E. W. LACY.

Hemp Brake.

No. 29,388. Patented July 31, 1860.

Fig. 1

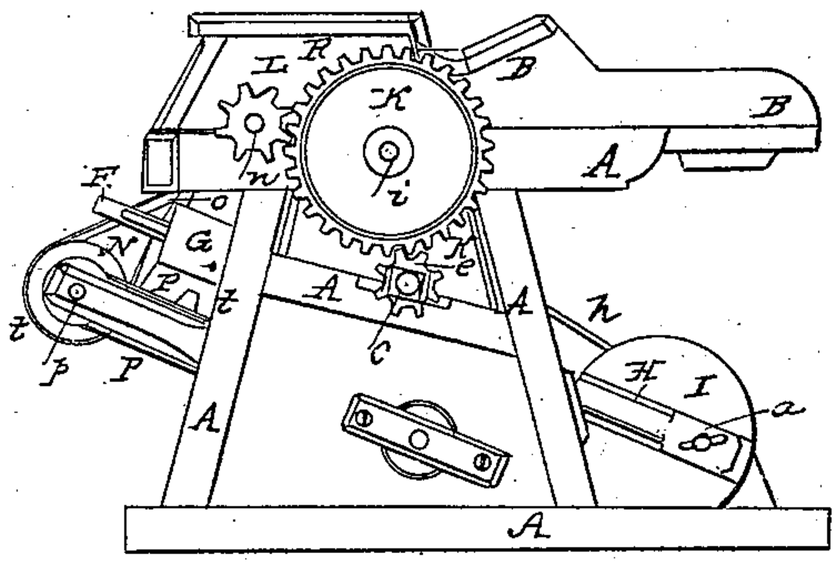


Fig. 2

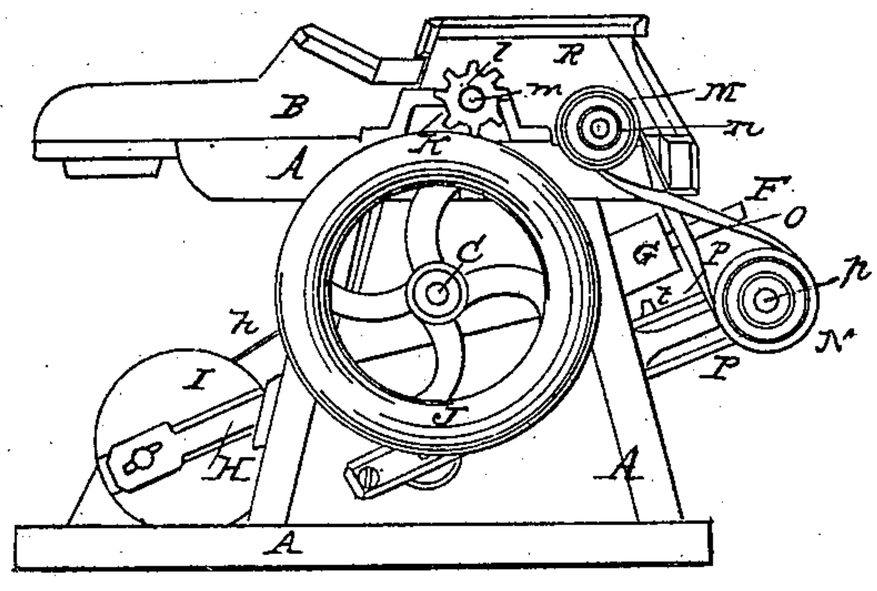


Fig. 3

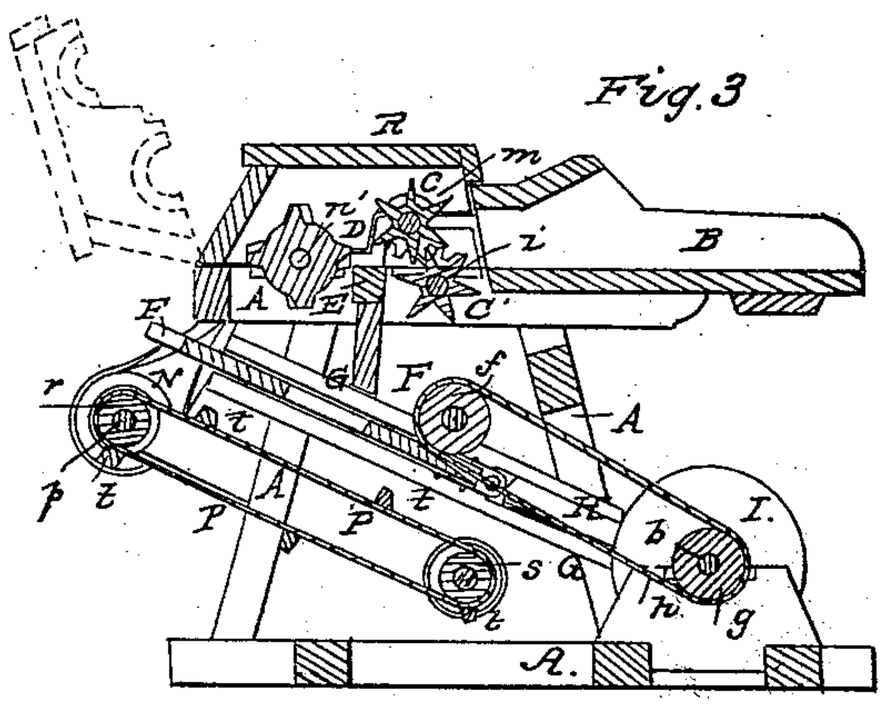


Fig. 4

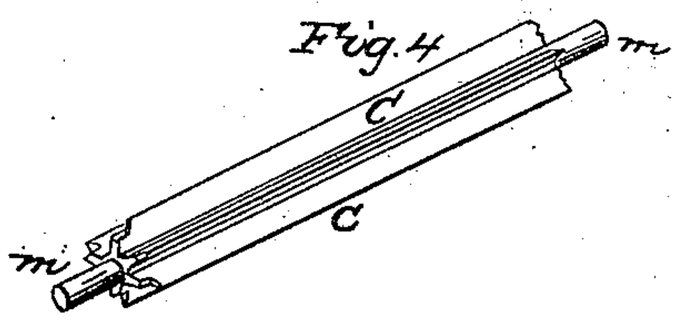
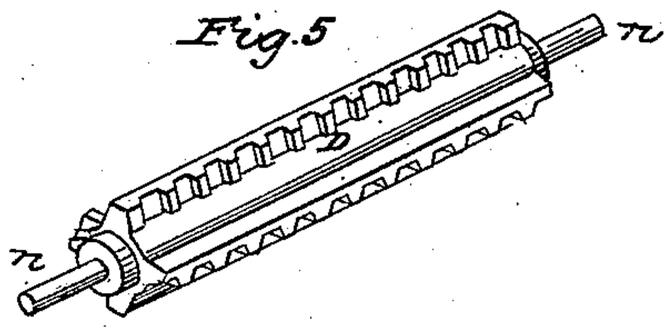


Fig. 5



WITNESSES

L G Newton

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UNITED STATES PATENT OFFICE.

E. W. LACY, OF OAK PARK, VIRGINIA.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. **29,388**, dated July 31, 1860.

To all whom it may concern:

Be it known that I, E. W. LACY, of Oak Park, in county of Madison, in the State of Virginia, have invented certain new and useful Improvements in Hemp-Brakes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to certain improvements of construction in hemp-breaking machinery; and it consists in the novel construction and combinations of parts, as hereinafter described.

To enable those skilled to make and use my improved machine, I will proceed to describe its construction and operation, referring by letters to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is an opposite side elevation. Fig. 3 is a vertical longitudinal section through the center of the same, and Figs. 4 and 5 are detail perspective views of the breaking-rolls.

Similar letters denote the same parts in the different views.

A represents the frame of the machine.

B is the feed-table, on which the stalks are placed and from which they are fed into the machine.

C and C′ are the breaking-rolls, and D is the separating-roll or flier.

E is the guide-rest, over which the crushed stalks pass, and on which they rest as the flier D strikes them off and down onto the reciprocating frame F. This frame F is supported in suitable inclined ways, G, in the grooves of which it freely slides, and is driven by two pitmen, H H, coupled to its lower end, and connected by crank-pins *a a* to the face-plates I I on shaft *b*.

c is the main driving-shaft, to which the motive power is applied at one end, *d*, (see Fig. 1,) while on the other end is a fly-wheel, J. Near the end where the power is applied is a pinion, *e*, and near the center of the shaft *c* is keyed thereon a pulley, *f*, which is belted by band *h* to the pulley *g* on shaft *b*. The driving-pinion *e* meshes into and drives the gear K on shaft *i* of break-roll C′, and said shaft *i* has on its opposite end a pinion, *k*, which meshes into and drives pinion *l* on shaft *m* of the other break-roll, C. The gear K also meshes into and drives the pinion L on shaft *n* of flier D. On the end of shaft *n* opposite to that on which is the pinion L is a pulley, M, which is belted by band *o* to and drives the pulley N. On shaft *p* is arranged a roll, *r*, over which and roll S there passes an endless apron, P, which is provided with cross-bars *t*. The breaking-rolls C C′ and roll D are all covered by a cover-piece, R, which is hung at the rear side of the machine on hinges, so as to open, as illustrated at Fig. 3 in red lines, to allow the operator to get at the bearings and rolls for oiling, cleaning, and other purposes. The formation of the roll C C′ will be perfectly comprehended by reference to Figs. 3 and 4 of the drawings, and the shape of roll D will be clearly understood by reference to Figs. 3 and 5.

In connection with the foregoing description of the several parts, the following will render clear the operation of the machine: The hemp (or flax) to be broken is placed on the feed-table B, from which it is fed by the operator into the machine. The stalks are drawn in between and fractured by the rolls C C′, and thence pass over the guide-rest bar E, while the ribbed and corrugated roll D strikes down the pieces of stalks, separating them and partially disintegrating the stalks and fiber. The mass of material thence descends onto the reciprocating separator F, which perfectly separates the particles, which then descend onto the inclined endless apron P, by which they are conveyed to and discharged at the rear end of the machine.

It will be understood that from the peculiar formation of the rolls C C′ and their arrangement together the stalks are simply drawn in and fractured or crushed; that then the striker D, shaped as shown, breaks off and separates the pieces of stalk, which fall, and are knocked to and fro in their descent by the reciprocating carriage F, whereby the particles are all finally separated from each other.

Having described the construction and operation of my improved machine, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The employment, in combination with the crushing-rolls C C′ and striker-roll D, of an inclined reciprocating separator, F, the

whole arranged and operating as specified, for the purpose set forth.

2. The combined arrangement of the crushing-rolls C C′, striker-roll D, guide-rest E, inclined separator F, and discharge-apron P, the whole constructed to operate as specified, for the purpose set forth.

In testimony whereof I have hereunto set my hand and affixed my seal this 25th day of May, 1860.

E. W. LACY. [L. S.]

Witnesses:

J. N. McINTIRE,

WM. C. McINTIRE.