

(Model.)

J. FIEWEGER.
HAND POLISHING DEVICE.

No. 604,895.

Patented May 31, 1898.

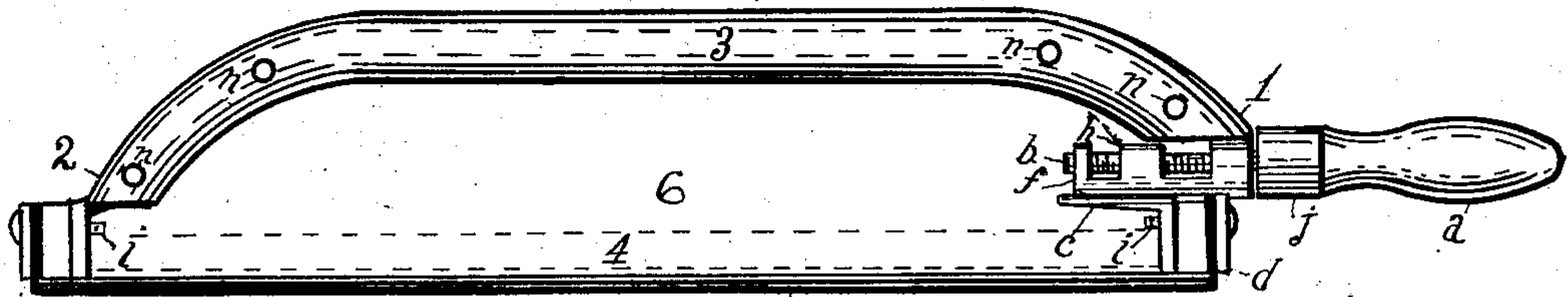


Fig. 1.

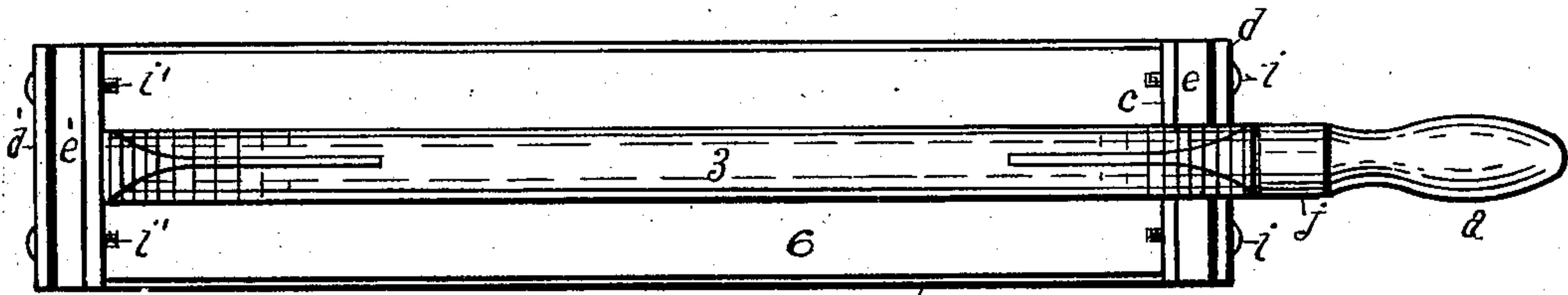


Fig. 2.

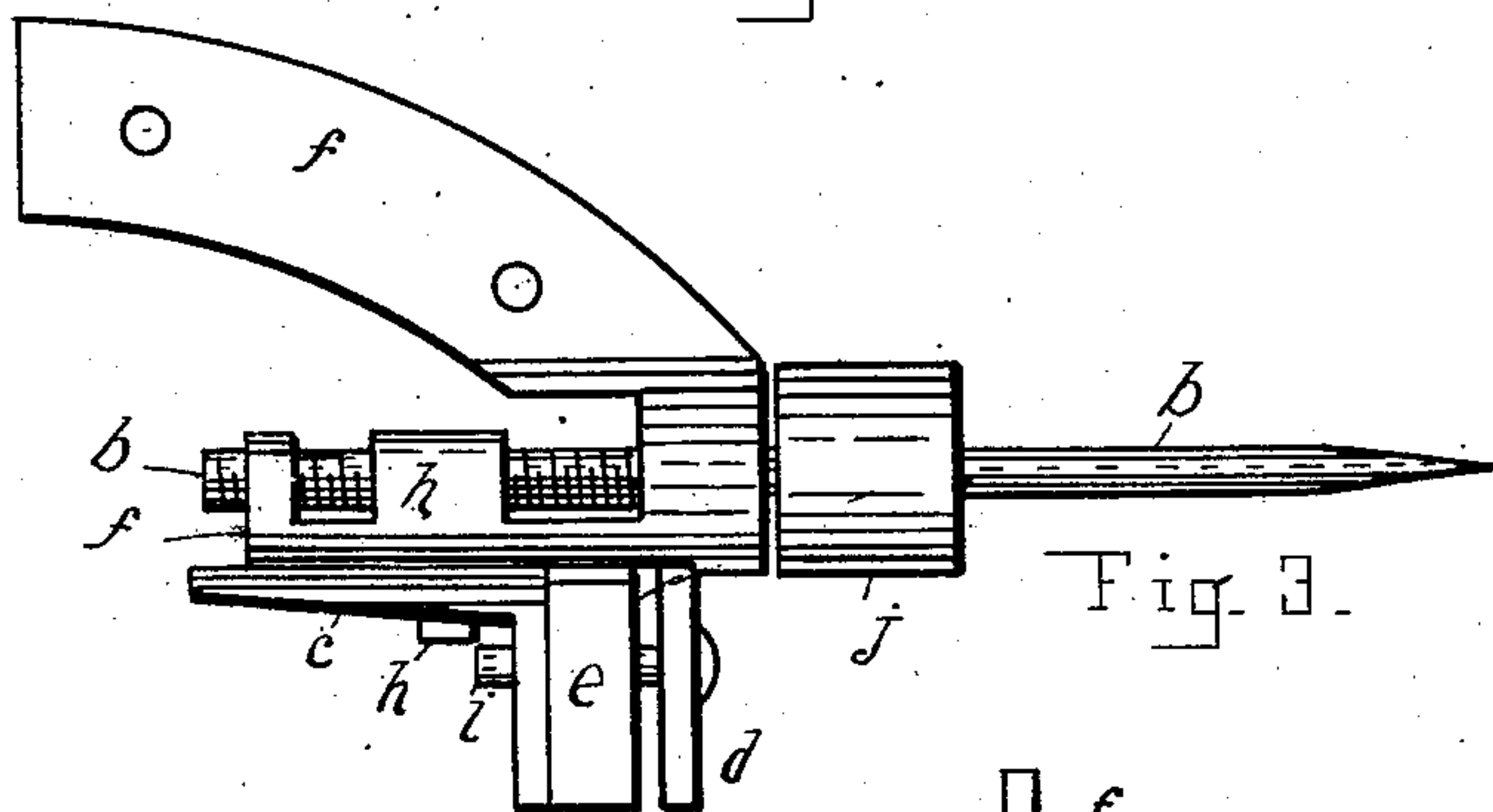


Fig. 3.

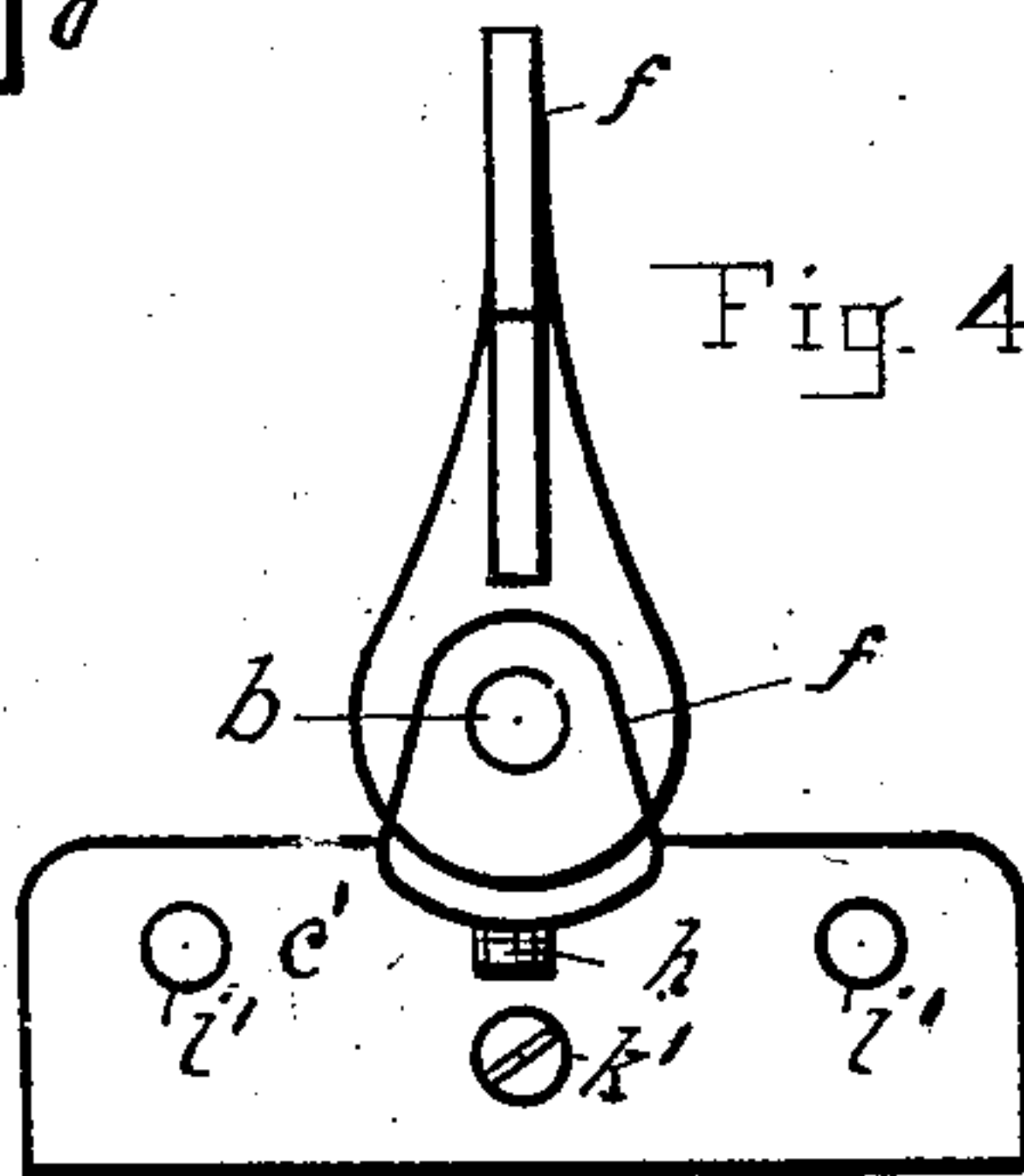


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

JULIUS FIEWEGER, OF MENASHA, WISCONSIN.

HAND POLISHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 604,895, dated May 31, 1898.

Application filed March 27, 1897. Serial No. 629,499. (Model.)

To all whom it may concern:

Be it known that I, JULIUS FIEWEGER, a citizen of the United States, and a resident of Menasha, in the county of Winnebago and State of Wisconsin, have invented a new and useful Improvement in Hand Polishing Devices, of which the following is a specification.

My invention relates to an abrasive or polishing device for the use of the artisan and mechanic; and it consists of a flexible strap having its ends secured apart with a suitable degree of tension, and is to be held in the hands of the operator and reciprocated over the work in hand, which work, if having a surface which is curved in the direction of its movement, receives the benefit of the rocking motion of the operator's arms and receives the abrasive effects of the device in consequence of the flexibility of the strap not only over its immediate top surface, but down upon its sides, or if the work in hand is a plain and smooth surface the flexible strap can be quickly changed into a device having an abrasive-material pad or backing which is comparatively rigid, whereby it is adapted for a large variety of work—such as the work of carriage-makers, chair and furniture makers, joiners, the polishing of iron surfaces, &c.—and it is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device. Figs. 2 is a top view of the same. Fig. 3 is a side elevation of the handle end of the clamping-irons with the wood handle omitted and showing the adjusting-screw, and Fig. 4 is an end elevation of said irons and adjusting-screw as seen from their inner end. Figs. 3 and 4 are upon an enlarged scale.

Similar numerals and letters indicate like parts in the several views.

1 indicates the iron clamps of the handle end of the device; 2, the clamps of the opposite end; 3, the wood bow-shaped bar; 4, a strap or strip of suitable material, which may or may not, as desired, have an abrasive surface and which extends from one of said clamps to the other; 5, a strip of sandpaper, emery, or other abrasive or polishing material and which extends from one clamp to the other and being supported when in use by said strap; 6, a removable board or strip for changing the device from one having a flexi-

ble abrasive surface to one having a comparatively rigid or unyielding one and is shown in Fig. 1 in dotted lines and in Fig. 2 in heavy ones.

The clamp 1 consists of a wood handle *a*, the adjusting-screw *b*, one end of which extends into the wood handle, the clamp-iron *c*, its follower *d*, a block of wood *e*, the sliding screw-holder *f*, the nut *h*, the screws *i* and *k*, and ferrule *j*.

The clamp 2 is similar to the clamp 1, excepting that it has no adjusting-screw, and consists of the clamp-iron *c'*, its follower *d'*, block *e'*, and screws *i'* and *k'*.

The bar 3 is preferably made of wood bent to the required shape and having the irons 1 and 2 secured to the ends by means of pins; but it may be of any suitable material. The iron 1, besides having the clamp, has also the adjusting-screw and handle, whereby the clamp can be moved toward or from the clamp of the iron 2, the turning of the handle *d* sliding the clamp at that end of the device in either direction, according to the direction in which the screw is turned, whereby the strap or strip of abrasive material after being fastened at both ends within the clamps 1 and 2 can be tightened up to the desired degree of tension for their smooth and easy working. This handle, it will be evident, can be dispensed with and the device grasped by the hands of the workman near each end of the bar 3 for reciprocation over the work in hand. When it is properly adjusted, the workman, taking hold one hand near each end of the device, by reciprocating the tool over the work in hand (the inside of a wagon-felly, for instance, after it has been draw-shaved) can quickly reduce its inequalities and produce an even smooth surface.

The abrasive-material strip becoming too much worn can be quickly removed by loosening the tension by turning the handle *a* and then loosening the screws *i* of the clamps, when another strip can be inserted, the screws *i* tightened up, and the proper degree of tension given to the abrasive strip.

The sand or emery paper can be bought in strips of the desired width and then be cut to the required length; but in some cases it may be desired to dispense with the paper strips and have the abrasive material applied

directly to the strap, upon one or both sides of it, although its removal when worn and the substitution of new will not be as quickly done as when using the paper strip. Therefore the following description will be understood to include the use of one or both—the flexible strap with abrasive or polishing material upon one or both sides of it or the strap without abrasive material upon it and a strip of sand or emery paper.

The screws *i* are inserted through the follower *d*, the sandpaper 5, strap 4, wood block *e*, and the iron *c* and then extended beyond it about one-quarter of an inch. When it is desired to change the device from one having a flexible support or backing for the abrasive material to one having a comparatively rigid or unyielding one, a board is taken having a width about the same as that of the strap and a length and thickness that will admit it between the clamp-irons and under the screws *i*, where it is inserted and will be held by a slight pressure of the clamps upon the ends of the board. In this manner the device is adapted for many uses, and in consequence of the length of the abrasive surface the work it will do in comparison with the usual block of wood or pad held in the hand is increased three or four fold, and the use of a wood-file for taking off the rough spots is in most cases uncalled for.

The screw *b* is loosely journaled in the two ends of the sliding piece *f* and is threaded into the nut *h*, which nut may be integral with the piece *f* or be tapped into it.

All parts (excepting the strap and sandpaper) may be made of metal; but for lightness and for reducing its cost it is preferable to make the pieces 3, *a*, *e*, and 6 of wood, the screws *b*, *i*, and *k* of iron or steel, and the clamping-irons of malleable iron.

The blocks of wood *e* are fastened in their respective places with screws *k*. For the strap 4 a piece of cotton belting of a suitable width will generally be found suitable; but other material, as felt, leather, rubber, &c., may be used. The length of the device may be more or less, its length depending upon the class of work upon which it is to be used; but a width of three inches and length of two feet is suited for most cases.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. In a hand polishing device for reciprocation over the work to be smoothed, the combination of the clamps 1 and 2 secured upon opposite ends of the curved bar 3, the strap 4, abrasive strip 5, and the board 6, which latter serves as a backing to said strap and abrasive strip 5, each clamp being provided with a loose follower and the screws *i*, *i*, and the clamp 1 having a screw *b* for moving it toward and from the clamp 2 and thereby giving the proper degree of tension to said strap and abrasive strip, and also, for holding said removable board between said clamps, whereby said board can be easily removed and the abrasive surface changed from a rigid to a flexible one, substantially as set forth.

2. In a hand polishing device having a curved bar adapted to be grasped by the hand of the operator and reciprocated over the work to be smoothed, the combination of two clamps, one upon each end of said bar, fitted to receive and removably hold the end of a strap, and one of said clamps being provided with a screw for giving the proper degree of tension to said strap, and extending from one to the other of said clamps a strap therefor, and removably held between said clamps the board 6, for providing a rigid backing to said strap, whereby said polishing device may be changed from a flexible one to one having a rigid backing at the will of the operator, substantially as set forth.

3. In a hand polishing device having a curved bar adapted to be grasped by the hand of the operator for reciprocation over the work to be smoothed, the combination of two clamps, one upon each end of said bar, fitted to receive and removably hold the end of a strap and strip of abrasive paper, and one of said clamps being provided with a screw for giving said strap and paper the proper degree of tension, and extending from one to the other of said clamps a strip of abrasive paper, and inside of said paper, the strap 4 for providing a support and flexible backing to said paper, substantially as described.

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Witnesses:

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