

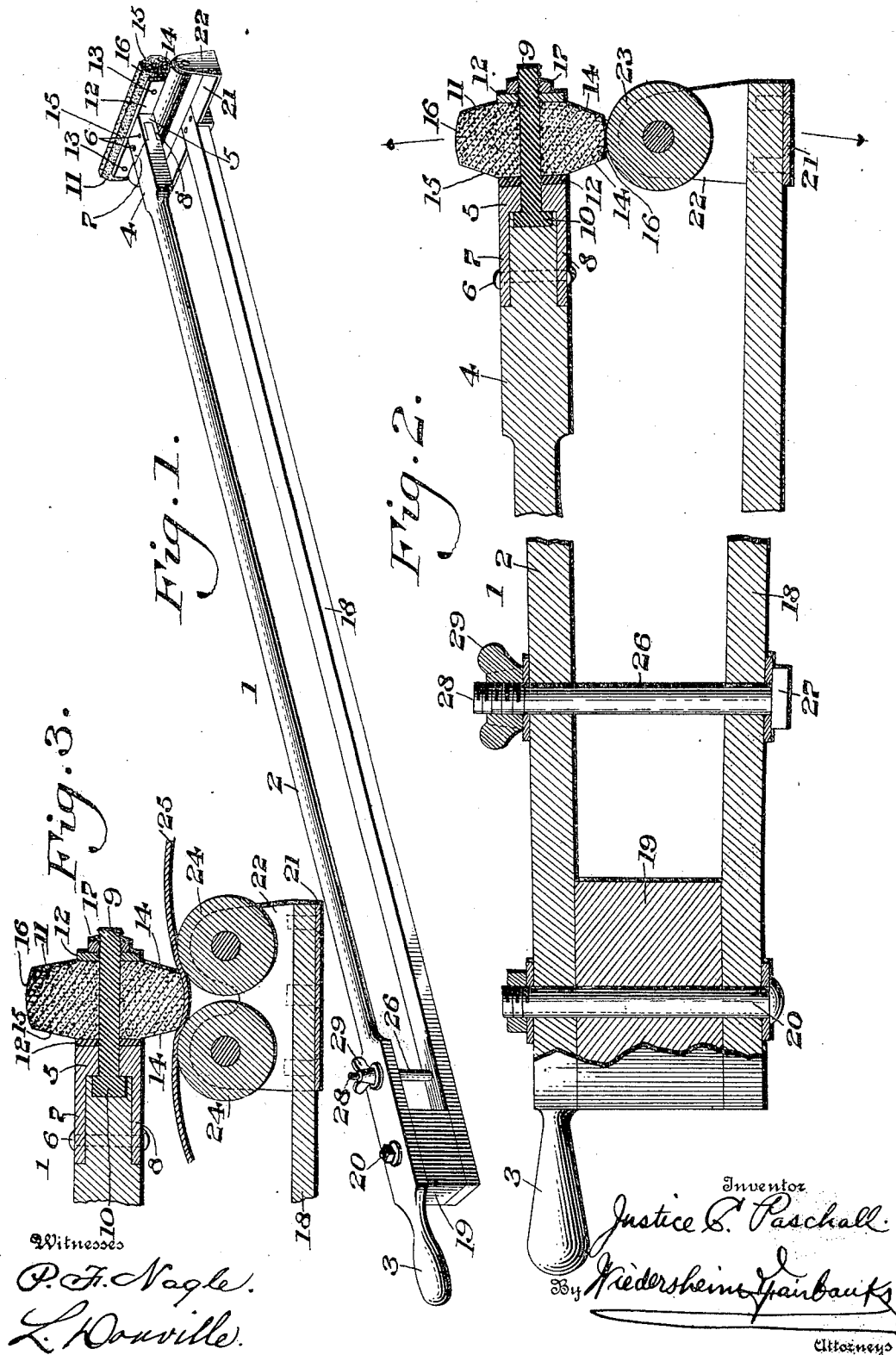
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J. C. PASCHALL.

APPARATUS FOR PUMICING SKINS, LEATHER, FABRICS, &c.

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APPARATUS FOR PUMICING SKINS, LEATHER, FABRICS, &c.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JUSTICE C. PASCHALL, a citizen of the United States, residing at Merchantville, in the county of Camden, State of New Jersey, have invented a new and useful Apparatus for Pumicing Skins, Leather, Fabrics, and the Like, of which the following is a specification.

My invention consists of a novel construction of a hand implement for pumicing skins, leather, and fabrics which comprises a plurality of resilient arms, one of which has secured to its extremity a novel construction of a grinding-stone, which is adapted to coact with a roller or rollers located oppositely thereto on the other arm, provision being made for regulating the tension of the arms or the pressure between the stone and roller according to requirements or to the varying thicknesses of the skins to be treated, and means being also provided whereby there is no liability of dust, dirt, ruffled grain of skins, hair, or any other lumpy imperfections passing through the implement without being leveled to the surface of the skin, means being also provided for leveling the surface of the skins without ruffling up the grain, as is often done by handwork with a poor workman.

It further consists of a novel manner of securing the pumice or grinding stone to its jaw or arm, whereby said stone can be rotated or turned, so as to present a fresh surface to the skin to be treated, when desired, and, furthermore, permitting the desired edges of the stone to be readily dressed without necessitating its removal, whereby both edges of said stone may be used with equal facility.

It further consists of a novel manner of securing the ends of the arm opposite to the grinding-stone and rollers in assembled position, whereby the same are rendered readily accessible and can be easily disconnected for the purposes of inspection or repairs.

It further consists of a novel manner of reinforcing the grinding-stone by means of plates secured to its front and rear surfaces, whereby the life of the stone is prolonged and liability of its cracking or splintering is prevented.

It further consists of other novel features of construction, all as will be hereinafter fully set forth, and pointed out in the claims.

For the purpose of illustrating my inven-

tion I have shown one form of apparatus, as this embodiment best illustrates the principle of my invention, although it is obvious that the principal instrumentalities of which my invention consists can be arranged and organized in various forms, and in the accompanying drawings I have shown one embodiment thereof which I have found in practice to give satisfactory results, although it is to be understood that my invention is not limited to this single arrangement and organization of instrumentalities.

Figure 1 represents a perspective view of a hand implement or apparatus for pumicing skins embodying my invention. Fig. 2 represents, on an enlarged scale, a broken view of a longitudinal section of Fig. 1. Fig. 3 represents, on an enlarged scale, a sectional view showing another embodiment of the principle of my invention, wherein I employ a plurality of rollers in lieu of the single roller shown in Figs. 1 and 2.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a hand implement or apparatus for pumicing skins in one of the preferred forms of my invention, wherein I employ an upper resilient arm 2, having at its rear portion a handle 3 and at its forward portion the head 4, to which is attached the plate 5 by means of the bolts 6 or other equivalent devices, said bolts passing through the top and bottom members 7 and 8 of said plate 5. The plate 5 has an opening therethrough in which is rotatably mounted the bolt 9, which has a head thereon, said head being seated in a suitable recess in the extremity of the arm 2.

11 designates the grinding stone or pumice employed, the latter being reinforced at its front and rear sides by the metallic or other plates 12, which are secured in position by means of the screws or their equivalents 13. In the present instance I have shown the grinding-stone as composed of a suitable body portion having the lower and upper beveled walls 14 and 15, respectively, and the rounded or convex working face 16, although it will be evident that in practice the shape or contour of the grinding-stone may be slightly changed to requirements without departing from the spirit of my invention. The manner of assembling or placing the grinding-stone in position will be apparent

from Figs. 2 and 3, the bolt 9 passing through the plates 12 and through the body of the stone and the latter being held in position against the part 5 by means of the nut 17 or its equivalent.

18 designates the lower or other arm of my novel implement, the rear end of the same being spaced from the rear end of the arm 2 by means of the block 19 and said arms and block being held in assembled position by means of a bolt or bolts 20 or other equivalent fastening device.

21 designates a plate or strip suitably secured to the outer or free end of the arm 18 and having the upwardly-extending ears 22, in which is mounted the roller 23, it being apparent that while I have shown a single roller as being employed in Figs. 1 and 2 I may, if desired, employ a plurality of rollers 24, as seen in Fig. 3, without departing from the spirit of my invention, the skin 25 to be treated being acted upon in substantially the same way and to the same extent irrespective of whether one or two rollers are employed. It will, however, be apparent that in the construction seen in Fig. 3 I locate the rollers 24 in such relation to the lower corners of the stone that each corner coacts with the juxtaposed roller to pumice the skin to the desired extent.

26 designates an adjusting device for the arms 2 and 18, said device in its simplest form consisting of a bolt having the head 27 and the threaded end 28, with which the thumb-nut or equivalent tension device 29 engages.

The operation is as follows: It will be understood that in the practical application of my invention the skin has been staked and is practically finished, with the exception of the glazing, the skin being next tacked out on the frame or stretched by means of the clamping devices as are now generally employed, and while in this stretched or taut condition receives a coat of daub, which is permitted to dry thereon, and it is now treated with my novel apparatus hereinbefore described. The daub having dried and the skin pumiced by my novel implement, a coat of varnish is then placed on the skin and allowed to dry, after which the skin is again treated by my novel implement to the desired extent, after which the finishing coat of varnish is placed thereupon.

It will be understood that in using my novel implement the operator grasps the handle 3 with one hand and then causes the skin, which is preliminarily stretched and treated as above described, to be inserted between the stone and the roller or rollers, as will be understood from Fig. 3. The implement is then given a reciprocating or to-and-fro movement by the operator, whereupon it will be apparent that the skin will after treatment present a smooth and unruffled surface,

there being no possibility for dust and dirt, ruffled grain, hair, or any lumpy imperfections to be present, since the same will be leveled to the surface of the skin, and this leveling will be effected without ruffling the grain, as is often done in the case of handwork with a poor workman or unskilled laborer. By the provision of having a plurality of rollers, as seen in Fig. 3, with the edges of the stone juxtaposed or located opposite to each roller, it will be seen that there are two points of impingement or impact upon the skin when the implement is reciprocated, whereas in the case of handwork one push or pull of the workman's arm only makes one cut or point of impingement.

It will further be apparent to those skilled in the art that in pumicing long skins by my novel construction, wherein the grinding-stone is fastened to the extremity of an arm of the implement, the workman can easily reach from one side of the skin to the other, whereas in handwork the operator's arm can only reach to a limited extent of the area of the skin.

It will also be apparent that cheap or unskilled labor, as a boy or girl, can do more and better work with my implement and in less time than an experienced operator working by hand. By the employment of the tension device 26 it will be apparent that by a simple manipulation of the thumb-nut or tension device 29 any desired tension can be put upon the skin to be treated according to requirements. By the provision of mounting the grinding-stone on a swivel or making the same rotatable, as has been heretofore explained, it can be dressed easily with a file without removing, and by reversing it the opposite edge can be readily dressed, and thus both edges of the stone utilized without removing the same from the apparatus.

The implement can be cheaply manufactured, and I have found from practical experience that it is not liable to get out of order and in practical work will produce a level plate-glass finish throughout the entire surface of the skin, whereby the latter is adapted to receive with the best effects and results the coat of varnish.

It will be apparent that the precise manner of swiveling the grinding-stone and of mounting the roller or rollers employed can be varied from by those skilled in the art without departing from the spirit of my invention, and it will also be evident that the size and respective dimensions or location of the rollers and grinding-stone to each other can be also varied according to requirements.

It will be apparent that the handle may be secured to the rear of the implement in any desired manner; but I have shown one simple and convenient form of constructing and applying the handle which I have found in practice to give very satisfactory results.

It will be apparent to those skilled in the art that my invention is differentiated from the leather-staking machines of the prior art, since my device is designed to be manually operated and the stone and coacting roller or rollers or their equivalent are normally always in substantially close juxtaposition and there is no alternate or intermittent mechanical opening and closing of jaws as is the case in a staking-machine. Furthermore, the stone and rollers of my device are always in contact with the skin during treatment of the latter, which is not the case in a staking-machine.

I desire to call especial attention to a feature of my invention which I have found in practice to be of great importance and that is the element of the lower arm 18 and the roller or rollers carried thereby, which latter are ever present at the under surface of the skin and form a species of an abutment or cushion, whereby the grinding-stone is enabled to effectively treat every portion of the skin, since the provision of said roller or rollers always causes the proper area of the skin to be presented to the working face of the stone irrespective of whether the thick part or back or the thin part or belly portion of the skin is being treated, the stone being enabled to follow and properly treat all lumps or irregularities of the skin by reason of its adjustable or swiveled mode of attachment to its arm.

It will be apparent that while both the arms 2 and 18 are somewhat resilient I prefer in practice to make the arm 18 a little more resilient than the arm 2, the construction, however, being such that the arms can be readily sprung apart sufficiently to readily pass over the top and bottom surfaces of the frame within which the skin is stretched, whereby said skin can be daubed, pumiced, and varnished without being removed from its frame.

It will be further apparent that by my device I can easily treat or pumice every portion of the skin at or near its edges as well as that part in proximity to the clamps which may engage the edges of the skins in a much more effective manner than when the skin is pumiced by hand.

While I have described my invention as being especially adapted for use in pumicing skins, I do not desire to be limited thereto in every instance, as the same is capable of use for other purposes—such as rubbing down or giving a smooth surface, as desired, to sheets, fabrics, or similar material when in a stretched or taut condition—and I do not, therefore, desire to be limited to any particular construction or use of my machine.

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

1. In an implement of the character de-

scribed, a plurality of arms, a grinding means secured to one of said arms, and adapted to contact with the surface of the skin to be treated and a device coacting with said means and carried by the other of said arms and adapted to contact with the opposite surface of said skin, said arms, means and device being adapted to be manually reciprocated over said skin and said means and device being always in contact with said skin during treatment.

2. In a device of the character described, a plurality of arms, a stone secured to one of said arms, and a roller secured to the other of said arms, the latter being adapted to be manually reciprocated over the skin to be treated, and said stone and roller being always in contact with said skin during treatment.

3. In an implement of the character described, a plurality of resilient arms, a grinding-stone secured to one of said arms and a roller secured to the other of said arms, said stone and roller being adapted to be always in contact with the top and bottom surfaces of the skin to be treated, during treatment.

4. In an implement of the character described, the combination of a plurality of resilient arms, a spacing device at the rear of said arms, a grinding-stone secured to the front or free end of one of said arms, a roller rotatably mounted upon the front or free end of the other of said arms, and juxtaposed to said stone and an adjusting device for varying the tension between said stone and roller, said arms and their adjuncts being adapted to be manually reciprocated over the surface of the skin to be treated.

5. In an implement of the character described, a plurality of resilient arms, a spacing device for the rear ends of said arms, a grinding-stone mounted upon the forward or free end of one of said arms and capable of rotation thereon, whereby either the top or bottom surface may be presented to the skin to be treated, and a roller mounted upon the free end of the other of said arms and adapted to coact with said stone.

6. In an implement of the character described, a plurality of resilient arms, a spacing device for the rear ends of said arms, a grinding-stone mounted upon the forward or free end of one of said arms and capable of rotation thereon, whereby either the top or bottom surface may be presented to the skin to be treated, and a roller mounted upon the free end of the other of said arms in combination with an adjusting device for varying the tension of said arms.

7. In an implement of the character described, the combination of a plurality of resilient arms, a spacing-block for the rear ends of said arms, a handle, a grinding-stone mounted upon the free end of one of said arms, strengthening-plates secured to the

front and rear faces of said stone, means for permitting said stone to be rotated, and a roller secured to the free end of the other of said arms and adapted to coact with said stone.

8. In an implement of the character described, a plurality of resilient arms, a grinding-stone mounted upon one end of said arms and having beveled walls terminating at their upper and lower portions in oppositely-located convex working faces, and a plurality of rollers mounted upon the other of said arms and juxtaposed to said grinding-stone, each of said rollers coacting with an edge of said stone, and the latter and said rollers being always in contact with opposite surfaces of the skin during treatment thereof.

9. In an implement of the character described, a plurality of arms, an adjustable stone secured to one of said arms and adapted to contact with one surface of the skin to be treated, a device coacting with said stone and carried by the other of said arms and

adapted to contact with the opposite surface of said skin, said stone and device being always in contact with said skin during treatment, and a device for regulating the tension between said arms.

10. In an implement of the character described, a plurality of arms, an adjustable stone secured to one of said arms and adapted to contact with one surface of the skin to be treated, a device coacting with said stone and carried by the other of said arms and adapted to contact with the opposite surface of said skin, said stone and device being always in contact with said skin during treatment, and a device for regulating the tension between said arms in combination with a spacing-block for the rear end of said arms, and a handle attached to one of the latter.

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