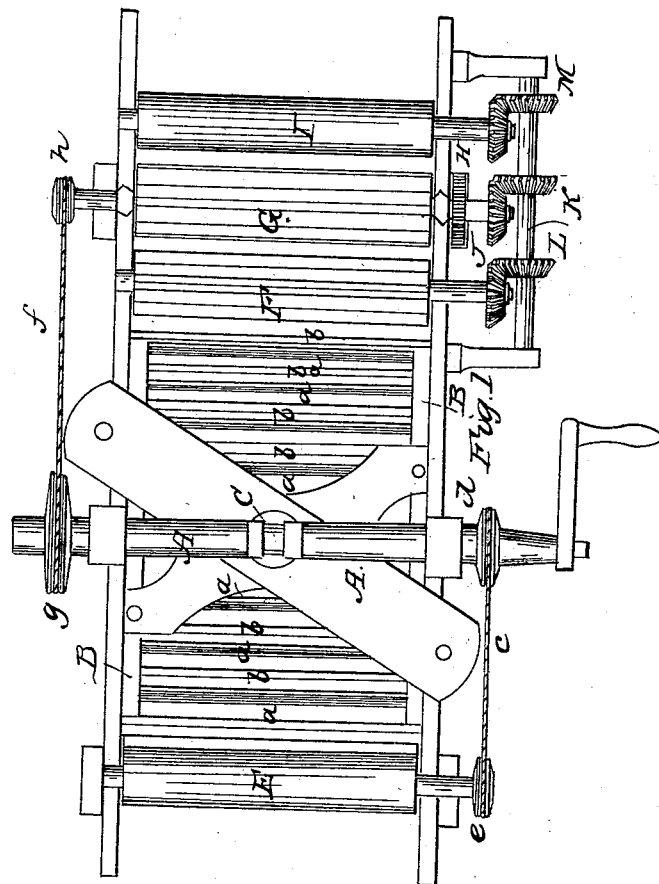


J. GODDEN.

Hemp and Flax Brake.

No. 2,922.

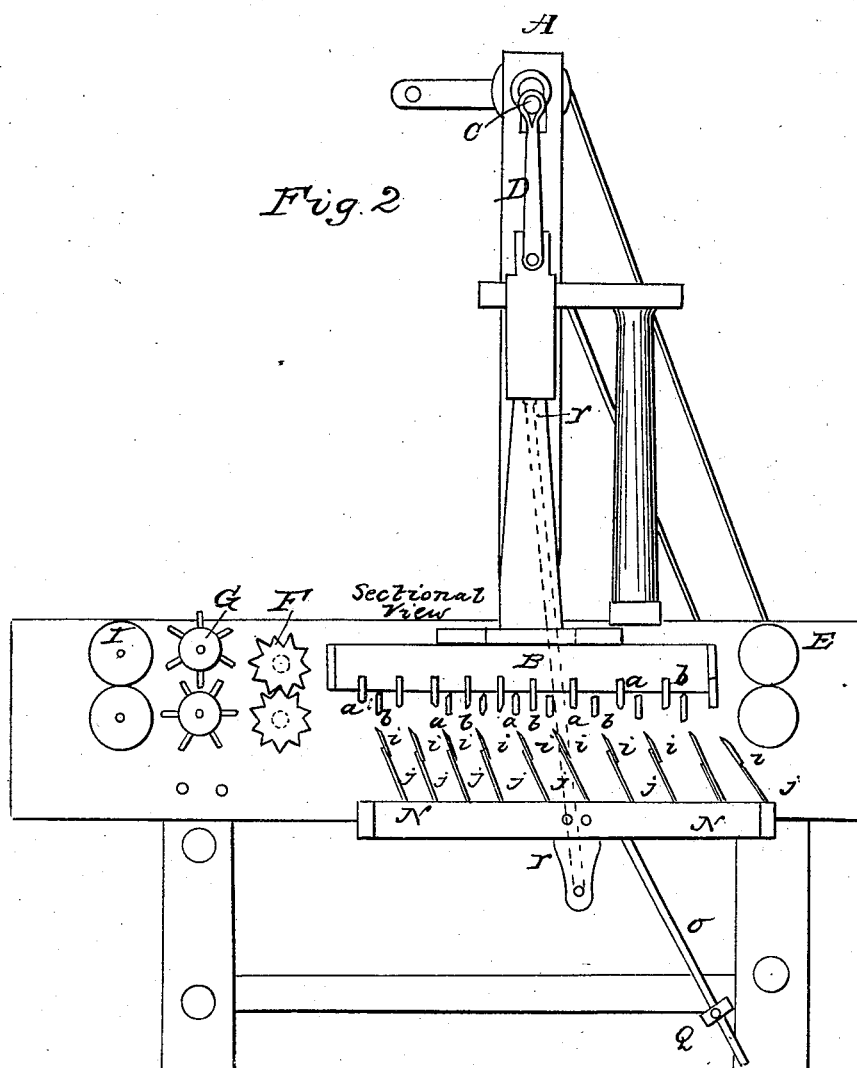
Patented Jan. 20, 1843.



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Patented Jan. 20, 1843.



UNITED STATES PATENT OFFICE.

JOHN GODDEN, OF PITTSBURG, IOWA TERRITORY.

IMPROVEMENT IN MACHINES FOR BREAKING AND CLEANING FLAX AND HEMP.

Specification forming part of Letters Patent No. 2,922, dated January 20, 1843.

To all whom it may concern:

Be it known that I, JOHN GODDEN, of Pittsburg, in the county of Van Buren and Territory of Iowa, have invented a new and useful Improvement in the Manner of Constructing Machines for Breaking and Cleaning of Hemp and Flax; and I do hereby declare that the following is a full and exact description thereof.

In a frame suitable for supporting the various parts of the machinery I place a stationary frame of slats, made in a manner similar to such as are used in other machines for the same purpose, and above this I place a similar frame, which is made to vibrate up and down by the revolution of a crank-shaft placed above it. For a machine of the ordinary size these frames of slats may be about two feet two inches in width, and about three or four feet in length. When intended for breaking hemp, the slats where the hemp first enters may be about three inches apart, and at the opposite end about half that distance. When made for flax, the slats should be placed nearer together. The crank is to be connected to the vibrating frame by a connecting-rod in the usual manner, and should make about two hundred revolutions in a minute. The crank may have a throw of three or four inches. The slats of the upper pass into the spaces between those of the lower frame, as in other hemp and flax brakes.

My principal improvement consists in the employment of a second vibrating frame of slats, which is placed below the stationary frame of slats, the slats on which correspond in number and length with the spaces between the slats of the stationary frame. This lower frame is made to move up and down simultaneously with the upper vibrating frame, but not in the same direction, its motion not being at right angles with the stationary frame, but in a line inclined obliquely in the direction in which the hemp moves in its passage through the machine. This lower frame of slats I usually make of thin strips of iron, which pass into the spaces between the stationary slats as the upper vibrating slats are raised therefrom. The planes of these strips stand in the direction in which the frame that carries them moves, and they are attached at each end to short standards or rods attached to the frame. The lower vibrating frame may be attached

to sweeps of such length as to cause it to move in the proper direction; or it may be guided between slides, or be governed in any other way that will produce the desired effect, the object in view being to cause these lower slats to drive the hemp or flax forward horizontally over the stationary slats and toward the cleaning-rollers. My feeding and cleaning are effected by means of rollers properly constructed for that purpose. A pair of feeding-rollers about five inches in diameter are placed at the front of the brake, and these may receive the materials from a feeding-apron in the usual manner. The fibers, as they are delivered from the brake, are received between a pair of fluted rollers, which may be five inches in diameter. As it leaves these it is received between a second pair of fluted rollers, which are about seven or eight inches in diameter. This pair of rollers has thin flutes or blades, which project about two inches from the core or body and stand about two and a half inches apart. These larger rollers are geared together by toothed wheels on their journals, which cause the projecting flutes or leaves on one roller to preserve their positions in the middle of the spaces of the corresponding roller. The smaller rollers may revolve about seventy-five times, and the larger about double the number of times, in a minute. The delivering of the fibers after being cleaned is effected by a pair of smooth rollers, which may be five inches in diameter and similar to the feeding-rollers. These delivering-rollers conduct the cleaned fibers onto an endless apron. The journals of each of the pair of five-inch rollers may run in open-slot mortises without being geared together, the uppermost of each pair bearing upon the lowermost by its own weight. Each pair is to work together horizontally, the peripheries of the lower rollers being in a line, or nearly so, with the upper side of the stationary slat frame. They may all be driven by means of bands and pulleys, the motion of which may be derived from the crank-shaft, and they are all to move in the direction necessary to carry the hemp or the flax from the feeding to the delivery rollers. There may be more than two pairs of cleaning-rollers should it be found desirable to increase their number.

In the accompanying drawings, Figure 1 is

a top view of the machine, and Fig. 2 a section thereof along the middle in a vertical plane from front to back.

In Fig. 1, A A is the crank-shaft, to which the driving-power may be applied. B is the upper vibrating frame of slats, which is moved up and down by the crank C, that is connected with the shaft D, attached to the vibrating frame. *a a a* are the edges of the stationary slats, and *b b b* the slats of the vibrating frame. E is the upper feeding-roller; F, the uppermost of the fluted rollers which receive the fibers from the brake. G is the upper cleaning-roller, which is geared to the lower roller by the toothed wheel H, there being a like wheel on each of these rollers. I is the upper delivering-roller. The endless aprons are not shown, this not being necessary, as they are well known. The lower feeding-roller is driven by the band *c*, passing around the whirls *d* and *e*, and the lower cleaning-roller by a band, *f*, passing around the whirls *g* and *h*. On one of the journals of the lower cleaning-roller is a bevel-wheel, J, which meshes into a similar bevel-wheel on the line-shaft K. This shaft carries two other bevel-wheels, L and M, by which the first lower fluted roller and the lower delivery-roller are driven. Other modes of gearing may be adopted; but this has been found to be direct and convenient.

In Fig. 2, where the same parts are seen as in Fig. 1, they are designated by the same let-

ters of reference. The respective pairs of rollers, also, are similarly indicated. N N is the lower vibrating frame, carrying the obliquely-vibrating iron or other slats, *i i i*, which are supported at each end by the standards or rods *j j j*. To govern the motion of the frame N and its slats I sometimes employ oblique sliding guide-bars, as shown at O, which are made fast to the frame N and slide through sockets, as at Q; and to give motion to the frame I connect it by means of stirrups or connecting-rods, as shown at *k k*, with the shaft of the upper vibrating frame, so that the two vibrating frames rise and fall together.

Having thus fully described the manner in which I construct my machine for the breaking and cleaning of hemp and flax, what I claim therein as new, and desire to secure by Letters Patent, is—

The combining with the stationary and the upper vibrating frames of slats a second vibrating frame below the stationary frame, so connected and arranged as that it shall move obliquely upward in such manner as that the slats which it carries shall enter between those of the stationary frame, for the purpose herein fully set forth and made known.

JOHN GODDEN.

Witnesses:

CYRUS GIBSON,
JOHN D. DEVIN.