(No Model.)

W. LUDLUM.

CONVEYER AND ELEVATOR FOR STRAW, HAY, &c.

No. 336,126. Patented Feb. 16, 1886.

Fig. 1.

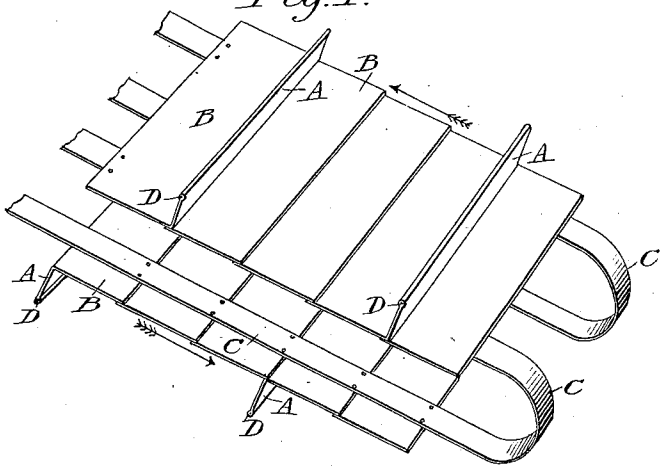
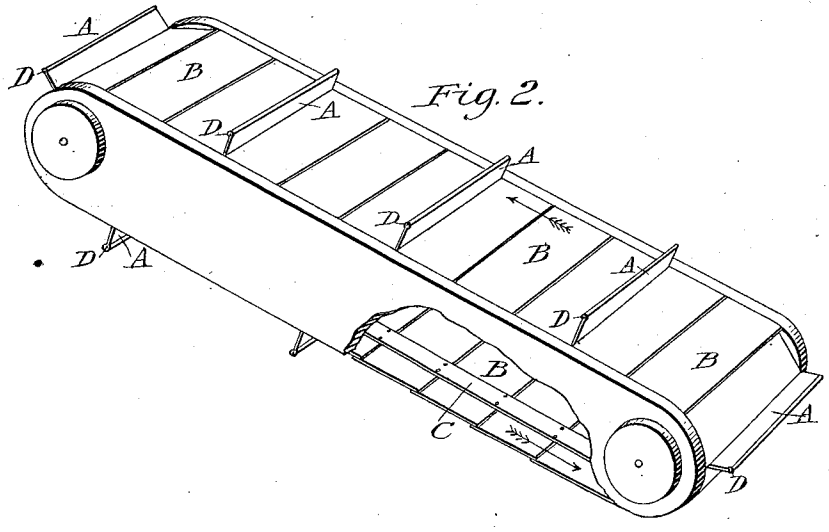


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM LUDLUM, OF MARION, INDIANA.

CONVEYER AND ELEVATOR FOR STRAW, HAY, &c.

SPECIFICATION forming part of Letters Patent No. 336,126, dated February 16, 1886.

Application filed September 8, 1885. Serial No. 176,538. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LUDLUM, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented a new and useful Conveyer and Elevator of Straw, Hay, Unthrashed Grain, and Clay, of which the following is a specification.

My invention relates to improvements in conveyers and elevators of straw, hay, unthrashed grain, and clay, and in butter-boards for self-binding harvesters, &c.

The object of my invention is, first, to provide a more durable and efficient carrier and elevator of straw, hay, unthrashed grain, and clay than the ordinary carrier and elevator made of canvas and wooden slats, now used with tile-mills, clay-crushers, separators, harvesters and binders, and butter-boards for binders; second, to provide a carrier and elevator practically unaffected by damp, and not subject to shrink and relax, like the above-described canvas one, which is liable to extremes of shrinkage and relaxation, causing much trouble and annoyance in running binders at times of alternating dew or damp and heat. In running a binder in grain when the dew is on, especially when there is much weeds or grass among the grain, the canvas carrier used in the machine and butt-board becomes damp, and so shrinks as to require the machine to stop for readjustment to the decreased length of the carrier, or otherwise the canvas is liable to be torn by the increased tension. Later in the day the heat causes the canvas to relax and makes the trouble and delay of another readjustment, and must be frequently tightened as the relaxation progresses, or else the canvas carrier will slip on the rollers and refuse to carry the grain or straw. These objects I attain by means of the mechanism illustrated by the accompanying drawings, in which—

Figure 1 represents a detailed view of a portion of the slats and belts of which the conveyer and elevator is composed. Fig. 2 is a view of the conveyer and elevator in position for use, with the intended motion in the direction indicated by the arrows.

Similar letters refer to similar parts throughout the several views.

The conveyer and elevator consists of the rectangular slats B, of equal length, securely fastened on two or more belts with rivets or other secure fastening. The rivets, &c., pass through the belts and front edge of each slat. The slats are placed side by side, so as to make a uniform lap of one over the other, and the rivets, &c., pass through the belts near and parallel with the front edge of each slat, and each slat has the front edge overlapped by the rear edge of the preceding slat, and all are held in place by the belts C, of rubber, or rubber belting or leather, (rubber belting preferred,) so as to form a continuous surface. Single slats are placed at regular intervals along the carrier or belt, having on their rear edges, and as part and parcel of the slats, the uprights or flanges A, of sufficient width to hold and prevent from sliding backward the material to be elevated. The flanges are strengthened by the wire D through the outer edge of the same.

The slats are made of galvanized iron, zinc, tin, or other metal, and the uprights or flanges and the slats with which they are united are made in one solid piece of metal by turning up enough of the proper edge of the strip for the flange or upright.

I prefer to make the upright or flange on every third slat and the overlap of the slats about one-quarter of an inch, especially on butter-boards for self-binding harvesters; but where the slats are of considerable length the overlap may be increased, as well as the number of belts to which the slats are fastened, if necessary to prevent the slats from springing apart and admitting between them the material to be conveyed or elevated. I prefer, also, to make the slats for butter-boards for self-binding harvesters one and a quarter inch wide, and in all cases where the carrier runs upon small rollers or pulleys; but the width and thickness of the slats may be increased where the length of the slats and the weight to be borne by the carrier are augmented.

The ends of the belts sustaining the slats are united by the usual methods, so as to bring together the terminal slats and form a continuous band of any desired length and width, with a flexible metallic surface not liable to be much affected by dew or damp, and adapted to fit and run upon the rollers or pulleys of the machine on which it is to be used.

The carrier, constructed and applied as above described, is used and propelled in the same manner that the ordinary canvas carrier above named is used and propelled, and is attached to the same machines to which said canvas carrier is attached, and in the same manner.

I claim the following as some of the advantages of my invention over the ordinary canvas carrier, in addition to the advantages already suggested: First, the belts used in my invention are not liable to be enough affected by contact with dew or moisture to interfere with the running of the machines to which the same are attached, and the slats being overlapped serve as a shelter and protection of the belts from injury by dew or moisture, and the carrier running at an incline when the machine is in motion, by means of the overlapping slats carries over the belts a protecting roof; second, as applied to tile-mills and clay-crushers, my carrier has this advantage, that by its use there is not the same chance for clay to accumulate around the rollers or pulleys on which the ordinary solid or compact carrier, of whatever material it may be, runs.

In conveying or elevating clay by a broad compact band of any material in the usual way, particles of dirt and bits of clay find their way between the ascending and descending portions of the broad band and are carried around and compacted upon the rollers, requiring the rollers frequently to be cleaned and the machine stopped for that purpose. In my carrier the slats on the upper and ascending side by overlapping support each other and remain closed; but on the returning side, and at the point of passing up again on the lower roller, they separate by their own weight and by making the turn in passing up again on the lower roller, and the bits of clay and particles of dirt drop out through the openings between the lower slats.

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

1. The combination of belts C and rectangular metal slats B, secured to the belts, and uprights or flanges A, placed at intervals, all substantially as set forth.

2. The combination of metal slats B, secured to belts C, with uprights or flanges A at intervals, as an improvement in butt-boards for self-binding harvesters, all substantially as set forth.

3. The combination of metal slats B, secured to belts C, with uprights or flanges A at intervals, all substantially as set forth, as an improvement in self-binding harvesters.

WILLIAM LUDLUM.

Witnesses:
FREMONT HAMILTON,
J. SCOTT LUDLUM.