

J. COURTENAY.

FLAT IRON.

APPLICATION FILED JULY 17, 1909.

946,490.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

Fig:1.

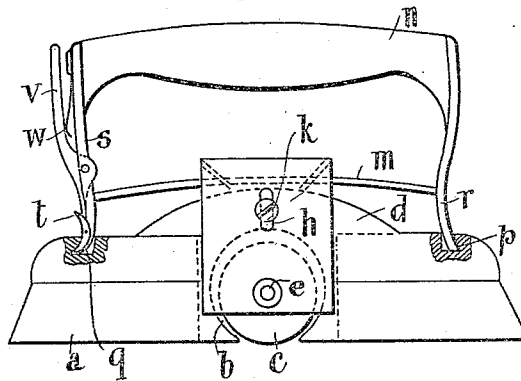


Fig:2.

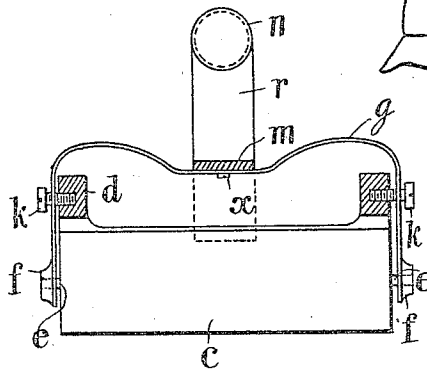


Fig: 8.

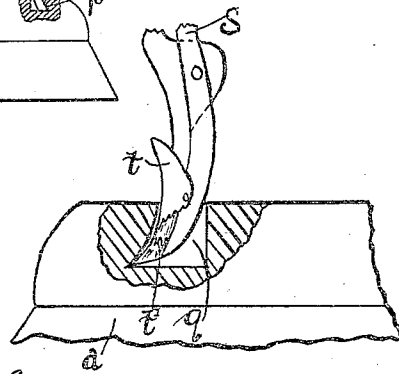
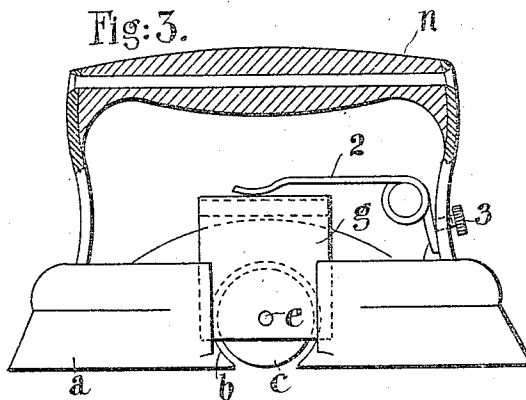


Fig:3.



Witnesses  
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2 SHEETS—SHEET 2.

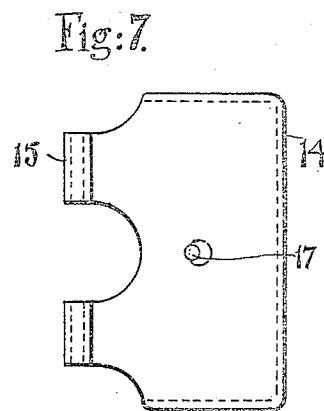
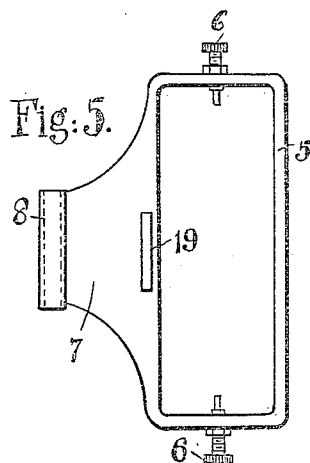
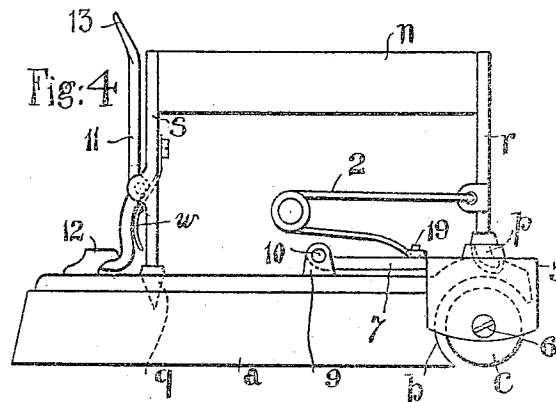
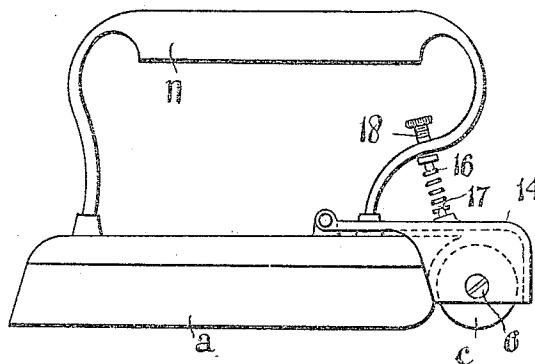


Fig. 6.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN COURTENAY, OF AVIEMORE, CAPE COLONY.

FLAT-IRON.

946,490.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed July 17, 1909. Serial No. 508,135.

*To all whom it may concern:*

Be it known that I, JOHN COURTENAY, a subject of the King of Great Britain, residing at Aviemore, Elsie's River Halt, Cape Colony, South Africa, farmer, have invented new and useful Improvements in Flat-Irons or Hand-Irons, of which the following is a specification.

This invention relates to improvements in irons for smoothing in which a roller is combined with a flat iron; and consists in arranging the roller resiliently, so that by changing the pressure upon the iron, the flat surface may be brought into contact with the material to be smoothed, or the iron may be allowed to run freely on its roller.

The invention is particularly applicable to hand irons, though it may be made on a large scale for such purposes as smoothing asphalt. If desired the roller may be so mounted as to be easily removable; and in some forms of construction it is convenient to employ also a removable handle as is often done with ordinary flat irons.

In the accompanying drawings—Figure 1 is a view in side elevation of my improved iron showing part of the mechanism in dotted lines; Fig. 2 is a transverse section of the same; Fig. 3 is a side view partly in elevation and partly in section of a modified form of my invention; Fig. 4 is a side elevation of still another modification; Fig. 5 is a top plan view of the roller holding device shown in Fig. 4; Fig. 6 is a side elevation of another modification; Fig. 7 is a top plan view of the roller holding device shown in Fig. 6, and Fig. 8 is a view of the spring pressed catch, *t*.

The form of construction shown in Figs. 1 and 2 suffices to make clear the essence of the invention. As may be seen from those figures the flat iron proper *a* has an incomplete cylindrical recess *b* cut in it, and in this recess there is mounted a roller *c*. Preferably the recess *b* should be made more than semi-cylindrical, and if its lower opening is of less width than the diameter of the rollers *c*, it will naturally prevent the roller from being protruded too far. The recess may or may not be of such size as to divide the body *a* of the iron into two parts, but in the former case it is convenient to join the two parts of the iron by arches *d*.

The roller *c* has projecting pivots *e* at each end and these engage in bearings formed in the lugs *f* upon the spring plate *g*. The ends of this spring plate are made straight as shown and are slotted at *h* to receive screws *k* which enter the arches *d*. These screws serve to guide the spring *g* in its upward and downward movement. The center of the spring *g* engages beneath a bridge piece *m* which in the example shown extends between the two uprights of the handle *n* of the iron.

If the handle is to be made detachable, recesses *p*, *q* are provided in the upper surface of the iron. One of these is just of a size to receive the upright *r* at one end of the handle *n*. The other recess *q* is made slightly larger and is rather more undercut. The upright *s* has pivoted at its lower end a catch *t* which is pressed by a spring so as to engage in the undercut portion of the recess *q*. Upon the upright *s* there is further pivoted a lever *v* pressed by a spring *w*, the upper end of this lever lying near the end of the handle *n*. It will readily be seen that by pressing the lever *v* toward the handle *n* the small catch *t* is turned about its pivot and its foot is withdrawn from the undercut portion of the recess *q*. When this is done the handle can be lifted out from the recesses. As will be seen the removal of the handle immediately takes away the spring pressure from the roller. It should be noted that the screw *x* passing through the bridge piece *m* and the spring *g*, may engage with the spring *g* so that it has to be unscrewed before the handle can be removed or it may be omitted altogether.

It will be understood that the invention may be employed with irons of any type whether they be simple solid flat irons, box irons, spirit irons, gas irons or electric irons. Naturally in the case of the latter types of iron some modification will be necessary in the arrangement of the heating apparatus, but the necessary re-arrangement will be readily apparent to those acquainted with the art. The material of the roller may be varied according to the purpose for which the iron is to be used, and the price at which the iron is to be sold. It may be simply of iron, or it may be nickel plated, or it may be of copper and so forth. Moreover it may be constructed of solid metal or may instead be hollow.

It is sufficiently clear from the remaining examples illustrated that many modifications

may be made in the details of construction of the iron. In the form shown in Fig. 3 the roller *c* is secured to an arched plate *g* as before, but this plate is now guided in slots formed at the sides of the iron, though not extending quite to its base. The plate *g* need not in this case be itself springy but a spring 2 may be secured to some part of the handle, for example, to the upright *r* in the manner indicated. One leg of this spring 2 rests upon the arched piece *g* while the other bears against the end of a screw 3 which can be moved in and out to adjust the pressure of the spring. Alternatively a simple leaf spring such as a piece of fairly stiff clock spring could be employed. In this example the handle is shown as permanently secured to the iron proper, but it may of course be detachable as in the previous example. The middle or grip part of the handle is surrounded as indicated, by a sheath of wood or other non-conductor of heat.

Though it is convenient to have the roller in the center of the iron, as in this position it more easily lifts the iron from the material which is being treated as soon as the pressure of the hand is released and so allows the iron to run back with ease, it may be desirable for some purposes to secure the roller at one end of the iron, and this is perhaps the better position where it is intended that the roller may be detached from the iron and the iron used alone. A construction of this kind is shown in Figs. 4 and 5. The roller *c* is in this case mounted in a frame 5 which carries two screws 6, the ends of which enter recesses in the ends of the roller *c* and form its bearings. The frame 5 has an extension 7 at the end of which is a perforated rib 8. This rib lies between two similar perforated ribs 9 formed upon the upper surface of the iron, and a pin 10 passes through all three ribs so as to form a hinge and make the frame a radius rod. The cylindrical recess *b* is now formed at the end of the iron *a*, the upper surface of which is arched, as indicated.

The handle *n* may be made detachable as before, one upright entering the recess *p* in the arch which projects through the opening of the frame 5, and the other the recess *q* at the front of the iron. The fastening device is in this case slightly different as it consists of a single lever 11 pivoted to the upright *s* of the handle and pressed outwardly by a leaf spring *w* so that its end engages beneath the undercut lug 12 upon the front of the iron. The handle is therefore released in this case by pressing the thumb piece 13 away from the handle. The spring 2 is in this case pivotally attached to the upright *r* of the handle, and bears against the projection 19 on the extension 7 of the frame 5. The object of this arrangement is to allow of the spring pressure being

released when the iron is put on the stove for heating, so that it will rest upon its flat surface. It will be seen that if the spring be lifted so as to be disengaged from the projection 19, it will no longer press down the roller.

In Figs. 6 and 7 another form of iron having the roller at the back is illustrated. In this case the recess *b* is practically absent and the roller could be attached in substantially the manner here illustrated to an ordinary iron. The roller is mounted in bearings in a box shaped frame 14, which has perforated lugs 15 forming the hinge with a single central lug in the upper surface of the iron *a*. A spiral spring 16 is employed to apply pressure to the roller, and this extends between a projection 17 on the frame 14 and a screw 18 passing through the handle support. By turning the screw the pressure of the spring may obviously be adjusted.

It will be clear that the invention is not limited to the forms of construction thus described by way of illustration. It is only intended that the constructions shown shall indicate some of the possible variations in the details of the iron. Naturally the method of mounting the spring in one of the constructions shown might be combined with the method of mounting the roller in another of the constructions and so forth. Such modifications will, however, be readily apparent to the expert and need not be further detailed.

What I claim is:—

1. In a smoothing iron, the combination with a metal body having a flat surface and a handle, of a roller movably secured to said body and resilient means arranged to normally press said roller out from the flat surface of said metal body.
2. In a smoothing iron, the combination with a metal body having a flat surface, a handle, a recess with a cylindrical surface, of a roller movably secured to said body in said recess, and resilient means arranged to normally press said roller out from the flat surface of said metal body.
3. In a smoothing iron the combination with a metal body having a flat surface and a handle, of a transverse frame movably mounted on said body, a roller having bearings in the said frame, and resilient means pressing on said transverse frame.
4. In a smoothing iron the combination with a metal body having a flat surface, a handle, and a recess with a cylindrical surface at one end, of a roller movably mounted in said cylindrical recess and resilient means tending to normally press said roller out from the flat surface of the body.
5. In a smoothing iron the combination with the metal body having a flat surface, a handle and a cylindrical recess at one end, of a transverse frame pivoted to said

body, a roller having bearings in said frame, and resilient means bearing upon said frame.

6. In a smoothing iron, the combination  
5 with a metal body having a flat surface and a handle, of a transverse frame pivoted between lugs on said body, a roller mounted in bearings in said frame, and a spring bearing between the handle and said frame,  
10 so as to normally press the roller out from the flat surface of the body.

7. In a smoothing iron, the combination  
15 with a metal body, having a flat surface and a recess, and a handle, of a roller movably mounted in said recess, a frame extending transversely of said iron in which said roller is journaled, and a spring secured to said handle and contacting said frame, whereby said roller is normally pressed out

from the flat surface of said iron but permitted to revolve flush with said flat surface when pressure is applied to said handle. 20

8. In a smoothing iron the combination  
25 with a metal body having a flat surface, a detachable handle, and a cylindrical recess at one end, of a transverse frame pivoted to said body, a roller having bearings in said frame, and occupying the recess, and a spring secured to the handle and bearing upon the frame so as normally to press the  
30 roller out from the flat surface of the body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN COURTENAY

Witnesses:

CHARLES WILLIAM ADAMS,  
GERARD WYNFORD KNAPP.