

## Hemp Breaking Machine.

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*Letters Patent No. 77,815, dated May 12, 1868.*

## IMPROVEMENT IN HEMP-BREAKING MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSEPH S. HOSKINS, of Spring Hill, in the county of Livingston, and State of Missouri, have invented a new and useful Improvement in Hemp-Breaking Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a hemp-breaking machine, and consists of a main frame on which are set rollers, on the peripheries whereof are a number of sharp pins similar to the hackle-teeth of hackling-cylinders. Through these rollers the hemp is fed to adjustable swords.

These are disposed in three series parallel to the feed-rollers; one series stretched across the frame securely fixed therein; another series is mounted on a lifting-frame set in the main frame, and has a vertical reciprocating motion imparted to it, bringing the swords borne in the lifting-frame upon and off the third series, which is mounted upon springs attached to the main frame.

The flax or hemp being crushed between the swords, a whipper, to which an oscillating motion is given, whips out the shives.

The lower feed-roller is provided with a ratchet, and a pawl attached to the oscillating-whipper rotates the feed-roller one tooth for each stroke of the swords. In the accompanying drawings—

Figure 1 is a side view, partly in section, of my improved breaking-device, and

Figure 2 is a front view thereof.

Similar letters of reference indicate corresponding parts.

A is the main frame, in which the parts of my breaking-machine are disposed. B B are the feed-rollers, provided with sharp pins or teeth *b b* on their peripheries, and connected by gear-wheels *b' b'*. The flax or hemp is fed by these rollers to the three parallel series of swords C, D, and E.

Of these, the series C is borne in the lifting-frame F F' F', whereof F' F' are guide-rods, keeping the lifting-frame F in a vertical position. The series D is disposed across the framing A, and the series E is set upon the springs G attached to the frame at *g*. The swords are intended to be adjustable, in order that the distance between them may be varied. The series E is to be placed beneath the series C, so that as the lifting-frame F F' F', in its downward stroke, carries down the series C to the main framing A, each sword of that series shall strike upon the sword beneath it, carried on the springs G, depressing it until the lifting-frame F F' rises, when the springs G return the series E into place, level with the series D. The object served by the series E is that of keeping the hemp up to the level of the series D, and preventing it from clogging.

Motion is imparted from any suitable motive-power, through the gear-wheel I and pinion *i*, the latter carried on the shaft K, journaled in the front of the lower part of the main frame A, and carrying the balance-wheel L.

At each end of the shaft K is a crank, M, to which one end of the lifting-rods N N is pivoted, the other ends being pivoted to the centres of the lifting-frame F F'. Connecting-rods *o o* are also pivoted to M M at *m m*, and to the other ends of the connecting-rods O are pivoted the oscillating-bars P, having their points of suspension on opposite sides of the main framing A at *j*.

At the ends of the oscillating-bars P are hung the whippers Q, which, striking against the flax or hemp as it leaves the breaking-swords, whip out the shives. The whipper consists of two or more rods *q q*, carried in forked arms at the upper extremities of the oscillating-bars P.

Pivoted to the spur S, attached by one of the oscillating-bars P, is the pawl R, held in place by the guide-stop *r*, and setting into the ratchet-wheel T; on one end of the lower feed-roller B, carrying it round one tooth for each stroke of the lifting-rod and swords.

The said pawl may be pivoted to the oscillating-bar without the intervention of the spur.

I claim as new, and desire to secure by Letters Patent—

1. The lifting-frame F F', carrying the swords C, the swords D upon the frame A, and the swords E upon



the springs G, secured at *g* to the frame, and passing beneath the rollers B, all constructed and operating as described, for the purpose specified.

2. The lifting-frame F F', swords C D, yielding swords E, and springs G, in combination with the whipper Q, feed-rollers B, pawl R, and oscillating-bar P, substantially as described, for the purpose specified.

3. The whipper Q, substantially as above set forth and described.

4. The oscillating-bars P, carrying the whipper Q in their forked extremities, in the manner and operating substantially as above set forth and described.

5. The pawl R, in combination with the ratchet T and oscillating-bar P, operating substantially as above set forth and described..

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Witnesses:

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