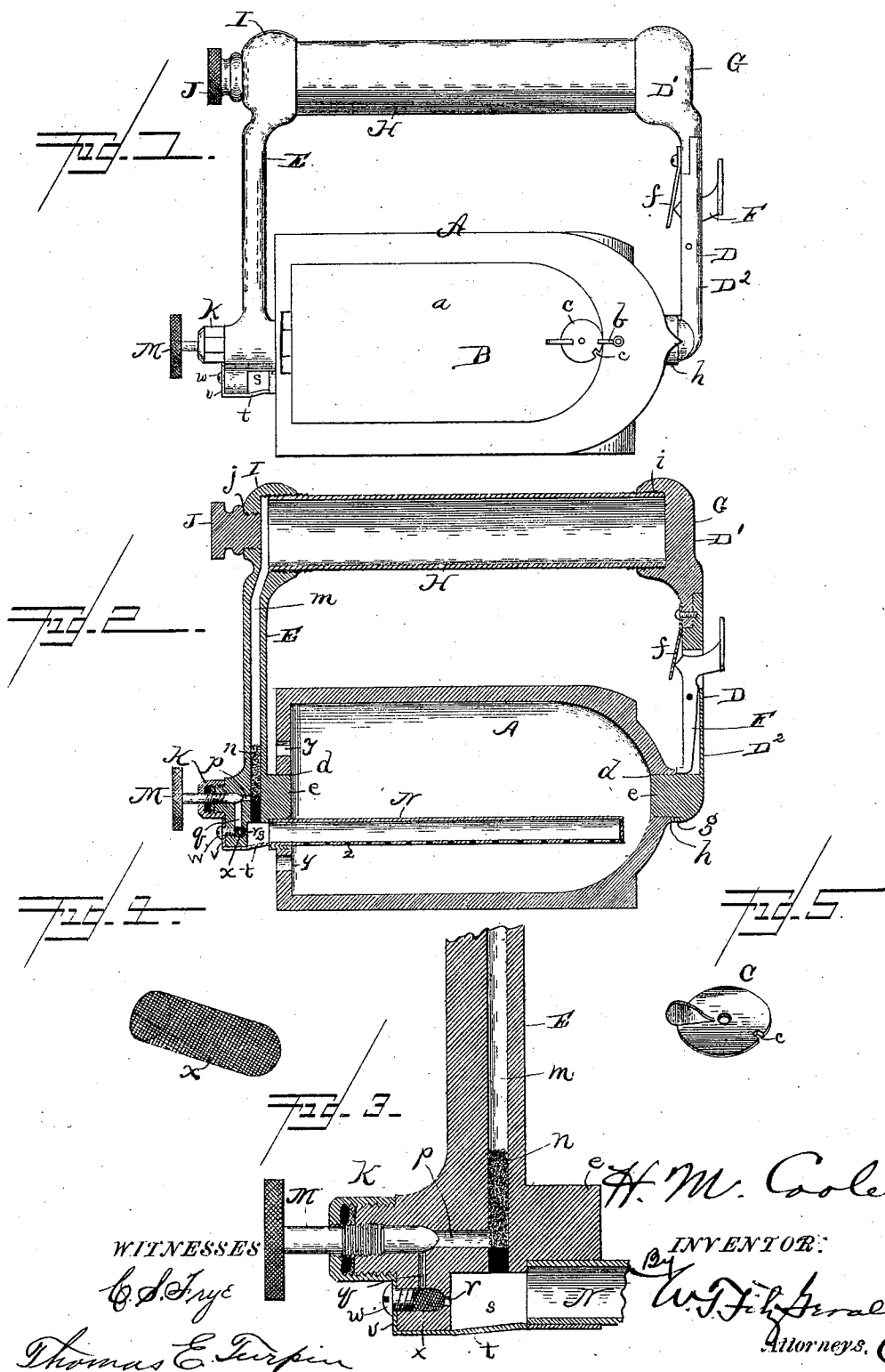


(No Model.)

H. M. COOLEY.
SAD IRON.

No. 530,885.

Patented Dec. 11, 1894.



UNITED STATES PATENT OFFICE.

HERBERT M. COOLEY, OF KANSAS CITY, MISSOURI.

SAD-IRON.

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To all whom it may concern:

Be it known that I, HERBERT M. COOLEY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, 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.

This invention has relation to improvements in that class of sad irons which are heated by the burning of gas or vapor generated from a hydrocarbon oil, and it has for its general object to increase the efficiency of such irons and render the same more practical in use.

With the foregoing end in view, the invention consists in the peculiar construction, certain novel combinations, and the adaptation of parts hereinafter described and particularly pointed out in the claim appended.

In the accompanying drawings: Figure 1 is a side elevation of my improved iron. Fig. 2 is a vertical, longitudinal section of the same. Fig. 3 is an enlarged detail longitudinal section. Fig. 4 is a perspective view of the gauze sieve or filter removed, and Fig. 5 is a similar view of the pivoted door-latch.

In the said drawings similar letters designate corresponding parts throughout the several views, referring to which—

A, indicates the body of my improved iron which is preferably of a general rectangular form in cross-section, and is preferably tapered at one end, as shown. This body A, is provided in its upper side with an opening *a*, through which access may be gained to the interior thereof; and this opening *a*, is normally closed by a door B, which is hinged or otherwise connected at one end to the body, as shown.

Formed integral with or connected to the body A, adjacent to one end of the opening *a*, is a keeper lug *b*, which is designed to be engaged by the latch C, of the door B, to hold said door in its closed position. This latch C, which is pivotally connected to the door B, and is provided with a handle branch, as shown, has a notch or recess *c*, in its edge which is brought into alignment with the

keeper lug *b*, when it is desired to raise the free end of the door.

Formed in the ends of the body A, are apertures *d*, which are designed to receive the inwardly directed gudgeons *e*, of the forward standard D, and the rear standard E, whereby it will be readily seen that the body A, may be turned so as to present any one of its sides to the fabric being ironed. The forward standard D, which comprises the connected sections D', D², is slotted, as better illustrated in Fig. 2, of the drawings, for the play of the pivoted latch F, which is pressed by a spring *f*, as shown, and is designed to take into the notches *g*, formed in the end of the collar flange *h*, of the body A, to lock said body in its adjusted positions.

Connected to or formed integral with the upper section D', of the standard D, is a head G, which is provided with a threaded socket *i*, as shown, in which is secured one of the threaded ends of the reservoir, H, which is preferably of a cylindrical form, as shown, so as to afford a comfortable hand grasp for the operator. The opposite threaded end of this reservoir H, is seated in a threaded socket formed in the head I, of the standard E, which head I, is provided with a threaded aperture *j*, which is normally closed by a plug screw J, and is designed for feeding oil to the said reservoir.

Formed in the standard E, is a feed bore *m*, which communicates at its upper end with the reservoir H, and is plugged or otherwise suitably closed at its lower end, as shown. Placed in the lower portion of the feed bore *m*, of the standard E, is a granulated mass of high thermal capacity *n*, such as ground glass, which serves, in practice to remove the impurities from the oil and to initially heat the same before it enters the generating chamber, hereinafter described. Leading from the feed bore *m*, adjacent to the lower end thereof, is a short lateral passage *p*, which constitutes a vapor generating chamber, which merges in turn into a short vertical passage *q*, from which leads a small bore *r*, communicating with the commingling chamber *s*, as illustrated. The bottom wall of the commingling chamber *s*, is formed by a guard plate *t*, as illustrated, which is provided with a

vertically disposed angular branch *v*, through which takes the screw *w*, as shown, serving to detachably connect the wall to the standard, whereby it will be perceived that said wall may be readily removed when it is desired to cleanse, or gain access to the comingling chamber.

The guard plate *t*, before described, serves in practice to prevent clothes from becoming tangled between the body of the iron and the standard *E*.

Projecting through a suitable boxing, as *K*, is the shank of a valve *M*, which is designed to govern the passage of the oil from the passage *p*, to the passage *q*, as shown.

Surrounding the screw *w*, and extending across the passage *q*, is a gauze sieve or filter *x*, composed of fine wire netting, which is preferably of a circular form in cross-section and is adapted to prevent the passage of deleterious substances in the oil, into the comingling chamber.

Suitably connected to the rear gudgeon *e*, and taking through the rear end wall of the body *A*, which is provided with air apertures *y*, as shown, to promote combustion, is a burner *N*, which communicates with the comingling chamber *s*, at one end and has its other end closed, as illustrated. This burner *N*, which is preferably of a cylindrical form in cross-section, as illustrated, is provided at intervals in its length with apertures *z*, for the egress of the vapor or gas in the oil. By reason of the burner being connected to the rear gudgeon *e*, as just described, it will be readily perceived that through the medium of the hand grasp *H*, and the standards *D*, *E*, the said burner may be readily turned so as to direct the flame against the upper side of the iron when it is desired to employ the same for cooking purposes.

In operation the valve *M*, is first adjusted to open communication between the passages *p*, and *q*, and allow a feed of oil into the chamber *S*, and burner *N*.

It is obvious from the foregoing that the heat generated within the iron will heat the lower end, or heater, of the rear standard, and that the vapor when it enters the comingling chamber, will have been heated to a high temperature and deprived of any impurities, and after comingling with sufficient air to promote ready combustion will pass into the burner; the deprivation of impurities from the oil rendering the iron less liable to gum, and the removable guard plate facilitating the removal of any refuse that may accumulate.

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

In a sad iron, the combination with a reservoir, standards, hollow iron and burner, of a feed bore in the rear standard, a primary heater in the feed bore consisting of a mass of granulated material of high thermal capacity, through which the fuel is adapted to percolate, adapted to be heated by the iron, a vapor generating chamber communicating with the feed bore, and a comingling chamber communicating with the generating chamber and with the burner, a valve for regulating the flow from the feed bore, and a screen or sieve at the end of the vapor generating chamber, substantially as specified.

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

HERBERT M. COOLEY.

Witnesses:

CHAS. L. MOFFAT,
GEO. O. GODDARD.