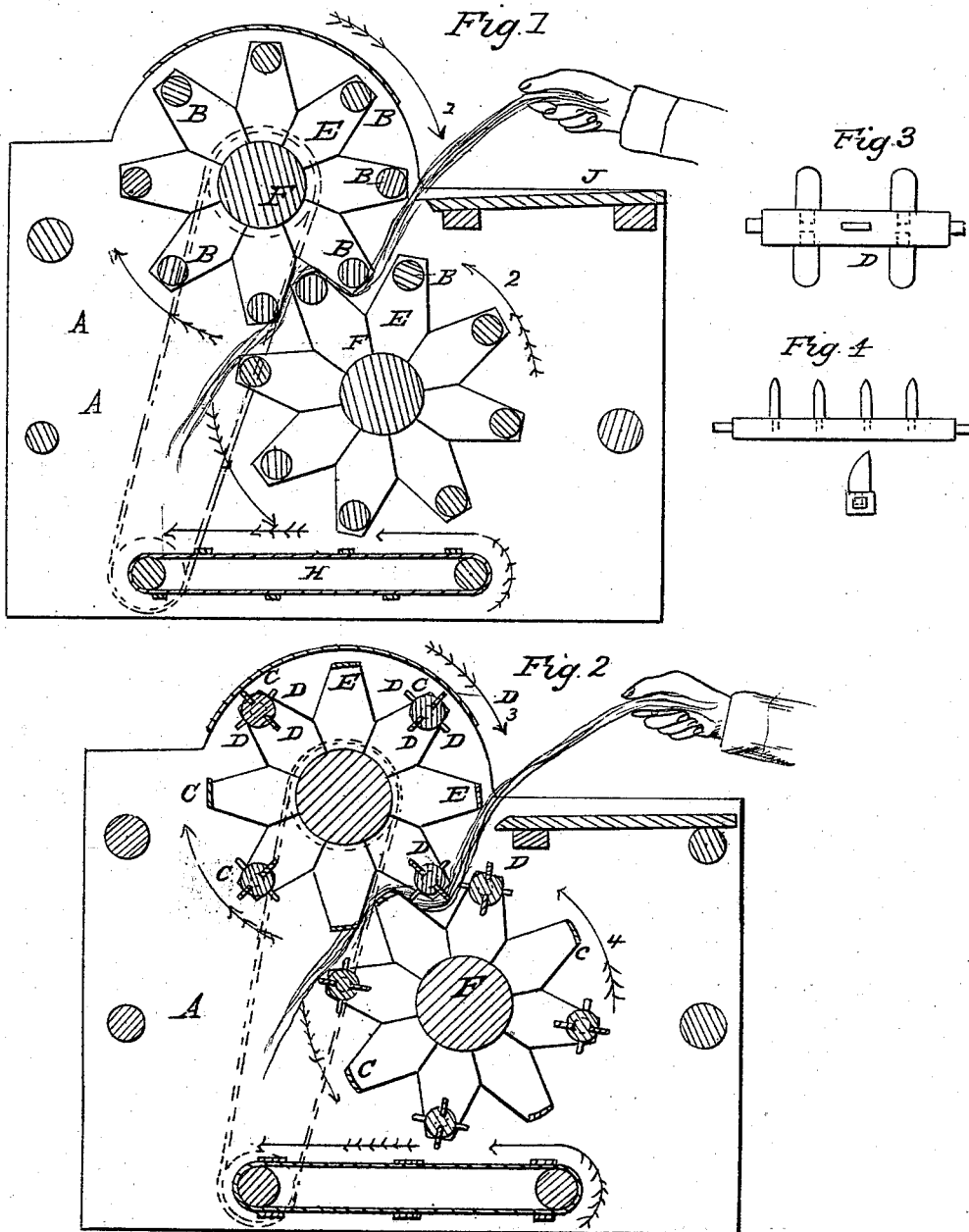


W. Y. SINGLETON.

Hemp Brake.

No. 4,034.

Patented May 7, 1845.



UNITED STATES PATENT OFFICE.

WILLIAM Y. SINGLETON, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN MACHINES FOR BREAKING AND CLEANING HEMP, &c.

Specification forming part of Letters Patent No. 4,034, dated May 7, 1845.

To all whom it may concern:

Let it known that I, WILLIAM Y. SINGLETON, of Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Machine for Breaking and Scutching Hemp and Flax, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical section of two revolving skeleton cylinders of rollers of the machine for breaking the hemp in order to separate the fiber from the fragments of the stem. Fig. 2 is a vertical section of two revolving skeleton cylinders of swords and bars of teeth for scutching the hemp and flax after being broken by the rollers for separating the broken fragments of the stem from the fiber. Fig. 3 is a plan of a cylindrical bar and teeth. Fig. 4 is a plan of a rectangular bar and teeth.

This machine consists of a suitable frame, A, in which are arranged four revolving skeleton cylinders of rollers, B, and swords C, and bars of teeth D, interlocking each other, for the purpose of first breaking the hemp, and then scutching and combing it, said cylinders turning in pairs in contrary directions, or toward each other, as indicated by the arrows 1 2 3 4. The skeleton cylinders are each composed of two sets of arms, E, between the extremities of which are arranged rollers B for breaking the hemp, turning on gudgeons in said arms, the axles F of the cylinders being parallel and passing through the frame, having cog-wheels on them, working into each other, by which the skeleton cylinders are caused to turn together in contrary directions, and their rollers to interlock, the upper axle being placed at an angle of about fifty degrees in the rear of the lower axle. Beneath the lower cylinder may be placed an endless revolving apron, H, for conveying away the fragments of the broken substance and dirt that fall from the cylinders, caused to turn by means of a pulley on one of the rollers of the apron, around which is passed a band leading around a pulley on one of the axles of the skeleton cylinders. This apron, however, is not essential.

The skeleton cylinders for scutching and combing the hemp after being broken are made and arranged and turned in the same manner and on the same axles as the cylinders

above described, excepting that every alternate pair of arms are provided with swords C and bars D of teeth, instead of revolving rollers, which interlock and scrape and comb the hemp over the edge of the feeding-board I, and over the edges of the succeeding bars and teeth. The lower breaking-cylinder may be made with alternate rollers and swords, and the upper one interlocking therewith may be made with alternate rollers and bars of teeth. The alternate pairs of radial arms of the scutching-cylinders may contain radial swords and rectangular bars of teeth for hackling the hemp.

The manner of operating with this machine is as follows: It being put in motion by any suitable power, the attendant takes a bundle of hemp in his hand and brings it over the lower edge of the inclined feeding-board, and in contact with the rollers B of the cylinders E, which is permitted to be drawn in between them, the rollers of the upper cylinder carrying the hemp in one direction, while the rollers of the lower cylinder carry it in an opposite direction, thus bending the stalks in a zig-zag manner, and breaking the substance that surrounds the fiber of the hemp, and changing the position of the bundle end for end. He then withdraws the bundle thus broken from the aforesaid cylinders, and conveys it to the scutching and combing cylinders, between which it is drawn, in the same manner subjecting it to the additional operation of scutching or beating by the swords C and combing by the teeth of the bars D, for the purpose of separating the substance that surrounds the fiber therefrom, the segments of said substance descending to the endless revolving apron, by which they are conveyed away, the action of the lower swords and teeth being counter to those of the upper, which beat, scrape, and rub the broken fragments of the stalks or stems from the fiber of the hemp on all sides, and leave it to be drawn from the machine in a completely dressed state.

What I claim as my invention, and which I desire to secure by Letters Patent, is—

The making of the revolving skeleton cylinders with combined swords and bars of teeth, for the purpose set forth.

W. Y. SINGLETON.

Witnesses:

WM. P. ELLIOT,
A. E. H. JOHNSON.