June 5, 1928. 1,672,040

N. RUBENSTEIN

STEAM PRESSING IRON

Filed July 17, 1925 3 Sheets-Sheet 1

Fig. 1.

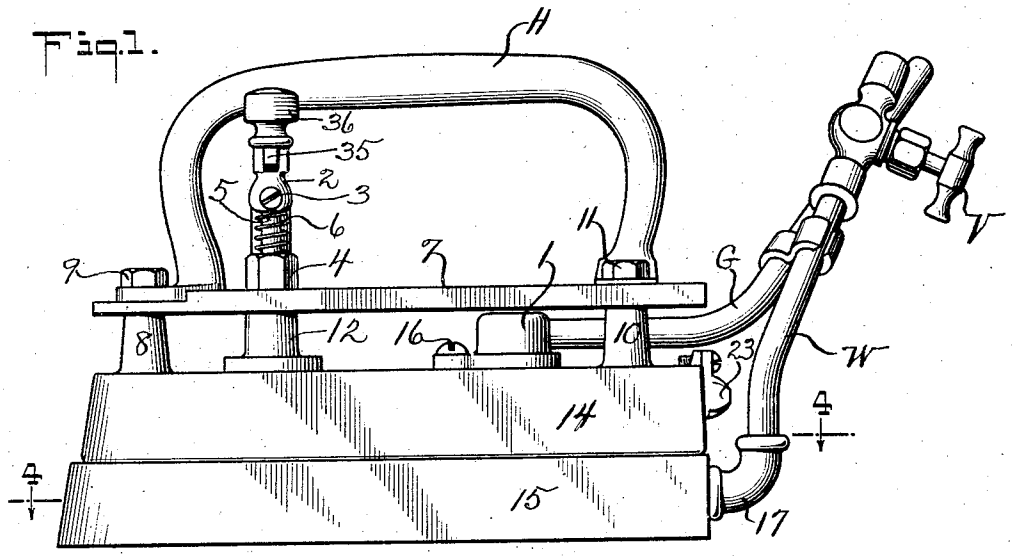
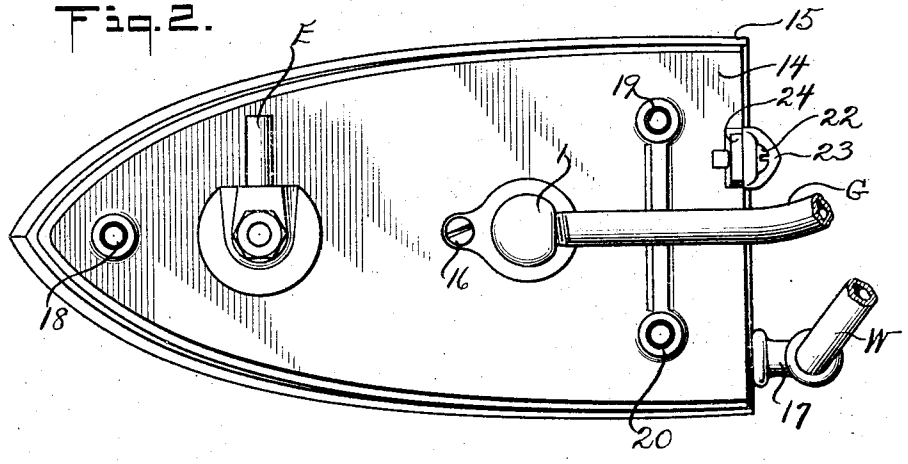


Fig. 2.



INVENTOR.
Nathan Rubenstein
BY Mock & Blum
ATTORNEYS.

June 5, 1928. 1,672,040

N. RUBENSTEIN

STEAM PRESSING IRON

Filed July 17, 1925 3 Sheets-Sheet 2

Fig. 3.

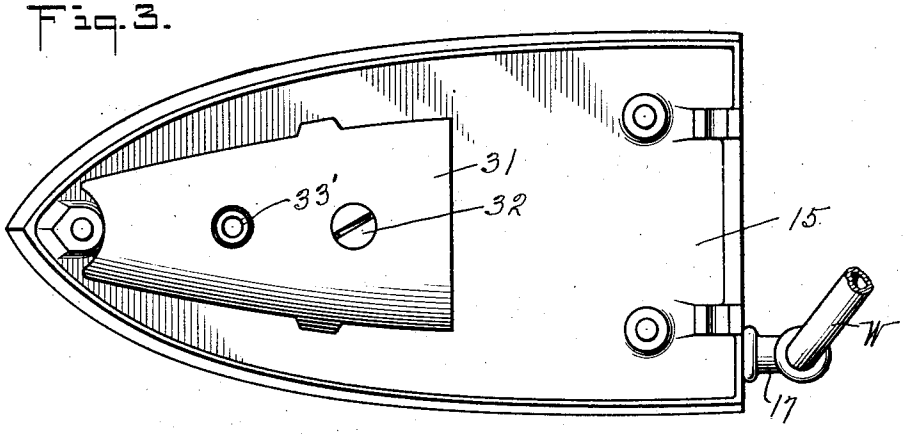


Fig. 4.

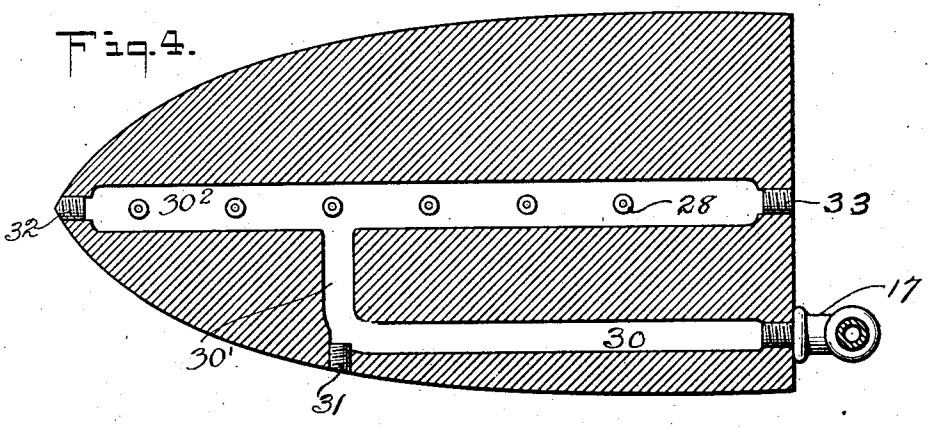
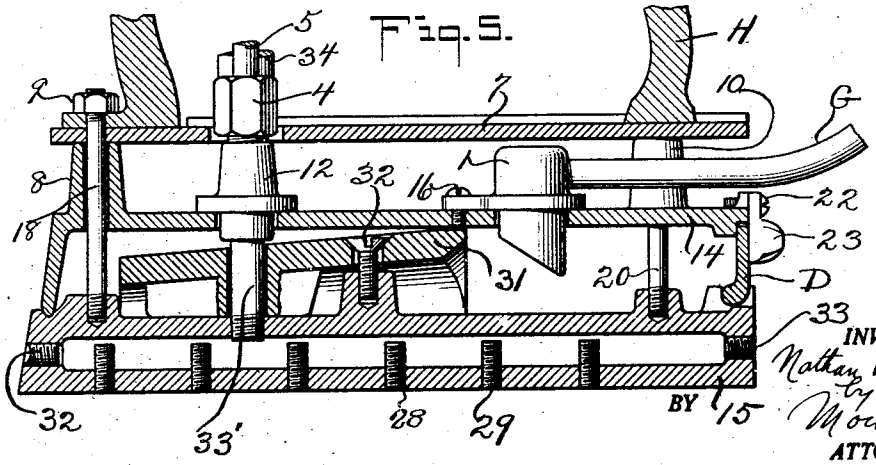


Fig. 5.



INVENTOR.
Nathan Rubenstein
by Mosher & Hayes
ATTORNEYS.

June 5, 1928. 1,672,040

N. RUBENSTEIN

STEAM PRESSING IRON

Filed July 17, 1925 3 Sheets-Sheet 3

Fig. 6.

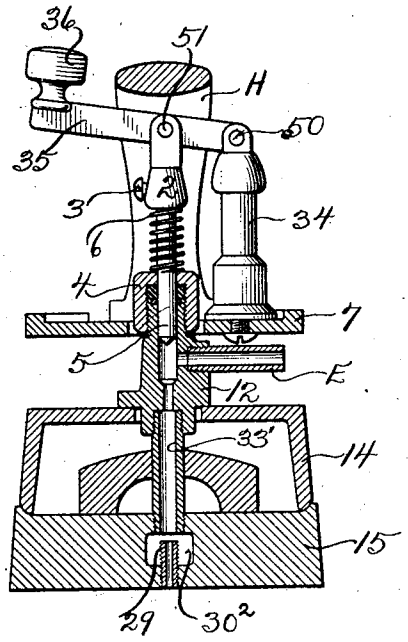
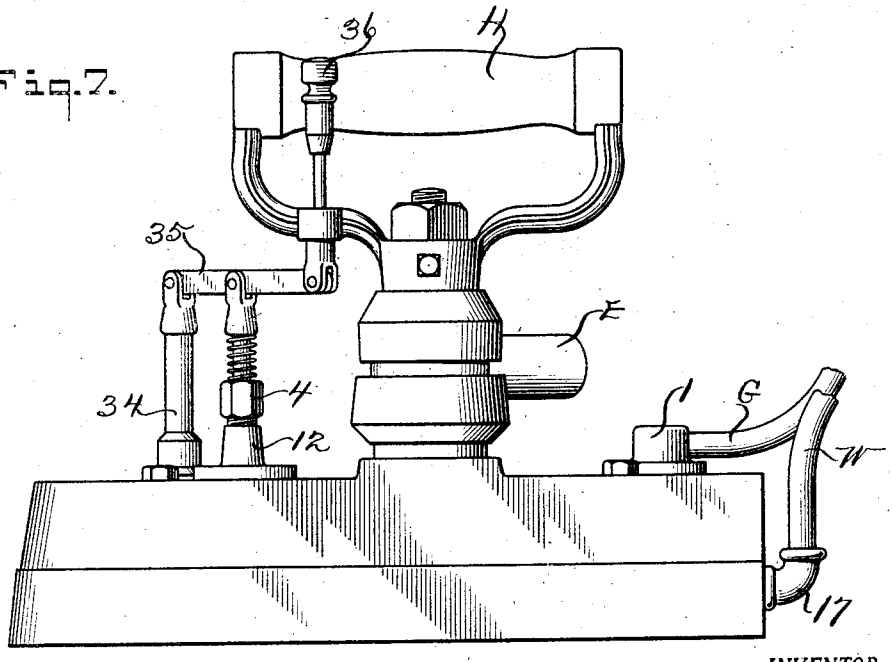


Fig. 7.



INVENTOR.
Nathan Rubenstein
BY Mockett Blum
ATTORNEYS.

Patented June 5, 1928. 1,672,040

UNITED STATES PATENT OFFICE.

NATHAN RUBENSTEIN, OF NEW YORK, N. Y.

STEAM PRESSING IRON.

Application filed July 17, 1925. Serial No. 44,170.

My invention relates to a new and improved form of steam pressing iron.

One of the objects of my invention is to provide a new and improved pressing iron of the type in which steam is generated within the iron itself and is caused to contact with the fabric to be pressed, for the purpose of moistening it.

Another object of my invention is to provide an iron of this type having a simple, cheap and efficient construction.

Other objects of my invention will be set forth in the following description and drawings which illustrate a preferred embodiment thereof.

Fig. 1 is a side elevation.

Fig. 2 is a top view, the top member or the casting of the iron being removed.

Fig. 3 is a top view, the two uppermost members or castings of the iron being removed.

Fig. 4 is a section on the line 4—4 of Fig. 1.

Fig. 5 is a vertical sectional view.

Fig. 6 is an end sectional view.

Fig. 7 shows another embodiment of my invention.

As shown, for example, in Fig. 5, the iron is composed of a top casting 7, an intermediate casting 14 and a bottom casting 15. The bottom casting 15 is provided with passages 30, 30′ and 30^2 which are formed during the casting operation by any suitable means. The passage 30^2 is provided with a series of perforations 28. These passages 30, 30′ and 30^2 may be considered as forming an angular or L-shaped part consisting of the passages 30 and 30′, which is connected to the passage 30^2 intermediate the ends of the said passage 30^2. These perforations 28 are preferably internally threaded and they can be closed by nipples 29 as shown in Fig. 5. The tops of the nipples extend above the adjacent bottom of the passage so as to prevent any escape of liquid such as water which may be present in the said passage, through the hollow nipples 29. However, if any water in the passages 30, 30′ and 30^2 is vaporized by means of suitable heat then the steam can readily escape through the hollow nipples 29.

The inlet end of the passage 30 has a coupling nipple 17 connected thereto and the ends of the passages which are left open in the body of the iron, in the casting operation, are closed by threaded closure members 31, 32 and 33.

The intermediate casting 14 of the iron rests upon the bottom casting and the top casting 7 rests upon the intermediate casting 14. The top casting or member 7 and the intermediate casting or member 14 are connected to the bottom casting or member 15 by bolts 18, 19 and 20. The bottoms of said bolts 18, 19 and 20 are externally threaded and fit into internally threaded recesses in the bottom casting 15. The shank of the bolt 18 passes through a boss 8 of the intermediate casting 14 and the upper and externally threaded end of said bolt 18 passes through the top casting 7 and through the front end of the handle H so that a nut 9 suitably holds these parts together at the front of the iron.

The bolts 19 and 20 are similarly secured to the casting 15 and they pass through bosses 10 at the rear of the casting 14, which correspond to the boss 8. The upper and externally threaded ends of the bolts 19 and 20 are engaged by nuts 11 which perform the same function as the nut 9 heretofore described.

The intermediate casting 14 is provided with a door D hinged at the bottom thereof and this door D is kept in place by a latch 23 turnably mounted upon a horizontal screw 22 which is connected to a vertical projection 24 of the intermediate casting 14.

The bottom casting 15 has a flame deflector or shield 31 secured thereto by means of the screw 32. The intermediate casting 14 also has a gas burner 1 secured thereto by a screw 16 and the gas burner 1 is connected to a gas pipe G. The gas burner 1 is adapted to produce a horizontal flame which projects between the shield 31 and the top of the bottom casting 15 so that the heat produced by the flame is downwardly deflected and instantly heats the bottom casting 15.

The coupling nipple 17 is connected to a water pipe W having a control valve V.

The flow of the water is normally controlled by the valve V so that it drops slowly into the passage 30 and is converted into steam by the heat of the gas flame. If, however, a few excess drops of water enter the passage 30, they cannot touch the cloth

which is being pressed because the hollow nipples 29 project upwardly as shown in Fig. 5.

Heretofore, in gas irons of this type, it has been customary to further regulate the outflow of the steam from the iron by means of a valve which was controlled by the operator. If the operator carelessly permitted the steam control valve to remain open too long, then the fabric which was being pressed was treated with an excess of steam which was highly disadvantageous.

According to my invention, I provide the passage 30 with a normally open exhaust passage so that the greater portion of the steam normally passes out of the iron through this exhaust passage or pipe E, and I provide a control valve for the exhaust pipe E whereby it is impossible for the fabric to receive an excess of steam.

As shown in Fig. 5, for example, the passage 30 is provided with an upwardly extending pipe 33′ tightly connected thereto. The said pipe 33′ is provided with a hollow flange 12 which rests upon the casting 14. The horizontal exhaust pipe E is connected with flange 12 and said flange 12 has a vertical passage provided with a vertically slidable valve rod 5 which is shown in Fig. 6 in its upper or open position. The top of the flange 12 is externally threaded and it is connected to the top casting 7 by the nut 4. The top of the valve rod 5 is provided with a cap 2 secured to said rod 5 by a screw 3 and a compression spring 6 is provided intermediate cap 2 and nut 4 for forcing the valve rod 5 to the upper position.

A standard 34 is secured to the casting 7 and a lever 35 is turnably connected thereto at 50. Said lever is also connected to the forked top of the cap 2 by means of the pin 51 so that by pressing downwardly upon the head 36 of the lever 35 the valve rod 5 can be moved to its lower position in which it prevents the steam from passing out through the exhaust pipe E.

Hence, the fabric receives at all times a regulated and preferably small amount of steam which is determined by the extent to which the valve V is opened and the relationship between the openings of the hollow nipples 29 and the ease with which the steam can escape through the exhaust pipe E. If it is necessary to supply more steam to the fabric, then this is accomplished by closing the exhaust pipe E.

This apparatus also makes it possible to obviate any fine degree of adjustment of the water valve V. It is obvious that more water can be allowed to enter the iron than is required for the steam consumption of the same because a large amount of the steam can be caused to escape through the exhaust pipe E and as much of this steam as is desired may be caused to act upon the fabric by merely closing the valve controlling the pipe E.

In irons of the type heretofore made in which all the steam generated was caused to act upon the fabric, a very delicate adjustment of the water control valve was necessary and this was impossible to secure in actual practice and if an excess of water was allowed to enter the iron this, in time, caused the water to directly touch the fabric, which was highly objectionable. However, according to my apparatus where an excess quantity of water may be permitted to enter the iron and where the flame is made sufficiently powerful to vaporize more water than is required for the normal use of the iron, such fine adjustments are not necessary.

It will be noted that the gas heater is located wholly above the bottom casting 15 and that water directly enters the passage 30. Hence, the water which directly enters the casting 15 is directly heated by conduction, the heat for this purpose being supplied by the superposed burner 15. It will also be noted that in distinction from prior devices such as illustrated in Hoffman U. S. Patent No. 1,516,923, that the water space of my improved iron is located wholly below the heater, that is, the water is not heated in tubes or the like located above the heater. Since, in my improved iron, the flame is downwardly directed, the top of the body of the iron remains cool.

In the embodiment shown in Fig. 7 the constructional features are substantially the same as before described but the means for operating the valve rod 5 are arranged longitudinally instead of transversely as in the embodiments shown in Figs. 1–6. While I have shown a water inlet passage so disposed that the water entering from the coupling 17 first moves in a path substantially parallel to the central longitudinal line of the iron, and then moves in a path which is perpendicular to said central longitudinal line, it would not be departing from my invention if the water inlet passage through which the water passes before reaching the member 30^2 would have no part thereof parellel to said member 30^2.

I claim:—

1. A hollow steam iron having a bottom casting, a gas heater located above said casting and adapted to heat the same, said casting having a water inlet passage laterally spaced from the longitudinal central line of said casting, said casting also having a steam passage communicating with said water inlet passage, said steam passage having openings communicating with the bottom of said casting in the central portion of the bottom of the casting.

2. A hollow steam iron having a bottom casting, a gas heater located above said casting and adapted to heat the same, said cast-

ing having a water inlet passage laterally spaced from the longitudinal central line of said casting, said casting also having a steam passage communicating with said water inlet passage, said steam passage having openings communicating with the bottom of said casting in the central portion of the bottom of the casting, said gas heater being located directly above said central portion of the bottom of the casting.

3. A hollow steam iron having a bottom casting, a gas heater located above said casting at the central part thereof, and adapted to heat the same, said casting having a substantially longitudinal water inlet passage laterally spaced from the longitudinal central line of said casting, said casting having a longitudinal and centrally located steam passage communicating with said water inlet passage substantially at the inner end of said water inlet passage, said steam passage having openings communicating with the bottom of said casting in the central portion of the bottom of the casting.

4. A hollow steam iron having a bottom casting, a gas heater located above the central longitudinal portion of said casting and adapted to heat the same, said casting having a substantially longitudinal water-inlet passage opening from the rear thereof and laterally spaced from the central longitudinal part of said casting, said casting also having a substantially longitudinal and centrally located steam passage communicating with said water-inlet passage, said steam passage having openings communicating with the bottom of the casting, said openings having therein hollow members projecting above the bottom of said steam passage.

In testimony whereof I hereunto affix my signature.

NATHAN RUBENSTEIN.