No. 45,259. PATENTED NOV. 29, 1864.

W. C. McBRIDE.

MACHINE FOR SCUTCHING TANGLED FLAX.

Fig: 1.

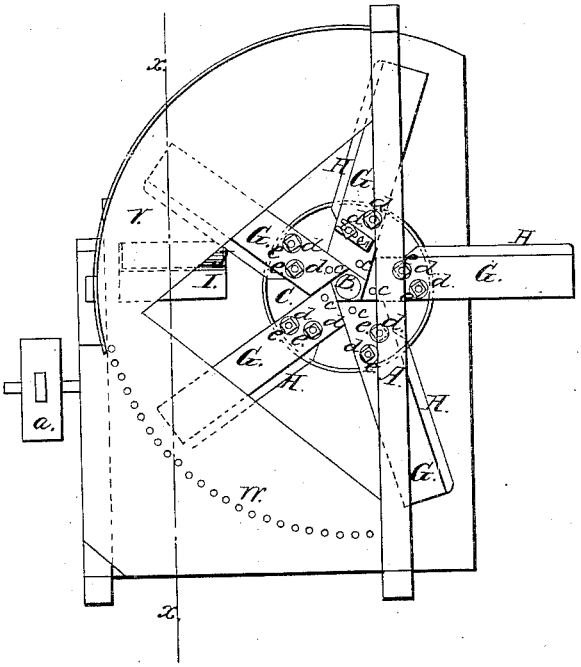


Fig: 2.

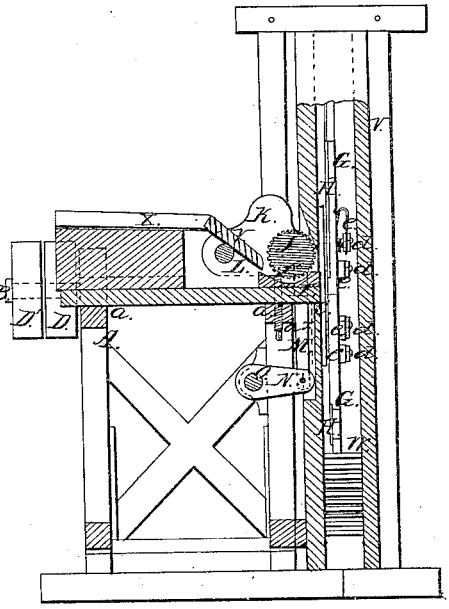


Fig: 3.

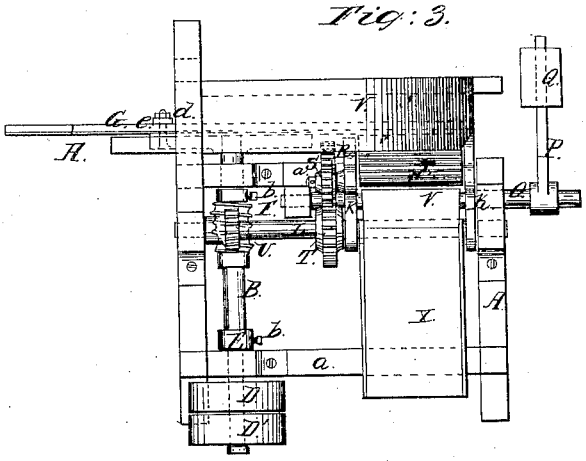
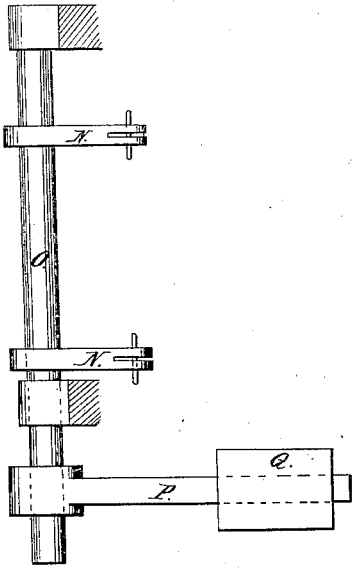


Fig: 4.



Witnesses

James P. Otall

Wm. F. McNamara

Inventor

William C. McBride

UNITED STATES PATENT OFFICE.

WILLIAM C. McBRIDE, OF RARITAN, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR SCUTCHING TANGLED FLAX.

Specification forming part of Letters Patent No. **45,259**, dated November 29, 1864.

To all whom it may concern:

Be it known that I, WILLIAM C. McBRIDE, of Raritan, in the county of Somerset and State of New Jersey, have invented a new and Improved Machine for Scutching Tangled Flax; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a front elevation of my invention; Fig. 2, a vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 3, Sheet No. 2, a plan or top view of the same; Fig. 4, an enlarged detached plan or top view of the means employed for regulating the pressure of the feed-roller.

Similar letters of reference indicate like parts.

This invention consists in the employment or use of scutching-blades attached to radial rotating arms in such a manner that they will yield or give and be enabled to perform their work in a much more efficient manner than if arranged fixed or stationary.

The invention also consists in an improved feeding device for feeding the flax to the cutters, the same consisting of a pressure-roller and a concave, as hereinafter set forth, whereby the flax may be fed uniformly to the scutching-blades.

The invention also consists in the means employed for adjusting the scutching-blades nearer to or farther from the concave, as may be required; and it consists, further, in the employment or use of a screen to separate the woody matter from the fiber.

A represents a framing, which may be constructed in any proper manner to support the working parts, and B is a shaft placed horizontally on said framing and having a circular disk or head, C, at one end of it, and a driving-pulley, D, and a loose pulley, D′, at its opposite end. On this shaft B there are also placed a collar, E, and a screw, F, which are within the top plates or rails, *a a*, of the framing A, at its front and rear ends, which prevent the shaft B from working or moving longitudinally in its bearings. The collar E and screw F are secured on the shaft B by set-screws *b*, as shown clearly in Fig. 3.

To the disk or head C there are attached a series of radial arms, G. These arms are each attached to the disk or head by a single screw or bolt, *c*, the latter passing through the inner ends of the arms, the arms being allowed a small degree of play on the screws or bolts *c*. Besides these screws or bolts *c* there are two other bolts, *d d*, employed, which pass through each arm G, and have springs *e* applied to them, of india-rubber or metal, and so arranged as to have a tendency to keep the arms G pressed toward the disk or head C. The arms G have each a scutching-blade, H, attached to them, and these blades extend from the outer ends of the arms nearly to their inner ends.

I represents a concave, which is secured in the framing A, and in such a position relatively with the scutching-blades H that the latter, as the shaft B is rotated, will work over the outer end of the concave.

J is a feed-roller, which is fluted longitudinally, and has its journals fitted in arms K K, which are placed loosely on a shaft, L, on the upper part of the framing A, the shaft L being at right angles to the shaft B. Each arm K has a pendent rod, M, attached to it by a pivot, *f*, and the lower end of these rods M are pivoted to arms N N on a shaft, O, in the framing A below the concave I, said shaft O having an arm, P, fitted on it, provided with a sliding or adjustable weight, Q. (See Figs. 1, 3, and 4.) This weight Q, it will be seen, gives a downward pressure to the roller J, and this pressure may be increased or diminished by sliding or adjusting the weight Q on the arm P nearer to or farther from its end. The feed-roller J is directly over the concave I, and said feed-roller has a pinion, R, at one end of it, said pinion gearing into a wheel, S, and the latter gearing into a wheel, T, on the shaft L, which shaft has a worm-wheel U upon it, which gears into the screw F on shaft B.

V represents a vertical semicircular box which is at the front part of the framing A, and in which the outer ends of the arms G and scutching-blades H work in passing around at the side of the machine where the concave I is placed or secured. In the lower part of this box V, below the concave I, there is a screen or riddle, W, which is of curved form, and has an inclined position. (See Figs. 1 and 2.)

The operation is as follows: The shaft B is driven by any convenient power, and the tangled flax is placed in a trough, X, and passes down an inclined plane, Y, between the roller J and concave I, the roller feeding the flax to the scutching-blades H, and the latter acting upon or against the former as they pass over the outer surface or edge of the concave, completely separating the woody substance from the fiber of the flax. The scutching-blades H, in consequence of the bolts of the arms G being provided with springs *e*, admit of the blades H yielding or giving to a certain extent according to the thickness of the layer of flax passing between the roller and concave. If these blades were perfectly rigid, they would, in case of the layer of flax being rather thick in certain places, have a tendency to injure or break the fiber, and in case the arms were set so as to cause the blades to work a little out from the edge of the concave they would not perform their work perfectly in thin portions of the layer. It will be understood of course that the layer of flax passing between the roller J and concave I will vary continually in thickness, and hence the necessity for the yielding of the scutching-blades, as described. The scutching-blades may be set in a proper relative position with the concave I by adjusting the shaft B longitudinally, the set-screws *b* of the collar E and screw F being unscrewed to admit of that result, and said screws screwed up when the blades are adjusted, as desired. Through the front plate or rail, *a*, of the framing A, and underneath each arm K, a screw, $a^{\times}$, passes vertically. These screws limit the descent of the roller J, preventing it from coming in contact with the concave I. Motion, it will be seen, is communicated to the roller J from the shaft B through the medium of the screw F, worm-wheel U, and gearing R S T, previously described. The screen or riddle W effectually separates the woody matter from the fiber of the flax, the former passing through the screen or riddle. The arms G serve to throw the fiber or flax off from the screen or riddle and discharge it from the machine.

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

1. Attaching the scutching-blade arms G to the disk or head C by means of bolts *d*, provided with springs *e*, arranged as shown, or in any equivalent way, to admit of the yielding of the scutching-blades, substantially as and for the purpose herein set forth.

2. The feeding of the flax to the scutching-blades by means of the roller J and concave I, arranged in the manner substantially as herein described.

3. The adjusting of the scutching-blades H nearer to or farther from the edge of the concave I by means of the shaft B, having the collar E and screw F adjustable upon it, as set forth.

4. The screen or riddle W, when used in connection with the rotary scutching-blades, feed-roller, and concave, substantially as herein set forth.

WILLIAM C. McBRIDE.

Witnesses:

JAMES P. HALL,

WM. T. MCNAMARA.