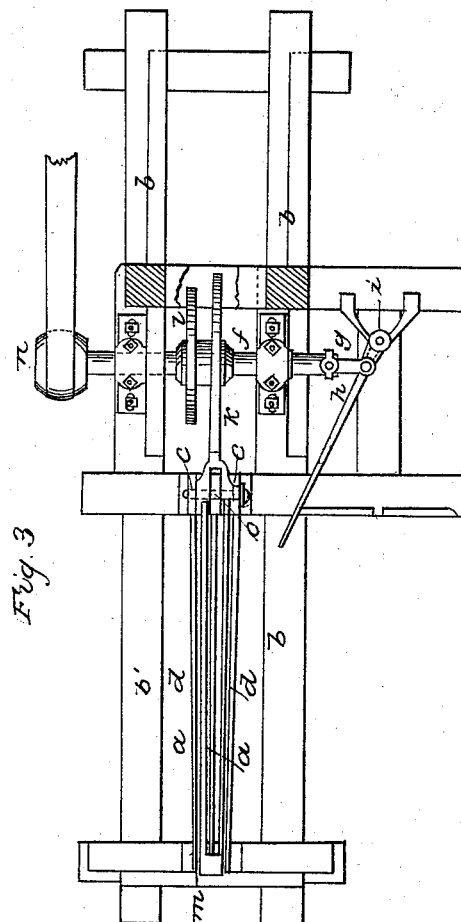
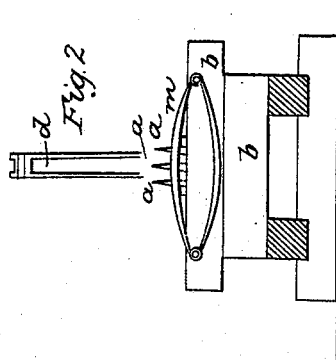
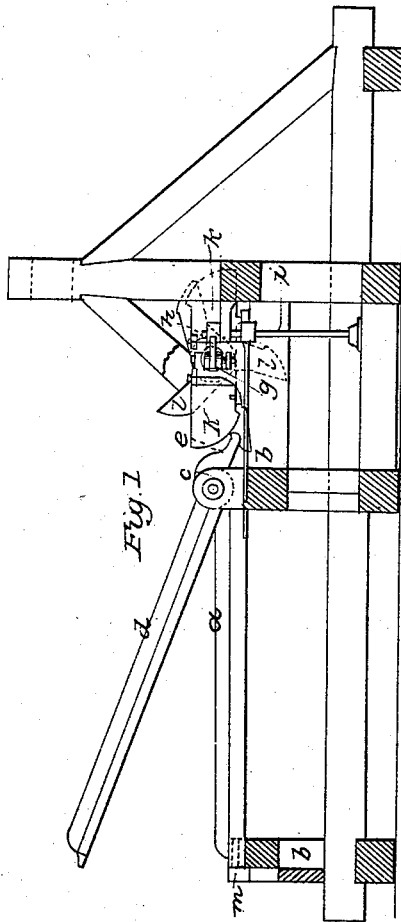


P. G. GARDINER.  
Hemp Brake.

No. 3,936.

Patented Feb. 28, 1845.



# UNITED STATES PATENT OFFICE.

P. G. GARDINER, OF NEW YORK, N. Y.

## IMPROVEMENT IN HEMP-BREAKERS.

Specification forming part of Letters Patent No. 3,936, dated February 28, 1845.

### *To all whom it may concern:*

Be it known that I, P. G. GARDINER, of the city, county, and State of New York, have invented a new and useful Improvement in Hemp-Breaks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an end view. Fig. 3 is a top plan.

The nature of my invention consists in combining with a hemp-break, formed similar to the common hand-break, a shaft having two or more series of cams thereon, and giving to said shaft a lateral motion at pleasure, so as to bring either of the cams into operation.

The construction of my break is as follows: There are three stationary or bed swords or blades, *a*, of iron, formed and placed like those of a common break on a suitable frame, *b*. At the back end, or that at which the blades are farthest apart, there are projections *c*, which serve as the lower half of the joint, by which the movable blades or swords *d* are connected with the stationary ones. The upper or movable swords are made also of iron, and are formed somewhat similar to those used by hand. They project back of the joint and are joined at *e*, when a shoe is formed, to be acted on by a cam about to be described. On the frame *b*, behind the brake, there is a shaft, *f*, running in proper bearings, so as to be allowed an endwise motion, which motion is effected by a shackle, *g*, connected with the shaft, and also with a lever, *h*, which runs forward from a vertical shaft, *i*, horizontally past the end of the shaft on a level therewith. On

the shaft between its bearings are affixed two or more different sizes of cams, the largest of which, *k*, is shown in action in the drawings. This lifts the break very high for the purpose of putting the hemp under the coarsest part of the break when the operation first commences. When the lever *h* is brought to the point 1, Fig. 3, it throws the cams clear of the shoe of the break and stops it, and when the lever is brought farther out it brings the smaller cam, *l*, into operation. These do not raise the break so high, and by them the hemp is finished. Under the fine part of the break, at the front end, they also lift farther, there being three cams in a line instead of two. Intermediate-sized cams may be used, if desired. A spring, *m*, is placed at the front end of the stationary break, that receives the upper or movable swords as they fall, and prevents in some degree the shock of the fall. The shaft *f* is driven by a band that passes round a pulley, *n*, on said shaft outside the bearings, at the end opposite the lever *h*.

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

The combination of a shaft having two or more series of cams thereon with a common hemp-break—such as is used by hand—said shaft having a lateral motion, so as to bring either of said cams into action at will, the whole being constructed and arranged substantially as herein set forth.

P. G. GARDINER.

Witnesses:

J. J. GREENOUGH,  
LAFAYETTE CALDWELL.