

C. McFarland,
Working Rattan.

N^o 2,024.

Patented Mar. 31, 1841.

Fig. 1.

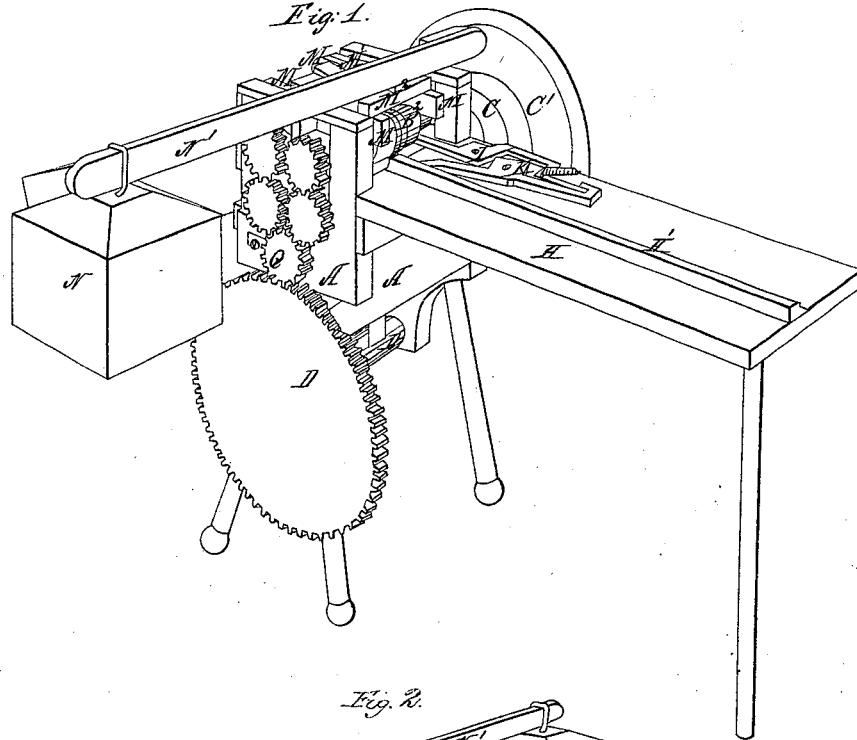
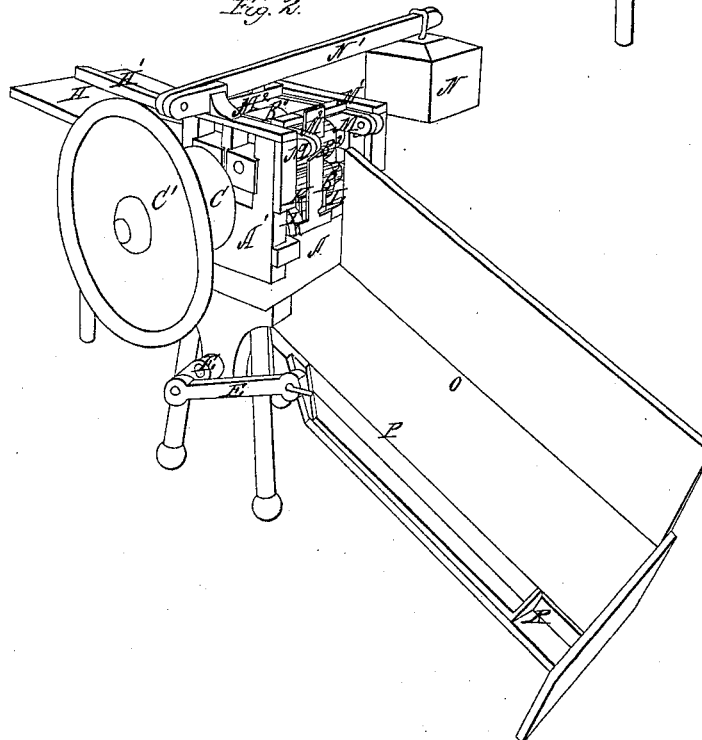


Fig. 2.

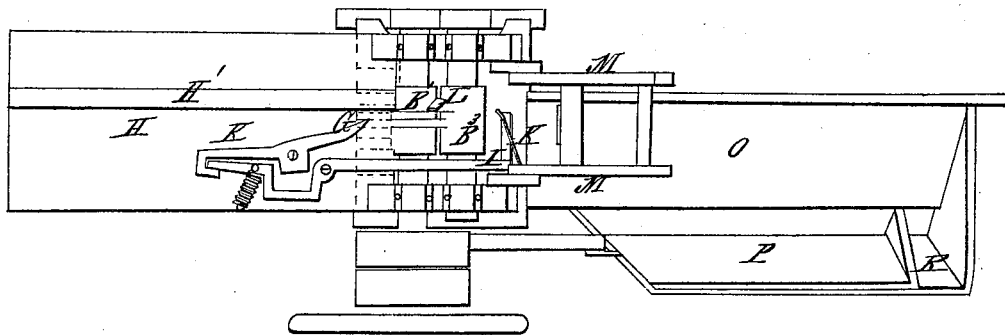
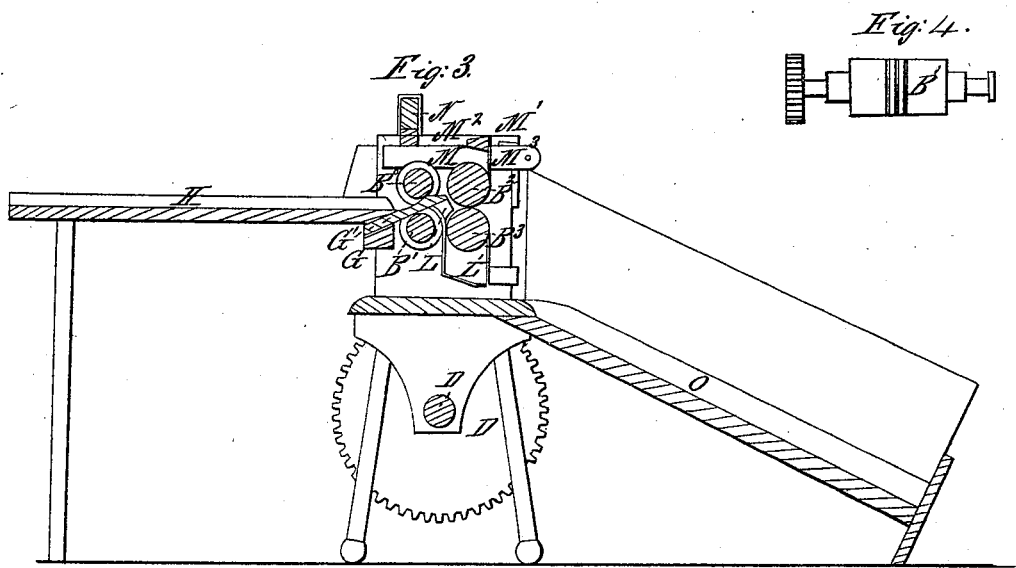


C. McFarland, 2 Sheets, Sheet 2.

Working Rattan.

N^o 2024.

Patented Mar. 31, 1841.



UNITED STATES PATENT OFFICE.

COREY McFARLAND, OF BARRE, MASSACHUSETTS.

MACHINE FOR SPLITTING PALM-LEAVES.

Specification of Letters Patent No. 2,024, dated March 31, 1841.

To all whom it may concern:

Be it known that I, COREY McFARLAND, of Barre, Worcester county, State of Massachusetts, have invented a new and useful

Improvement in Machines for Splitting Palm-Leaves, and that the following is a true and full description of the same, reference being had to the drawings making a part of the same.

Figure 1, is a perspective view of one side showing the cog wheels, &c. Fig. 2 is a perspective view of one side showing the fly wheels and band wheels. Fig. 3 is a vertical section through the center; Fig. 4, a section of one of the grooved rollers, showing the grooves; Fig. 5, a bird's eye view of the waste guide J, &c., after removing the top rolling cylinders.

The letters in this specification correspond with those in the drawings.

This machine is composed of the following parts: 1st, the table and frame thereon (A A', Figs. 1, 2, 3,); 2nd, the four rolling cylinders (B⁰, B¹, B², B³, Fig. 3); 3rd, the band and fly wheels (C C', Figs. 1, 2); 4th, the crank wheel and axle D with the crank lever F in Figs. 1, 2, 3; the knife stand G (Fig. 3) with its knives and cutters; the feeding board H (Figs. 1, 2); the two waste guides I and L, Figs. 1, 3; the lever K connected with the waste guide I; the pressing levers (M, M, Figs. 1, 2, 3); the cross arm and weight N attached; the receiving box O and squaring box P (Fig. 2); the stud spur wheel Q, Fig. 1. The table and frame (A, Fig. 1) is made of cast iron or any other durable material. The table rests upon four legs or supports, round or square as may be desired. The frame A' which is on the top of this table has two sides, each formed of two corner uprights and an intermediate one, and all rise enough to support the axles of the four rolling cylinders to be described; between these uprights before mentioned, I place the axles of the rolling cylinders, in each aperture one above the other. This frame is intended to be of cast iron or any other durable material. The four rollers are marked B⁰, B¹, B², and B³, are all of like dimensions and length, each having a cog wheel attached to one end of their respective axles, this end being on the opposite side to the band and fly wheels, to be described. The cog wheel of the axle of the rolling cylinder B⁰ meshes into that one (B¹) immediately below it, and the cog wheel of

B² meshes into that of B³ immediately below it also. The two rollers B⁰, B¹, are cut with any suitable number of grooves (see Fig. 4, where there are three) at equal distance from each other; the number of grooves are to correspond with the number of knives &c attached to the knife stand to be described. The other two rollers (B², B³) are plain and serve only to draw out the leaf from the former mentioned rollers. The axles of the lowermost rollers are being plain, and the other grooved are to remain in their position. The two uppermost have sliding boxes attached to each end of their axles which give them an opportunity to rise and fall in the aperture of the frame before mentioned. These boxes are of metal square and fixed to their respective axles. The lower roller (B¹) and nearest to the front of the machine is moved directly by the band and fly wheels, by these wheels being attached to the end of the axle (of that roller) opposite to the cog wheels before mentioned. By this roller being moved as just described the other three rollers are moved by the agency of their respective cog wheels, and the whole machine is set in operation. The band and fly wheel is made of any suitable material, the construction of which differs in nothing from those now in use.

The crank wheel and axle D Fig. 1, with the crank E and crank lever F are made of any suitable material, whether of iron or wood. The crank wheel D is a large wheel on the circumference of which are placed cogs working into the stud spur wheel Q to be described. This crank wheel is attached to an axle which rests in any convenient fashioned support under the table and is round or square of suitable material. On the other end of this axle (which end is opposite to that having the crank wheel thereon) is attached a small crank which is attached to the crank lever, the other end of which is attached to the squaring box P hereafter to be described. As no proportions have been given to the size of the machine, this being a matter of fancy, the proper size to be given to the crank, and the proper length of the lever F must be regulated by the size of the machine, and the number of rotations of the wheel.

The knife stand or stock G (in section Fig. 3) is made of cast iron or other suitable material, and is placed across from one up-

right to the other of the frame, and secured thereto immediately under the feeding board to be hereafter described. About midway of this stand, &c., are attached the knives or cutters (one of the said knives is represented G', Fig. 3). These knives rest on the stand and secured thereto by any convenient way. These knives are long enough to reach from their position or their stand to a point between the front and back rollers. The under side or back of these knives rests in the grooves of the roller B¹, Fig. 3 and Fig. 1. The grooves in the upper roller (B⁰, Figs. 1 and 3) also pass over the knives, so that in fact, the knives are half in one grooved roller, and half in the other.

The feeding board H is made of wood or metal of any length desirable, and as wide as the width of the machine.

The end next the machine is supported by the corners of the frame, or resting upon little projections made on the knife stand G. The other end of the feeding board, rests in any way most convenient, on one, two or more legs. On the top of this board is placed a small strip of wood (H' Figs. 1 and 2) or other material similar to the feeding board. This strip I call the guiding stick, and serves as a guide to the leaf toward the knives and rollers. On the top of the feeding board, and opposite to the guiding stick before mentioned are placed the lever K which gives motion to one of the waste guides (L). This waste guide is a large arm reaching from the end of the lever before mentioned, passing outside of the rolling cylinders between the two upper and the two lower axles of the same to the outside face of the back rollers (B², B³). The end of it is shown at I, Fig. 2. The fulcrum of this arm is a pin fastened in the feeding board around which pin this arm plays. At the farther end of this arm, that is the point back of the back rollers, is placed a vertical plate (K', Fig. 2) inclined outward from the face of the rollers. This plate is so placed as to be above and below the aperture between the circumference of the upper and lower rollers, so that as that part of the leaf which is intended to be wasted comes out from between the rollers aforesaid, this plate intercepts it, and by the alternate motion outward given to it by the lever K is thrown outside of the machine. As this plate K' is attached to the end of the guide L that end is bent after it comes out from between the rollers, so as to give the plate K' the position before described back of the rollers. The lever K is made so that it shall be no farther from the guiding stick H' than the width of the palm leaf, which in passing through presses on the lever, which again gives motion to the arm of the waste guide L before

mentioned. The fulcrum of this lever is in a suitable position on the feeding board. This lever with the guide L is made of cast iron or other durable material. The waste guide L is an arrangement whereby the margin or selvage of the opposite side of the leaf can be thrown outward from the machine. It is a plate of metal, situated between the four rollers before mentioned and adjacent to one side of the knives it is vertical and diagonally inclined outward, and remains fixed in its position it is attached by passing down and under the lower rollers to the cross piece L' (see Figs. 2 and 3). From this cross piece, about midway of it, rises a scraper fitting to the front of the lower roller thereby keeping it clean. The pressing levers (M M, see Figs. 1, 2, and 3) are connected together like a frame by two cross pieces (M¹ and M²) stretching from one to the other and secured there. Each of the levers (M M) are attached to fulcrums placed on the corners uprights of the frame. These levers (M M) press on the circumference of the axles of the rollers (B⁰, B²) and prevent them from rising too high, and it is also assisted by a cross arm of wood or metal N' with a weight N attached to it; the cross arm rests on the cross piece M² connecting the levers, and adds thereby resistance to the danger of rising. The other cross piece M' serves another purpose. A scraper M³ (see Figs. 2 and 3) reaches from it down to the circumference of the roller B², thereby keeping it clean.

The receiving box O is made of wood, its upper end resting on the table, and the lower end resting on the floor. The bottom of this box, is inclined toward a squaring box P. The lowest side of this inclined bottom has a rectangular recess cut therein (shown at R) which is made to receive the squaring box, which slides up and down therein. The squaring box P is also made of wood, and composed of two sides and an end piece joining them. The bottom or lowermost side fits the rectangular recess before mentioned and the other side is made parallel to the side of the receiving box adjacent, and along the inside face of which it slides. This squaring box is used to bring the ends of the stands regularly together, so that they can be taken away, and bundled up until wanted.

The stud spur wheel Q is a small cog wheel, working into the cog wheels of the rollers (B¹ and B³) and into the cogs of the crank wheel D. It is as large and similar to the small cog wheels attached to one end of each of the four rollers and made of the same material, and is supported on a small axle fixed to the frame of the machine.

In order to keep the grooves of the two rolling cylinders clean, there may be attached a set of cleaners reaching from the

pressing levers, and inserted in the groove of the upper roller, and in a similar manner cleaners may extend upward from the knife stand into the grooves of the lower rollers, each of the said set of cleaners must
5 be just wide enough to fill the grooves of the rollers; and to pass into the said groove far enough to reach the bottom thereof.

Operation: The palm leaf being placed
10 separately on the feeding board between the lever K and guiding stick H' thereon, is drawn in by the rollers over the knives or cutters, which separate the leaf in equal strands, and is carried or drawn farther on
15 by the plain rollers, and after passing through the latter, fall into the inclined bottom of the receiver box, and they then slide into the squaring box and by the alternate motion, given to this last box, the strands are
20 thrown into proper position for bundling. As the sides of the leaf are of no use, they are each carried to the outside of the ma-

chine by one side coming in the way of the plate K' of the guide I and the other coming into contact with the guide L which
25 gives an outward direction to the fragments of the leaf.

Claim: I do not in this specification claim as my invention the method above described of splitting palm leaf by means of the
30 grooved rollers and knives, but

What I do claim and desire to secure by Letters Patent is—

The arrangement of the guides I and L for separating the waste and worthless frag-
35 ments of the leaf as described above and also the combination of the squaring box P and receiving box O for throwing all the pieces of palm leaf when split into a proper position for bundling as herein described.

COREY McFARLAND.

Witnesses:

NATHAN SIBLEY,
WM. P. McFARLAND.