T. L. FORTUNE.

Hemp Brake.

No. 4,741. Patented Sept. 3, 1846.

Fig. 1

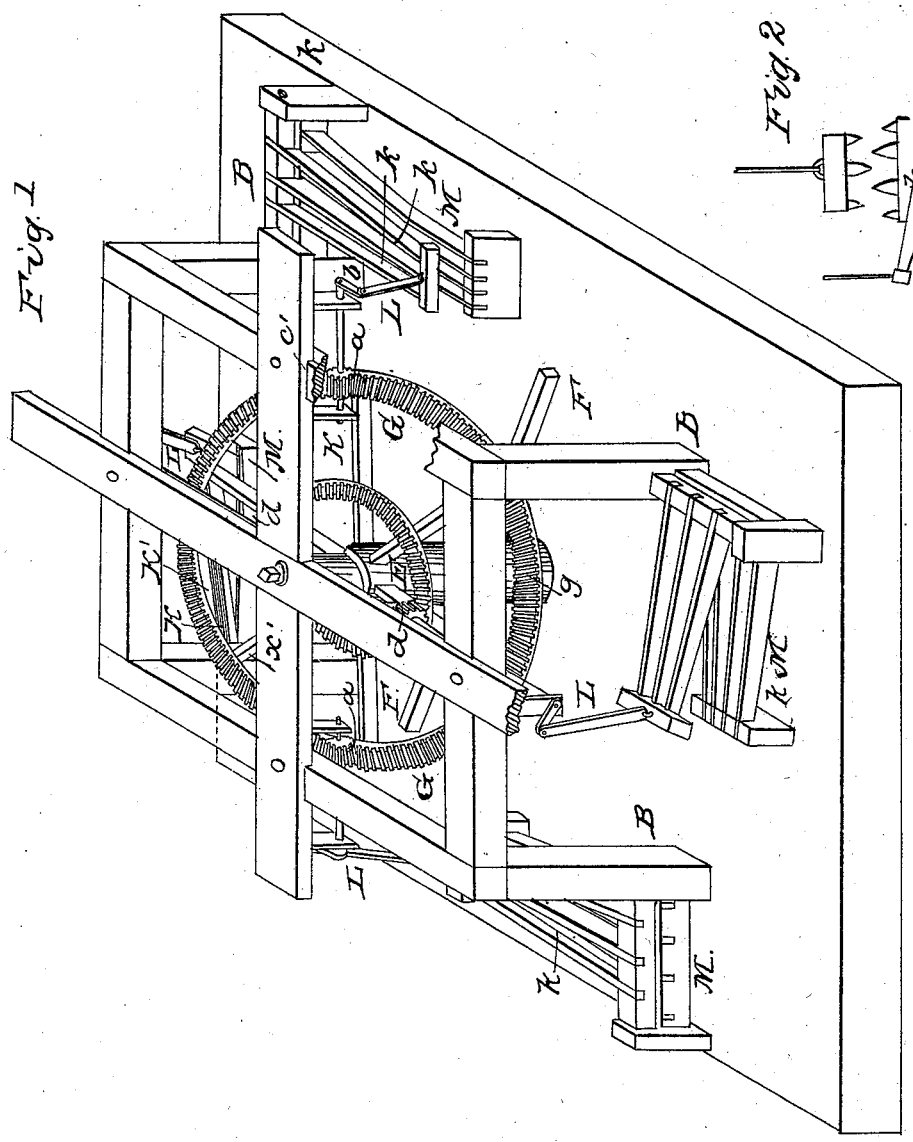
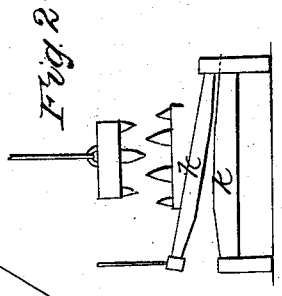


Fig. 2



UNITED STATES PATENT OFFICE.

THOMAS L. FORTUNE, OF LIBERTY, MISSOURI.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. 4,741, dated September 3, 1846.

To all whom it may concern:

Be it known that I, THOMAS L. FORTUNE, of Liberty, in the county of Clay and State of Missouri, have invented a new and useful Improvement in the Machine for Breaking Hemp, &c.; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an isometrical view of four of the machines connected with a horse-power, and Fig. 2 a side elevation and front view of the swords or slats of the brake.

The same letters indicate like parts in all the figures.

It has been found by experience that there is no machinery, as heretofore employed, to work by power other than manual that will perfectly break and clean hemp without great waste; consequently several attempts have been made to construct a machine that would possess all the good points of the hand-machine and at the same time perform more work; but owing to the difficulty of regulating the force of the blow and other causes, the desired object has not been consummated. By my invention I have been enabled to construct a brake that has all the advantages of a hand-machine, and can be worked by an undeviating power—such as the horse—and by which I am enabled to perform much more work than could be done by the hand-machine, and in a more perfect manner.

The construction of my machine is as follows: Its general outline is like that of the ordinary hand-brake, the swords of the bed and movable brake gradually converging toward the movable end of the upper brake, as clearly shown in Fig. 1. The swords above and below are all convexly curved on their face *k*, as is distinctly shown in the side elevation, Fig. 2, the center of the sword being projected more than the ends, which are gradually tapered off from the center, so that the center of the swords shut by each other farther than at the ends. This form tends to spread the hemp when first put into the machine at the broad end and keep it spread throughout the process of breaking. I further modify the swords by causing the two inner stationary swords to stand higher on their face or edge than the outer ones, and in the same way I make the center upper sword to project down farther, as is clearly shown in the cross-section in Fig. 2. This form graduates the blow, which is given by a positive motion, allowing the hemp to slip a little both ways, which produces a similar effect to the regulated blow given on a hand-brake, and produces as good work as can be done by the most practiced hand on the common brake.

I am aware that several brakes have had their swords curved at the narrow end; but that is the place where it is least required. By curving it at the broad end and at the same time making the inner swords higher than the outer ones, a positive blow can be given without danger to the fiber, which is gradually broken from the commencement to the end of the brake.

In the drawings, four brakes, M, are shown on a platform or the ground, B, arranged around a horse-power consisting of a vertical center shaft, E, with sweeps F projecting therefrom, to which th ehorses are hitched. Above this, near the top of the shaft, there is a master-wheel, having two sets of bevel-gearing, G and H, thereon—one concentric to the other. Two pinions, *a*, gear into the outer one, and two other pinions, *d*, gear into the inner one. To each of the shafts of the pinions is attached one of the brakes by a connecting-rod, L, and crank *b* on the shaft. This arrangement causes the brakes to move with different velocities, and the hemp is shifted from one to the other in the process of breaking, as is well known to manufacturers.

Having thus fully described my improved brake, what I claim as my invention, and desire to secure by Letters Patent, is—

Constructing the brake in the manner described by curving the swords of the brake convexly from end to end and placing the center swords higher than the outside ones, as herein fully set forth.

THOMAS L. FORTUNE.

Witnesses:

A. P. BROWNE,

J. J. GREENOUGH.