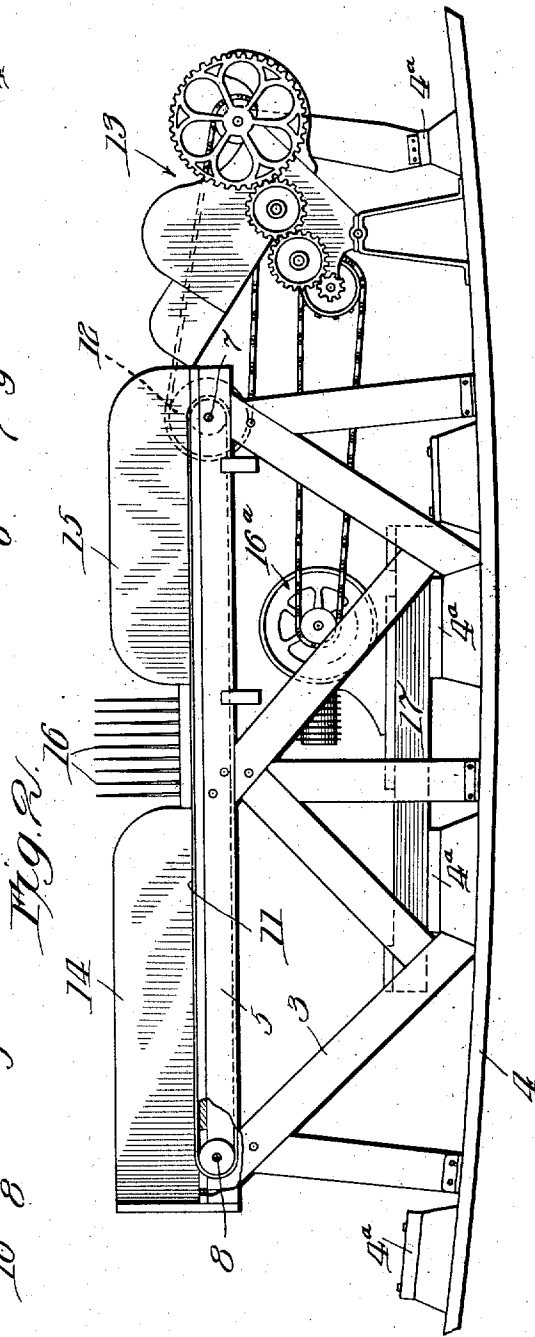
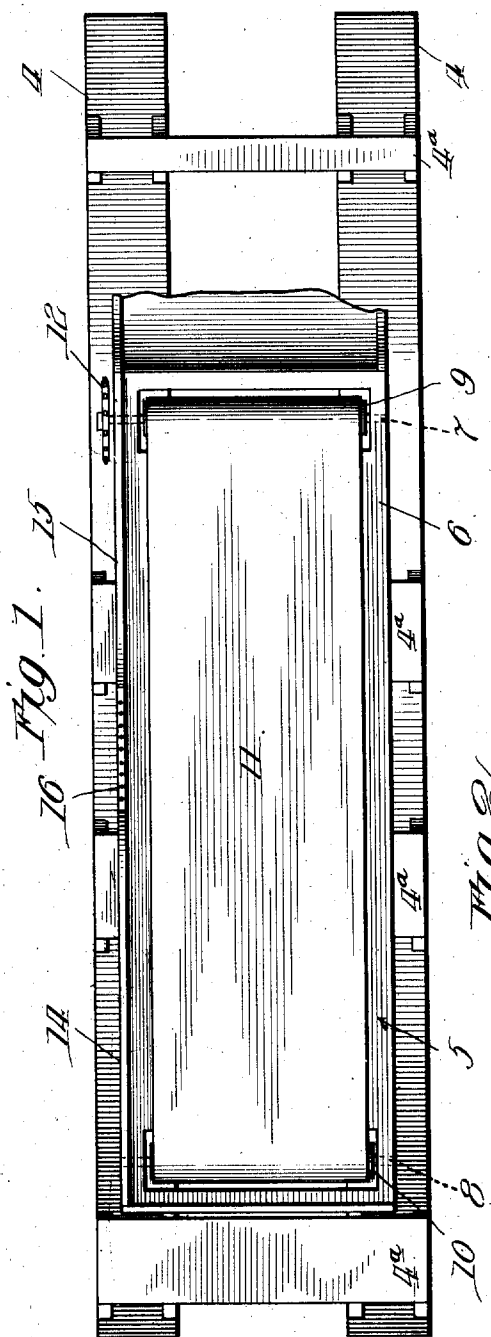


F. E. WAITE.
GRASS GATHERING MACHINE.
APPLICATION FILED NOV. 2, 1910.

1,030,950.

Patented July 2, 1912.



Witnesses:
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Att'y

UNITED STATES PATENT OFFICE.

FREDERICK E. WAITE, OF OSHKOSH, WISCONSIN.

GRASS-GATHERING MACHINE.

1,030,950.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed November 2, 1910. Serial No. 590,262.

To all whom it may concern:

Be it known that I, FREDERICK E. WAITE, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Grass-Gathering Machines, of which the following is a specification.

The present invention relates to a machine more especially adapted to arrange and bundle a type of grass employed in the manufacture of grass carpets and similar articles.

The objects of the present invention are, to construct a machine which is capable of being operated upon the soft marshy ground in which this grass generally grows; to provide means for combing out the ends of the grasses prior to their bundling; to provide means for leveling the butt ends of the grasses prior to the bundling; to provide means for conveying the grasses after the leveling operation to the bundling mechanism; and to provide power mechanism for actuating the bundling mechanism and the conveyer for carrying the grasses across the table. And the general object is to provide a mechanism which will arrange and bundle the grasses and at the same time maintain the grasses in the same arrangement they were in before being cut.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of the machine of the present invention with the bundling or knoter mechanism removed; and Fig. 2 is a side elevation of the completed machine.

The device comprises a framework 3 of suitable style and size, which is mounted upon companion runners 4 located upon either side of the machine and connected by cross braces 4^a, and the framework supports, at its upper end, a horizontally extending table 5, which, as shown more clearly in Fig. 1, is somewhat shorter than the runners, so that the runners project considerably in front thereof. And it will furthermore be seen from Fig. 1 that the table is not of a width equal to the distance between the outer edges of the runners; that is to say, the runners project beyond the side edges of the table, whereby a space is provided at either side of the table for the operator or operators when they are standing upon

the runners. By this construction and arrangement, the runners 4, in addition to providing a mounting for the entire mechanism, also serve as a running or foot board along the side of the device, upon which the operators stand.

The table 5 is cut away in its central portion and virtually consists of a framework 6, in the rails of which are mounted forward and rear shafts 7 and 8 respectively. Mounted upon the shaft 7 is a roller 9, and mounted upon the shaft 8 is a roller 10; and extending over these rollers is an endless belt or carrier 11. One of the shafts—the shaft 7—as shown, has affixed thereto a driving sprocket or pulley 12, which is operatively connected to certain portions of a knoter mechanism 13, although the method of driving this belt can be varied without departure from the spirit of the invention.

The knotting mechanism, as shown, is located at the rear end of the table 5 and is of any well known construction, for placing a binder around a bundle of fibers and placing a knot in the binder. Located along one side of the frame 6 of the table, and extending longitudinally of the table, are vertically extending boards 14 and 15 lying to the front and rear respectively of the transverse center of the table. These boards serve as butting boards during the operation of leveling the butt ends of the grasses, and interposed between the boards 14 and 15 is a comb 16.

As heretofore stated, the device is mounted upon the elongated runners 4 shown in the drawings. By utilizing this mounting, a broad surface is presented for the device to travel upon over the ground. This is necessitated because of the fact that the grasses for the handling of which this machine was more particularly designed grow in marshy localities. Hence, it has been found impossible to operate an ordinary binder with any degrees of success, owing to the fact that the traction wheels of the binder will become so submerged into the ground as to render the progress of the machine difficult, if not entirely impossible. By utilizing the runners, however, a broad flat surface is presented, which will not exert any cutting action upon the ground, and hence its movements over the ground will be, to all practical purposes, free and easy. In the ordinary binder, the actuation of the cutting mechanism and the binding

mechanism is performed through the medium of the rotation of the traction wheels of the machine. In the present instance, since no traction wheels can be utilized, the power for driving the binding mechanism and for driving the other movable operating portions of the machine is supplied from an engine 16^a mounted upon a framework 17 supported upon the runners 4. Furthermore, in an ordinary grain binder, the cutting and binding operations are done at the same time; that is, the grain is cut and is then immediately gathered into bundles and bound.

In the gathering of grasses, such as are used in the manufacture of grass carpets, it is necessary to permit the grasses to lie upon the ground for a certain period of time between the cutting and binding operations. This is because of the fact that the grasses when initially cut are so filled with moisture that if bound at that time, the portions in the center of the bundle will become so compressed as to render the disentanglement and separation of the grasses from the bundle quite difficult, if not impossible. It is therefore essential that these grasses be gathered and bound when they are in a dry state, and in order to accomplish this a certain period of bleaching or drying must be permitted after the cutting operation. It has furthermore been found that if these grasses should become entangled during the gathering operation, a separation after such entanglement would be impossible. It is therefore essential that the grasses be laid upon the ground in a disentangled condition and be carried to the bundle and placed in the bundle in this same condition. And it is furthermore an extremely desirable feature to so arrange these bundles of grasses as to have their abutting ends level and uniform, thus obviating the rearranging of the grasses when they are fed into the spinning machine. Therefore, to properly gather the grasses, the following steps must be taken. First, they must be cut and laid in rows of gavels along the ground. Then they must be taken and gathered into bundles, but entangling and disarrangement of the grasses during this gathering process must be avoided. Then the butt ends of the grasses must be leveled and then they must be placed into bundles and disarrangement and entanglement of the grasses must be avoided while they are being bound into bundles, so that the grasses while being cut and bundled must be kept in the same relative position to one another during these operations as they were when standing. And the machine of the present invention is designed and adapted to perform the leveling and bundling operations in a manner whereby no entanglement of the grasses will arise.

After the grasses have been cut and laid in rows of gavels, they are left there for a predetermined length of time in order to permit them to thoroughly dry. The machine of the present invention is then placed in the field and is moved between the rows of gavels lying upon the ground. A number of operators gather the gavels from the ground and convey them to the operators standing upon the runners 4 of the device; or the operators standing upon the runners may reach down and pick the gavels up as the machine progresses through the field, this depending altogether on the width between the rows of gavels upon the ground. The operator standing upon the runners then takes the grasses and levels the butt ends by striking them against one of the butting boards 14 or 15; and if it is found that any dirt or other foreign matter is clinging to the grasses, they are subjected to a combing operation by striking them against the teeth of the comb 16. After the butt ends have been leveled, the grasses are laid upon the endless conveyer 11 and carried rearward to the rear end of the table, where they are finally deposited within the hopper of the binding mechanism 13 and are there packed and bound.

I claim:

1. In a machine of the class described, the combination with binding mechanism of a table communicating with the binding mechanism, skid-like runners on which the table and binding mechanism are mounted, said runners being of substantial width, whereby the device is adapted to travel upon moist ground without becoming embedded therein, means for conveying the grasses along the surface of the table and a stationary surface upon the table for evening the butt ends of the grasses prior to their being placed upon the conveying member, substantially as described.

2. In a machine of the class described, the combination with binding mechanism of a table communicating with the binding mechanism, skid-like runners upon which the table and binding mechanism are mounted, said runners being of a width whereby the device is supported, in traveling over moist ground, to prevent its becoming embedded therein, said runners extending beyond the sides of the table and serving as foot-boards for the operators, an endless belt traveling across the surface of said table, for conveying the grasses to the binding mechanism, and stationary butting boards arranged along said endless carrier, for evening the butt ends of the grasses prior to their being placed on the endless carrier, substantially as described.

3. In a machine of the class described, the combination with binding mechanism of a table communicating with the binding mechanism

anism, skid-like runners upon which the table and binding mechanism are mounted, said runners being of a width whereby the device is prevented from sinking into moist ground during its travel thereover, an endless belt traveling across the surface of said table, for conveying the grasses to the binding mechanism, and stationary butting boards arranged along said endless belt, for evening the butt ends of the grasses prior to their being placed on said belt, substantially as described.

4. In a machine of the class described, the combination with binding mechanism of a table communicating with the binding mechanism, skid-like runners upon which the table and binding mechanism are mounted, means for conveying the grasses over the surface of the table and into the binding mechanism, and stationary butting boards spaced away from said conveying means, for evening the butt ends of the grasses prior to their insertion upon the conveying means, substantially as described.

5. In a machine of the class described, the combination with binding mechanism of a table communicating with the binding mechanism, skid-like runners upon which the table and binding mechanism are mounted, said runners extending beyond the sides of the table and serving as foot-boards for the operators, an endless belt traveling across said table, for conveying grasses to the binding mechanism, and stationary butting boards spaced away from said belt, for evening the butt ends of the grasses prior to their being placed on the belt, substantially as described.

6. In a machine of the class described, the combination of a supporting framework and binding mechanism thereon, skid-like run-

ners upon which the framework is mounted, of a nature to permit travel of the machine over moist ground, and an endless conveyor supported upon said framework, and arranged to travel in a substantially horizontal line and to lie on top of the machine, said conveyor being adapted to receive cut grasses manually placed thereon, said conveyor and binding mechanism terminating at substantially the same height, whereby said grasses are conveyed to said binding mechanism in a substantially horizontal line of the movement and are maintained in their natural order of parallelism during such conveying operation, substantially as described.

7. In a machine of the class described, the combination of a supporting framework and binding mechanism thereon, skid-like runners upon which the framework is mounted, of a nature to permit travel of the machine over moist ground, an endless conveyor supported upon said framework and arranged to travel in a substantially horizontal line and to lie at the top of the machine, said conveyor being adapted to receive cut grasses manually placed thereon, said conveyor and binding mechanism terminating at substantially the same height, whereby said grasses are conveyed to said binding mechanism in a substantially horizontal line of movement and are maintained in their natural order of parallelism during such conveying operation, and means for evening the butt ends of the grasses prior to the building operation, substantially as described.

FREDERICK E. WAITE.

Witnesses:

C. W. BLAKEMAN,
WM. DOMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

Corrections in Letters Patent No. 1,030,950.

It is hereby certified that in Letters Patent No. 1,030,950, granted July 2, 1912, upon the application of Frederick E. Waite, of Oshkosh, Wisconsin, for an improvement in "Grass-Gathering Machines," errors appear in the printed specification requiring correction as follows: Page 3, line 54, strike out the article "the"; same page, line 77, for the word "building" read *binding*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of February, A. D., 1914.

[SEAL.]

J. T. NEWTON,

Acting Commissioner of Patents.

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