

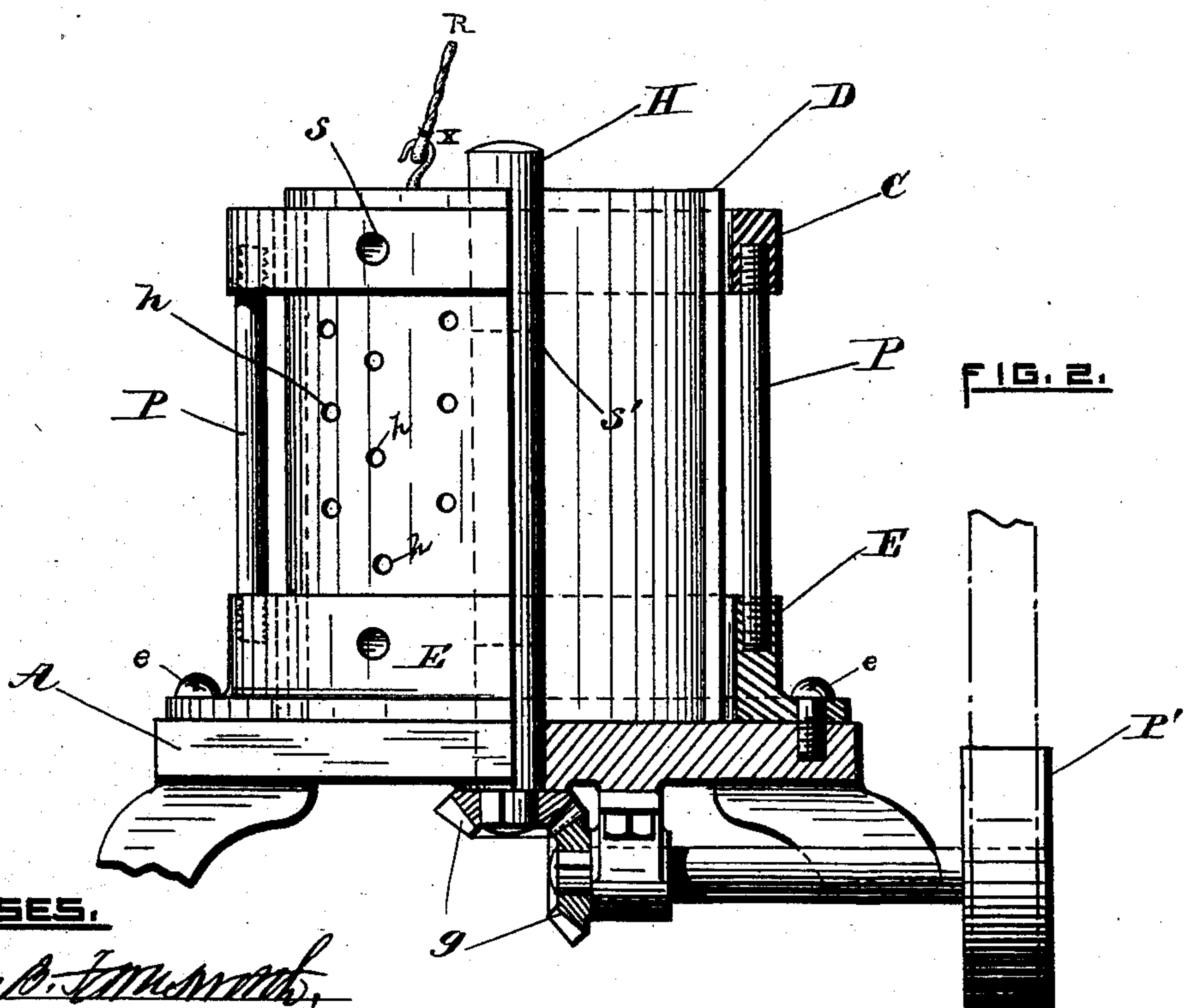
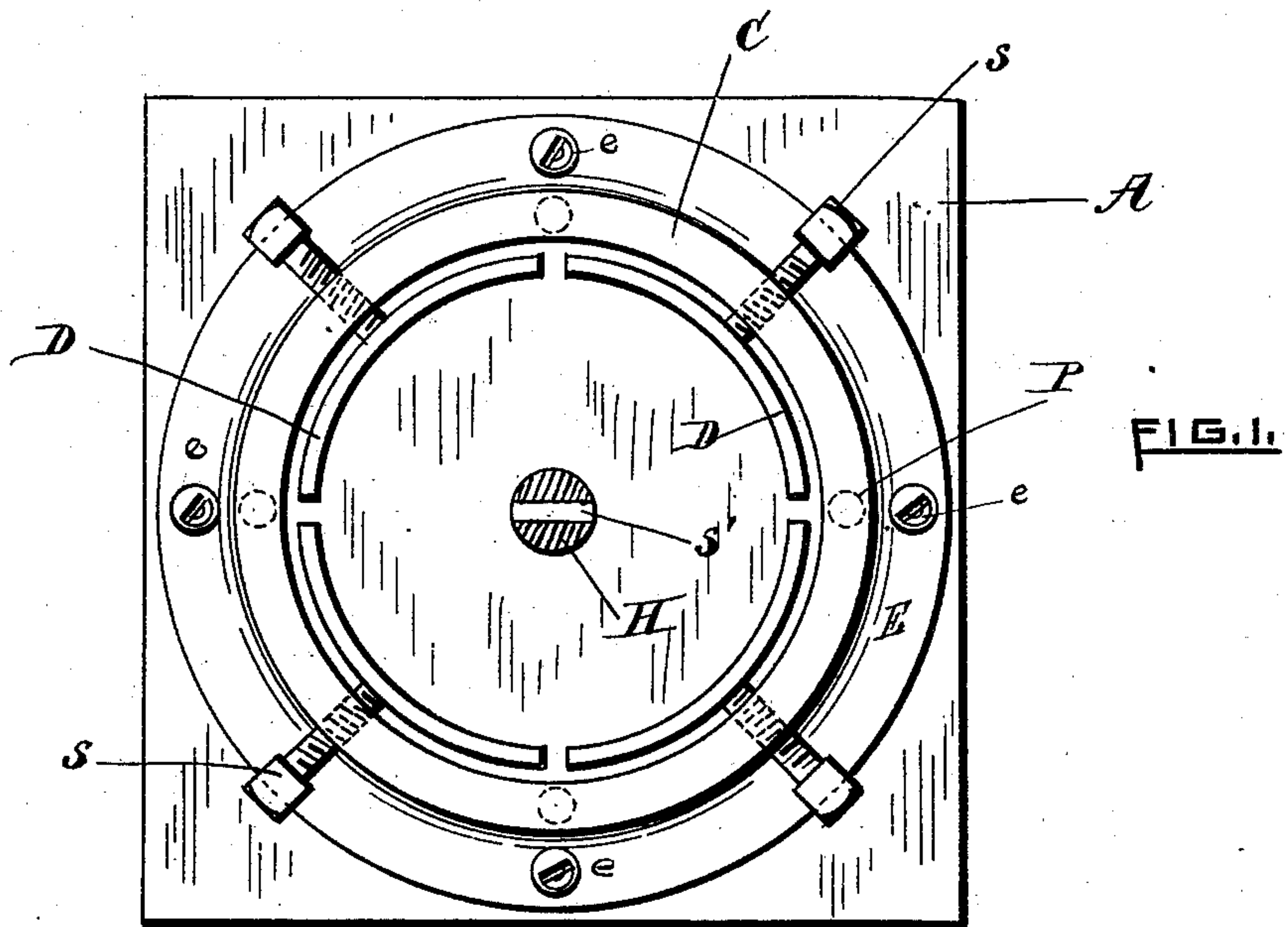
(No Model.)

G. P. McMAHON.

LEATHER WORKING MACHINE.

No. 393,845.

Patented Dec. 4, 1888.



WITNESSES.

*Charles B. McMahon,*

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*by his Atty.*

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# UNITED STATES PATENT OFFICE.

GEORGE P. McMAHON, OF PAWTUCKET, RHODE ISLAND.

## LEATHER-WORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 393,845, dated December 4, 1888.

Application filed April 18, 1888. Serial No. 271,120. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE P. McMAHON, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machines for Breaking and Softening Leather, of which the following is a specification.

My present invention relates to improvements in machines for softening leather, in which a cylinder is employed within which is a rotary reciprocating shaft around which the hides are wound and rewound, the objects being to improve the construction of such machines, whereby the hide may be more thoroughly and easily broken or softened, and at the same time adapt the machine for operating upon a greater or less number of hides. I accomplish these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of the bed-plate and lower ring and shaft of my machine, viewed from above, with the central shaft in section; Fig. 2, a sectional view in perspective.

Similar letters refer to similar parts throughout.

Referring to the drawings, A represents the bed-plate, supported in a substantial manner to bear the weight of the machine. On this bed-plate is secured by the set-screws *e e* the heavy metal ring E. In this ring the pillars P P, supporting the metal ring C, are socketed. The revolving shaft H is centrally journaled in the bed-plate A. It extends below the bed-plate, where it is provided with any suitable system of gearing which will impart a rotary motion to the shaft, (preferably with a beveled gear, as shown in Fig. 2,) say, for five or six revolutions, and then a reverse rotary motion of a similar extent, and so on.

In the upper and lower metal rings (marked, respectively, E and C, Fig. 2) are made the threaded apertures, maintaining a relative pitch of, say, about four inches, into which fit the long screws S S, &c., the thread of which corresponds to the aperture-thread.

D is one of four corresponding quarter-sections of a metal cylinder, the diameter of which may be made about twelve inches. These sections are shown in my drawings as quarter-sections simply for convenience, as

they may be constructed larger or smaller—say in three, five, six, or more sections—as may be required by the machine. These sections are perforated, Fig. 2, by the small apertures *h h*, &c., to allow a free circulation of air within the cylinder. All of these sections rest upon the bed-plate A and lean for their support against the upper and lower rings, C and E, respectively.

The adjustability of the metal cylinder is obtained in the following manner: Any desired number of hides may be introduced for treatment and secured in the slot S', which extends longitudinally of the shaft H to within a short distance of each end, by means of wedges or by means of any suitable grip or clamp. The hides are then wound upon the shaft until the desired capacity is reached. Each of the sections D, as may be seen by reference to Fig. 2, is provided with a hook, *x*, and by means of the attached rope R, suspended from a pulley over the center of the machine, each of these sections can be raised into place on the bed-plate A. The diameter of the rings E and C being constructed large enough to give the fullest desired capacity of the machine, and the diameter of the cylinder being much smaller—viz., as small as the lowest capacity of the machine—it will be seen that when the sections rest against the upper and lower rings there will be a space left between the walls of the sections, Fig. 2. Then as the long screws S, &c., press against the sections they will be pushed in toward the central shaft and will pinch the hides wound upon it. These sections are thus pushed forward until the desired capacity of the cylinder is obtained. The alternately-reverse motion of the shaft then causes the hides to beat against the interior wall of the cylinder, by which means they become softer and more pliable. As the hides become softer and shrink, the sections or segments may be pressed still further forward and the beating process continued.

When bars, as at present employed, equally distant from the central shaft are used, the fold formed in the process of winding and unwinding of the shaft, and which causes the process of beating, causes the leather to bulge out from the spaces between the bars and seriously interferes with the beating and soft-

ening process, as the leather is not affected by the "bite" until a bar is reached.

What I claim as new, and desire to secure, is—

- 5 1. In a machine for breaking and softening leather, the combination, with the central shaft, of the cylinder or cage surrounding the same formed of the adjustable perforated segments, substantially as described.
- 10 2. In a machine for breaking and softening leather, the combination, with the central shaft having the longitudinal slot therein, of the cylinder or cage surrounding said shaft, formed of the perforated metal segments, with  
15 the confining-rings and adjusting-screws for

varying the size of the cylinder formed by the segments, substantially as described.

3. In a machine for breaking and softening leather, the combination, with the cylinder or cage formed of the perforated metal segments, 20 of the rings surrounding said segments at top and bottom to confine the same, and screws passing through said rings and bearing on the segments to adjust the size of the cylinder or cage formed thereby, substantially as de- 25 scribed.

GEO. P. McMAHON.

In presence of—

EDWARD W. BLODGETT,  
CLAUDIUS B. FARNSWORTH.