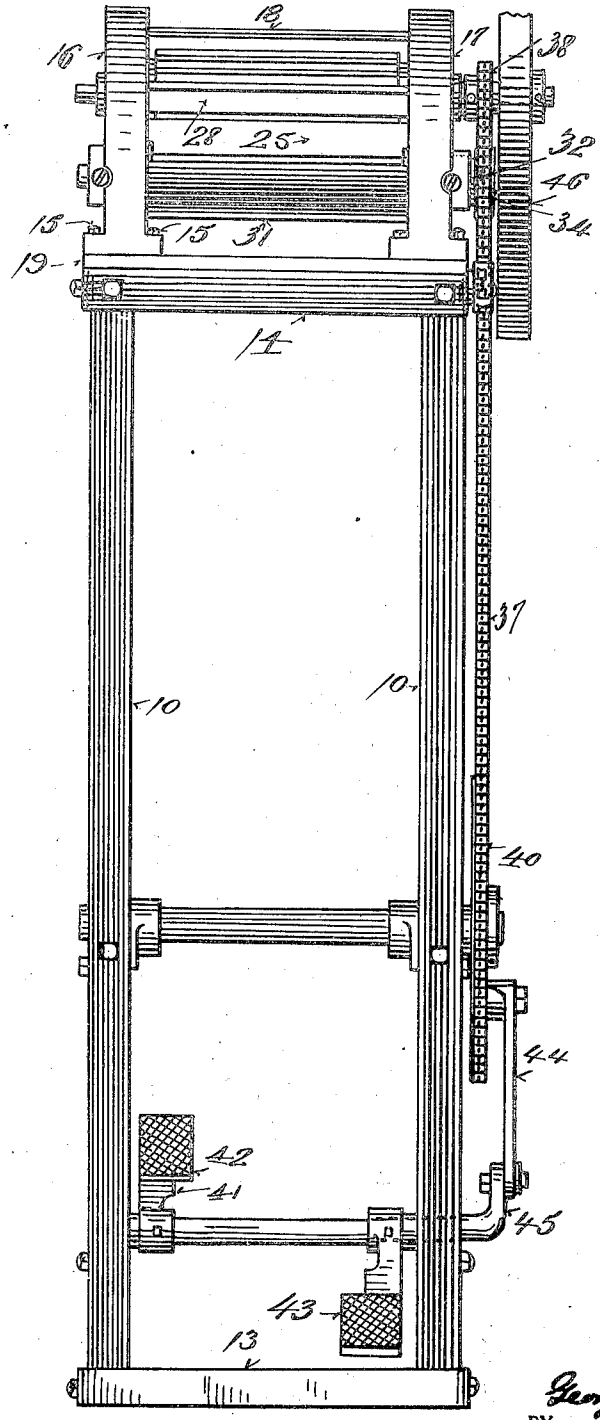
Aug. 31, 1926. 1,598,095

G. A. LOWRY

HEMP CLEANING MACHINE

Filed Sept. 30, 1924 3 Sheets-Sheet 1

Fig. 1.



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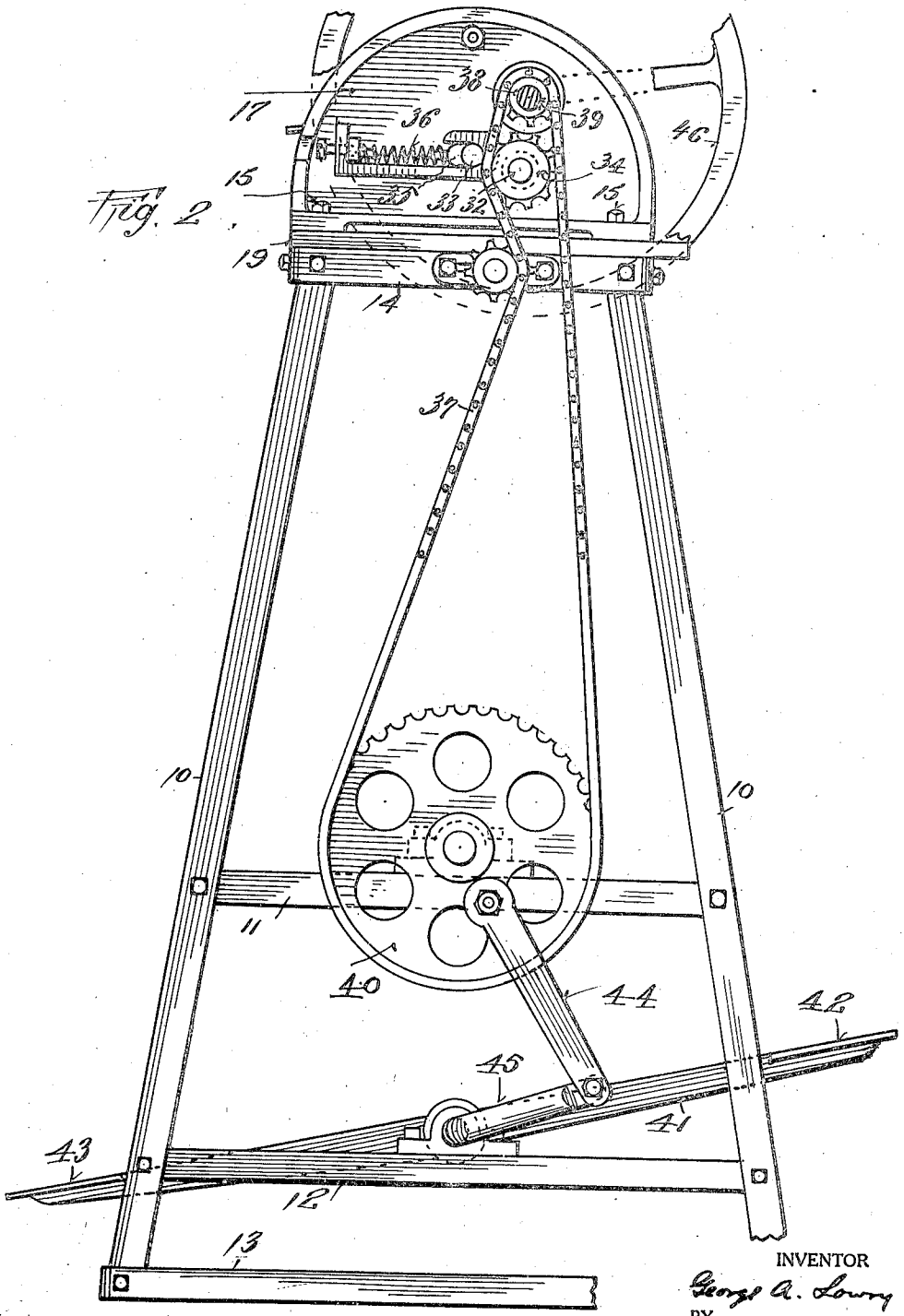
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Fig. 2.



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HEMP CLEANING MACHINE

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Fig. 4.

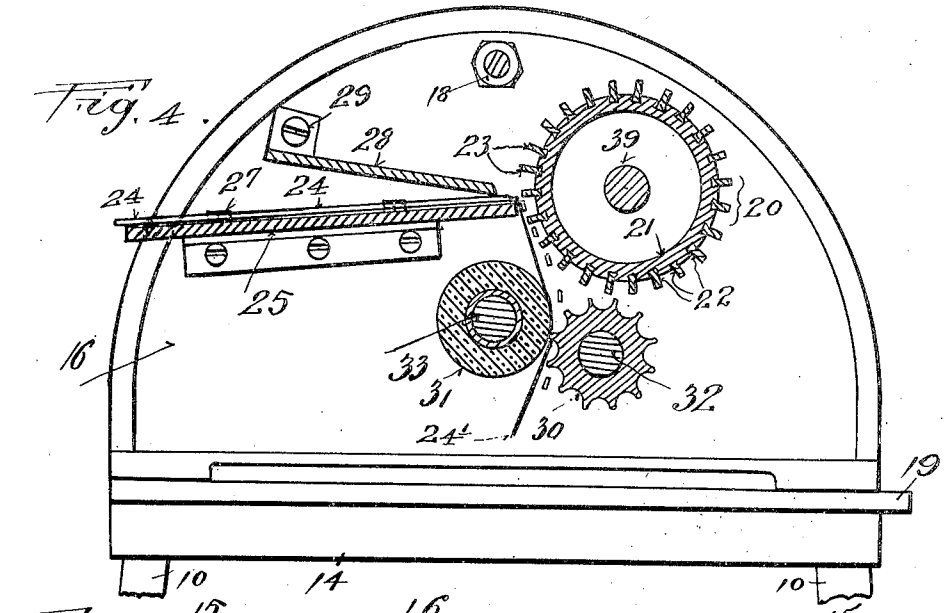
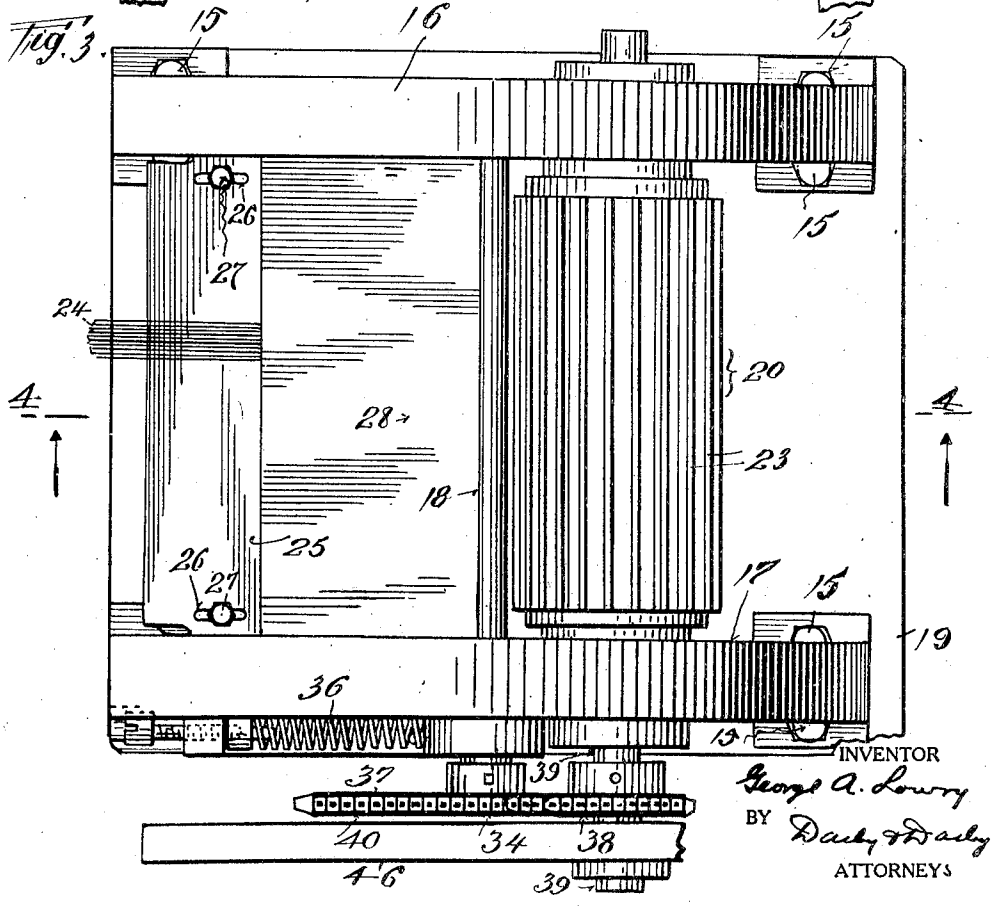


Fig. 3.



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Patented Aug. 31, 1926. 1,598,095

UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO FABRICORD, INC., TRUSTEE, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

HEMP-CLEANING MACHINE.

Application filed September 30, 1924. Serial No. 740,706.

This invention relates to machines for separating the fibrous skin from the woody core of fibrous plant stalks, of which hemp is an example, and has for its object the production of a machine which will expeditiously separate the pithy core from the fibrous material with practically no loss of fibre and with the fibre left in long ribbon-like streamers. I further aim to produce a fibre stripping machine which is simple in construction but very efficient in operation and which is inexpensive to operate and comparatively inexpensive to manufacture.

Other objects will appear hereinafter and I obtain these objects by the construction illustrated in the attached drawings, in which:—

Fig. 1 is a front elevation of a machine which embodies the principles of my invention.

Fig. 2 is a side elevation thereof with a portion of the flywheel omitted for clearness.

Fig. 3 is a plan view; and

Fig. 4 is a view taken on the line 4—4 of Fig. 3.

The same numerals refer to like parts throughout the several views of my fibre separating machine, which is herein described as an example and not in a limiting sense.

I have discovered that by constantly and quickly disrupting the woody or pithy core of fibrous plants, such as hemp or the like, and thus removing small sections while the loosened fibre is pulled back or stripped, I can separate the fibre from the core without loss of fibre, and the fibre itself is retained in long ribbon-like bands for further treatment preparatory to spinning or weaving and for other purposes. By exerting a pull on the stripped fibre the plant stalk is advanced so that the core is constantly disrupted by the blades of the disrupter or breaker roll, but the fibre never comes in contact with the breaker roll. To this end my stripping machine, as herein disclosed, comprises a supporting frame 10, having brackets 11 and 12, foot pieces 13 and a crown 14. Brackets 11 and 12 support the driving mechanism and the machine proper is fastened on to the crown by any suitable means, as bolts 15.

The machine proper comprises two side frame pieces or plates 16 and 17, of which piece 16 may be regarded as the left side frame plate and 17 as the right side frame plate. These plates ore suitably spaced apart, as by a rod 18 and a frame plate 19, and support the operating mechanism. This mechanism comprises a plant stem or stalk core disrupter 20, which in a preferred form consists of a cylinder element 21 having blades 22 projecting from the surface of the cylinder and supported on bearings in the frame plates. The blades may be set into the cylinder, as shown, at substantially right angles to the surface, or they may be regarded as ribs having, in any event, comparatively sharp striking edges 23 for striking the ends of the plant stalk as it is fed forward over the feed board 25, which is adjustably held by bolts 27 passing through slots 26. The feed surface of plate 25 lies substantially in the striking plane of blades 22 at their point of greatest efficiency. A guide plate 28 is pivotally supported at 29 and serves, by its weight and other means, to hold the stalks 24 in proper position for the disrupter 20 to loosen the fibre and break the core or woody part of the plant stalk into short lengths, as is more fully explained below and as is disclosed and claimed in my copending application for the method of cleaning hemp and other fibrous plants, filed of even date herewith.

Immediately beneath the disrupter 20 I place the fibre receiving and stripping mechanism. In a preferred form this mechanism consists of a star-roller 30, and a smooth surfaced roller 31, co-acting to grasp the fibre 24′ and to pull and strip it from the plant stalk as it is freed therefrom by the disrupter. These rollers are properly supported, in the frame plates, on bearing journals 32 and 33 respectively. The star-roller is driven by a suitable agency, as a chain 37, which operates over a sprocket wheel 34 on the end of its journal 32. This roll is fixedly held while its companion roll 31 is adjustably held by means of an adjustable bracket 35 and a tension spring 36, to thus permit the surfaces of the companion rolls to be properly spaced and at all times under suitable tension.

The disrupter 20 is preferably operated by the same agency or chain 37 which drives the stripping mechanism and this chain engages a sprocket 38 on the disrupter journal 39.

The disrupter sprocket 38 is smaller than sprocket 34 on the stripping mechanism, and their relative ratio is such as will supply a comparatively high speed for the disrupter in order to completely loosen and break the ends of the fibre stalks as they are fed forward by the pulling action of the stripping mechanism. The chain, or equivalent driving device, is driven from any source of power which, in a simple construction here shown, is a drive sprocket 40 and is operated by a foot treadle 41, which is supplied with paddles 42 and 43 and is connected to the drive sprocket by a suitable means, as a link 44 operating on a bell-crank 45. A flywheel 46 on shaft 39 provides means for supplying accumulated power to provide for uniformity of operation, as is well understood.

While I have shown my machine to be operated by foot power, it is clearly evident that other sources of power may be employed as may be desired. I, further, do not desire to be understod as having limited myself to the specification construction of my fibre stripping and cleaning machine, herein described and shown, as various modifications fall wholly within the spirit and scope of my invention will suggest themselves to those versed in the art.

What I claim, therefore, as new and useful, of my own invention, and desire to secure by Letters Patent, is:

1. In a machine for separating the fibres from fibrous plant stalks, the combination of breaking means for imparting blows to the end of said plant stalks, a table for guiding said stalks unbroken onto the breaking means, and means for grasping a fibrous material of said stalks to pull forward the plant stalks into breaking position and removing the fibre from the core without permitting said fibre to come in contact with the breaking means.

2. In a machine for separating the fibres from fibrous plant stalks, the combination of a cylinder member, a feed plate for guiding said plant stalks towards said member whereby the plant stalks are brought unbroken in contact with the cylinder, and means for stripping the fibre from said stalk to remove said fibre without being brought into contact with the cylinder member.

3. In a machine for seperating the fibre from fibrous plant stalks, the combination of a cylinder having means for striking the woody core of said plant stalks, a feed plate opposite said cylinder for guiding the unbroken stalks towards the cylinder, and cooperating rolls for grasping and pulling on the fibre to advance the core and to deflect the fibre out of the reach of the cylinder.

4. In a machine for separating the fibres from fibrous plant stalks, the combination of a disrupter having striking edges to loosen the fibrous skin from its core and break the core, and means for advancing the plant stalk as the core is broken and the skin is loosened whereby the loosened skin is peeled from the stalk in advance of the breaking action.

5. In a machine for freeing the fibrous material from the woody parts of plants, a cylinder having blade edges projecting from the surface thereof, a feed plate opposite said blade edges, means for adjusting said plate, a star-roll, and a smooth surfaced roll cooperating to grasp and pull on the fibrous material, thereby stripping the fibre from the woody core to move the core towards the cylinder for the blades to act thereon.

6. In a machine of the class described, the combination of a cylinder member, blades on said cylinder, a plate inclined in an upward direction toward the cylinder blades, means for adjusting said plate, a guide member cooperating with said plate, and a pair of cooperating rolls beneath said cylinder member for pulling on the fibre.

7. In a machine for freeing the fibrous material from the woody core of plants, a cylinder having blade edges projecting from the surface thereof for breaking said woody core, a feed plate extending towards said cylinder from a direction opposite said blade edges, a fibre stripping mechanism spaced from said feed plate and said cylinder for removing the fibre from the plant stalks and deflecting it out of reach of the cylinder blade edges whereby the fibre is removed from its core without being subjected to the action of the cylinder blades.

In testimony whereof I have hereunto set my hand on this 18th day of September, A. D. 1924.

GEORGE A. LOWRY.