

No. 690,416.

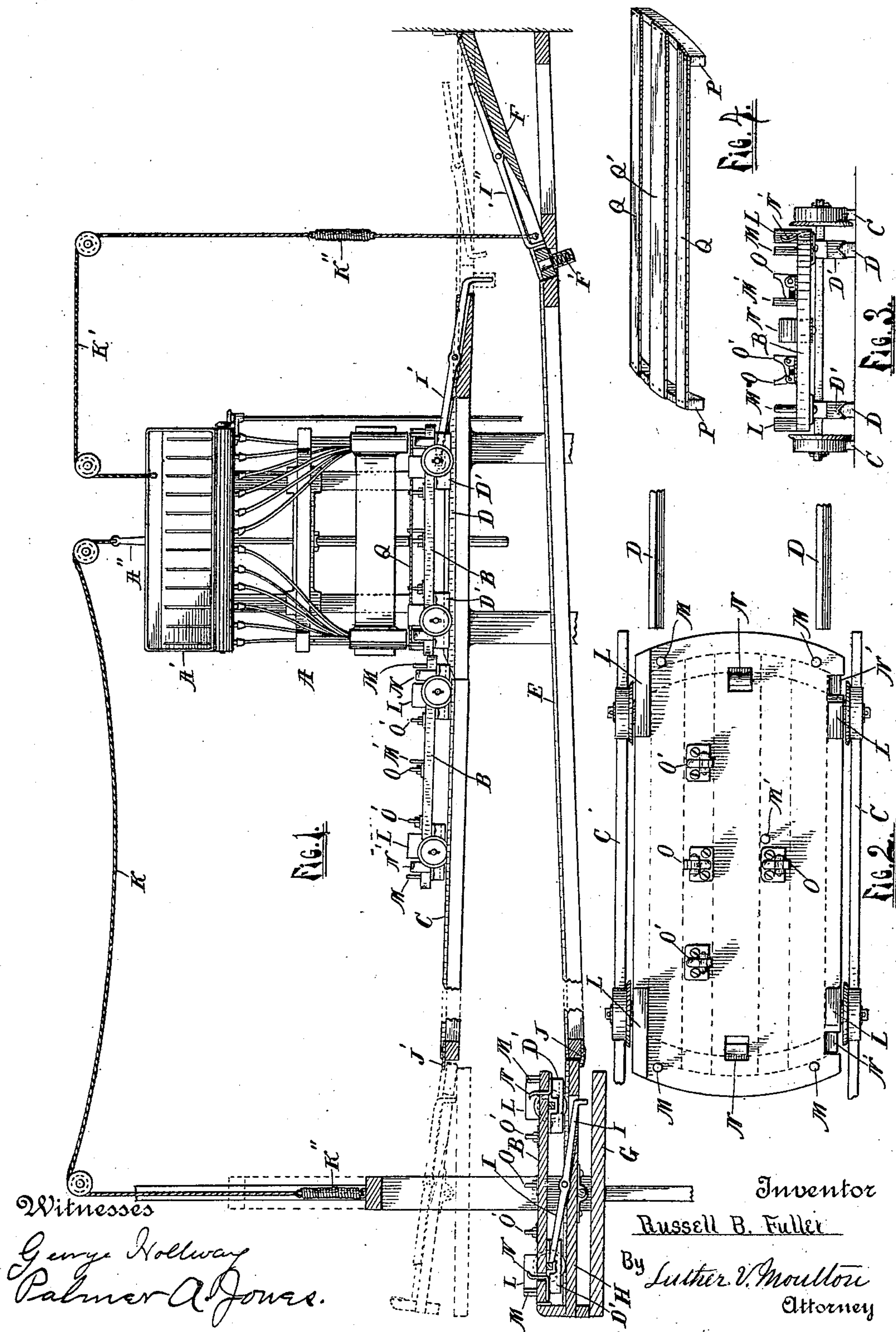
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R. B. FULLER.

WORK CONVEYING AND PRESENTING MECHANISM.

(Application filed Jan. 2, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

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WORK CONVEYING AND PRESENTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 690,416, dated January 7, 1902.

Application filed January 2, 1901. Serial No. 41,920. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL B. FULLER, a citizen of the United States, residing at Holland, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Work Conveying and Presenting Mechanism; 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.

My invention relates to improvements in means for conveying and holding materials to be operated upon by means of various machines, and more particularly to nailing-machines, stapling-machines, and machines of like nature which are adapted to the manufacture of baskets, boxes, and like structures.

The object of my invention is to provide greater facilities for handling, assembling, and holding the material to be operated upon, whereby a number of operators may work in conjunction with a single machine, thereby greatly increasing the capacity of the same. In operating such machines in the usual way by single operators considerable time intervenes between the strokes of the machine, during which time the operator is assembling and disposing of the work.

My invention consists, essentially, in providing improved means for moving and holding cars having holding means in which to assemble and nail the materials, consisting of tracks or ways for the cars, together with automatically-operated pawls, stops, switches, and other devices, whereby the cars are moved or held so that a number of operators may work in conjunction with a single machine, and thus greatly increase the output from the same. My device also consists in certain details of arrangement and construction hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a device embodying my invention with parts removed to show the construction; Fig. 2, an enlarged plan view of a car adapted for holding the basket-covers shown in Fig. 4; Fig. 3, an end elevation of the car, and Fig. 4 the particular

form of basket-cover for which the car shown is adapted.

Like letters refer to like parts in all the figures.

A represents a nailing-machine as ordinarily constructed.

B represents any convenient number of cars of suitable size and shape and provided with devices to hold the work to be nailed, the form shown being adapted to hold basket-covers made as shown in Fig. 4.

C is a suitable track of any convenient length extending from the elevator G to the machine A. This track should in practice be of such length that a number of persons could work at assembling the material upon the cars sufficient to keep the machine operating to its full capacity. This track should also have an inclination toward the machine to cause the cars to move forward by gravity. The bed-plate of the machine is provided with V-ways D to engage V-grooved blocks D' on the cars, whereby the cars are caused to come accurately to place laterally and are firmly supported under the nailing mechanism and also by friction held from moving as the nails are driven. To longitudinally locate the cars, a pawl I' is provided, which engages a projection on each car in succession, preferably the forward axle thereof. The pressure of the cars on the inclined track C holds the car on the machine firmly against the pawl I' and runs it off the machine and upon the pivoted section F when said pawl is released.

At the side of the nailing-machine opposite the track C a section of track F is provided, which section is hinged to turn downward at the end adjacent to the machine. This track is raised to a horizontal position by means of a cord K', attached to some reciprocating part of the machine, preferably to the nail-basket A'. The pawl I' is engaged by the movable end of this section of track F and released from engagement with the car to permit the same to run forward upon the said section F. To insure complete closure of the section F, a contractile spring K'' is inserted in the cord K', which spring yields after the section is closed. To avoid premature release of the car, the end of the pawl I'

is turned downward and engaged by a yielding spring F' on the section F. This spring trips the pawl I' after the nailing operation is completed.

5 I' is a pawl pivoted on the section F, which engages and holds the car after it runs upon the said section and until the end of the section is sufficiently lowered to connect with the upper end of an inclined track E, extending
10 beneath the bed of the machine and the track C to the elevator G. The pawl I' is released by engaging the support for the movable end of the section F.

G is a vertically-movable elevator operated
15 by a cord K, attached to a reciprocating part of the machine, preferably the nail-basket A'. This cord is provided with sufficient slack to permit the elevator to reach its lower position early enough to receive the car released
20 by the simultaneous lowering of the section F. This cord is also provided with a spring K' to yield after the elevator has reached its upper position, and thus insure proper operation should the cord stretch. To insure sufficient
25 movement of the cord, an arm A'' may be extended from the basket A', to which the cord may be attached.

Supported by the elevator G and pivoted a short distance above the same is a tilt-table
30 H, adapted to receive the cars from the track E and also provided with a pawl I to hold the cars on the table. When the elevator is in lowered position, the table H engages a stop J on the end of the track E, which stops the
35 elevator and holds the table in line with the track E. As the elevator rises a stop J' on the end of the track C engages the end of the table H and presses the same down against the elevator, thus tilting the table and releasing
40 the car by engaging the pawl I with the elevator. This inclination of the table H causes the car to run off the table and upon the track C. The cars thus automatically run from the machine upon the section F,
45 are lowered upon the track E, run down the said track and upon the elevator, and are raised and deposited in series upon the track C, from whence they proceed by gravity and in succession through the machine. At each
50 stroke of the nailing-machine a car is released therefrom and another takes its place, being pushed forward upon the V-ways by the cars on the track C. By stationing a
55 sufficient number of persons alongside the track C to place material on the cars and another near the section F to remove the work from the cars as they leave the machine it is evident that no other manual labor is needed and the machine may be worked very rapidly.
60 For illustration I have shown a basket-top in Fig. 4 made of end segments P P and two side strips Q Q and a middle strip Q'. I have also shown a machine adapted to nail the strips to the segments, a car having the
65 general outlines of the top shown in Fig. 4 and being provided with pins M, side springs

N, and end springs N' to hold the segments P, and also with side blocks L and spring-clips O O to hold the side strips Q, and a pin M' and spring-clips O' O' to hold the middle strip Q'; but I do not limit my invention to these
70 particular forms. Cars of proper shape and having proper means for holding parts of boxes or other articles differing from the cover shown in Fig. 4 can readily be substituted without departing from the essence of
75 my invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of two oppositely-inclined tracks, an elevator at the diverging ends of the tracks, a pivoted section of track at the converging ends of the tracks, and means for reciprocating the elevator and pivoted section, substantially as described. 85

2. The combination of two oppositely-inclined tracks, an elevator at the diverging ends of the tracks, a tilt-table on the elevator, a stop on the upper track to engage and tilt the table, means for operating the elevator, and means at the opposite ends of the tracks for shifting cars from the upper track to the lower track, substantially as described. 90

3. The combination of two oppositely-inclined tracks, located one above the other, an elevator at the diverging ends of the tracks, a tilt-table on the elevator, a stop on each track to engage the tilt-table, a pivoted section of track at the converging ends of the
95 tracks, a pawl on the pivoted section, and means for operating the elevator and pivoted section, substantially as described. 100

4. The combination of an elevator, a track inclined away from the elevator, a track inclined toward the elevator, means for transferring cars from the first-named track to the other track, a tilt-table on the elevator, a pawl pivoted on the tilt-table, stops on the respective tracks to engage the tilt-table, and
105 means for operating the elevator, substantially as described. 110

5. The combination of an elevator, a tilt-table on the elevator, a pawl on the tilt-table, a track inclined from the elevator, a stop on the track to engage the table, a section of track at the opposite end of the inclined track, said section being pivoted at one end and vertically movable at the other end, a track extending from the movable end of the said section to the elevator and inclined toward the
115 elevator, a stop on said track, and means for operating the elevator and pivoted section, substantially as described. 120

6. The combination of an elevator having a tilt-table to receive the cars and a pawl to hold the same, a track extending from the elevator to a pivoted section at the opposite end of the track and vertically movable at one end, a pawl on said section to engage the cars, a track extending from the pivoted section to the elevator, a pawl to stop the cars on the
125 130

first-named track, and means for operating the pawls, the elevator, and the pivoted section, substantially as described.

7. The combination of an elevator having a tilt-table, a pawl pivoted to the table, a track extending from the elevator, a stop on the track to engage the pawl, a pawl to engage a car on the said track, a pivoted section to receive the cars and engaging the last-named pawl, a pawl on the pivoted section, a track extending from the said section to the elevator, a stop on the track to engage the tilt-table, and means for operating the elevator and pivoted section, substantially as described.

8. The combination of a machine having ways, a track inclined toward the ways, a series of cars having wheels to traverse the track, blocks on the cars to engage the ways and support the cars, and means for returning the cars to the upper end of the inclined track, whereby the cars are propelled by gravity over the track and ways, substantially as described.

9. The combination of a machine having ways to support the cars and a pawl to stop the cars on the ways, an inclined track leading to the ways, a series of cars having wheels to traverse the track, blocks on the cars to engage the ways, and means for returning the cars to the upper end of the inclined track, substantially as described.

10. The combination of a machine having ways to support the cars, and a pawl to stop the cars on the ways, an upper inclined track at one side of the machine, a pivoted section of track at the other side of the machine, a lower inclined track extending from the pivoted section and beneath the ways and upper track, means for shifting cars from the lower track to the upper track, cars having wheels to traverse the tracks, and blocks on the cars to engage and traverse the ways, substantially as described.

11. The combination of a machine having ways, a pawl to stop the cars on the ways, an upper inclined track at one side of the machine, a pivoted section of track at the other side of the machine and operating the pawl, a pawl on the pivoted section, a lower inclined track extending from the pivoted section and beneath the ways and upper track, an elevator to shift cars from the lower to the upper track, means for operating the pivoted section and elevator, cars having wheels to traverse the various tracks, and blocks on the cars to engage and traverse the ways, substantially as described.

12. The combination of a machine, having a reciprocating member, cars adapted to hold and convey the stock to be operated upon by the machine, an elevator, and a pivoted section of track, means for connecting the elevator and pivoted section to the reciprocating member of the machine, a track extending from the elevator to the machine, and a track from the pivoted section to the elevator, substantially as described.

13. The combination of a machine having a reciprocating member, cars to hold and convey stock to the machine, an elevator having a tilting table and pawl to secure the cars, a cord having an elastic portion and connecting the elevator and said member, a track from the elevator to the machine, a stop to operate the tilt-table and pawl, a pawl on the machine to stop the cars, a pivoted section of track to receive the cars and engaging the pawl, a cord having an elastic portion and connecting the pivoted section and said member, and a track from the pivoted section to the elevator, substantially as described.

14. The combination of a nailing-machine, having a reciprocating nail-basket, cars having means for holding the stock to be nailed, an elevator, a track from the elevator to the machine, a pivoted section of track vertically movable at the end toward the machine, a track extending from the pivoted section to the elevator, a cord extending from the elevator to the nail-basket, a cord extending from the pivoted section to the nail-basket, and springs in the cords, substantially as described.

15. In combination with a nailing-machine, and means for conveying cars in succession to the machine, a car having pins and springs to hold the end segments of a basket-top, and side blocks and spring-clips to hold the strips of the same, substantially as described.

16. In combination with a nailing-machine, ways on the machine, a circuit of tracks to convey cars from one end of the ways to the other end of the same, a car having wheels to traverse the tracks, blocks on the car to engage the ways, means attached to the car for holding the segments and strips of a basket-top, and means for automatically moving the car over said tracks and ways, substantially as described.

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

RUSSELL B. FULLER.

Witnesses:

LUTHER V. MOULTON,
PALMER A. JONES.