

(No Model.)

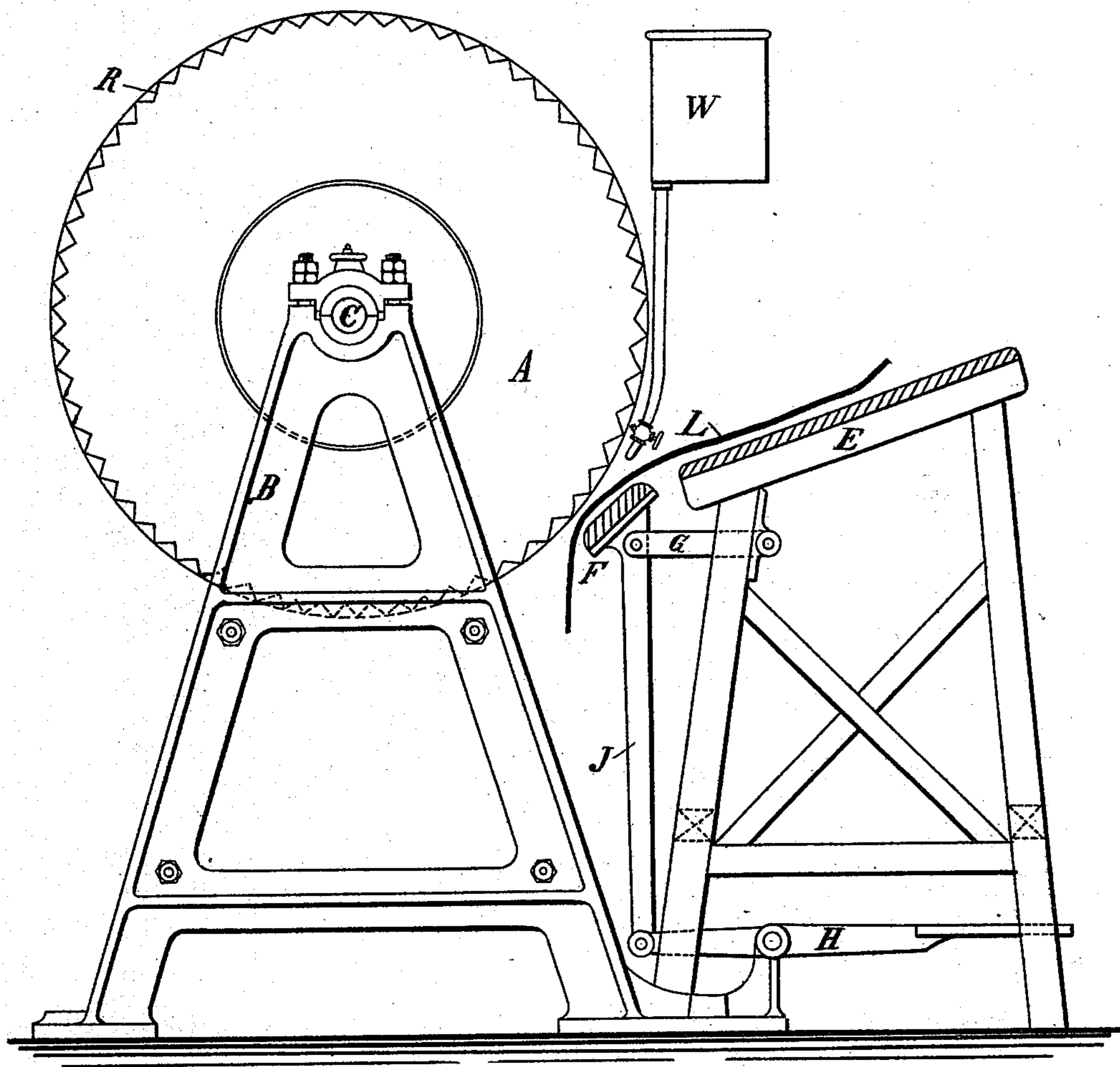
2 Sheets—Sheet 1.

H. E. FREUDENBERG.  
APPARATUS FOR TREATING HIDES.

No. 413,601.

Patented Oct. 22, 1889.

FIG. I.



Witnesses:

E. J. Griswold  
John Revell

Inventor:

Hermann E. Freudenberg  
By his Attorneys  
Howson and Howson

(No Model.)

2 Sheets—Sheet 2.

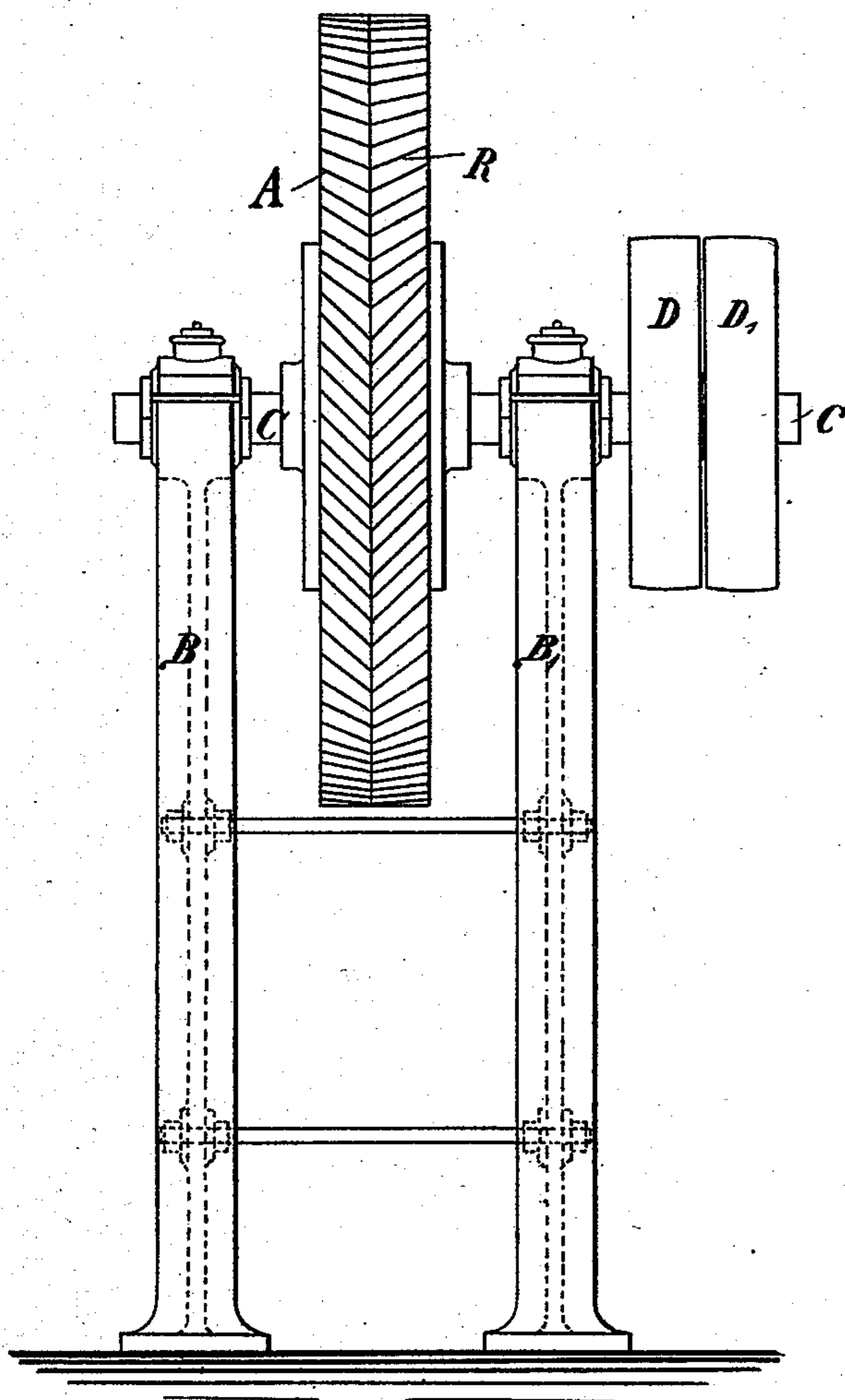
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FIG. II.



Witnesses:

E. J. Griswold.  
John Revell

Inventor

Hermann E. Freudenberg.  
By his Attorneys  
Howson and Howson

# UNITED STATES PATENT OFFICE.

HERMANN ERNST FREUDENBERG, OF WEINHEIM, BADEN, GERMANY.

## APPARATUS FOR TREATING HIDES.

SPECIFICATION forming part of Letters Patent No. 413,601, dated October 22, 1889.

Application filed February 16, 1889. Serial No. 300,149. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN ERNST FREUDENBERG, a subject of the Grand Duke of Baden, residing at Weinheim, German Empire, have invented certain new and useful Improvements in Apparatus for the Treatment of Untanned Hides and Skins, of which the following is a specification.

In the process of tanning hides and skins the first operation is to soak the dried or salted skins in water in order to restore their natural pliability. It is common to aid the softening effect of the water by means of various mechanical contrivances—such as tumblers, stocks, or mangle-rollers—all of which apparatus are designed to soften or “break” the skins by subjecting them to violent action. The next operation is the fleshing of the skins—that is, the removal from the flesh side of the skin of all particles of flesh, fat, veins, and cellular matter. This operation was most commonly carried out by hand on the tanner’s beam with the beam-knife.

Various mechanical devices have been proposed for fleshing, but have been more or less objectionable because they have used rotating spiral knives which cause many cuts in the hide and other defects so long as they are kept sharp, and on the other hand do not perform their work when after a short time they become blunt.

It is the main object of my present invention to do at one operation both the softening and fleshing which have heretofore been two successive operations, and this object I accomplish by the use of a rotary grinding-stone with diverging grooves on its periphery, against which the flesh sides of the skins are pressed in the presence of a continuous jet of water. For the purpose of increasing the softening and fleshing action of the grinding-stone, I form its periphery or face with deep grooves which are made to diverge from the center in order to stretch the skins and to stretch out all folds or wrinkles. I have found in practice that by this use of a grinding-stone in connection with the water-jet, and particularly when the grinding-surface is grooved, the hides are fleshed more neatly and with less damage than in any other way, and the skins are also softened to a degree hitherto unknown.

In the accompanying drawings, Figure I is a side elevation partly in section, and Fig. II a front elevation, of a fleshing-machine constructed according to my invention.

The grinding-stone A, with the shaft C, rests in the frame B and is driven by a pulley D, a loose pulley D’ being also provided on the shaft C. As shown in the drawings, the grinding-stone has grooves R diverging from the middle of its periphery, which grooves flatten and stretch the skins. A water-pipe leading from a tank *w* is employed, whereby a stream of water is projected onto the place where the skin comes into contact with the stone. To the fixed table E, facing the stone, is attached the upright J, having a movable cushion F, and connected to the table by the link C. By means of this upright, which is operated by a pedal-lever H, the required parts of the skin can be pressed against the stone with the desired degree of pressure.

It will be obvious that other suitable mechanisms could be employed for pressing the skins against the stone—such as a roller and an endless band.

I am aware of Taylor and Rude’s patent, No. 107,562, of September 20, 1870; but that machine has for its sole purpose the breaking or softening of skins by means of a mangle-roller and does no fleshing at all. According to my invention the skin is not only softened, but the flesh and cellular matter on the flesh side of the skin are ground off, by means of the rotating grinding-surface.

I am aware, also, that in the treatment of leather it is customary to use polishing-wheels, but that is for the treatment of tanned leather and in a dry or nearly dry state, and must necessarily be without the use of water.

I am also aware that it has been proposed to treat untanned hides to the action of a rotary wheel having its periphery coated with sand or emery, but without the use of water.

The natural grinding-stone of my machine will stand the use of water where a wheel lined with emery-cloth or coated with sand or emery would not. In my machine, moreover, the natural sandstone or other grinding-stone has the diverging grooves, so that I flesh and break the hide at one and the same operation.

I claim as my invention—

5 The herein-described machine for fleshing and softening untanned skins, and comprising a rotary grinding-stone with grooves on its periphery diverging from the center toward the edges thereof, a supporting-surface for the skins, and a water-supply pipe to direct a current of water onto the skins under treatment, all substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HERMANN ERNST FREUDENBERG.

Witnesses:

FRIED. BUSSEMER,  
HEINRICH JOCHIM.