

C. A. LOUGEE.
CYLINDER FOR LEATHER SHAVING MACHINES.
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Fig. 1.

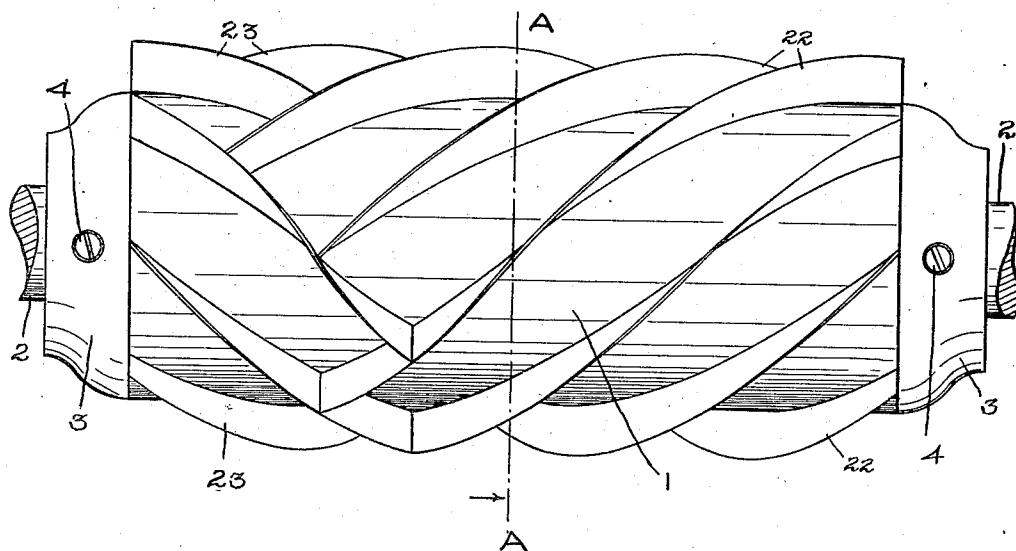


Fig. 2.

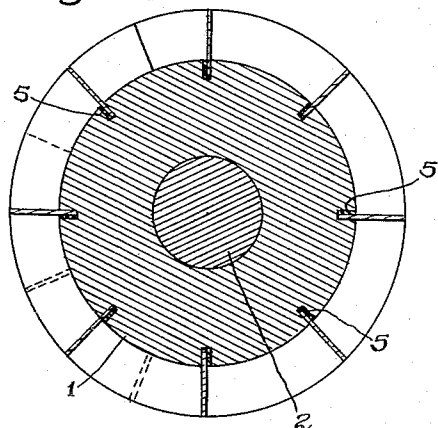


Fig. 3.

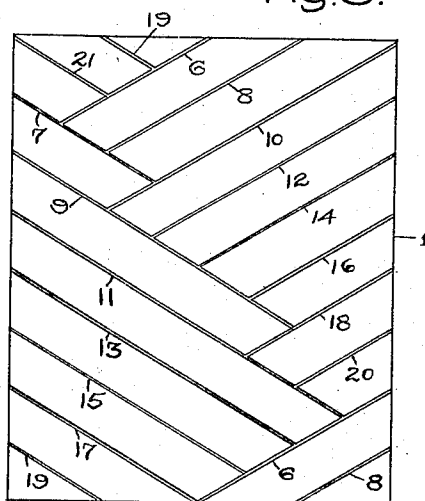
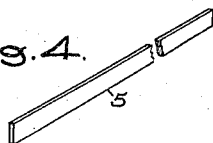


Fig. 4.



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CYLINDER FOR LEATHER-SHAVING MACHINES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. LOUGEE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in Cylinders for Leather-Shaving Machines, of which the following is a specification.

The objects of this invention are to secure a cylinder for leather-shaving machines which shall shave the leather smoothly and uniformly for the entire width of the cut; to avoid marks or ridges extending longitudinally of the cut, such as are caused by the points of meeting of different blades all lying in circumferential alinement; to this end to stagger the meeting points or distribute them along the length of the roller, whereby continuous portions of several blades are in circumferential alinement with a smaller number of meeting points; to effect such staggering or distribution without creating a tendency of the cylinder to cause the leather to creep sidewise or longitudinally of the cylinder; to secure a simple construction which can be manufactured similarly to the cylinders now in use, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts throughout the several figures, Figure 1 shows in side elevation a cylinder of my improved construction; Fig. 2 is a cross-section of the same on line A—A, Fig. 1, looking in the direction of the arrow; Fig. 3 is a development of the surface of the cylinder body before the blades are inserted, and Fig. 4 is a detail view of a certain blade-wedging or holding strip in perspective.

In said drawings, 1 indicates the body portion of a cylinder for leather-shaving machines, said body being of metal, preferably iron or steel, and cylindrical in form. Said cylindrical body is mounted upon a central shaft 2, either by being forced tight thereon or made integral therewith, which shaft projects from the opposite ends of the

body 1 and affords means for journaling and rotating the cylinder in a leather-shaving machine as is common. Collars 3, 3 upon the shaft 2 are slid up against the ends of the cylinder body 1 and held in place by set screws 4, as usual, to form tapering surfaces at the ends of said body inclined toward the shaft.

The cylindrical surface of the cylinder body 1 has helical grooves about a quarter of an inch deep and three thirty-seconds of an inch wide cut therein, and in these grooves blades are set in edgewise position, said blades being thinner than said grooves and wedged therein by filling strips 5 of softer metal. The blades are wide enough to project about an inch from the surface of the cylinder body, and when the cylinder is rotated at high speed they cut or shave the leather at their sharpened outer edges. This general manner of mounting blades in a leather shaving cylinder has been common heretofore, and my invention consists in the particular arrangement and relation of blades next to be described.

In the construction shown there are eight blades on each end portion of the cylinder body, although this number might be varied, the blades on one end portion extending helically of the cylinder body in an opposite direction from those on the other end portion, and at an angle of thirty degrees to the longitudinal, as shown, although any other angle might be adopted. The blades on each end portion are of a plurality of different lengths, ranging from a length sufficient to reach almost the entire length of the cylinder body to a length which reaches only a short distance lengthwise of the cylinder body. The blades on one end portion abut at their extremities against the sides of blades 23 on the other end portion, which blades are also of varying lengths to accommodate the first mentioned blades. The effect of this is to distribute the meeting points of blades along the length of the cylinder body, and thus insure that a continuous cutting portion of some blades shall shave over that part of the leather which is traversed by a

meeting point. A uniformly smooth shaving of the leather is thus secured, devoid of all marking.

Referring to the development shown in Fig. 3, a groove 6 on one end portion extends from one extremity of the cylinder body to the last groove 7 on the other end portion which it meets before reaching the opposite extremity of the cylinder body. The next groove 8 on the first-mentioned end portion extends to the same groove 7, but the third groove 10 on the first-mentioned end portion extends past the groove 7, which terminates at said groove 10, to the next groove 9 on the other end portion. The fourth, fifth and sixth grooves on the first-mentioned end portion, 12, 14, and 16, respectively, also end at the groove 9, but the seventh groove 18 on the first-mentioned end portion extends past said groove 9, which terminates at said groove 18, to the next groove 11 on the other end portion. The eighth groove 20 on the first-mentioned end portion also terminates at the said groove 11, and said groove 11 as well as the next five grooves parallel thereto, 13, 15, 17, 19 and 21, all end at the first described groove 6 on the first-mentioned end portion. It will be seen that this results in a distribution of the points of intersections of the grooves along the length of the cylinder body, there being seven lines of such intersections around the cylinder body, the middle line containing two intersections and the three lines toward each end containing three, three and one respectively. Undoubtedly, other and different distributions of the meeting points could be effected by other similar arrangements of the grooves as to lengths and number of grooves on one end portion which end at the same groove on the other end portion, and I do not wish to be understood as restricting myself to the precise arrangement shown.

By the arrangement of blades specifically shown and described it will be seen that a number of intersections or meeting points in any one circumferential line is less than the number of blades crossing said line without meeting any other blade thereat. For instance, in the middle line there are two intersections and six continuous blade portions, while in the next two lines on either side there are three intersections on five continuous blade portions, and on the extreme end lines there is only one intersection against seven continuous blade portions. It may not be indispensable to my invention to have the number of intersections in any given circumferential line less than the number of continuous blade portions, and I do not wish to restrict myself thereto, but at the present stage I believe that it is advan-

tageous to have such an arrangement of blades as will produce this result. 65

It will be noted that by my invention the circumferential lines in which the meeting points of the blade lie are disposed substantially symmetrical with respect to a transverse plane of the cylinder midway between its ends, with a plurality (or more than one) of lines on each side of such plane. This secures such a distribution of meeting points as that there will be no marking and at the same time the end thrusts of the two sets of blades will balance, so that the leather will not creep endwise of the cylinder. 75

Having thus described the invention, what I claim is:

1. The hereindescribed cylinder for leather shaving machines, comprising a cylindrical body portion having sets of helical grooves each of which sets extends clear around the cylinder circumferentially, the grooves of each set extending from one end of the cylinder helically toward the other set and in the opposite direction around the body portion therefrom, all the grooves of each set terminating short of one end of the cylinder and each meeting a groove of the other set, said meeting points lying in a series of circumferential lines distributed lengthwise of the cylinder equi-distant from each other and said circumferential lines being symmetrically arranged with reference to a transverse plane of the cylinder midway of its ends with a plurality of said circumferential lines on each side of said plane, whereby a distribution of meeting points and a balancing of end thrust is insured, and blades mounted in said grooves. 90 95 100

2. The hereindescribed cylinder for leather-shaving machines, comprising a cylindrical body portion having sets of helical grooves each of which sets extends clear around the cylinder circumferentially, the grooves of each set extending from one end of the cylinder helically toward the other set and in the opposite direction around the body portion therefrom, all the grooves of each set terminating short of one end of the cylinder and each meeting a groove of the other set, said meeting points lying in a series of circumferential lines distributed lengthwise of the cylinder equi-distant from each other and sufficiently numerous so that the number of meeting points in any one is less than half the number of grooves in a set and the numbers of grooves between each two circumferential lines are nearly equal, and blades mounted in said grooves. 105 110 115 120

3. The hereindescribed cylinder for leather-shaving machines, comprising a cylindrical body portion having sets of grooves each of which sets extends clear around the cylinder circumferentially, the 125

grooves of said sets extending one from each end of the cylinder helically toward the other end in opposite directions around the body portion, each set of grooves comprising grooves of different lengths the longest of which extends to the last groove of the other set before the opposite end of the cylinder would be reached if said longest groove were continued and the shortest of which extends to the longest groove of the other set, and blades mounted in said grooves as set forth. 10

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."