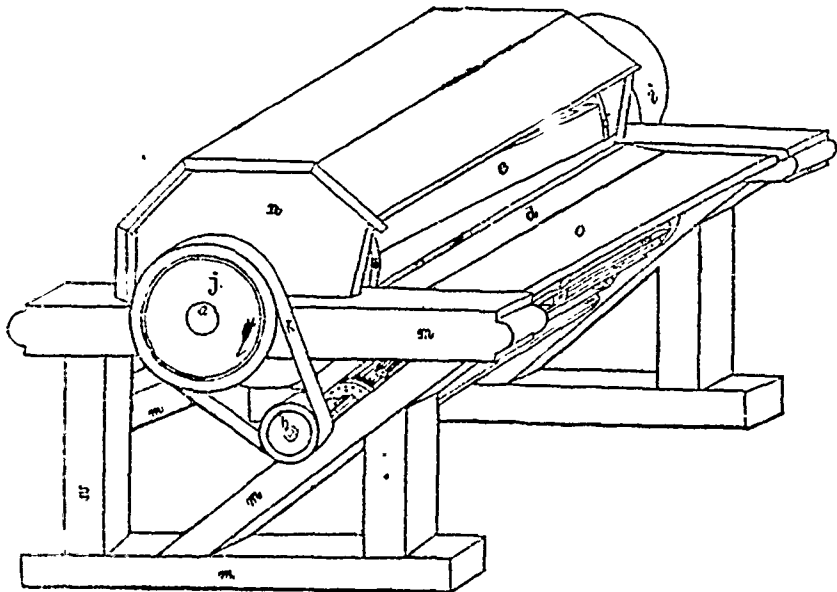


In machinery heretofore employed for breaking and cleaning hemp, &c. at one operation, by revolving brakes, the hemp has been acted on during a large portion of the circle of revolution, the hemp being broken by passing it between a pair of rollers or revolving breaks and scutchers, that mesh into each other, and break the hemp, by bending it short between them. This method is highly objectionable, in consequence of the great length of the fibre over which it is scraping, which is found to wear the hemp in practice so as to render it unmerchandise; it has also been attempted to break and clean the hemp between a revolving break and a stationary concave, but this method is liable to the same objections. 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 break, against which the revolving break acts, and thence passes to another wheel, placed in contact with said revolving break, to be scutched, the break 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 employed a large revolving break, 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 laying against either so as to be rubbed, and is 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 are done by the same wheel or roller on the different parts of its circumference.

*Perspective view of F. P. Holcomb's Hemp and Flax Gin.*



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 (o), over which the hemp is fed into the machine; just below the bed-piece, two small scutcher cylinders