(No Model.)

W. E. WHITE.

STRAW CARRIER.

No. 489,425. Patented Jan. 3, 1893.

Fig. 1.

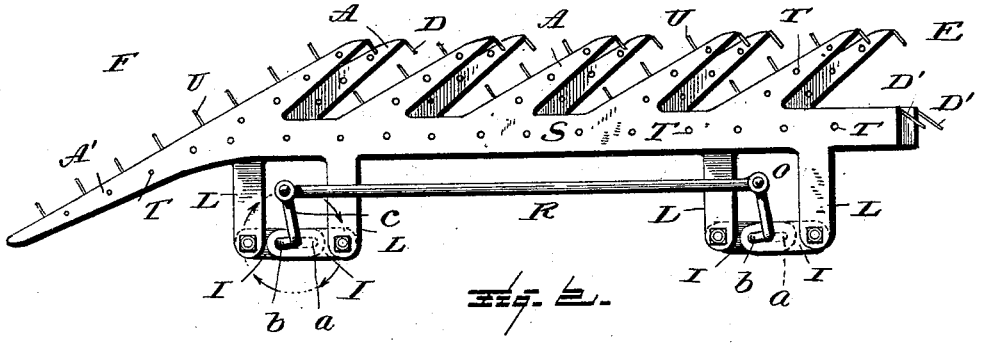


Fig. 2.

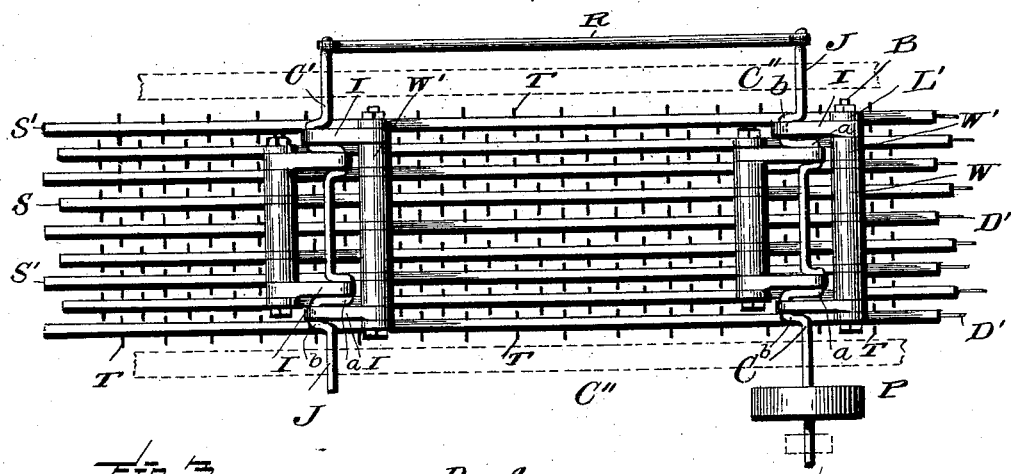
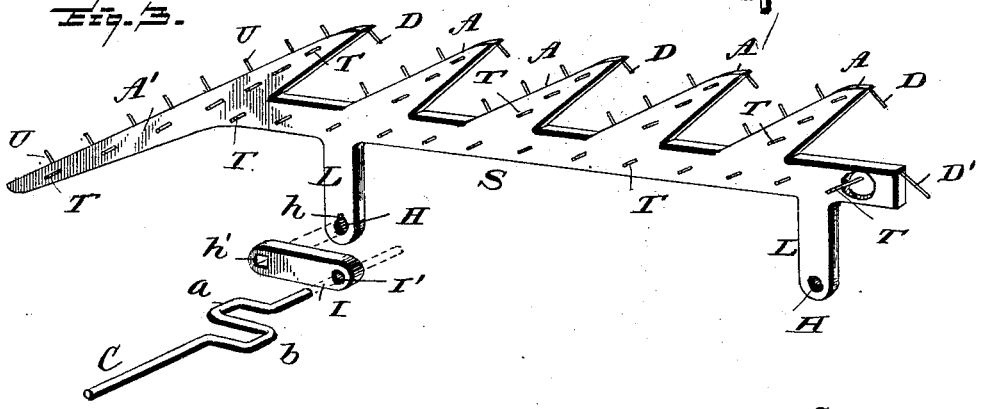


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM E. WHITE, OF BOTTINEAU, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO JAMES WHITE, OF SAME PLACE.

STRAW-CARRIER.

SPECIFICATION forming part of Letters Patent No. 489,425, dated January 3, 1893.

Application filed June 6, 1892. Serial No. 436,349. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. WHITE, a citizen of the United States, residing at Bottineau, in the county of Bottineau and State of North Dakota, have invented certain new and useful Improvements in Straw-Carriers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to straw carriers and more especially to those known as "walking rakes;" and the object of the same is to produce an improved carrier of this character which will more thoroughly and quickly separate grain from straw or seed from grass, and which is cheaper and lighter in construction than similar devices heretofore produced. This object I accomplish by the construction hereinafter more fully described and claimed and as illustrated on the accompanying drawings wherein—

Figure 1 is a side elevation of this improved carrier. Fig. 2 is a bottom plan view thereof with the casing in dotted lines. Fig. 3 is a perspective detail of one of the slats, its bar, and the crank shaft, all slightly separated.

Referring to the said drawings the letter C″ indicates a casing preferably near the ends of which are journaled as at J two (more or less) transverse crank shafts C and C′, the former being provided with a band pulley P or other device for imparting the rotary motion thereto. The corresponding protruding ends of these shafts are cranked as at *c* and connected by a pitman rod R whereby they are caused to rotate in unison. Each shaft is provided within the casing with four cranks, the two innermost ones *a* being parallel and the two outermost ones *b* being also in alignment but diametrically opposite and contiguous to the cranks *a* as best seen in Fig. 2.

Within the casing are located the carrier slats S and S′ arranged so as to alternate with each other. Each slat has rising from its upper face and projecting obliquely over the delivery end of the carrier, a number of arms A; and the arm at the feed end thereof projects also below the slat body as seen at A′. Through the slat and through the arms are secured transverse pins T; rising from the upper face of the arms and at about right angles to said face are upright pins U; depending from the upper ends of the arms and at about right angles to their lower faces are depending pins D; and depending from the delivery end of each slat and about parallel with the depending pins D, is a single depending pin D′. Depending from each slat preferably also near its ends are lugs L, which are so located on adjacent slats as to leave a space or opening between them as seen at O in Fig. 1, and in the lower end of each lug is a hole H which may be splined as at *h* in Fig. 3 or made square as at *h*′. Through the aligned holes of the several lugs passes a bolt B, washers W being interposed as in Fig. 2 to hold the slats separated so that the transverse pins T will not strike each other or the bodies of adjacent slats and arms. Mounted on the bolt B adjacent each outermost lug L′ of each bank is a bar I, projecting into the opening O and held against longitudinal movement on the bolt by a reduced washer W′; and the inner end of the four bars are journaled as at I′ on the double cranks of the shafts C.

With the above construction of parts the operation of this improved carrier is as follows: The parts being arranged in the position stated and power applied to the pulley P, the crank shafts C will rotate in unison as indicated by the dotted circle in Fig. 1, and as the cranks *a* and *b* so rotate the bars I will move with them. As the outer ends of these bars are rigidly secured to the lugs, said movement will cause the lugs and hence the slats and their arms to move through parallel circles and in the planes in which they stand; and during this movement the various transverse pins will pass around each other in a manner which will be clear.

It will be obvious to those skilled in the art that any straw which is thrown onto the carrier or is delivered thereonto either near its feed end F or at any line along its body, will be tossed and agitated by the upright and transverse pins and gradually fed toward the delivery end E, finally falling over the depending pins D′ onto the pile. Said depending pins D′ prevent the straw falling back under the slats and choking the crank mechanism;

while the depending pins D at the upper ends of the arms direct the straw, as it is thrown onto the carrier, away from the throats or angles under the arms and toward and onto the upright pins U of the arm next in the rear; hence all the depending pins serve as delivery means and assist the successful operation of the machine. Meanwhile the grain which is mixed with the straw will fall through the carrier into a suitable receptacle which is of course provided. Heretofore it has been common to connect the lugs with crank shafts, but I am not aware that the lugs have been so arranged that the bolts can be withdrawn at any time for the repair or substitution of the slats. The exact number of slats here shown—as well, in fact, as the precise details of construction—is not necessary to the successful operation of the machine. The parts are of any desired shape, size, and material.

What is claimed as new is—

1. In a straw carrier, the combination with slats arranged in banks and alternating with each other, and means substantially as described for moving the ends of the banks simultaneously and oppositely through parallel paths; of arms rising obliquely from the slats toward their delivery ends, pins rising from said arms at approximate right angles thereto, depending pins at the upper ends of the arms also at right angles thereto, and depending pins at the delivery ends of the slats standing approximately parallel with the depending pins in the arms, all as and for the purpose set forth.

2. In a straw carrier, the combination with slats arranged in two banks and alternating with each other, and means substantially as described for moving the ends of the banks simultaneously and oppositely through parallel circular paths; of rigid arms rising obliquely from the slats toward their delivery ends, the arms remote from such ends projecting also below the slats, transverse pins through said slats and arms, and depending pins at the upper ends of the arms, and at the rear ends of the slats, all the depending pins standing oblique to the length of the slats, all as and for the purpose set forth.

3. In a straw carrier, the combination with slats arranged in banks and alternating with each other, and means substantially as described for moving the banks simultaneously and oppositely through parallel paths; of arms rising obliquely from the slats toward their delivery ends, transverse pins through said slats and arms, pins rising from said arms at approximate right angles thereto, depending pins at the upper ends of the arms also at right angles thereto, and depending pins at the delivery ends of the slats standing approximately parallel with the depending pins in the arms, all as and for the purpose set forth.

4. In a straw carrier, the combination with slats arranged in two banks and alternating with each other, and means substantially as described for moving the banks simultaneously and oppositely through parallel circular paths; of rigid arms rising obliquely from the slats toward their delivery ends, the arms remote from such ends projecting also below the slats, transverse pins through said slats and arms, pins rising from said arms at approximate right angles thereto, and depending pins at the upper ends of the arms also at right angles thereto, all as and for the purpose set forth.

5. In a straw carrier, the combination with slats arranged in banks and alternating with each other, and arms rising from the slats; of lugs depending from the slats, those on adjacent slats being arranged to have a longitudinal opening between, cranked shafts standing in these openings, transverse bolts through the lugs of each bank, bars rigidly secured on the bolts between the two outer lugs of each bank, washers thereon between the other lugs, the bars extending toward each other and being journaled on the cranks of the shafts, and means for driving one shaft, as and for the purpose set forth.

6. In a straw carrier, the combination with the slats arranged in banks and alternating with each other, and arms rising from the slats; of lugs on the slats, those on adjacent slats being arranged to have a longitudinal opening between, cranked shafts standing in these openings, bars rigidly and detachably secured to certain of said lugs, extending toward each other, and being journaled on the cranks of the shafts, a casing having bearings for the latter, parallel cranks on the shafts, a pitman rod connecting these cranks, and means for driving one shaft, as and for the purpose set forth.

7. In a straw carrier, the combination with slats arranged in banks and alternating with each other; of lugs depending from the slats, those on adjacent slats being arranged to have a longitudinal opening between, cranked shafts standing in these openings and revolving in unison, transverse bolts through the lugs of each bank, bars splined on said bolts, extending toward and past each other, and journaled on the cranks of the shafts, and bearings for the latter, as and for the purpose set forth.

8. In a straw carrier, the combination with slats arranged in banks and alternating with each other, and arms rising from said slats; of lugs depending from the slats near the ends of the latter, those on adjacent slats being arranged to have a longitudinal opening between, cranked shafts standing in these openings, transverse bolts through the lugs of each bank, bars splined on the bolts between the two outer lugs of each bank, washers thereon between the other lugs, the bars extending toward each other and being journaled on the cranks of the shafts, a casing having bearings for the latter, parallel cranks on the outer ends of the shafts, a pitman rod connecting these cranks, and means for

driving one shaft, as and for the purpose set forth.

9. In a straw carrier, the combination with slats arranged in banks and alternating with each other, and means substantially as described for moving the ends of the banks simultaneously and oppositely through parallel paths; of arms rising obliquely from the slats toward their delivery ends, and transverse pins through said slats and arms, all as and for the purpose hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. WHITE.

Witnesses:
ARCHIBALD M. ARTHUR,
THOMAS GALSON.