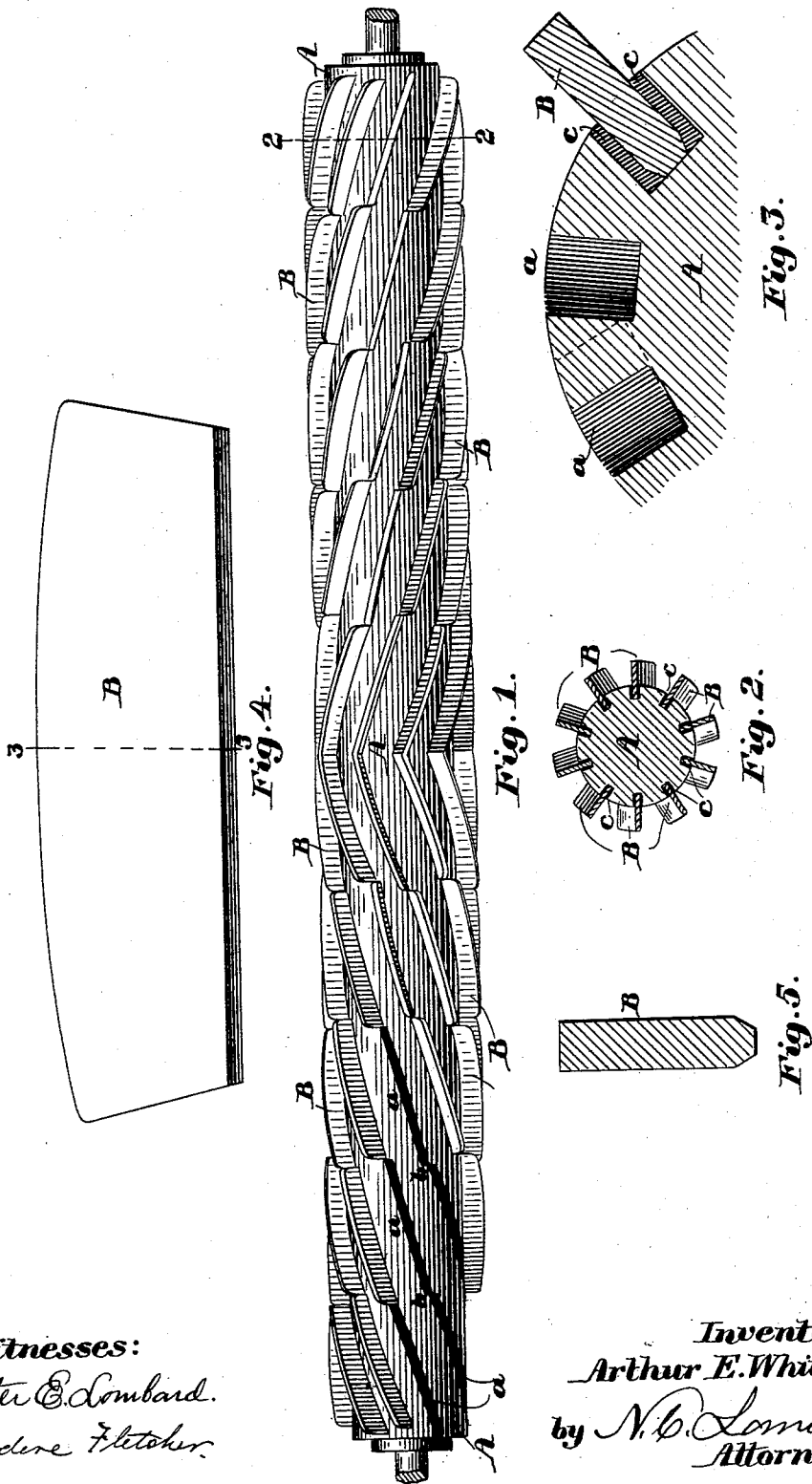


(No Model.)

A. E. WHITNEY.
HIDE WORKING CYLINDER.

No. 570,653.

Patented Nov. 3, 1896.



Witnesses:
Walter E. Lombard.
H. Theodore Fletcher.

Inventor:
Arthur E. Whitney.
by N. C. Lombard
Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR E. WHITNEY, OF WINCHESTER, MASSACHUSETTS.

HIDE-WORKING CYLINDER.

SPECIFICATION forming part of Letters Patent No. 570,653, dated November 3, 1896.

Application filed October 9, 1894. Serial No. 525,368. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. WHITNEY, of Winchester, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Hide-Working Cylinders, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to hide-working cylinders, and particularly to that class of such cylinders as have blades made of glass, slate, or other stone; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended, and in which my invention is clearly pointed out.

Figure 1 of the drawings is an elevation of a hide-working cylinder embodying my invention with some of the blades at the left-hand end thereof removed. Fig. 2 is a transverse section of the same on line 2 2 in Fig. 1, looking toward the right. Fig. 3 is a partial transverse section of the main body of the cylinder with one blade in position and drawn to an enlarged scale. Fig. 4 is a side elevation of one of the slate blades. Fig. 5 is a transverse section of said blade on line 3 3 in Fig. 4.

Hide-working cylinders have been made with sectional blades of glass or slate, but as far as I know the main body of the cylinder has had cut in its periphery two series of helical grooves, said helices being inclined in different directions from the center of the length of the cylinder toward the opposite ends thereof, that is, the helices on one half of the cylinder being right-hand helices and those on the other half being left-hand helices, but each groove being continuous from the center of the cylinder to its end and being cut with a tool by machinery has smooth side walls as compared with a rough casting. The short sections of glass or slate blades were set in said grooves end to end and secured in position by suitable packing, but as the grooves are helices and the blades or sections of blades have flat sides and are not capable of being twisted or bent, so as to make them conform to the curve or twist of the groove, considerable difficulty has been

found in maintaining said blades in position owing to the smoothness of the grooves and the fact that the packing on portions of each side of each section of blade would of necessity be wedge-shaped, with the thin end of the wedge inward. To obviate this objection and thus render the cylinder more durable or less expensive to keep in repair is the object of my present invention, and to this end I construct the cylinder as shown in the accompanying drawings, in which—

A is the cylinder proper, made of cast metal, and has formed in its periphery, by setting cores in the mold, a series of short mortises *a a*, (see the left-hand end of Fig. 1,) the two sides of each of which are straight, parallel to each other, or they may be made dovetailed or wider at their bottoms than at the periphery of the cylinder-barrel, and are oblique to the axis of the cylinder and have flat bottoms tangent to a circle concentric with the axis of the cylinder. These mortises are arranged end to end in an approximately, though not perfect, helical form, as at the periphery of the barrel or body of the cylinder there is an offset *b* between each two mortises in the same row, forming a shoulder against which the end of a blade-section abuts when it is set in said mortises. In consequence of the mortises being formed by coring, their sides are rough, which aids very materially in holding the packing, and the shoulders or offsets *b* serve to effectually prevent the blade-sections being moved endwise by any strain that may be applied thereto in the operation of unhairing or working out hides.

B B are the blade-sections, which may be of glass, slate, or artificial stone, though at present I prefer slate. These blade-sections are made of the form shown in Fig. 4, with their inner edges straight and their outer edges curved, so that when set in the barrel of the cylinder in a position oblique thereto said outer edges will be concentric with the axis of said cylinder. These blades are made of a thickness considerably less than the width of the mortises *a a*, and when placed therein a packing *c* is inserted between the sides of said blade-sections and the sides of the mortises as a means of securing said blades in position. A packing of lead may be used very effectively for the purpose or

any other suitable packing may be employed. The center of each blade-section, that is, a line drawn through the center of the length and thickness of said blade, when set in position in the mortises formed in the barrel or body of the cylinder, is radial to the axis of said cylinder, but in no other part of said blade is a line drawn through the center of its thickness radial to the axis of said cylinder. In order that the several sections of the blades in one row shall break joints with the blades in the rows on either side thereof, I make the sections of blades next to the center of the length of the cylinder of two different lengths and arrange them alternately around the barrel or body of the cylinder, while the other blades are made of a uniform length, so that the joints between two contiguous blade-sections in each alternate row of blade-sections will be in the same transverse plane, while the corresponding joints in the intermediate rows will be in a different transverse plane parallel to the first-mentioned plane, but sufficiently removed therefrom to insure the complete working of all parts of the hide or skin and prevent lines of imperfect or incomplete action appearing on the surface of the hide or skin. By this construction of the cylinder-body, with the mortises to receive the non-metallic blades formed by cores in casting said body and having longitudinal sides parallel in the direction of their lengths with the sides of the blades to be set therein, a great advantage is obtained in that the blades can be much more firmly secured in position, and as a consequence the cylinder is much more durable than when

said blades are set in continuous smooth-sided grooves, as heretofore practiced.

What I claim as new, and desire to secure by Letters Patent of the United States, is —

1. In a hide-working cylinder, a cylindrical body provided with two series of rows of rough-sided cored mortises or recesses, arranged obliquely to the axis of said body in opposite and generally helical directions, each mortise or recess having its sides and bottom in the form of flat planes and adapted to receive and hold flat blades of glass, slate or non-metallic material, substantially as described.

2. In a hide-working cylinder the combination of a cylindrical body provided with two series of rows of rough-sided cored mortises or recesses, arranged obliquely to the axis of said body in opposite and generally helical directions, each mortise or recess having its two sides in the form of flat planes, and its bottom a flat plane tangent to a circle concentric with the axis of said body, and a blade having flat sides and a straight inner edge and a curved outer edge set in each of said mortises or recesses and secured therein by any suitable packing, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 6th day of October, A. D. 1894.

ARTHUR E. WHITNEY.

Witnesses:

N. C. LOMBARD,

WALTER E. LOMBARD.