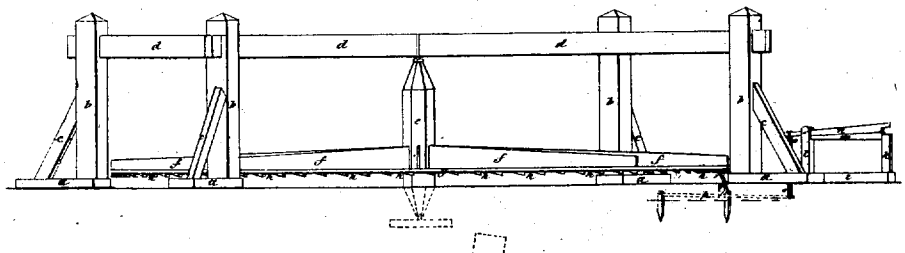
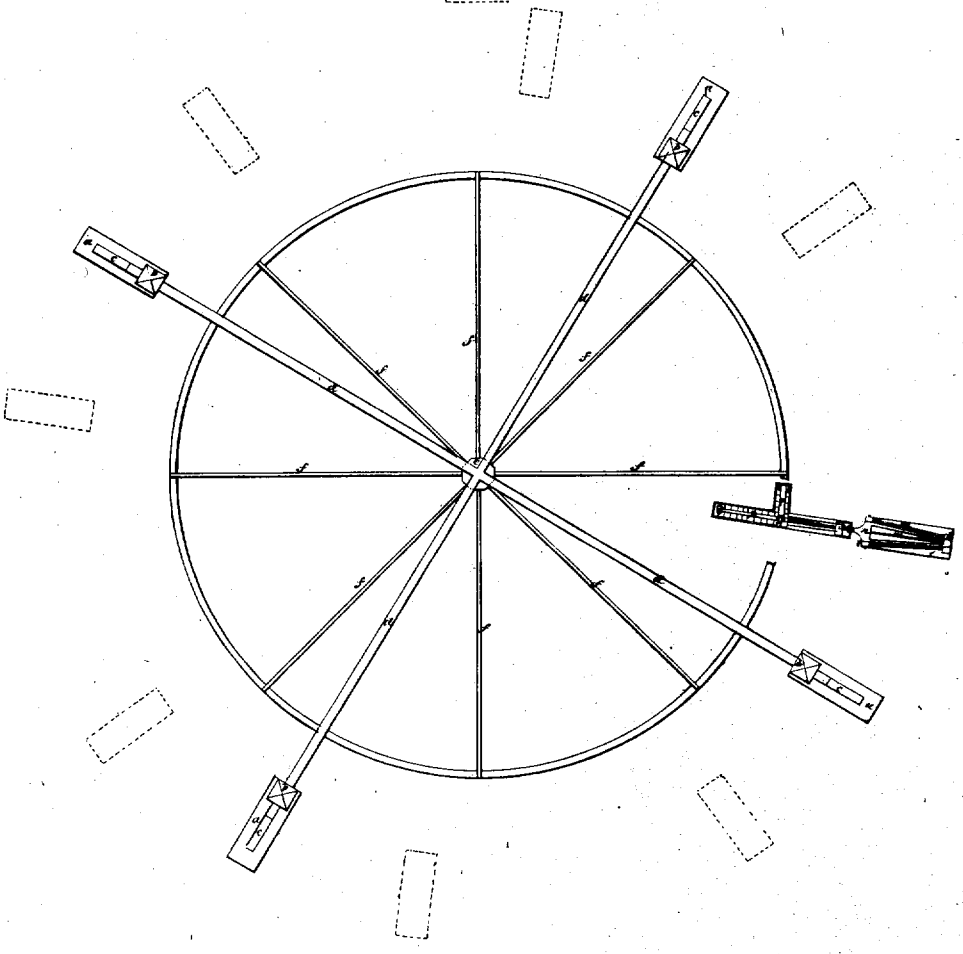
8214X

R. MILLER.

HEMP BRAKE.

Patented May 23, 1834.





THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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May 23. 1834 369

Robert. A Miller of Glasgow, Kentucky

Letters Patent.

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Robert A Miller himself of his improvement in the machine for breaking hemp and flax.

To all to whom these presents shall come

Be it known that I. Robert A Miller of Glasgow in the County of Barren & State of Kentucky, have invented a new and useful improvement in the cleaning and separating Hemp & flax from their woody parts, and that the following is a full and exact description of the construction and operation of the said Machine as invented & improved by me

A strong frame is erected by two heavy crossing sticks either at right angles & firmly braced to their uprights, it supports a shaft carrying a wheel from 30 to 42 feet diameter which circulates horizontally (by horse or other power) within one foot of the ground the lower side of the narrow rim, are fastened right angled triangular cogs at their own length apart; an oblong piece 2½ inches thick 3 to 4 broad & 9 to 12 long, having cut diagonally from two ends, their acute angles are 14 to 15 degrees, they are shod with hoop iron at least 3/4 inch broad.

Four feet diameter around the rim is a blower for the horses path just beyond which rises the uprights of the frame and to that line comes the tails of the brakes their heads extending outwards diametrically from the shafts, there are eight breakers to a complete Machine four heavy & two and four light cleaning ends formed from a solid piece of black gum 7 feet long 4½ inches wide & four thick their solid heads are six inches long square of the breakers 11 a 8 four feet long eight inches and tails 14 to 15.

Drawing

The breakers have swords 8 inches apart at the body and 2 at the head but the swords of finishing are only half caught and 2 inches apart every where, on this latter principle 8 hand finishing brakes are made but accidents disable any of these in the machine for a moment— & to employ the hands within doors during wet weather

Each brake stands about 2½ feet high upon a frame composed of three pieces viz 1 sill 7 feet by 2, & 8 inches thick into which head and tail blocks are firmly set they are 6 inches thick the latter is 2 feet broad & as high from 2½ upwards there are 16 inch holes and out of the midst in which the brake plays upon an iron pivot. The former is covered with leather well stuffed with grass elastic or curled hair to prevent the destruction of brakes, Grooves in these blocks receive the lower swords or staff in which they are moveable, to render them efficient in every kind of hemp and to facilitate the cleaning they are 6 inches broad at the head but only 3 at the body

Near the middle of each brake rests the end of a circly ash spring pole 12 feet long its other end is fastened in two uprights circly under the edge and pointing with the iron when in motion are placed triangular levers with legs 2½ feet long conjoined angle works upon a pivot the legs extending to a right line between the shaft and brake on which moves the drawing lever a straight piece of 8 or more feet long; its outer end passing under the handle is at least 4 feet beyond the legs till under the tail of the brake to which it is yoked by a bow of tough white oak or hickory the inner end works upon a pivot & is moveable to adjust the triangular levers to the legs directly under which the lever rises is loosely attached to the drawing lever, circly of one foot broad & deep having been dug 6 inches sides and bottom with planks for these levers to move in and that part under the brake covered with small platforms

Upon the end of the upper limb of each triangular lever is placed a cast iron friction wheel of 8 to 2½ inches diameter

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which remove four fifths of the friction as they roll over the iron face or the inclined plane of the cogs three pins rise out of the tail of each brake called regulators because removing the yoke from one to another elevates or depresses the head of the brake to any desired height over each spring hole is a guard comming out of the tail block, which causes the brake to return from a given elevation, — Each hand is furnished with a rake the pins of which are one foot long with it he occasionally removes the accumulating shows & by a certain motion brings into one place all that have lint attached to them these hair[illegible] totally lost are lifted in burdens & claimed in the same manner as lost The wheel put into motion each cog in passing the friction wheel depresses the moveable limb of the triangle and with them the outer ends of the drawing levers and tail of the brake elevating their heads to any regulation height whence the spring falls and thirty guards throw them forcibly down again, thus perpetuating by the simple action & reaction of levers for the triangle serve only to remove the drawing levers out of the shorter way, they have power and are wholly unnecessary with steam or water,

Eight hands are the full complement of a machine and move in the following order,

1st stands upon (say the right side of a brake and puts on his armful of raw hemp moving it skillfully at every rise of the brake, until the woody parts are chiefly driven out, when he turns to the finisher at the moment C, leaves it and is succeeded by B on the left side with his rough hemp who also turns to his finisher at D. puts it. Thus alternately & continually occupying the eight brakes without interrupting each other and not performing the work of three or four men by more actively by the labour being shared,

2 Or add ng is necessary to the successive fall of the brakes each pair of which stand diametrically opposite to each other and move diametrically ascending as one . . .

The four brakes occupy the cardinal points forming a square

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voids of declination and divides time as 1. 2. or a whole and half cog. The finishing stand in the intermediate space forming a septenic also but upon this line of the greatest possible declination or 45° from the other. The two squares are the algebraic signs of addition and multiplication being parents of all things of art or science & the four county stands thus 1. 2. 4. 8 their arithmetical progression memorializes the origin of this present vulgar division of time, and their geometrical that of the scale of Music.

The discovery of the last is ascribed to the fabled Pythagoras who in this manner distinguished the sounds of anvils. Hence the machine is called the Pythagorian hemp brake.

To my original invention is now added two improvements for which also a right is claimed as follows,

1. cogs in the form of an inclined plane, 2. cast-iron friction wheels, 3, Screw faced cogs, 4 stuffed head blocks, 5, Guards to the spring poles. 6. regulators in the brakes &. Movable slats, and their forms. 8. finishing brakes. of equal severity, bolts for the machine and means of cleaning the offal 10. Adjusting the triangle ——

One horse moves the eight brakes with ease and fifteen to forty hundred weight may be cleaned in one day. (besides the offal) according to the weather and the degree of suppleness which the hemp has received

Witness

Jno. S. Helm

J.B. Crump

Albert a Miller

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Byrd

AFC

(May 20. 1844)

(1560 words)