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W. D. QUIGLEY & J. H. GAY.

SKIN SHAVING MACHINE.

APPLICATION FILED APR. 25, 1904.

Fig. 1.

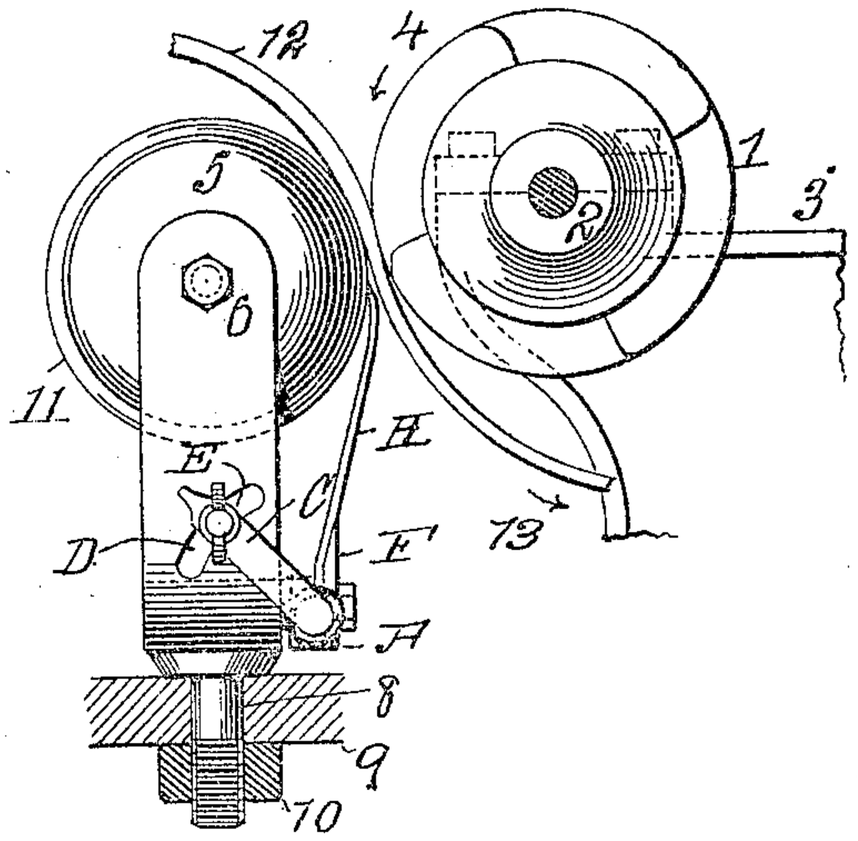

Fig. 2.

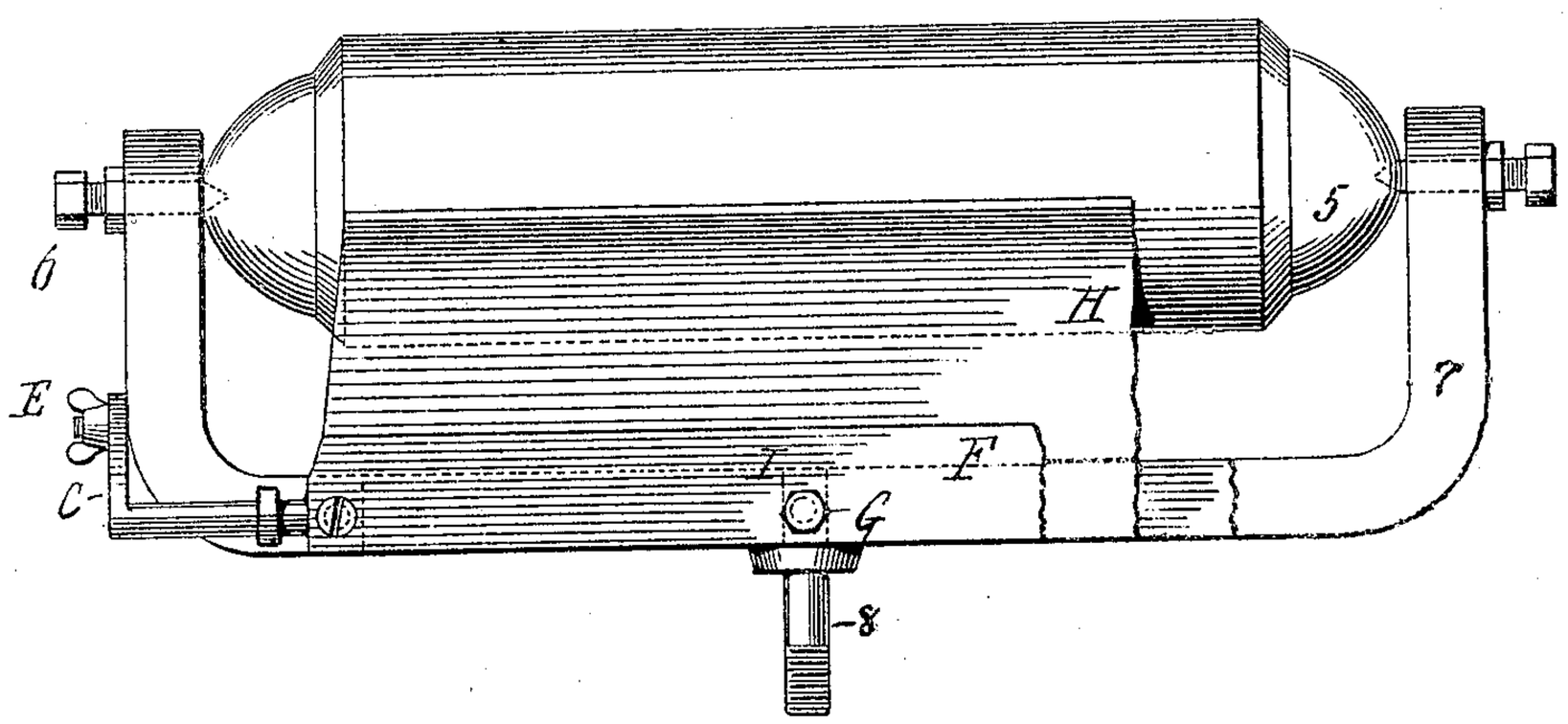

Fig. 3.

WITNESSES:

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SKIN-SHAVING MACHINE.

No. 798,073. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed April 25, 1904. Serial No. 204,868.

To all whom it may concern:

Be it known that we, WILLIAM D. QUIGLEY and JOSEPH H. GAY, of Newark, Essex county, New Jersey, have invented a new and useful Improvement in Skin-Shaving Machines, of which the following is a specification.

The invention relates to machines for shaving skins, and more particularly to that class of machine in which the skin is placed upon a cylinder having an elastic surface and free to be rotated by the passage of the skin over it while the skin is being shaved by a spiral rotary knife disposed in proximity to said cylinder. In using such a machine, especially when the skin is wet and green and more or less sticky, it frequently happens that the cylinder becomes more or less covered with such adhesive material and that the skins adhere thereto after the action of the knife upon them, so that constant care is required to prevent their being carried around by the cylinder and again subjected to the action of the knife, the effect of which would of course be very injurious.

The purpose of our present invention is to obviate this difficulty by providing in connection with the skin-supporting cylinder a simple spring stripping device which is adjustable and which is placed in such proximity to the line of action of the rotary knife as that not only the skin itself, but any adhering matter, will be removed at once from the cylinder-surface.

We find by actual experiment that this device adds materially to the efficieney of the machine, saves stoppages, and prevents injury to the skins.

In the accompanying drawings, Figure 1 shows so much of a well-known shaving-machine as is necessary to illustrate the application of our invention thereto—namely, the rotary spiral knife, the skin-supporting cylinder revolved thereby, the support for said knife and cylinder, and also our stripping device, the whole in end elevation. Fig. 2 shows the cylinder and its support in rear elevation with our improved stripping device applied, the end of the same being broken away, so as to exhibit the mode of attachment.

We will first describe the parts of the existing machine and then our device as applied.

1 is a helical shaving-knife supported on end journals 2 upon a suitable frame, part of which is shown at 3, rotated in the direction of the arrow 4 by any suitable means.

5 is the skin-supporting cylinder, which is carried on adjustable pivot-pins 6 in the arms of the frame 7. Centrally disposed on the lower side of this frame is a threaded bolt 8, which passes through the fixed support 9, which is a part of the frame of the machine and provided with a fastening-nut 10. Said bolt serves as a pivot to adjust the cylinder parallel to the knife. The cylinder 5 is usually provided with an inclosing sleeve 11, of rubber or other elastic material.

In operation the skin 12 is placed upon the upper surface of the cylinder and is pushed forward in the direction of the arrow 13 until the knife begins to act upon it to effect the shaving thereof, and as a consequence of this action of the knife upon the skin the cylinder 5 is rotated on its pins 6.

In Fig. 1 we have shown the left-hand end of the skin as raised above the cylinder merely to separate and detach it therefrom for the purposes of clearness of illustration, it being understood, of course, that in practice the skin lies close to the cylinder.

If now the skin 12 being wet and sticky should adhere to the elastic surface 11 of the cylinder 5, it is obvious that said skin would be carried around on said cylinder in the direction of the arrow 13 and a second time presented to the knife 1, which would obviously be injurious. Our device for preventing this difficulty is constructed as follows: A is a supporting-bar square over its middle portion and cylindrical at its ends B. Said ends pass through fixed eyes, one of which is shown. At one extremity of said bar is an arm C, which may be adjustably secured in a curved slot D in the vertical end member of the frame 7 by a clamp E. The bar A is provided with a clamping-plate F and bolts G.

H is a scraping or stripping blade, the lower portion of which has recesses (indicated in dotted lines at I) to straddle the bolts G and is received between the clamping-plate F and the bar A, so that by setting up the bolts G said blade is firmly secured in place. The inner face of the clamping-plate F is beveled and extends above the bar A. The stripping-blade H is bent rearwardly, so as to rest against this beveled face of the plate and be supported thereby. The upper edge of said blade is beveled, and so made thin, and is preferably bent somewhat forward. Said upper edge meets the surface of the cylinder 5 just below the line of separation of the skin therefrom, as indicated in Fig. 1.

It will be obvious that as the skin 12 is shaved and passes from between the knife and the cylinder 5 it will move over the beveled surface of the upper edge of the blade H and be prevented by said edge from adhering to the surface of cylinder 5, and so carried around by said cylinder. Furthermore, the sharp edge of the stripping-blade is in itself a spring and is elastically held against the surface of cylinder 5, and so operates always to scrape said surface and free it from any adhesive substances. By means of the clamp-screw E the end of the arm C may be adjusted in any position in the curved slot D, and thus the upper edge of the stripping-blade may be adjusted with respect to the surface of cylinder 5 and with as much or little pressure against said surface as may be desired. By reason of the placing of the spring-blade H with its upper edge in proximity to the line at which the skin undergoes the greatest compression between the rotary knife and supporting-cylinder, which of course is the line of cutting, the skin below that line is directly held away from the cylinder-surface and toward the rotating knife. This obviously increases the area upon which the rotary knife works, so that said spring-blade at its upper edge acts not merely to strip the skin from the cylinder promptly, but also by its intervention between skin and cylinder actually prevents the skin from being forced into contact with the cylinder-surface by the pressing action of the rotary knife.

We claim—

1. In a leather-shaving machine the combination of a rotary knife, a skin-supporting cylinder free to revolve, a blade having its edge adjacent to the cylinder-surface and disposed with said edge below and in proximity to the plane including the axis of rotation of said knife and said cylinder and between said cylinder and knife.

2. In a leather-shaving machine the combination of a rotary knife, a skin-supporting cylinder free to revolve, a spring-blade supported at its lower edge and having its upper edge adjacent to the cylinder-surface and below and in proximity to the plane including the axes of rotation of said knife and said cylinder and between said cylinder and knife.

3. In a leather-shaving machine, the combination of a rotary knife, a skin-supporting cylinder free to revolve, a blade having its edge adjacent to the cylinder-surface and beveled on the side facing said knife—the said edge being below and in proximity to the plane including the axes of rotation of said knife and said cylinder and between said cylinder and knife.

4. In a leather-shaving machine in combination with a rotary knife and a skin-supporting cylinder free to revolve, a blade having its edge adjacent to the cylinder-surface and means for adjusting said blade with respect to said surface; the said edge being disposed below and in proximity to the plane including the axes of rotation of said knife and said cylinder and between said cylinder and knife.

5. In a leather-shaving machine, in combination with a rotary knife, a skin-supporting cylinder free to revolve and a frame in which said cylinder is pivoted, a blade having its edge adjacent to the cylinder-surface and disposed with said edge below the plane including the axes of rotation of said knife and cylinder, a support for the said blade, arms extending from said support and on opposite sides of said cylinder-supporting frame, and clamping-screws for said arms disposed in curved slots in said frame.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM D. QUIGLEY.
JOSEPH H. GAY.

Witnesses:
WM. H. SIEGMAN,
I. D. VAN WART.