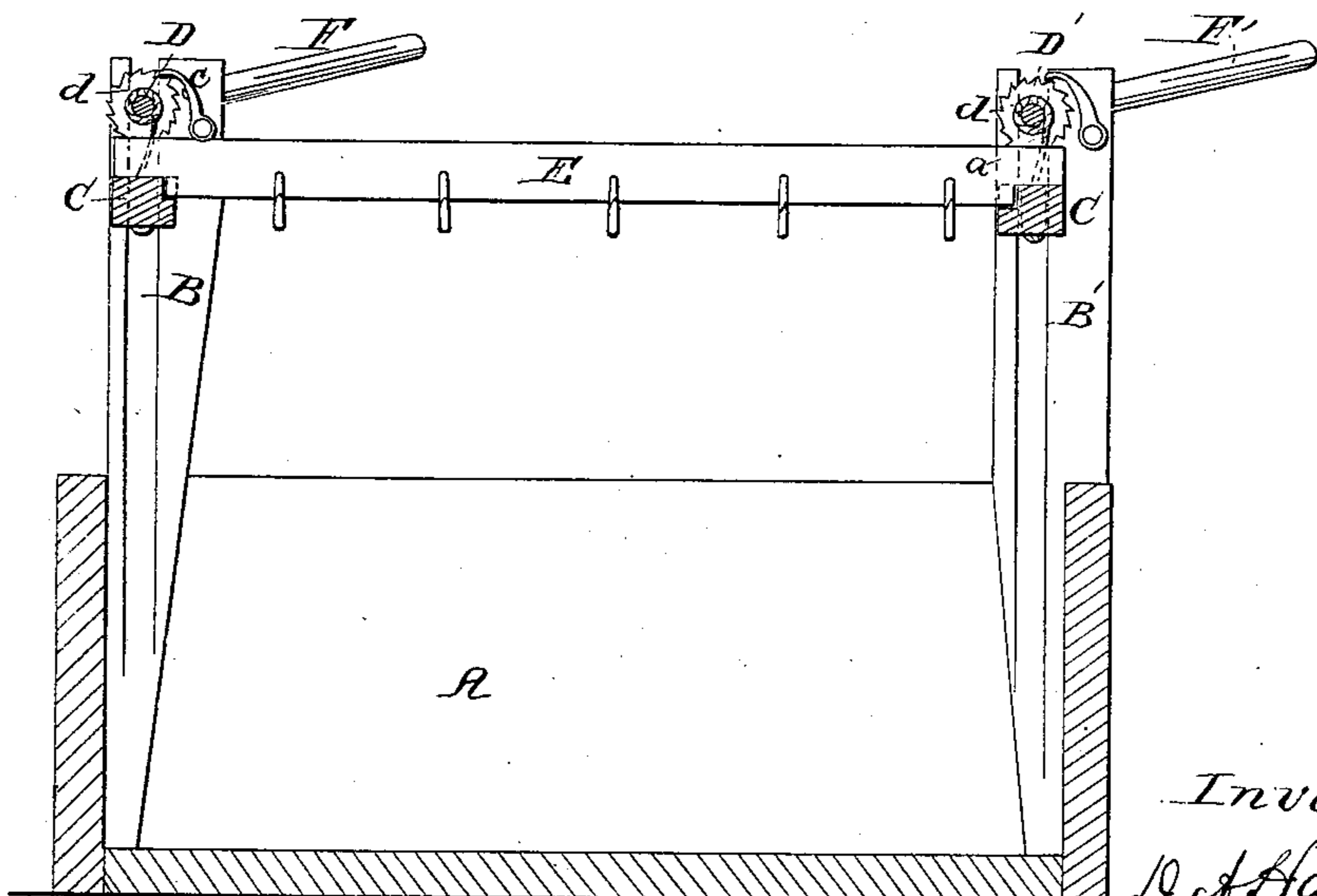
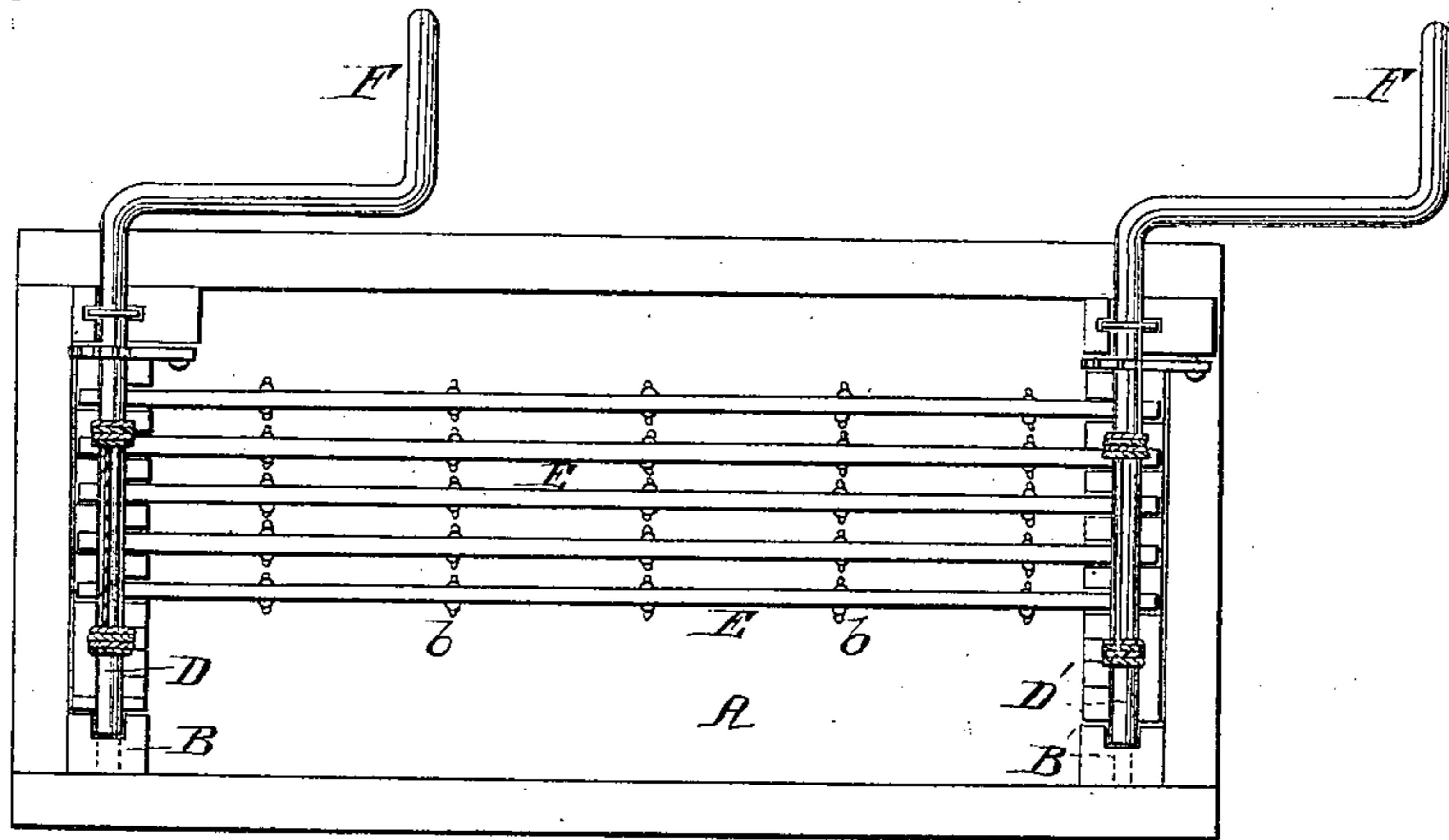


Haviland & Phillips

Tan Vat Attachment.

N^o 33645.

Patented Nov. 5, 1861.



Witnesses;
J. W. Coombs
J. W. Reed

Inventors;
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UNITED STATES PATENT OFFICE.

DAVID A. HAVILAND AND AMOS S. PHILLIPS, OF FORT DODGE, IOWA.

IMPROVEMENT IN APPARATUS FOR HANDLING HIDES IN TANNING.

Specification forming part of Letters Patent No. 33,645, dated November 5, 1861.

To all whom it may concern:

Be it known that we, DAVID A. HAVILAND and AMOS S. PHILLIPS, both of Fort Dodge, in the county of Webster and State of Iowa, have invented a new and Improved Handler for Handling Skins in the Process of Tanning; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a plan of our improved handler; and Fig. 2, a vertical longitudinal section thereof, taken in the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

This invention is designed to supersede the ordinary mode of handling skins in the process of tanning; and it consists in the arrangement of parts hereinafter described, whereby a great number of skins can be simultaneously lowered into or raised out of the vat, thereby effecting a great saving of time and labor and doing the work more uniformly than heretofore.

To enable others skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A is an oblong rectangular box intended to represent the vat, which is set in a pit in the earth.

B B' are standards placed at each end of the vat and provided on their inner sides with vertical grooves, in which cross-heads C C' are fitted to move up and down.

D D' are windlass-axles journaled, respectively, at each end of the vat in the upper end of the standards B B' and provided on one end with cranks F F'. The cross-heads are suspended from these axles by chains or cords *a*, by means of which they are raised and lowered.

E E are a number of slats or bars resting

at each end in notches formed in the upper side of the cross-heads for the purpose of keeping the bars parallel with each other.

b b are tenter-hooks secured equidistant apart upon opposite sides of the parallel bars and are for the purpose of attaching the skins. When the skins are raised out of the vat, they are retained in position for draining by means of the pivoted pawls *c* engaging into the teeth of rag-wheels *d d*, secured, respectively, upon the windlass-axles D D'.

Among the numerous advantages possessed by this machine are the following:

The skins being attached upon movable bars, they can be placed a greater or less distance apart, according to the number of skins desired for a vat.

Two men can raise as many skins as an ordinary vat will contain at one operation, doing the work in one quarter less time than is required in the common way.

The skins after being raised out of the vat do not require to be moved to drain, and need not be removed from the handler until the process of tanning is finished, unless it be to change vats, in which case the bars, with the skins attached, are changed from one handler to another.

What we claim as new, and desire to secure by Letters Patent, is—

The arrangement of the windlass-axles D D', cranks F F', movable bars E, and standards B B', with the vat A, the whole combined and operating in the manner and for the purpose described.

DAVID A. HAVILAND.
AMOS S. PHILLIPS.

Witnesses:

WOOLSEY WELLER,
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