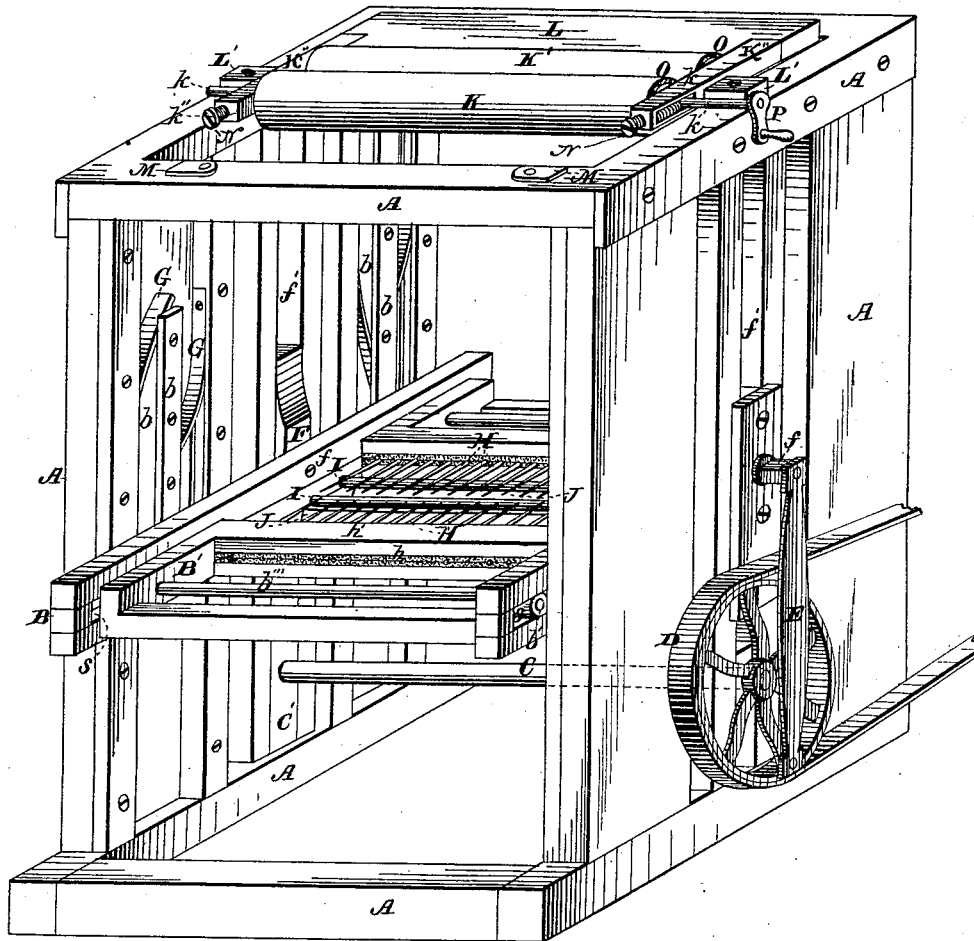
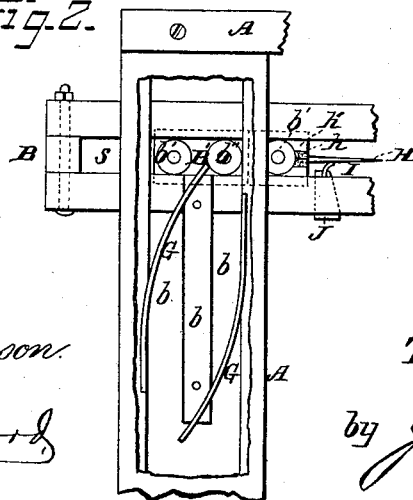


T. TEBOW.  
Machine for Dressing Hemp, Flax, &c  
No. 215,692.                      Patented May 20, 1879.

*Fig. 1.*



*Fig. 2.*



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

THEODORE TEBOW, OF LEXINGTON, KENTUCKY.

## IMPROVEMENT IN MACHINES FOR DRESSING HEMP, FLAX, &c.

Specification forming part of Letters Patent No. **215,692**, dated May 20, 1879; application filed March 17, 1879.

*To all whom it may concern:*

Be it known that I, THEODORE TEBOW, of Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Machinery for Dressing or Hackling Hemp, Flax, and other Fibrous Substances, of which the following is a specification.

My invention relates to a machine for hackling or dressing hemp, flax, and other like fibrous material.

It consists in a novel arrangement of devices for projecting the hacklers simultaneously into both sides of the bunch of material instead of throwing the material into the hacklers as done by hand, enabling large bunches of material to be hackled or dressed by the automatic operation of the machine, with reversible devices for holding and feeding the bunches to the machine as fast as the operation demands, all of which will be more fully described hereinafter.

The object of my invention is to provide a machine which will perform in continuous operation the action of hackling or dressing hemp, or other fibrous material, in much greater quantity, in considerably less time, and a material increase in the production of long clean hemp or other fibrous material, and a decrease of tow, than by the methods hitherto employed for this purpose.

In the accompanying drawings, Figure 1 is a perspective view of a hemp or flax hackler embodying my invention. Fig. 2 is an end view of one of the hackle-frames, showing its mechanical relation to the main frame.

A represents the main frame of the machine, and B a vertically-reciprocating carriage composed of two slotted cross-heads, connected together by cross-pieces J, these cross-heads being formed in two parts, in each of which two transversely-reciprocating hackle-frames, B' B', travel. The carriage B works vertically in ways or slides *b*, constructed on the inside of the main frame A, from top to bottom, and is operated by the driving-shaft C, journaled in boxes C' in the main frame near the bottom, as shown in Fig. 1, through driving-wheels D, pitmen E, and sliding blocks F. The sliding blocks F are secured to the cross-heads of carriage B, midway between their ends, by

means of bolts or equivalents *f*, and travel in ways or slides *f'*, in the middle of the sides of the main frame.

B' B' represent two transversely-reciprocating hackle-frames, which travel on rollers *b' b'* in the slots *s* of the cross-heads of carriage B, and are reciprocated by means of rollers *b''* at each end of shafts *b'''*, said rollers rotating thereon, and moving in tracks or ways *b*, and reversed from track to track by means of springs G, or their equivalents, which force the hackle-frames back and forth alternately at the end of the stroke of the carriage B.

Cams or curved grooves may be employed, however, instead of the springs G, as shown; but I prefer to use the latter device in the construction of my machine.

One or more rows of hacklers or teeth, H, are secured in each hackle-frame between two strips of gum or other elastic material, *h*, in the two-part cross-pieces *h'* of the hackle-frames by means of bolts or any other appropriate means.

I represents a scraper or cleaner, preferably made of rubber, pressing firmly against the under side of the hackle-teeth, so that when the hackle is retracted at the lower end of the stroke of the carriage the tow or matter which adheres to the teeth will be removed. These scrapers or cleaners I may be secured in cross-pieces J, as shown, or in any other appropriate manner.

K K' represent feed-rollers or clamps, which are pivoted in the side bars K'', said side bars being secured to the ends of the reversible feeding table or platform L, which is pivoted in boxes L', secured on top of the main frame A, and retained in position from being pulled downward when the machine is in operation by means of spring bolts or buttons M, as shown in Fig. 1. The side bars K'' are slotted a part of their length to receive the shaft *k* of roller K, which rotates therein, and is adjusted to mesh up against roller K' by means of screws or springs N, as shown, to clinch the hemp or other fibrous material when the machine is in operation.

In order to hold the mass of material more firmly, and prevent the hackles from drawing it into the machine, I cover or coat the hemp or other retaining rollers K K', or one of them,

with rubber or other elastic material O, as shown in Fig. 1. and provide a hand-crank, P, at the end of shaft *k* of roller K, for the purpose of lowering and feeding the bunches of material into the machine gradually to meet the hackles when in operation. The mass is hackled about one-half the length of the fibers thereof, and then the platform L, containing the feed or holding rollers or clamps K K', is reversed or turned over, together with the hackled material, and the undressed end of material hackled in a like manner.

The advantages gained by my construction of machine will readily be seen in the following:

The bunch of material to be hackled by the machine is from one hundred and sixty to two hundred pounds in weight, while about two pounds of the material is usually the amount taken by hand, it requiring, of course, a few more passes of the hackles through this material when operated upon in the machine than it does by hand; but the movement of the hackles is so rapid that the time occupied in dressing a single bunch by machine is less than required in hand-work.

A very material advantage resulting from the use of the machine is avoiding the breaking of the fiber consequent upon the short stroke of the hackles, which can work upon the bunch inch by inch, leaving the fiber in better condition than by hand-dressing and producing much less tow.

I claim—

1. In a hackling-machine, the combination, with a main supporting-frame provided with

suitable guides, of a vertically-reciprocating carrying-frame and reciprocating hackle-tooth frames moving in guides formed thereon, substantially as described.

2. The combination of the frame A, reciprocating carrying-frame B, carrying one or more reciprocating hackle-teeth frames, and suitable devices for reciprocating said hackle-teeth frames at or about the completion of the reciprocations of the carrying-frame, substantially as and for the purpose set forth.

3. In a hackling-machine, the combination, with the reciprocating frame carrying the reciprocating hackle-teeth, of a reversible feeding device adapted to deliver to the said teeth the opposite ends of a bunch of flax, substantially as described.

4. The combination, with the frame A, having double-track guides *b*, the reciprocating frame B, the reciprocating frame or frames B', having end projections extending through slots in the sides of frame B and into the guides *b*, and devices for automatically shifting said end projections from one set of tracks to the other, substantially as described.

5. The combination, with the frame A and reciprocating hackle-teeth carrier, of the reversible feeding device, consisting of the pivoted feed-board L and the rollers K K' connected thereto, substantially as described.

In testimony whereof I have hereunto set my hand this 12th day of March, 1879.

THEODORE TEBOW.

Witnesses:

J. C. O'NEIL,

J. W. FRAZER.