J. C. MATHERLY.

Hemp-Brakes.

No. 140,289. Patented June 24, 1873.

Fig. 1.

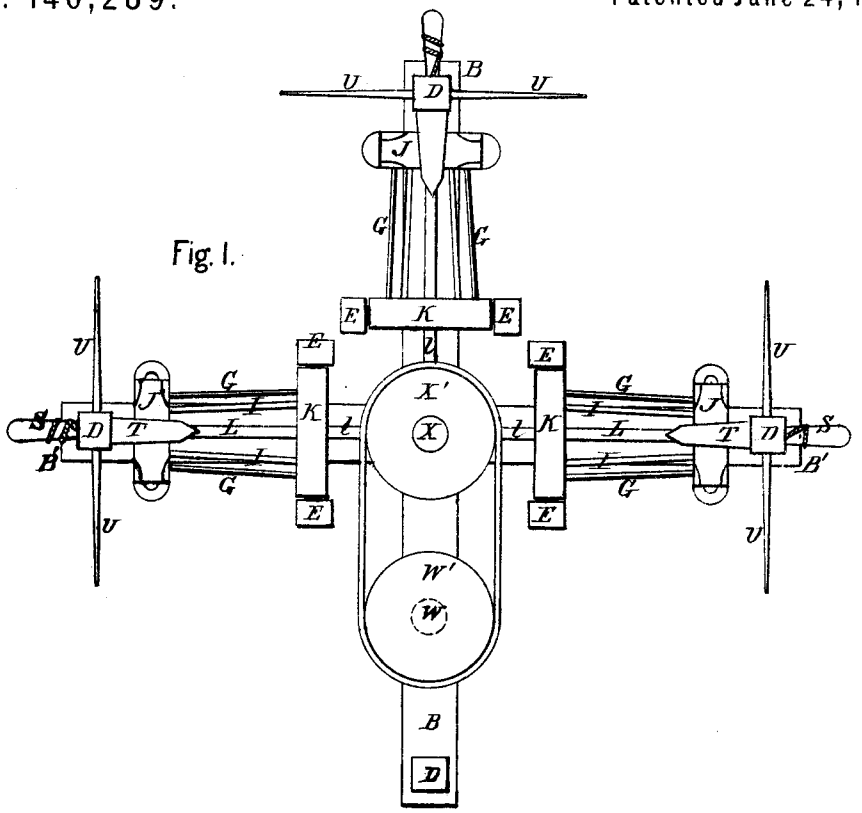
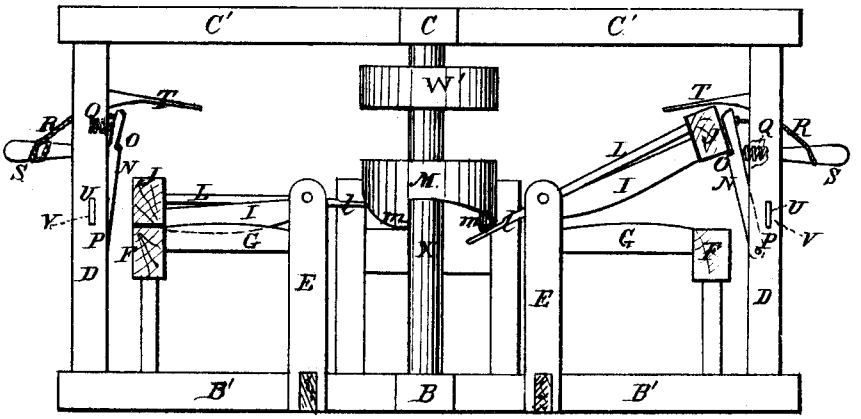


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES C. MATHERLY, OF IRVINE, KENTUCKY.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. **140,289**, dated June 24, 1873; application filed October 15, 1872.

To all whom it may concern:

Be it known that I, JAMES C. MATHERLY, of Irvine, in the county of Estill and State of Kentucky, have invented certain new and useful Improvements in Hemp-Brakes, of which the following is a specification:

My invention relates to that class of hemp-brakes in which a vibrating weighted sword-frame is used in connection with a fixed bed of swords, and between which the hemp is fed to receive the action of the brakes; and my said improvement consists in the arrangement and combination of a pivoted spring-stop device holding cords and screw-pins upon the frame at the head of each brake, the object of which is to stop the operation of any one of the brakes, when desired, by locking its free end in an elevated position, so as to release the cam from its action thereon. Also, in the combination and arrangement of the several parts of the brake, as will be hereinafter described.

In the accompanying drawings, Figure 1 represents a top view of a hemp-brake embracing my improvements, the top beams being removed. Fig. 2 represents a vertical section of the same, showing one of the brakes elevated and held out of action.

The frame is composed of two sills, B B′, and two beams, C C′, intersecting each other, respectively, at right angles, connected by uprights D. Brake-frames E, on three sides of the center of said frame, are secured to the sills B B′. Swords G have their edges upon, and their ends fixed in, the sides of anvil-blocks F and cross-pieces H of said frames E. Pairs of swords I I, with their breaking edges downward, have one end fixed in weighted head-pieces J, and the other in in rock-shafts K having bearings in the frames E. Each vibrating sword-frame is provided with rods L, having one end fixed in the weighted heads J and the other passing through the rock-shaft K, and extending beneath a cam-wheel, M, fixed on an upright shaft, X, provided with a belt-wheel, X′, and having bearings in the sills B B′ and the beams C C′ at their respective intersecting points. Stops or detents having notches or shoulders O are pivoted at their lower ends in recesses P in the uprights D, and are pressed toward the brake-heads by springs Q placed between the detents N and the uprights D. Cords R, attached to the upper ends of the detents N, pass through holes in the uprights D, and are secured to screw-pins S, which work in the outside of the uprights D, and serve to draw and hold the detents back from the brakes when the latter are used. Spring-stops T, projecting from the inner side of the uprights D, prevent the weights J from ascending above that point and increase the force of their descent. Arms U having notches in their under edges equal in length to the thickness of the uprights D are inserted in mortises V therein, and project from both sides of the posts, for the purpose of receiving and holding the hemp in rolls as it is broken, and a wedge is inserted above them to allow of their withdrawal to remove them with the rolled hemp thereon, and to be replaced in the post. A shaft, W, provided with a belt-wheel, W′, for transmitting motion to the shaft X has its bearings in one arm of the beam C and sill B, thus bringing the driving-power directly within the frame.

The machine may be operated either by hand or horse power.

When power is applied the cam-wheel M revolves and the cams *m*, projecting downward, strike the projecting ends *l* of the rods L, causing the swords I I and weights J to be thrown up against the spring-stops T until the ends of cams *m* are reached, when the rods L slip off and the weights J fall upon the anvil-blocks F and the swords I I upon the hemp, which has been fed upon the fixed swords G while the swords I I were being raised.

When it is desired to operate less than the whole series of pairs of swords I I the screw-pin S is turned so as to release a detent, N. The detent N will not interfere with the weighted head J as it ascends, but when descending it will be caught in the notch O and detained so that the projecting end *l* of the rod L will not come in contact with the cam-wheel. By simply tightening the screw-pin S the detent N will be drawn back, the weight J released, and the swords I I will again operate.

The arms U are used for winding the broken hemp as it passes through and from the brakes, and as they extend out at both sides of the swords while one arm is being filled with the

broken hemp, the other can be used to hold the hemp to be broken.

Having described my invention, I claim—

1. In a hemp-brake having a series of vibrating swords, I, the pivoted spring-stops or detents N, in combination with the cords R and screw-pin S, as shown, and for the purpose described.

2. The hemp-brake with its frame B C D, revolving cam M, fixed and vibrating swords, pivoted stops or detents for the latter, the hemp-holding arms, and the driving-shaft W, the several parts being constructed and arranged upon the frame to operate as shown and described.

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Witnesses:
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