(No Model.)

P. C. GREENAWALT.

SAD IRON.

No. 528,366. Patented Oct. 30, 1894.

Fig. 1.

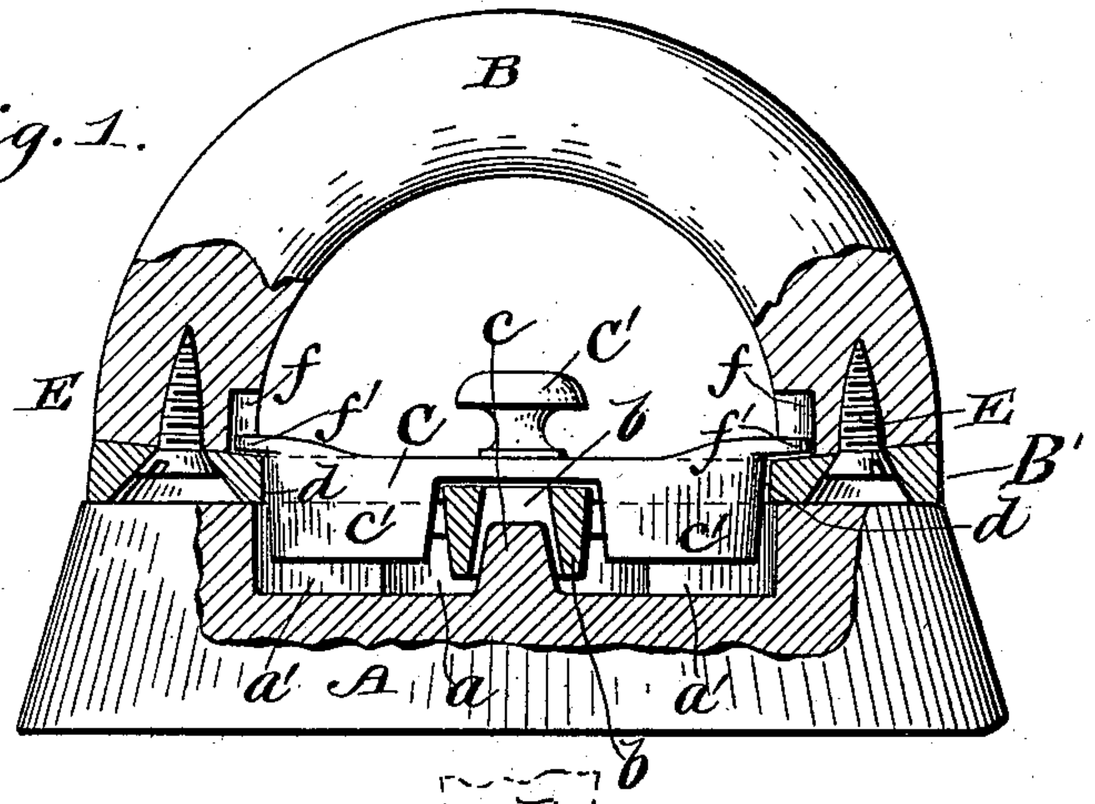


Fig. 2.

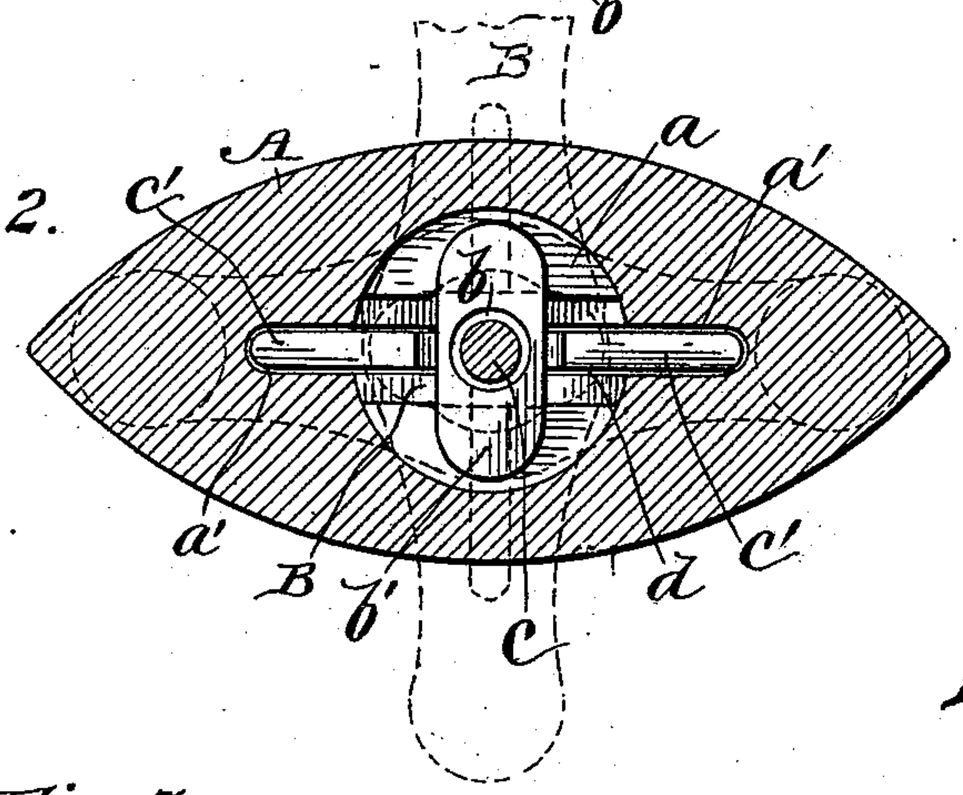


Fig. 5.

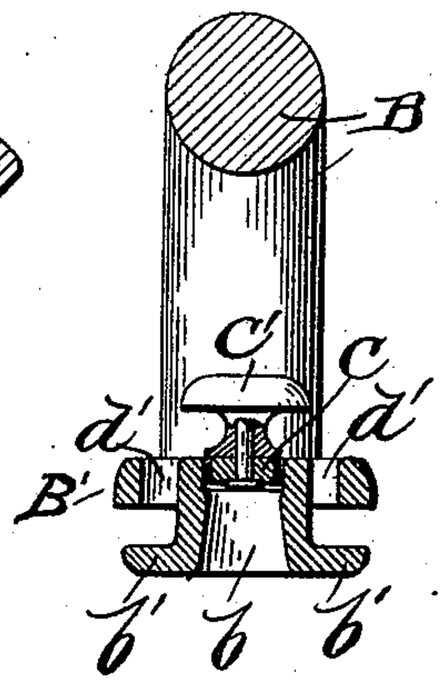


Fig. 3.

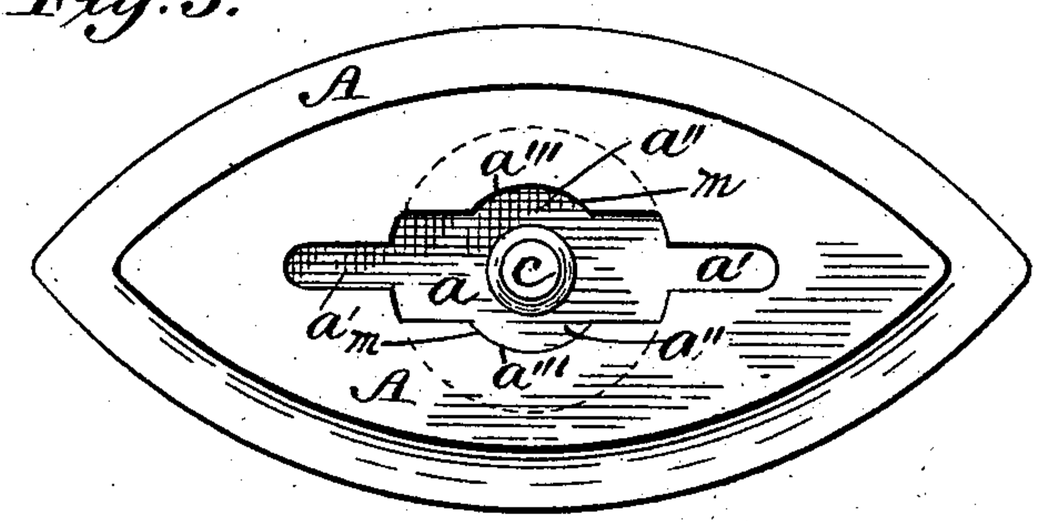
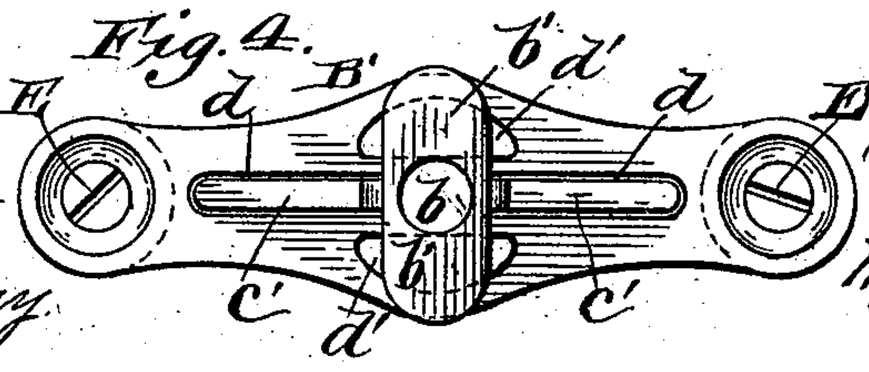


Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER C. GREENAWALT, OF READING, PENNSYLVANIA.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 528,366, dated October 30, 1894.

Application filed February 5, 1894. Serial No. 499,124. (No model.)

To all whom it may concern:

Be it known that I, PETER C. GREENAWALT, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Sad-Irons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sad irons having detachable handles; and the objects of the invention are to provide new and improved constructions, combinations and arrangements of means, whereby a detachable handle can be coupled to and uncoupled from the iron proper, in a very ready and perfect manner; also to provide a novel construction, combination and arrangement with the iron proper and the handle plate and handle proper, of a gravitating latch whereby said handle can be automatically latched to the iron, near both of its ends, without manipulating the latch button, it simply being required to take hold of the detached handle and place it upon the iron proper in a position transverse to said iron and then give the handle a quarter turn, all as will be hereinafter described. I accomplish these objects by the devices described in the following specification and illustrated in the accompanying drawings; in which latter—

Figure 1 represents a side elevation of my improved sad iron, partly broken away to show the interior of the iron proper and parts which would be concealed otherwise. Fig. 2 represents a horizontal section of the improved iron, looking upward. Fig. 3 represents a plan view of the iron with the handle removed, and Fig. 4 an inverted plan view of the detachable handle, and Fig. 5. is a detailed cross section of the handle, bottom connecting plate provided with a tubular inverted T-shaped coupling lug, and latch with lifting button or knob.

A represents an iron proper; B, a handle proper; B′, a metal plate connecting the base ends of the handle proper; *b*, a coupling lug, having lips *b′*; C, a gravitating latch; C′, a knob or button by which the latch is raised out of latching position when it is desired to uncouple the handle from the iron proper, and *c* a stud for centering and guiding the handle, and also serving as a pivot for the handle to turn upon.

In the iron proper A, a chamber *a* is provided beneath its top, and uniting with said chamber at its ends, are narrow slots *a′* which extend up from a level with the bottom of the chamber to the top of the iron proper A. Centrally between the slots *a′*, a vertical oblong passage *a″* is formed in the shell metal top portion of the chamber *a*. The passage *a″* is narrower than the chamber *a*, and it is, midway between its ends, enlarged on segmental lines as indicated at *a‴*. By this construction, overhanging flanges *m* are provided, said flanges extending inward, horizontally, from the upright side walls of the iron proper, and serving for the retaining lips *b′* of the coupling lug *b* to pass under after the lug has been inserted through the passage a^2, and during the act of giving the handle a quarter turn. The passage *a″*, enlarged as at *a‴*, allows of the introduction of the inverted T-shaped coupling lug while the handle is transverse to the iron and said shell metal flanges serve for preventing the handle separating by an upward movement from the iron proper, after the handle has been coupled, in operative position, to the iron proper.

The handle B is, preferably, made of wood, and in curved form, and has its case ends connected to the metal horizontal plate B′, by means of screws E having their heads countersunk into the said plate B′, as shown. The plate B′ is flat on its top and bottom, and of oblong form, and may have rounded edges and ends, the latter corresponding to the bottom ends of the handle proper. This plate is bulged on both sides between said handle-ends, and in its bulged part vertical segmental or other suitably shaped passages *d′* are provided; and between the passages, *d′*, a longitudinal slot *d*, is provided for a purpose hereinafter described; and on the under side of the plate B′ is cast a downwardly projecting tubular lug *b*, having two horizontal lips *b′* at its lower end. The lug with its lips forms an inverted T-shaped coupling between the plate B′ of the handle B, and the iron proper A. The lips *b′* are set down far enough from the plate B′, to leave spaces of a size about equal to or a very little greater than the thickness

of the overhanging shell-metal flanges of the top of the iron proper, and thus, when the lips of the inverted T shaped coupling are fully inserted into the chamber *a*, so as to bring said coupling lips below this shell-metal, and the lug is turned by the handle so as to bring the lips under the shell-metal, the said overhanging shell metal flanges will occupy the space between the lips and the handle plate B′, and prevent the handle from separating from the iron when an upward pull is exerted upon the handle or the iron lifted by the handle. The tubular passage of the coupling lug is formed with a downward flare, and at the top of the lug, this passage is intersected by shallow lateral passages, formed by extending the longitudinal slot in the plate, a short distance down into the top of the lug.

The centering and guiding pivot or stud *c*, is slightly conical, and is cast on the iron proper, it rising from the bottom of the chamber *a* and extending up to near the top of the iron proper. This stud enters the central passage of the tubular lug when the handle stands transversely of the iron, and remains in said passage of the lug after the handle is adjusted to its working position; and thus the coupling lug of the handle plate is centrally guided through the passage leading into the chamber *a*. When the handle has been properly adjusted with the lug *b* between the shell metal flange *m* and its lips stand below the same, the stud *c* serves as a pivot for it to turn upon both in coupling it to, and uncoupling it from the iron proper. The latch C consists of a long narrow body-bar with two broad vertical legs *c′*, one at each end. This latch is fitted into a long vertical slot *d* in the plate B′, so as to extend across the coupling lug *b*, and nearly to the ends of the plate. The slot is fully open from top to bottom of the plate on each side of the tubular inverted T shaped coupling lug *b*, it only being bridged, or partly closed between its right and left portions, by said coupling lug. In this slot the latch C is placed so that its upper edge comes flush with the top of the plate B′, and its legs *c′* pass entirely through the slot *d* and enter snugly into the slots *a′* at each end of the chamber in the iron proper.

The curved wooden portion B forming the handle proper is provided at its base ends, on the inner surface, with vertical slots *f* for the reception of the extremities *f′* of the gravitating latch; said slots, *f*, serving, in conjunction with the slot in the plate, as guides, while the shoulders at their upper ends limit the upward movement of the latch; and thus, while the latch is guided by the slot of the plate and the latching legs, it is kept from being lifted to a height which would bring the ends of the legs above the plate and allow the latch to move to one side, or get out of connection with the handle, which sidewise movement would take place if the extremities of the latch were not inserted into the slots *f*, and the legs of the latch were lifted above the top of the plate. Of course the latch would be guided without the slots *f*, and therefore these slots are only specially useful for holding the latch in its connected relation to the handle, under all circumstances.

When it is desired to attach the handle to a heated iron proper, the lug *b* is placed, by the handle, lengthwise of the passage leading into the chamber *a;* the handle lowered; the lug forced into said passage, and during this operation the latch is forced up by its legs coming in contact with the top of the iron proper. Now by giving a quarter turn to the handle, the lips *b′* of said lug will be forced under the overhanging flanges formed by the shell metal portion of the top of the iron, so that the handle will be held aginst separation by an upward pull upon it, from the iron proper. At the instant that the handle is turned to the above mentioned position, the latch by its own weight immediately descends, and its legs enter the slots *a′* of the iron proper, and effectually prevent the handle from being turned back until said legs are raised by the button or knob and are disengaged from the walls of said slots.

To cast the plate B′ with the inverted T-shaped coupling on its under side, and also with the passages *d′* in the widened central part of the plate, the sand to form the passages is molded up through holes in the pattern.

The lifting button C′ is attached to a pin cast on the latch central of its length, and thus can be conveniently manipulated and caused to draw both of the legs of the latch, at the same instant, out of the slots *a′*, and thereby unlatch the handle and allow it to be turned at a right angle to the coupling passage, and to be uncoupled from the iron proper.

What I claim is—

1. In a sad iron, the combination of a body portion provided with a central passage having overhanging flanges, a detachable handle having a plate attached to its lower ends, said plate being constructed with a downwardly extending, transversely arranged, and inverted T-shaped, coupling lug, and provided with an automatic gravitating latch having a lifting knob, the construction and operation being such, that, when the handle is properly placed on the iron proper, at right angles thereto, the inverted T head will enter the passage, and the gravitating latch will be forced upward, and when the handle is turned parallel with the longitudinal axis of the iron proper, the inverted T head will pass beneath the overhanging flanges of the body portion, and the gravitating latch will automatically descend and prevent the handle from being turned, substantially as described.

2. An iron proper provided with a chamber between its top and bottom and having overhanging flanges, and a central passage for the insertion of an inverted T-shaped coup-

ling lug, and narrow end slots forming continuations of said passage, in combination with a handle having a plate attached to its lower ends, and said plate constructed with an inverted T-shaped coupling lug, said lug being cast on the under side of the plate and centrally bridging the slot in the plate, and having its lips extending transversely of the plate, and a latch having legs on each side of said lug and arranged in the slot of said plate substantially as described.

3. The combination with a sad iron proper having a chamber, and slots and a passage for the entrance of latching legs and a coupling lug, of a gravitating latch having a leg at each end, a handle having a plate connecting its ends; said plate being provided with a slot for the reception of the gravitating latch and with a bridging, inverted T-shaped coupling lug on its under side, substantially as described.

4. A handle for a sad iron, consisting of a handle proper, a plate secured to the base ends of the handle, the handle proper and the plate being provided with vertical slots, the slot in the plate extending nearly the entire length of the plate; an inverted T-shaped coupling lug on the under side of the plate, the lips thereof being transverse to the plate; a gravitating latch having its extremities inserted into the slots of the handle proper and provided with a latching leg at each end, said plate being set in the slot of the plate; and a button for raising the latch, substantially as described.

5. In a sad iron, the combination of a body portion provided with an elongated passage and overhanging flanges and a central stud projecting up into the passage, and a detachable handle provided with a centrally perforated transversely arranged inverted T head and a longitudinally arranged gravitating latch provided with a knob, the construction and operation being such that when the handle is properly placed on the iron proper at right angles thereto, the inverted T head will enter the passage and the gravitating latch will be forced upward and when the handle is turned parallel with the longitudinal axis of the iron proper the inverted T head will engage said iron and the gravitating latch will automatically descend and prevent the handle from turning, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

PETER C. GREENAWALT.

Witnesses:

MORRIS K. REUTCHLER,

F. PIERCE HUMMEL.