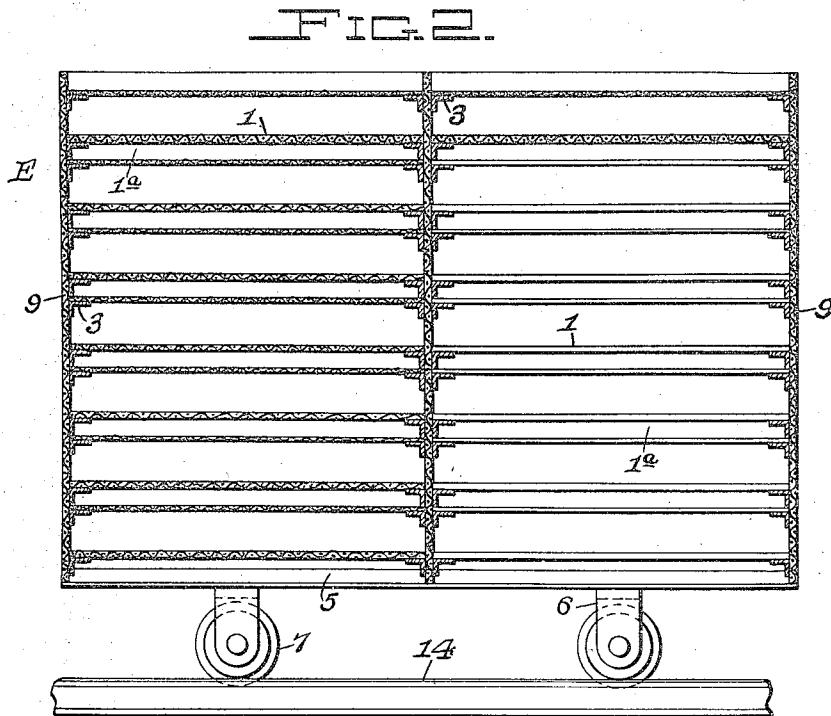
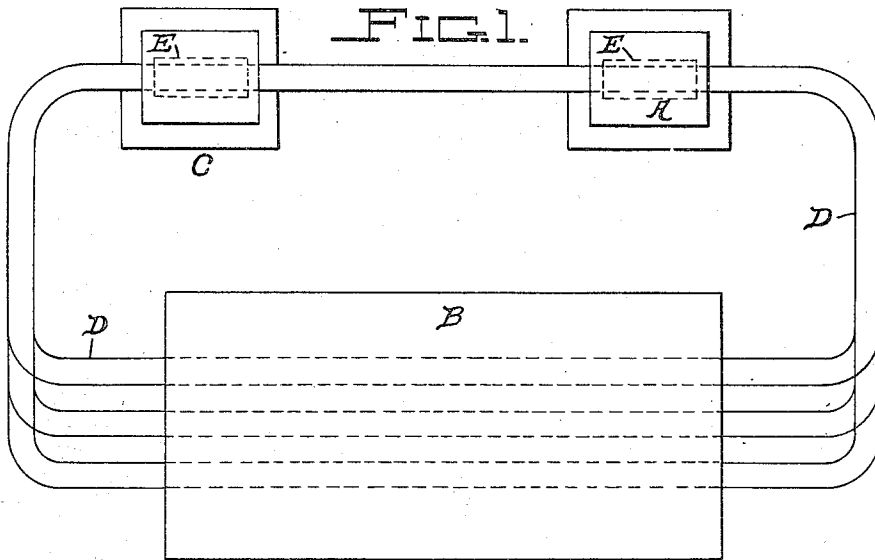


M. P. REYNOLDS.
STARCH DRYING TRUCK.
APPLICATION FILED JAN. 12, 1914.

1,139,072.

Patented May 11, 1915.

2 SHEETS—SHEET 1.



Witnesses:
J. W. Mayfield
J. W. Reynolds

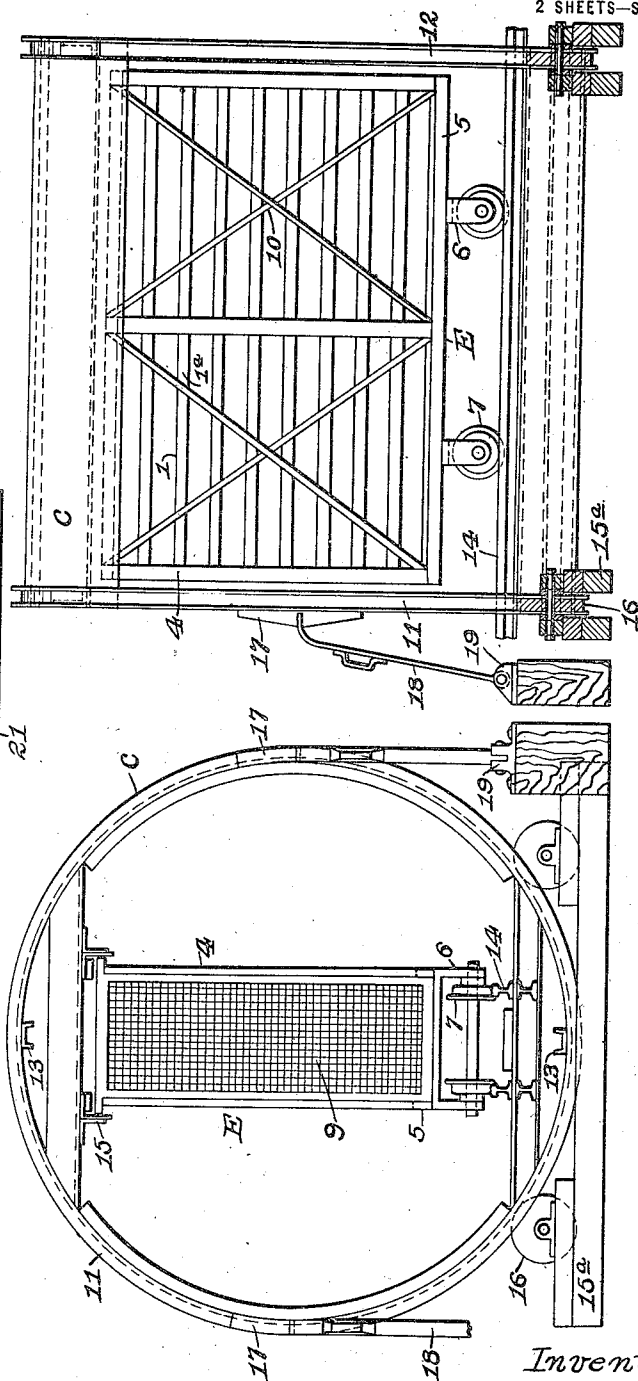
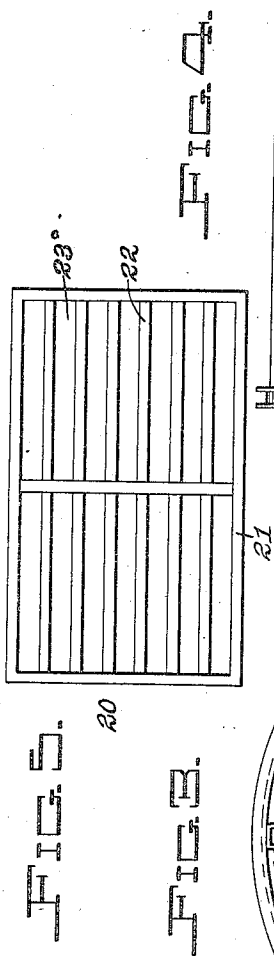
Inventor:
Monley Panshon Reynolds
By J. W. Cooke
attorney

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Witnesses:
J. W. Layfield
W. H. Humphries

Inventor:
M. P. Reynolds
By *J. W. Cooke*
attorney.

UNITED STATES PATENT OFFICE.

MORLEY PUNSHON REYNOLDS, OF CLEVELAND, OHIO, ASSIGNOR TO THE W. S. TYLER COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

STARCH-DRYING TRUCK.

1,139,072.

Specification of Letters Patent.

Patented May 11, 1915.

Application filed January 12, 1914. Serial No. 811,542.

To all whom it may concern:

Be it known that I, MORLEY PUNSHON REYNOLDS, a citizen of the United States, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Starch-Drying Trucks; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the manufacture of starch and particularly to the drying of the same in order to put it in a dry, marketable condition.

The object of my invention is to provide a cheap, simple and efficient starch drying outfit whereby the starch may be loaded onto carriers, passed through a kiln or drying oven and quickly unloaded without any unnecessary handling or delay.

My invention consists, generally stated, in the novel arrangement, construction and combination of parts as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to practise and use my improved apparatus for drying starch, I will describe the same more fully referring to the accompanying drawings in which:—

Figure 1 is a diagrammatic plan view of the arrangement of the parts of my improved starch drying outfit. Fig. 2 is a longitudinal sectional view of the carrier used for conveying the starch to the kiln or drying oven. Fig. 3 is an end view of the rotary tippie used for turning the carrier in order to fill it with wet starch and for dumping the dried starch from the carriers after they have left the drying kiln. Fig. 4 is a side elevation of the same. Fig. 5 is a plan view of the shield used for covering the air spaces in the carrier while the same is being filled with damp starch.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings my improved starch drying outfit consists of three separate and distinct parts; the rotary loading tippie A, the drying kiln B, and the rotary dumping tippie C, which three parts A, B and C all communicate with each other by means of tracks D upon which a carrier or wagon E is adapted to travel. After the

starch has been manufactured and is still in a wet condition with about the consistency of mud it is placed in the pockets 1 of the carrier or wagon E while the air spaces 1^a between the top of the same and the bottom of the next succeeding shelf permit the free and easy passage of air therethrough. The pockets 1 are formed on angle iron supports 3 which are in turn supported by upright corner standards 4 and these standards are mounted on longitudinal rails 5 to which the bearing pieces 6 for supporting the wheels 7 are attached. The sides 8 and ends 9 of the carrier E are preferably formed of wire fabric sheets or other foraminous material which provide for the pockets 1 and air spaces 1^a to permit of the heated air passing freely through the air spaces during the drying process as hereinafter explained. The upright corner standards 4 are further supported, if necessary, by crosswise braces 10 extending between the same, on one of the sides 8, the other side being open for the free loading and unloading of the wagon.

The drying oven or kiln B is of the usual type and the carrier or wagon E travels through the same while the pockets or shelves are in a horizontal position and with just enough speed so that when it emerges therefrom the starch will be in a dry commercial condition.

The rotary loading tippie A is for the purpose of loading the carriers or wagons E and consists of two circular bands of channel iron 11 and 12, separated from each other by a distance slightly greater than the length of the carrier E and secured together by suitable channel iron braces 13. The carriers E are supported in the tippie A by their wheels 7 resting upon rails 14 which are suitably supported in the channel iron bands 11 and 12 while the upper part of said bands are provided with supporting bars 15 to prevent the wheels 7 from leaving the rails 14 when the wet starch is being loaded into the carriers. The tippie A is mounted on a suitable base 15^a and a pair of idle rollers 16 rest in the channel of both the bands 11 and 12 so that the said bands may be rotated as desired thus permitting the carrier E to be turned with its open side at the top and the pockets in a vertical position. The shield 20 is now placed upon the open side of the carrier thus closing the air spaces 1^a and leaving the pockets 1 open to

permit the soft wet starch to be dumped into
 said pockets from an overhead conveyer or
 by other means after which it is evenly dis-
 tributed into the pockets. This shield 20
 5 is of the same size as the side of the carrier
 E and has an outer frame 21 with the cross
 pieces 22 for covering the air spaces 1^a and
 the openings 23 for allowing the wet starch
 to enter the pockets 1. The circular chan-
 10 nel iron band 11 is provided at two points
 on the front of the same with slotted mem-
 bers 17 diametrically opposite each other
 for receiving locking bars 18 which are each
 pivoted in a suitable support 19 so that the
 15 tippie C may be locked in its normal posi-
 tion and be prevented from rotating except
 when the locking bars 18 are lifted from
 their engagement with the slotted mem-
 bers 17.
 20 When the starch is loaded into the pockets
 1 of the carrier E the tippie A is revolved
 to its original normal position and the car-
 rier is passed along the rails or tracks D to
 the kiln or drying oven B where the soft,
 25 moist starch is thoroughly dried after which
 the carrier or wagon passes along the rails
 to the dumping tippie C which is of the
 same construction as said loading tippie.
 The wagon now passes into this dumping
 30 tippie C in precisely the same manner as
 into the loading tippie A and the tippie is
 then revolved with the open side of said
 carrier extending downward so that the ma-
 terial is emptied from the vertically posi-
 35 tioned pockets of said carrier after which
 the tippie is again revolved to its normal po-
 sition and the carrier passes into the loading
 tippie for reloading as before explained.
 If desired a screen door or gate can be ap-
 40 plied to the open side of the carrier E for
 preventing the wet starch from being
 shaken or jarred therefrom and such door
 or gate can be removed or swung aside for
 filling and unloading the same. It will thus

be seen that the starch while in a pasty con- 45
 dition is placed in the pockets 1 of the car-
 rier or wagon E and then the carrier is
 run through the kiln or drying oven B
 where all the moisture is dried from the
 starch so that after being taken from the 50
 carrier the starch will be in a dry market-
 able condition. It will likewise be seen that
 the starch will not be handled from the time
 it is loaded onto the carrier or wagon E
 until it is emptied into the bin by the rotary 55
 tippie action.

If desired the two tipples A and C may
 be combined and the loading and unloading
 done in the same tippie by extending the
 length thereof to take care of both opera- 60
 tions or both operations may be completed
 in a single tippie.

Various modifications and changes in the
 design and construction of the carrier and
 tipples may be resorted to without depart- 65
 ing from the spirit of the invention or sac-
 rificing any of its advantages.

What I claim as my invention and desire
 to secure by Letters Patent is:—

1. A carrier comprising a frame, wheels 70
 below the same to provide transit means,
 sides and ends of foraminous material sup-
 ported on said frame, and a series of hori-
 zontal rigid shelves for supporting material
 to be dried. 75

2. A carrier comprising a frame, wheels
 below the same to provide transit means,
 sides and ends of foraminous material sup-
 ported on said frame, and a series of hori-
 zontal rigid shelves of foraminous material 80
 for supporting material to be dried.

In testimony whereof, I the said MORLEY
 PUNSHON REYNOLDS have hereunto set my
 hand.

MORLEY PUNSHON REYNOLDS.

Witnesses:

G. A. DISBRO,
 C. C. FLINT.