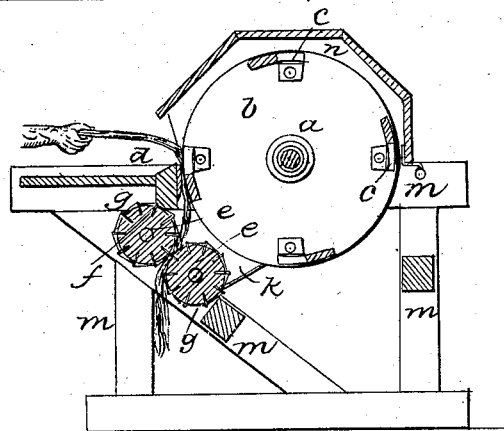
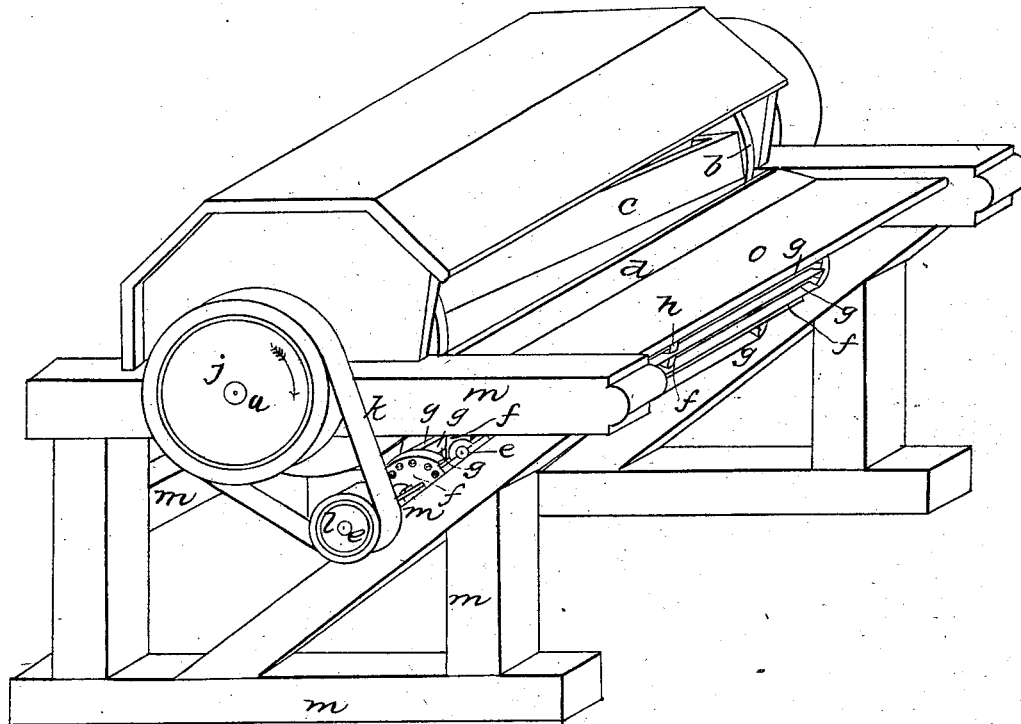


F. P. HOLCOMB.  
Hemp and Flax Brake.

No. 5,010.

Patented March 13, 1847.



# UNITED STATES PATENT OFFICE.

FRANKLIN P. HOLCOMB, OF NEW CASTLE, DELAWARE.

## IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. 5,010, dated March 13, 1847.

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

Be it known that I, F. P. HOLCOMB, of the town and county of New Castle, and State of Delaware, have invented a new and useful Machine for Breaking and Cleaning Hemp at one and the same Operation; 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 a perspective view, and Fig. 2 a vertical section, of the machine.

The same letters indicate like parts in all the figures.

In machinery heretofore employed for breaking and cleaning hemp, &c., at one operation by revolving brakes, the hemp has been acted on during a large portion of the circle of revolution, the hemp being broken by passing it between a pair of rollers or revolving brakes and scutchers that mesh into each other and break the hemp by bending it short between them. This method is highly objectionable, in consequence of the great length of the fiber over which it is scraping, which is found to wear the hemp in practice, so as to render it unmerchantable. It has also been attempted to break and clean the hemp between a revolving brake and a stationary concave; but this method is liable to the same objection. In fact, the hemp never can be broken and cleaned by the same roller that breaks it without subjecting it to injurious wear. Consequently the machines have been abandoned as useless, for if the hemp is broken by a stationary brake against which the revolving brake acts, and thence passes to another wheel placed in contact with said revolving brake to be scutched, the brake scrapes over the hemp the whole distance from the bed-brake to the point where the scutcher acts and wears the surface into tow.

My invention is for the purpose of obviating these difficulties, and is of the following nature: I employ a large revolving brake, with the swords set at a tangent, (this is necessary to the well-working of the machine, as a small one would present the swords at too great an angle,) which acts against a stationary bed-

plate, and there breaks the hemp as it is presented by the hand. The ends of the hemp, as soon as they pass down below the edge where they are broken, are thrown off by the centrifugal action of the revolving blades, and they do not come in contact with it any more; but as the hemp is fed in the ends aforesaid pass down and are caught between the scutchers at the angle of their junction without lying against either so as to be rubbed, and are thus cleaned. The scutchers are very small cylinders with blades projecting from them radially that only mesh slightly (if at all) past their pitch-lines. These only act on that part of the hemp immediately between them, or at the junction of their curves, to clean it, and it passes through them without injury, which is not the case where the breaking and cleaning is done by the same wheel or roller on the different parts of its circumference.

The construction of my apparatus is as follows: On the cap-pieces of a suitable frame, *m*, I suspend a shaft, *a*, in suitable bearings, on which I affix two cylinder-heads, *b*, to which I attach any suitable number of slats or beaters, *c*. These are placed diagonally, and are made to act on a straight horizontal stationary bed-piece, *d*, which is armed with iron and attached to the frame *m*. Back of this bed-piece and a little below its surface there is a feed-board, *e*, over which the hemp is fed into the machine. Just below the bed-piece two small scutcher-cylinders, *f*, are so placed as to receive the hemp between them without wrapping on either, the blades *g* of which may work into each other more or less, according to the material to be acted on.

The hemp is held in the hand of the workman to be cleaned, and is presented over the bed-piece *d*, (as clearly shown in Fig. 2,) where it is gradually broken as it is pushed in, and the ends are thrown down in between the scutchers, where the shives or hurds are thrown out. The hemp in this way is fed in, cleaned half its length, and then turned and the other half finished, and the hemp comes from the machine in a perfect and merchantable state.

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

The combination of the stationary bed-brake

and the rotary brake, and small scutchers arranged in the manner described, so that the hemp can be fed in by hand, broken, and cleaned with but one handling and at one operation, the breaking and cleaning being done on separate cylinders; but the parts so arranged as that they are brought close together, and so adjusted as to only allow the machine to

touch that part of the fiber that is to be acted on, thereby preventing its wear in the machine.

F. P. HOLCOMB.

Witnesses:

A. P. BROWNE,

J. J. GREENOUGH.