said base portion, means for delivering steam to the interior of said chamber, means for removing the condensed steam from the chamber, and valved means for controlling the flow of steam to the chamber and for directing it through the perforated base portion, as desired.

The invention further consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a vertical section of the invention partly in elevation. Fig. 2 is an end view with parts broken away. Fig. 3 is a partial plan view of the pressing face of the iron. Fig. 4 is a vertical section on the line X—X of Fig. 1. Fig. 5 is a horizontal section on the line Y—Y of Fig. 1.

In the drawings A represents the base or pressing plate of the iron, which may be of any suitable outline, and is smooth on its under or pressing face. This plate is formed with a series of transverse channels or passages 2, which open to a longitudinally ex-

tending passage 3. The passages 2 and 3 form manifold conduits for conducting steam to a series of perforations 4, leading from the transverse passages 2, and opening on the underside to the pressing plate A. The passage 3 is formed in a longitudinally extending rib 4' on the upper face of the pressing plate A, and opens through a nipple 5 on the rib 4' to a valve casing 6. The valve casing 6 is screwed on the nipple 5 and is provided with a cone valve 7, which is formed with a transverse port 8 adapted to register with a port 9 leading from the nipple 5 to the exterior of the valve casing 6, and with ports 10 and 10' opening into the valve casing 6 at right angles to the port 9, as shown in Fig. 5.

Mounted on the upper face of the base plate A, and secured thereto by means of bolts 11, is a hollow cover portion 12. This cover portion 12 is designed to inclose a space above the upper face of the pressing plate A, to form a steam chamber 13; a flexible tube 14 conveying steam to the interior of the cover portion 12 through a nipple 15. The tube 14 may be attached to any suitable source of steam supply.

Mounted on the cover portion 12 is a stuffing box 16, through which a valve stem 17 extends. The valve stem 17 is formed with a rectangular socket 18 on its lower end which is adapted to engage a square pin 19 formed on the conical valve 7. The valve stem 17 is provided with a hand-wheel 20, which, on being turned, will rotate the conical valve 7.

Formed on the upper face of the pressing plate A is a transverse channel or pocket 21, in which the condensed vapors within the iron are collected. Leading from the pocket 21 is a pipe 22 which terminates in the port 10 in the valve casing 6, and leading from the port 10' is a pipe 23 which passes through the cover portion 12 and terminates at its outer end within a reservoir 24, supported on a bracket 25 formed on the cover 12. The reservoir 24 is designed to receive the water condensed within the iron and is adapted to be removed from the shelf or bracket 25 when it is to be emptied. A float 26 carrying a stem 27 is disposed in the reservoir; the stem 27 passing through the upper portion of the reservoir and terminating a short distance thereabove.

The sad-iron is provided with a suitable handle 28 which is attached to the cover por-

tion 12 and may be of any suitable construction.

In the operation of the invention, steam is delivered to the interior of the cover 12 through the tube 14 and nipple 15; the steam acting to heat the pressing plate A to the desired temperature. By disposing the valve 7 in the position shown in Fig. 5, the steam will be confined within the chamber 13, when sufficient water is accumulated by condensation in the pocket 21, to cover the lower end of the pipe 22. When the pressure in the iron has reached a certain degree, the water accumulated in the pocket 21 will be forced through the pipe 22, ports 10, 8, 10', and pipe 23, into the reservoir 24, where it is collected.

When it is desired to moisten the goods being ironed, the valve 7 is turned by rotating the hand-wheel 20, so as to dispose the port 8 in alinement with the port 9, thereby permitting the steam in the chamber 13 to pass through the port 9 and enter the passages 3 and 2, from whence it will be discharged through the perforations 4 in the pressing plate A. The hand-wheel 20 is so positioned in relation to the handle 28 that it can be readily clasped by the forefinger and thumb when ironing, so that it may be readily adjusted to regulate the flow of steam through the port 9 and perforations 4. When it is desired to confine the steam within the chamber 13, the valve 7 is turned so that the port 8 will be disposed in the position shown in dotted lines in Fig. 5, which will close the ports 10 and 10' and the port 9. This is done when it is desired to increase the temperature of the iron.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is—

1. A sad-iron comprising a perforated pressing plate, a steam chamber on said plate, means for delivering steam into said chamber, a valve in the steam chamber adapted to direct the steam through the perforated plate or confine it to the steam chamber, and means controlled by said valve for allowing the steam to escape from the chamber other than through the perforations in the plate and for carrying away the condensed steam.

2. In a sad-iron the combination with a perforated pressing plate, a steam chamber thereon and means for delivering steam to said chamber, of a valve so constructed as to direct and control the flow of steam through the perforations in the plate, confine it in the steam chamber, or direct it exteriorly thereof other than through the perforated base.

3. In a sad-iron, the combination of a pressing plate formed with a series of perforations and manifold passages communicating with said perforations, a steam chamber carried on the pressing plate, means for directing the steam in the chamber into the manifold passages, a valve for controlling the flow of steam into said manifold passages and for confining the steam in the steam chamber, means controlled by said valve for discharging condensed steam from the steam chamber, a receptacle on the steam chamber for receiving the condensed steam, and means for indicating the quantity of liquid in said receptacle.

4. In a sad-iron, having a steam chamber therein, a perforated base, a series of manifold passages communicating with the perforations in the base, and means for delivering steam into the steam chamber; a valve casing having a passage opening to the steam chamber at one end and to the manifold passages at the other, ports on opposite sides of the casing opening to the passage therein, a pipe leading from one of said ports and terminating in a pocket formed at the base of the iron, an exhaust pipe leading from the other of said ports, a condensing chamber carried by the iron in which said pipe terminates, and a rotary valve member in the valve casing having a transverse port adapted to register with the port in the valve casing in one position to exhaust the steam and condensation from the steam chamber, and adapted to register with the passage in the valve casing to admit steam from the steam chamber to the manifold passages, and also adapted to be positioned intermediate the ports and the passages to close same and confine steam in the steam chamber.

5. The combination in a sad-iron, having a steam chamber therein and a perforated base and means for delivering steam into said chamber, a rotatable valve, means whereby said valve will operate to discharge steam from the steam chamber to the perforated bottom of the iron when in one position; means whereby the steam condensed in the chamber will be discharged therefrom when the valve is in another position, and means by which the steam may be confined within the iron when the valve is in an intermediate position.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SHINTARO KAKO.

Witnesses:

JOHN H. HERRING,
W. W. HEALEY.