

No. 763,384.

PATENTED JUNE 28, 1904.

J. FELDMEYER.  
SMOOTHING IRON.  
APPLICATION FILED NOV. 10, 1902.

NO MODEL.

Fig. 1

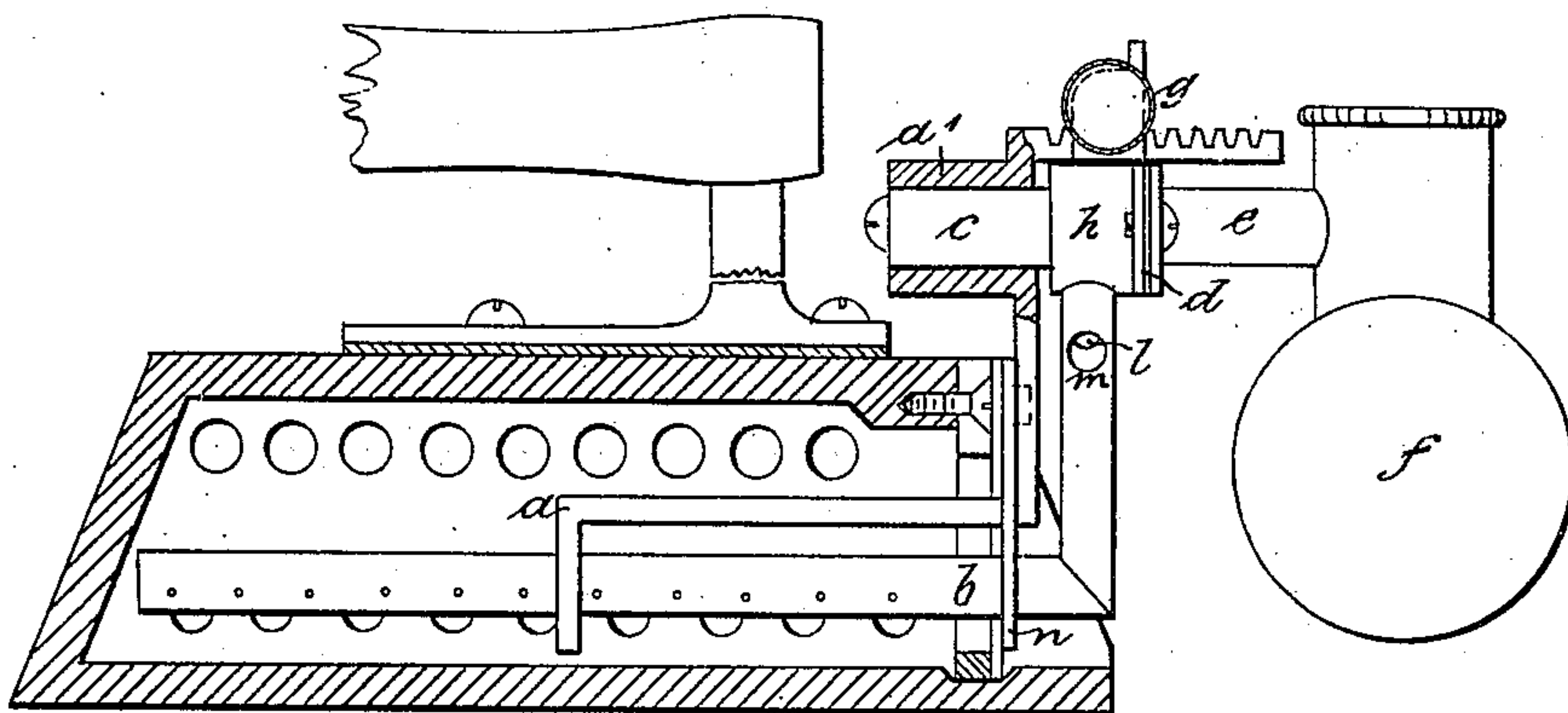


Fig. 3

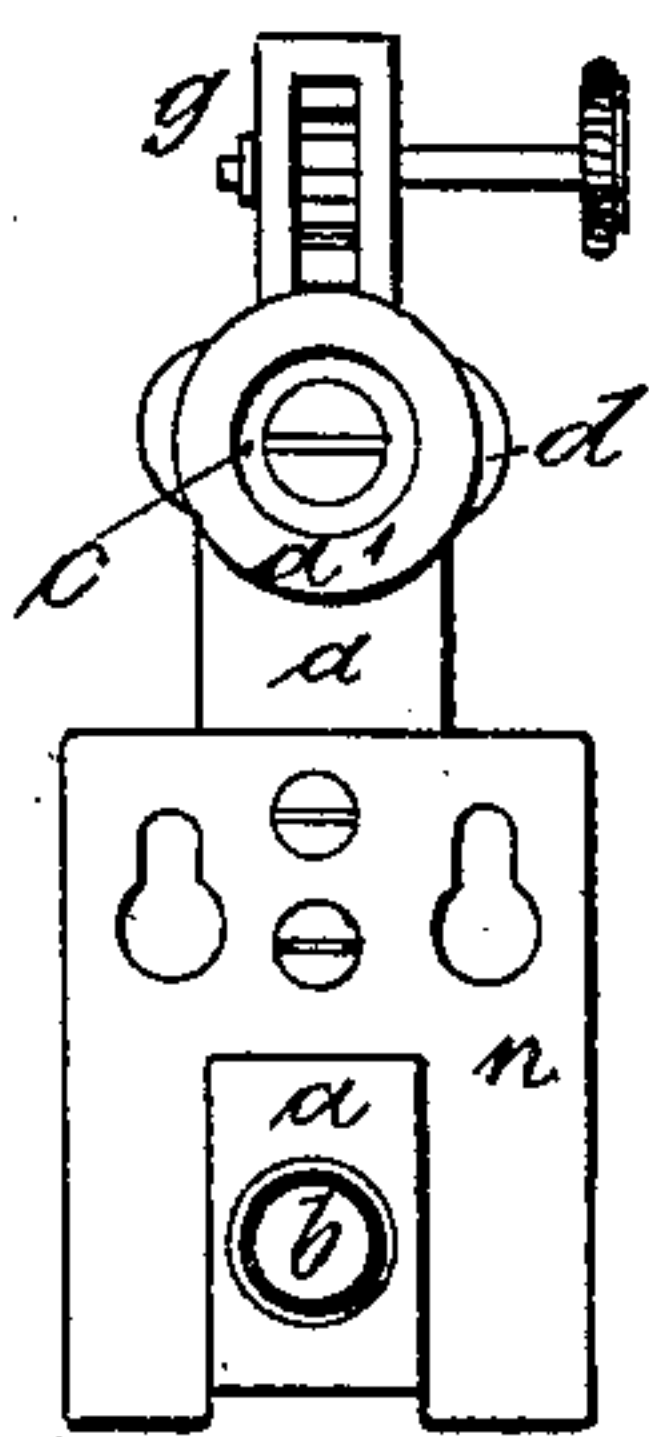
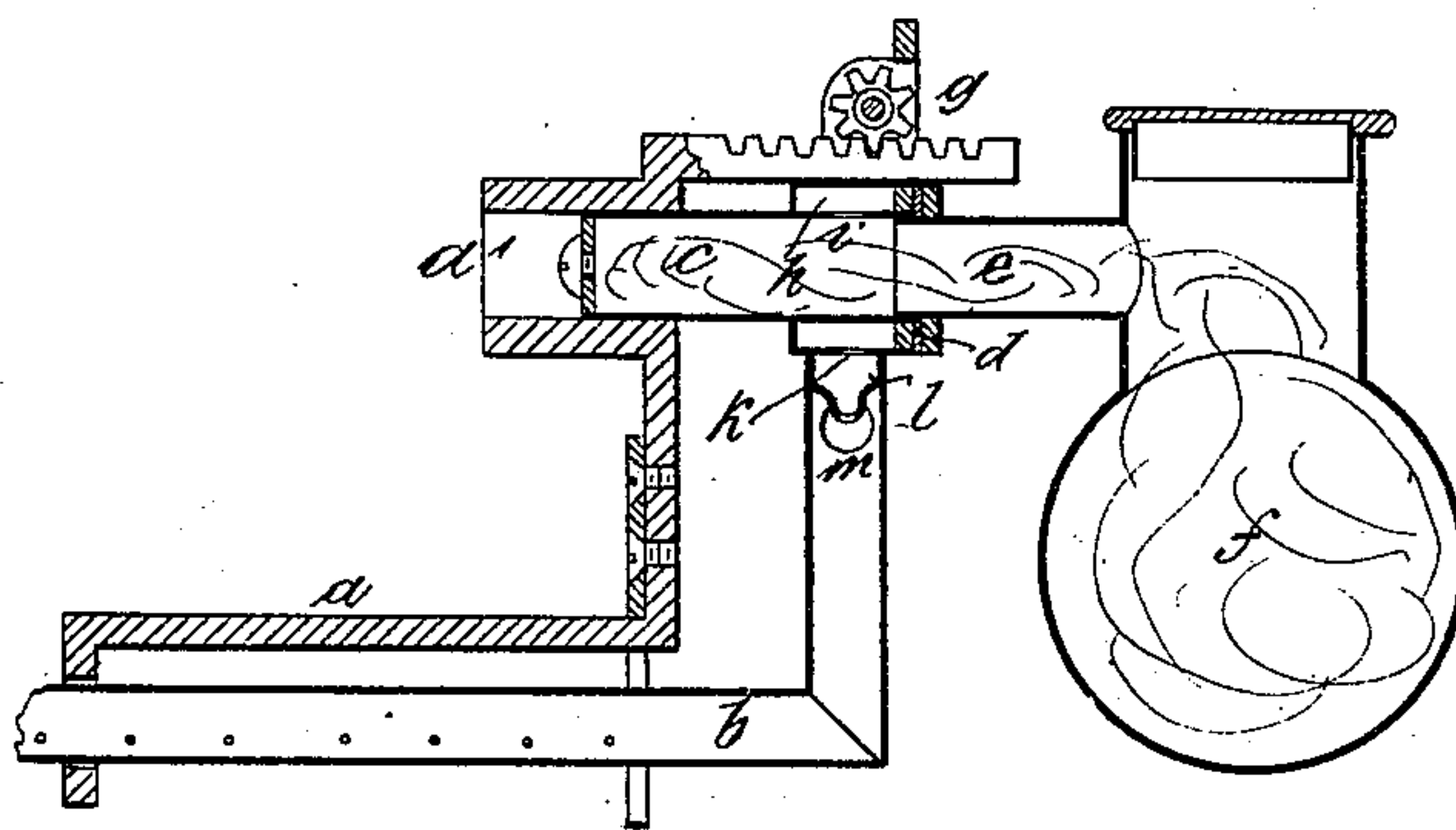


Fig. 2



Witnesses:  
*Harry G. Gump*  
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Inventor:  
*Joseph Feldmeyer*

# UNITED STATES PATENT OFFICE.

JOSEF FELDMEYER, OF WURZBURG, GERMANY.

## SMOOTHING-IRON.

SPECIFICATION forming part of Letters Patent No. 763,384, dated June 28, 1904.

Application filed November 10, 1902. Serial No. 130,773. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEF FELDMEYER, a subject of the King of Bavaria, residing at Wurzburg, Germany, have invented certain  
5 new and useful Improvements in Smoothing-Irons, of which the following is a specification.

This invention relates to improvements in smoothing-irons.

10 The smoothing-irons hitherto known heated by automatically-generated spirit-vapor frequently develop too little, too much, or too variable heat. They do not allow of so regulating the heat and vaporization that the regulation is under all conditions exact, because  
15 the vapor passes too directly to the burner-tube, and their flames cannot be intensified by supplying air directly at place of vaporization.

My improved smoothing-iron is provided  
20 with an external vaporizer, which is extremely regulatable and to which air is externally supplied. By means of this vaporizer the heating effect is intensified, the consumption of spirit reduced, and exact regulation rendered  
25 possible.

In the annexed drawings, Figure 1 is a longitudinal section of the smoothing-iron with the heating device; Fig. 2, a longitudinal section of the heating device, and Fig. 3 a front  
30 view.

The heat is conducted by a bar *a* or the like from inside the iron to the external vaporizer, the latter being movable on the said bar outside the iron and air being supplied to  
35 the vapors outside the iron in the burner-pipe itself. The bar *a* is above the burner-tube *b* and upwardly bent at an angle, so as to extend out of the said iron, together with the upwardly-bent burner-tube. The upper part of  
40 the said bar forms a socket *a'*, in which is the vaporization-cap *c*, connected by flanges *d* or the like to the wick-tube *e* and spirit-receptacle *f*, so that the cap can be moved in and out of the socket with the wick-tube and spirit-receptacle, as shown in Fig. 2. The socket  
45 *a'* can be open or closed in front, but preferably open, and the chamber *e* is provided in front with an aperture adapted to be closed by means of a screw, so that the wick can be  
50 pulled more conveniently from the tube *e* for-

ward into the chamber *c*. The forward and backward movement of the chamber *c* can either be directly effected by hand or any suitable mechanical means can be provided for the purpose, so as to obtain better guidance  
55 and allow of fixing it in the adjusted position. This movement can, for instance, be effected by means of a pinion *g*, arranged on the wick-tube and adapted to gear with a rack fixed to the socket *a'*.  
60

The rear end of the chamber *c* is surrounded by a hollow ring, by which means a channel *h* is formed round the said chamber, into which channel leads an aperture *i* in the upper part of the chamber. The lower part of the  
65 said channel is provided with an aperture *k*, below which a nozzle *l*, with downwardly-directed outflow-aperture, is preferably but not of absolute necessity provided. The burner-tube *b* is provided with air-apertures *m* adjacent to this nozzle.  
70

For attaching the apparatus to the smoothing-iron only a plate *n* or the like with holes or slots is required, by means of which the apparatus is hung onto studs on the rear wall  
75 of the iron after the burner-tube has been introduced into the latter.

With regard to the heating it may be stated in general that after the burner-tube *b* or the vaporizing-chamber *c* has been heated for a  
80 short time by any suitable means the vaporization of the spirit begins in the known manner. The vapor emitted through the holes in the burner-tube is ignited, and the bar *a* is constantly and powerfully heated by the  
85 flames produced. The said bar conducts the heat to the chamber *c*, so that thereafter the vaporization takes place automatically, and consequently also the production of flame at the burner.  
90

The action of the apparatus is as follows: The vapors generated in the vaporizing-chamber are compelled to first travel upward—namely, through the aperture *i* into the channel *h*. In the latter they travel downward  
95 round the chamber *c* and out through the aperture *k* into the nozzle *l*, then through the latter under pressure into the burner-tube *b*. At the same time air flows in through the apertures *m* in the burner-tube, and a vapor  
100



mixture with considerable downward pressure is thus produced, the force of the pressure being somewhat broken by the bend of the burner-tube. By the mixture of air with the vapor directly at the vaporizer and in the burner-tube itself a very powerful pressure is obtained. This is of very considerable advantage over arrangements in which the addition of air takes place at a point at which the vapor has already traveled some distance. The high pressure obtained acts downward and considerably assists the action of the burner and the vaporizer and allows of increasing the size of the burner-holes, so as to prevent them from becoming stopped up. With this burner steady, noiseless, and uniformly-burning oxygen flames are produced.

The purpose of the channel *h* is to prevent the entrance to the burner-tube of condensed spirit formed in the vaporizing-chamber after the apparatus has been put out of use and the overflow of spirit into the said tube when the reservoir *f* is overfilled.

Owing to the fact that the vaporizing-chamber *c* is outside the smoothing-iron and that the heat is conducted by means of the bar *a* in the manner described from the burning-tube out of the iron to the said chamber great and hitherto unattained uniformity of vaporization and flame production is obtained, since the vaporization cannot become too active in consequence of too great heat inside the smoothing-iron, as was hitherto the case. The regulating device also allows of reducing and increasing the heat of the smoothing-iron itself and the rate of vaporization. For reducing the heat the chamber *c* is pulled out of the socket, as shown in Fig. 2. According to the extent to which this is done the action of heat on the vaporizing-chamber is reduced, and less heating vapor is thereupon generated in said chamber. When the chamber is pulled out entirely, the burner is extinguished, and, vice versa, as long as the burner is alight the pushing of the chamber *c* into the socket *a'* increases the heat and the generation of vapor in the same measure. This method of controlling the heat of the smoothing-iron is very exact and reliable. Great economy in the consumption of spirit is rendered possible thereby.

I declare that what I claim is—

1. The combination with a smoothing-iron having a cavity for receiving a burner, a spirit-container external to said iron, a vaporizer and an air-mixer both connected to said container and also external to said iron, a burner

connected to said vaporizer and air-mixer and a heat-conductor extending from the burner to the vaporizer said heat-conductor having part of its length adapted to be projected together with the burner into the interior of the iron and part of its length external to said iron in proximity to said vaporizer.

2. The combination with a smoothing-iron having a cavity for receiving a burner, a spirit-container external to said iron, a vaporizer and an air-mixer both connected to said container and also external to said iron, a burner connected to said vaporizer and air-mixer, and a heat-conductor extending from the burner to the vaporizer, said heat-conductor having part of its length adapted to be projected together with the burner into the interior of the iron and part of its length external to said iron in proximity to said vaporizer and adjustable in respect thereof for the purpose set forth.

3. The combination with a smoothing-iron having a cavity for receiving a burner, a spirit-container external to said iron, a vaporizer and an air-mixer both connected to said container and also external to said iron, a burner connected to said vaporizer and air-mixer and a heat-conductor extending from the burner to the vaporizer, said heat-conductor having part of its length adapted to be projected together with the burner into the interior of the iron and part of its length external to said iron in proximity to said vaporizer and means for adjusting the heat-conductor with respect to the vaporizer and for maintaining said adjustment substantially as set forth.

4. In a heating device for said irons, the combination with a bar arranged to be contained in the combustion-chamber of the iron and having a portion to project out of such chamber and rearwardly above the iron and provided with a socket, of a reservoir provided with a vaporization-chamber arranged to fit in such a socket, such chamber being provided with a vapor-outlet, a mixing-tube having air-inlet openings arranged to receive vapor from such outlet and provided with a burner-tube arranged to be projected into the interior of the iron adjacent the bar, and means for adjustably securing the vaporizing-chamber in such socket.

In witness whereof I have signed this specification in the presence of two witnesses.

JOSEF FELDMEYER.

Witnesses:

M. OTTO GUGEL,  
CLARA I. PARKER