Sept. 28, 1926. 1,601,520

J. S. FORBES

HANDLE

Filed Dec. 1, 1920

Fig. 1.

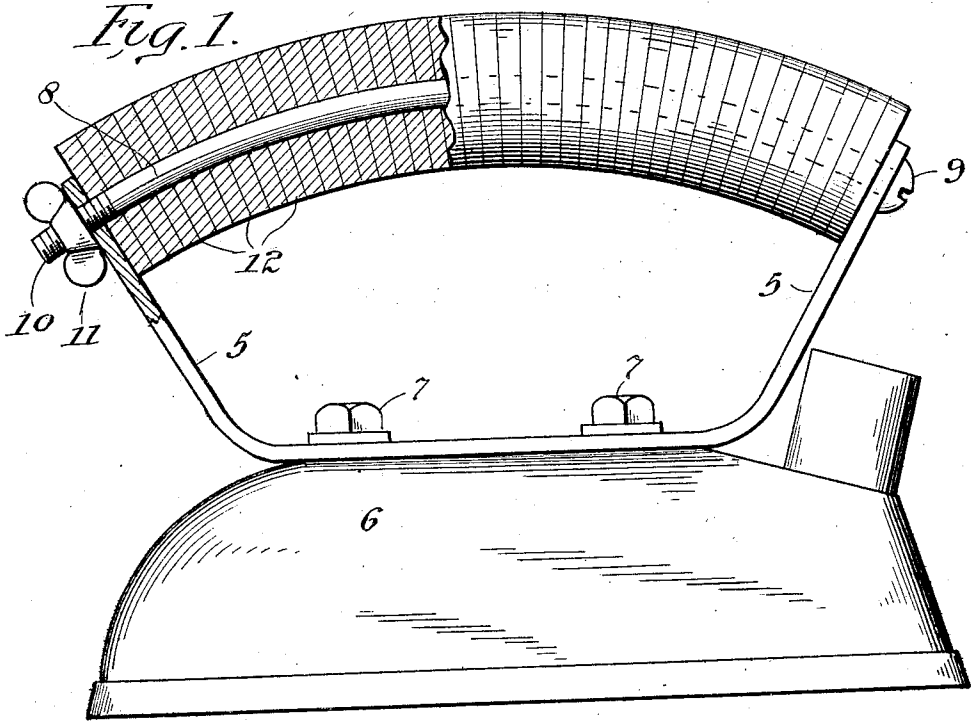



Fig. 2.

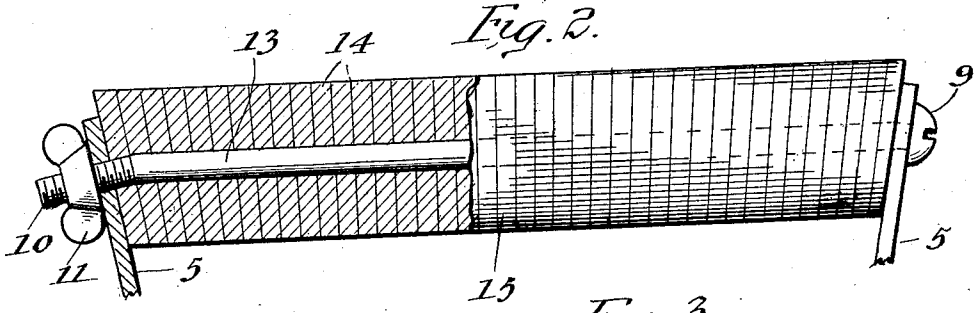
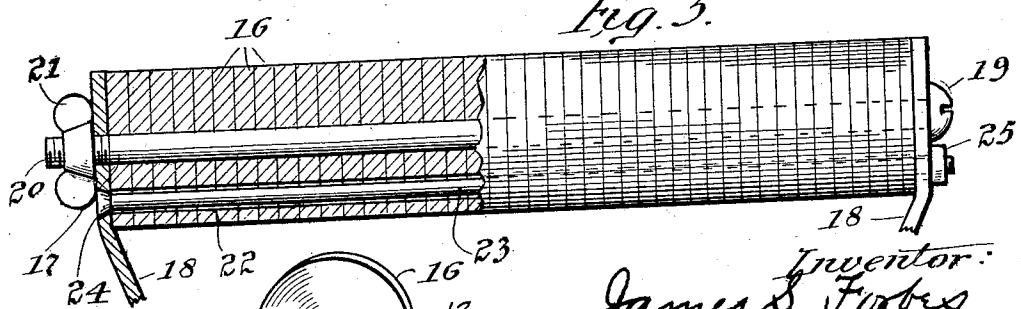



Fig. 3.



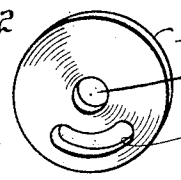




Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## HANDLE.

Application filed December 1, 1920. Serial No. 427,477.

This invention relates to improvements in handles and more particularly to the construction of the gripping members therefor, rigid throughout their length, strong and bodily rotatable upon the handle, and more especially to gripping members consisting of a series of leather disks or analogous material cemented and pressed together to form a solid mass, or else of a single tubular piece of wood extending the entire length of the handle.

Handle grips, constructed as above described, adapted for the purposes of suspension and the manipulation of the various articles to which they are attached, and for moving and directing the movements of implements over supporting surfaces, are, nevertheless, subject to the objection that frictional resistance during manual operation is sufficient to not only irritate the hand of the operator, but not infrequently blister it, owing to the fact that the surface of the handle does not and cannot respond to the change in the direction of the path of movement of the hand when suspending an article and particularly when moving an article, such as a smoothing iron, over a supporting surface.

The object of my invention, therefore, broadly stated is a handle, the gripping portion of which is so constructed that its frictional resistance to the hand of the operator is reduced to a minimum and thereby the irritation and blistering of the hand of the operator are prevented throughout the suspension and manipulation of the article to which the handle is attached, regardless of the length of time during which his hand may be so occupied.

More specifically stated, the object of my invention is to provide a handle with a sectional gripping member, each section of which is movable on the handle independently of the others and whereby the frictional resistance of the surface exposed to the hand is reduced to a minimum.

A further object of my invention is a handle having a gripping surface made up of a series of independently moving sections, the material of which is more or less a nonconductor of heat and imparts to the hand of the operator a soft velvetlike sensation as distinguished from that due to the use of wood and compressed cemented disks of the same material.

With these ends in view, my invention finds embodiment in certain features of novelty in the construction, combination and arrangement of parts by which the said objects are attained, all as hereinafter fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In said drawings,—

Fig. 1 illustrates in side elevation in connection with a smoothing iron, a handle in which my invention finds its embodiment, with the gripping member thereof partly in longitudinal section.

Fig. 2 is a side elevation of a modified form of the handle and gripping devices therefor.

Fig. 3 is a similar view of a further modification of the same; and

Fig. 4 is a perspective of one of the centrally perforated disks.

For carrying out my invention, as shown in Fig. 1, 5 indicates the frame for connecting the handle proper with a smoothing iron by means of bolts 7—7, but when the handle is used in connection with other devices, suitable connecting means of the usual character are provided therefor.

The gripping member of the handle consists of a curved rod 8 passing through the end bars of the frame 5, provided at one end with a head 9 and screwthreaded at its opposite end at 10 on which screwthread works a thumb-nut 11 adapted for adjusting the force of compression of a series of disks 12 strung upon the rod 8 and for which purpose the disks are provided with central perforations 13 (see Fig. 4). Some, if not all of the disks 12 are wedge shaped. That is to say, they taper from their upper surface inwardly towards their under surface and every disk can be turned on its axis independently of the others against the frictional resistance of the disks opposed thereto.

The force of the frictional resistance to every disk is regulated and adjusted by means of the thumb-nut 11. That is to say, the frictional resistance of the disks is so adjusted by means of the thumb-nut that, owing to their wedge-shaped form, when any one or more of the disks has made about a quarter turn, it is prevented by a wedging action from making a complete turn, with the result that it will oscillate back and forth on its axis when gripped by the hand accordingly as the direction of the gripping force of the hand is changed, with the re-

sult that the frictional resistance to the hand is reduced to a minimum.

In short, as the grip of the hand against the edges of the disk changes in direction and force, the movement of the disk is such that the hand is relieved from any irritating frictional resistance and thereby prevented from being blistered.

In the modification shown in Fig. 2, the handle is provided with a straight rod 13 on which the axially perforated disks 14 are strung, which rod passes through the arms 5—5 of the handle and is provided at one end, as in Fig. 1, with a head 9 and at its other end with screwthreads 10 and a thumb-nut 11 for adjusting the frictional resistance of the disks against each other.

Normally the disks 14 are of uniform thickness, with the result, however, that when made of a compressible material, the lower halves of the disks are narrowed by the force of compression, with the result that the disks on the opposite sides of the center of length of the handle incline inwardly towards the central disk 15.

The handle illustrated in Fig. 2 is shown for the purposes of indicating the application of my invention to a straight handle as distinguished from the curved form shown in Fig. 1.

With regard to the force of the frictional contact between the several disks, the compressive force applied thereto should be sufficient for the frictional resistance of the disks to prevent them from making a complete revolution on the handle rod and especially when the handle of my invention is applied to a heating iron wherein it is frequently desired to, while grasping the handle, lift and turn the face of the iron up for testing its heat with a wet finger and when, if one or more of the disks were free to revolve around their support, the hot iron would move to contact with and burn the wrist of the operator, as frequently occurs with irons provided with a continuously formed gripping member sleeved on the handle rod and now largely in use.

When used as a handle for grips, trunks and other containers, even the complete rotation of the disk with but little frictional resistance and less than that for a smoothing iron, is not so seriously objectionable as it is for a smoothing iron. It is therefore apparent that any means which does not depend upon the frictional resistance of the disks for preventing their complete revolution is desirable and included by my invention.

For example, as shown in Fig. 3, it is possible and practical to string a series of disks 16 of uniform thickness upon a straight handle rod 17 passing through frame members 18—18, provided at one end with a head 19 and at its opposite end with screwthreads 20 and a thumb-nut 21 for bringing the disks to close proximity with each other and with less force than is necessary to impart to them a substantially frictional resistance and limit their oscillation without imparting to them substantially frictional resistance.

In other words, by providing each disk with the elongated curved slot indicated at 22 in Fig. 4 and passing therethrough and through the handle frame 18—18 a rod 23, provided at one end with a countersunk head 24 and with screwthreads at its opposite end for a nut 25, the movement of every disk is limited to the length of the slot 22, which length may be such that no disk can make more than a quarter of a revolution back and forth on rod 17.

For carrying out my invention, and especially for handles to be used in connection with smoothing irons by whatever name they may be designated, and for which my invention is especially adapted, I use disks preferably consisting of leather or maybe cardboard of sufficient thickness and because of their heat non-conductivity and that they present to the hand of the operator a more or less soft and velvetlike surface and impart but little frictional resistance.

For valise, bag and trunk handles the disks may be made of harder materials, such, for example, as wood, vulcanized rubber, gutta percha, etc., wherein, for their suspension, but few different movements of the hand are required as compared with those for directing an iron for its successful operation on its support.

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

1. A handle, the gripping member of which consists of a supporting bar, a series of oscillating disks on said bar, and means for limiting the degree of their oscillation.

2. A handle, the gripping member of which consists of a supporting bar, a series of disks having frictional engagement with each other, and means for regulating and adjusting the relative positions of said disks.

3. A handle provided with a gripping member consisting of a series of oscillating disks, and means for subjecting said disks to compression, the force of which is greater upon the lower halves of said disks.

4. A handle, provided with a gripping member consisting of a series of oscillating wedge-shaped disks, and means for imparting to said disks a frictional action limiting the degree of their oscillation on the handle.

In witness whereof, I have hereunto set my hand and affixed my seal, this 29th day of November, A. D. 1920.

JAMES S. FORBES. [L. S.]