

(No Model.)

W. MITCHELL.
SAD-IRON.

No. 510,081.

Patented Dec. 5, 1893.

Fig. 1.

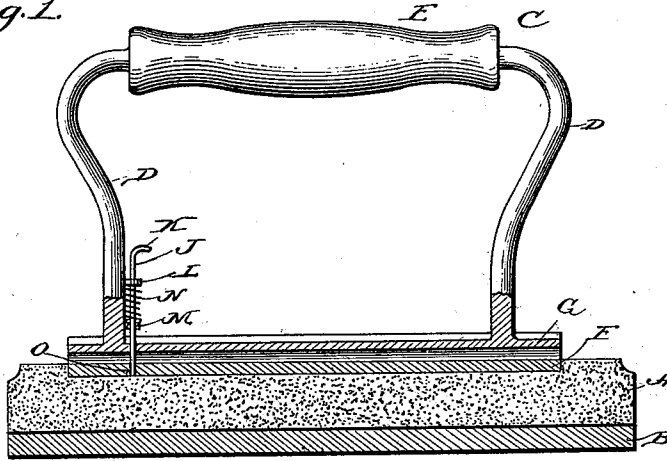


Fig. 2.

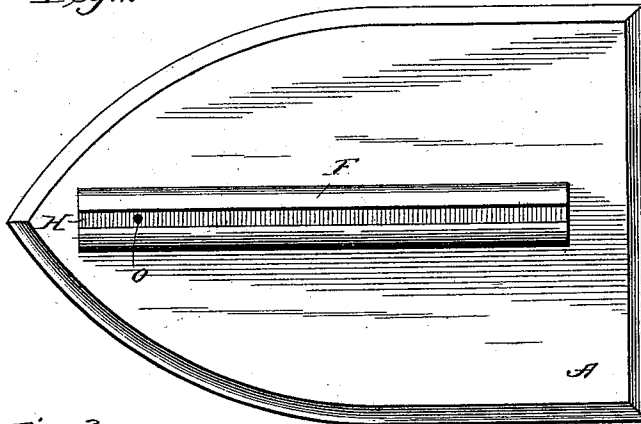


Fig. 3.

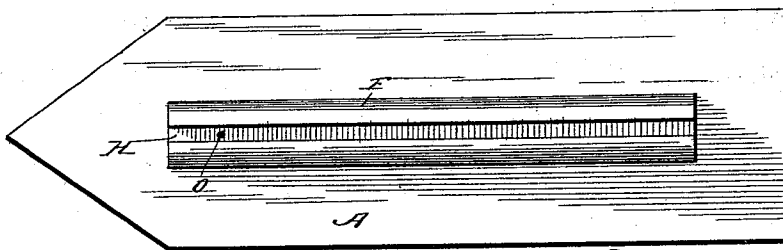
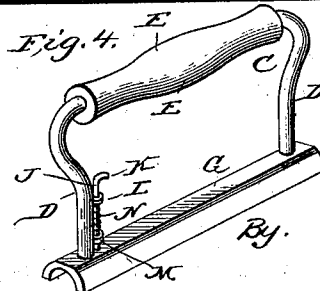
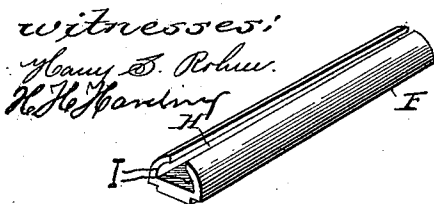


Fig. 5.



Inventor:
Willis Mitchell
By. F. R. Harding,
Atty.

UNITED STATES PATENT OFFICE.

WILLIS MITCHELL, OF MALDEN, MASSACHUSETTS.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 510,081, dated December 5, 1893.

Application filed January 10, 1893. Serial No. 457,973. (No model.)

To all whom it may concern:

Be it known that I, WILLIS MITCHELL, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, 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 an improvement in that class of appliances known in the art as sad-irons, familiarly termed "flat-irons;" and has for its object to provide a device of this character which shall be light in weight, capable of readily absorbing and retaining heat, simple in construction, inexpensive in manufacture, and convenient, efficient, and durable in use.

For the attainment of these objects and for other purposes hereinafter enumerated, my improvement consists, essentially, in making the body of the iron of a stone that will withstand the disintegrating effect of heat, yet will absorb, retain, and impart the same to a high degree. The face or polishing surface of the iron is formed out of a different kind of stone which is susceptible of receiving a high polish and which is permanently and securely fixed to the body of the iron.

My invention comprises, further, certain other details of construction, arrangement and combination of parts, all of which will be more fully described hereinafter, and the specific points of novelty in which will be designated in the appended claims.

In the accompanying drawings I have shown certain features which I deem adequate for successfully carrying out my invention in practice; however, I desire to here state and to distinctly emphasize that I am not confined strictly to the exact construction shown and described since it is manifest that numerous changes, variations, and departures may be made without in the least deviating from the spirit and scope of my invention as set forth and defined by the claims.

Referring to the drawings forming a part of this specification:—Figure 1 is a longitudinal vertical central section through the body of the iron, the handle being in side elevation. Fig. 2 is a top plan view with the han-

dle removed. Fig. 3 is a view similar to Fig. 2 showing my invention embodied in the form of a tailor's "goose." Fig. 4 is a detail perspective view of the removable or detachable handle; and Fig. 5 is a similar view of the bed or receiving plate for the handle.

Like letters of reference mark the same or corresponding parts in the several views of the drawings.

A designates the body of the iron of the desired shape, configuration, and dimensions to suit requirements. This body portion is cut out of a solid piece of stone of a nature that will not be injured by the heat to which it is subjected in practice yet will readily receive and retain the heat imparted thereto. I have found by experience that soapstone will efficiently answer this purpose in that it is close or fine grained, is comparatively light in weight, is slow to diffuse its heat, never becomes greasy, and is easily cleaned. However, other kinds of stone may be employed without proceeding beyond the domain hereof

As shown in the drawings, the body, A, is formed up and shaped according to the usual pattern and to the bottom (which is a smooth horizontal plane) is secured the plate, B, constituting the polishing surface of the iron. This plate is shaped to conform to the outline of the body, A, and is formed out of a stone which can be given a high polish, as before stated. In practice, I would use a plate of highly polished marble. I attach the plate, B, to the body by means of a cement composed of firebrick-dust, flowers of asbestos, and silicate of soda mixed and combined in suitable proportions into a plastic cement which is then applied intermediate of the body, A, and plate B, and there permitted to harden, thus forming a tight, fireproof, and durable joint.

It is believed a sad-iron constructed in accordance herewith will be found a great improvement over the old forms heretofore used. Owing to the peculiar nature of the stone the heat once absorbed will not be quickly diffused and radiated, thus saving the inconvenient necessity of frequent re-heating, and moreover, preventing the operator from becoming overheated and annoyed by the radiation of heat into the face. Furthermore, by reason of this construction the heat given

out by the stone iron will not burn the cloth or fabric to which it is applied as quickly as the dry heat of a metal body.

Referring now to Figs. 1 and 4, C represents the handle of the iron of usual shape and construction and comprising the bent metallic standard, D, the wooden heat-insulating grip, E, and connecting base-plate, G. The latter is arc-shaped in cross-section, being convex on its back or exterior and provided with a concave groove linearly co-extensive with the reverse side. Centrally of the top of the body, A, is fixed the bed-plate, F, cemented by fire proof cement into a rectangular recess in the top surface of the body, A, and provided linearly along its top with a slot, H, merging into an undercut groove or recess, I, corresponding in shape and size to the base-plate, G, of the handle, which latter is designed to be inserted through the open end of the bed-plate, H, and shoved or slid in the undercut recess until an automatic fastening device assumes its locked position. This fastening device consists simply of a vertically operating pin, J, provided at its upper extremity with a laterally projecting finger-catch, K, and working through a perforated eye, L, formed integral with or attached to one arm of the standard D. Near the lower extremity of the pin, J, is formed a circular exterior collar, M, and between said collar and the eye, L, is interposed the compression spring N arranged to exert its tension to keep the pin normally in the position shown in the drawings. When the handle is inserted into the bed-plate in the manner shown in Fig. 1, the lower end of the pin under the tension of the spring slips into a hole, O, in the bottom of the undercut recess. By this means the handle is locked against displacement. When desired the handle can be readily removed by uplifting the pin out of the socket or hole.

The provision of a fire-proof cement joint between the stone body and polishing surface makes a desirable and durable connection in that the same closely approximates the nature of the two pieces of stone, is susceptible to

but little contraction or expansion, and is cheap and quickly formed.

As an additional means of distinguishing my invention over the prior state of the art, I wish to state that by connecting the two stone portions A and B by a fire-proof cement joint, the loosening of the metal connections heretofore used is avoided. Where these two portions are joined by bolts, screws, or other metal connections, the contraction and expansion due to extremes of temperature cause them to become loose or fractured; and in the case of electrically heated irons, such metal connections are very objectionable in that they are conductors of electricity and thereby afford a means for the escape of current. By my improved cement joint all these difficulties are avoided. Furthermore, as is well known, a cement formed of the ingredients hereinbefore named, is fire-proof but not water-proof. Therefore, by soaking the iron in hot water for a prescribed time the marble surface, B, can be detached for substitution or for other purposes.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture, a sad-iron comprising a body-portion of soapstone having a separate marble polishing surface permanently attached thereto by a fire-proof cement joint, substantially as specified.

2. As a new article of manufacture, a sad-iron comprising a soapstone body-portion having a separate marble polishing surface attached permanently thereto by a fire-proof cement joint; a metallic bed-plate embedded and held in a recess on the top of the body-portion by a fire-proof cement joint; and a detachable handle removably seated in said bed-plate and connected thereto by a slip-joint, substantially as specified.

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

WILLIS MITCHELL.

Witnesses:

A. F. SARGENT,
EMMA A. SARGENT.