(No Model.)

I. S. BANTA.

BAGGAGE ELEVATOR.

No. 329,695. Patented Nov. 3, 1885.

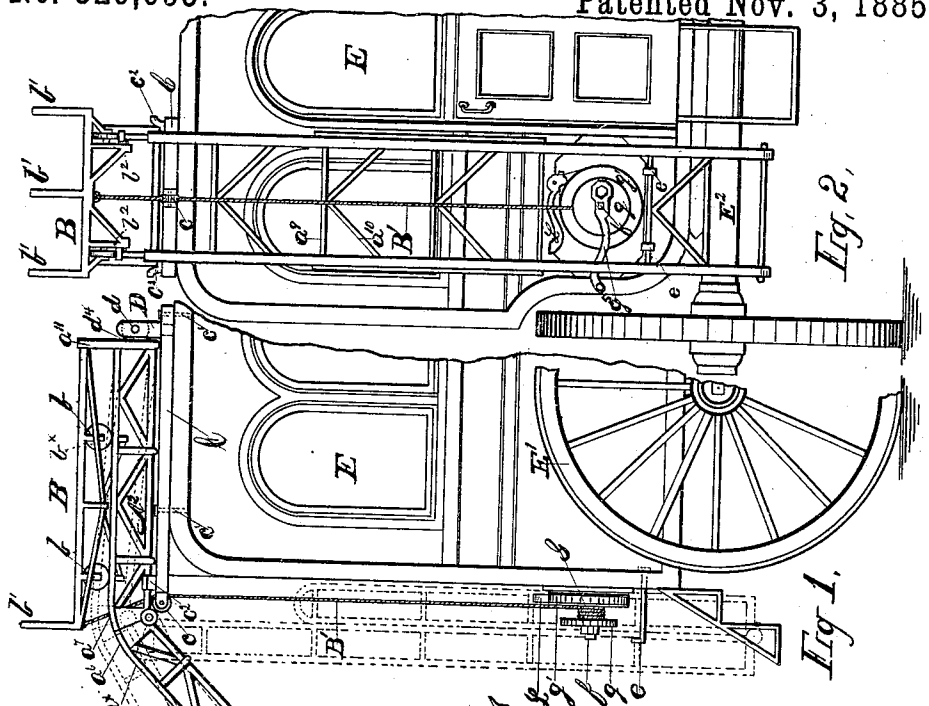


Fig. 2.

Fig. 1.

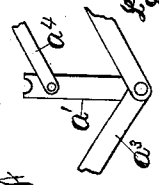


Fig. 6.

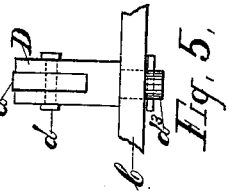


Fig. 5.

Fig. 4.

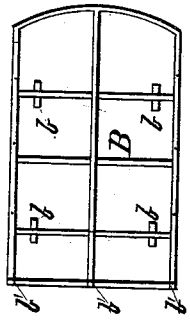


Fig. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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BAGGAGE-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 329,695, dated November 3, 1885.

Application filed July 6, 1885. Serial No. 170,813. (No model.)

To all whom it may concern:

Be it known that I, IRA S. BANTA, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Baggage-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention has for its object certain novel means whereby baggage of any description may be placed expeditiously, and with the expenditure of the least strength, upon the top of a vehicle, and which may be folded conveniently when not in use, and serves as means for ascent to said top of said vehicle; and it consists in the novel construction and combination of its several parts hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side view of my improved baggage-elevator and of the end portion of a vehicle to which it is attached. Fig. 2 is a rear end view of a portion of a vehicle, showing the elevator folded against said rear end and the means for elevating the carriage. Fig. 3 is a plan view of the elevator-carriage. Fig. 4 is an enlarged view of a portion of the elevator-carriage, showing the means for retaining the carriage on the truss-frame. Fig. 5 is a view of the swivel-joint to which the truss-frame is attached. Fig. 6 is a view of a portion of the folding truss.

In the construction of my invention I make, preferably from metal, a suitably strong truss-frame, A, A′, and A^2, in three separate sections or parts, and unite them in a folding relation at their ends by the hinge-joints a and $a^\times$. The trackway a^2 is a rail, forming the upper longitudinal side of the truss-frame, which extends to and rests upon the ground. An under rail is made to extend in a parallel relation with the track-rail a^2, between which opposite rails are oppositely-inclined trusses, which serve to strengthen the frame, and transverse bars are placed at regular intervals along said frame and between said trusses. The trackway a^2, hinged together by the hinges $a\,a^\times$ will afford the results desired, the construction shown, however, being preferred for strength. The portions of the truss-frame A′ A^2 are made similar to the portion A, said portions A A′ being hinged together at right angles, and the portions A′ A^2 at an oblique angle, the portion or section A^2 being mounted upon the top of the vehicle, and the length of said portion made correspondingly shorter. I make two frames, as described, and place them at suitable distances apart in a parallel relation, and secure said opposite frames together by the foot-rails a^9. Under each foot-rail a^9 are the braces a^{10}, which extend from midway of said foot-rails a^9 to the track-rail a^2, and prevent sagging of the said foot-rails. The ends of the sections A^2 of the truss-frames opposite to each other upon the top of the vehicle are secured to a cross-bar, a^{11}, which extends a suitable height above the track a^2, and is used to block the carriage or the wheels of the carriage direct when preferred, and is pivotally connected to the swivel-joint D by the tongue d', extending from said cross-bar and secured to the swivel-joint by the pin d.

Upon the roof of the vehicle E, I place a stationary supporting-frame, C, and attach said frame to said roof by the bolts $c'\,c'$, one end of said frame projecting beyond the rear end of said vehicle a suitable distance for the purpose hereinafter described. The top of the vehicle may be made to extend so far as to accomplish the desired results, however, and be otherwise formed to meet the requirements of the frame. To the opposite end of the frame C the swivel-joint D is attached, the lower end of said swivel-joint passing through the stationary frame C and secured by the pin d^3 from upward removal. Upon opposite sides of the stationary frame C, which is made of the proportionate width of the opposite trackways a^2, I place the inclined flanges $c^2\,c^2$, between which the portion A^2 of the truss-frame rests, and when a sudden turn of the vehicle should occur said flanges permit the truss-frame to slide from between the flanges c^2 and remain pivoted to the frame C by the swivel-joint D, and when the truss-frame is folded to rest upon the frame C and between said flanges. I then make a self-adjusting folding truss to strengthen the portions A A′ at the hinge-

joint a, and at equal distances, on opposite sides from said hinge, I make suitable perforations in the lower truss-rail to receive the rods a^3 a^3. Said rods a^3 a^3 are first bent at one end at right angles a suitable length to enter the said perforations in the lower truss-rail, and are made of the proper length to extend from their pivotal point in said perforations and meet at an angle to said frame, and at a suitable distance below said frame, and are pivotally connected together, and also to one end of a short detachable center bar, a', which bar is made with its opposite or upper end grooved to receive the hinge a on the truss-frame, and is of the proper length between said hinge and its pivotal point with the opposite rods a^3 a^3 to afford the requisite angle and prevent the opposite portion of the truss-frame from sagging. I then pivotally attach to said bar a', the requisite distance from the grooved end of said bar to obtain the proper angle and folding adjustment, one end of the rod a^4, and the opposite end extended to and pivotally attached to said truss-frame near the place of attachment of the said rod a^3 to said truss-frame, to obtain a shorter angle than rod a^3, the attachment to said truss-frame being near the lower rail. I then construct a suitable carriage to ride on the trackway a^2, of the proper width, and having a suitable platform, B, and a back, b'. Beneath the platform B, so as to extend from the said platform a suitable distance below the trackway a^2 when the platform is mounted on its rollers, I attach the depending bar b^2, and extend a brace-iron, b^3, from the lower end of said bar at an angle to the under portion of the platform and secure them together by riveting. The rollers $b^\times$ are pivotally connected outside of and to the bar b^2, so as to run upon the track a^2, and also to the outside of an opposite bar, b^2, depending from the under side of the platform and bearing against the inner edge of the track a^2 on the opposite truss-frame. I then insert a pivot, b^4, through the lower end of angle-iron b^3 and the lower end of the bar b^2, where they are united, said pin being of sufficient length to extend beyond the bar b^2 and under the track a^2, as seen in Fig. 4, and similar pins are inserted through the opposite bars and angle-irons, to which the rollers upon the opposite side of the carriage are connected, and extend under the track a^2 in the same relative manner.

To the end of the stationary frame C, and an equal distance from opposite truss-frames on the top of the vehicle, I attach a grooved pulley, c, and to the bottom of the carriage B, near the back b', I attach a rope, B', said rope passing from the end of the carriage at an angle to and over the pulley c, and thence downward to and around spool G, to which spool the end of the rope B' is secured, so that as the said spool G occasions a tension upon the rope B' it serves to keep the carriage B firmly against the cross-bar a^{11}, or any equivalent device under the carriage, and against the wheels, thereby preventing a movement of the carriage in an opposite direction and any of its parts from rattling.

In the operation of my improved baggage-elevator, and when the truss-frame is extended, and the end a^8 rests upon the ground, and it is desired to raise the carriage B with its load, I place the wrench g^5 in engagement with shaft f, and upon turning said shaft I obtain by means of the rope B' the necessary power.

To check the sudden descent of the carriage B, the lever L is operated to increase the tension of the brake-band K upon the spool G, and the rapidity of descent of said carriage is regulated thereby.

When it is desired to fold the truss-frame together, the end A of said truss-frame is drawn in toward the vehicle, and this movement detaches the center bar, a', from the truss-frame, as seen in dotted lines, Fig. 1. The said bar a' is drawn toward the rod a^3, and rods a^3 a^3 fold together as the end or section A of the truss-frame is drawn farther back and into the vertical position against the end of the vehicle, and the section A' of said truss-frame is folded outside of and against the section A of said frame. When folded against the end of the vehicle, the said sections A A' of the truss-frame are supported upon and held from accidental removal by the hooks e, which are inserted into and project from the end of the vehicle, and are so placed that one of the lower cross-bars, a^9, will rest upon said hooks e, thus supporting the weight of said truss-frame.

It is obvious that my improved truss-frame may be used in other relations than as applied to a vehicle and with the advantages of folding together, as heretofore described.

The truss-frame when extended is held rigidly at the hinged bearings, the curved portions a^6 a^7 of the track sustaining the strain brought to bear upon the hinges and a continuous trackway formed thereby.

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

1. The combination, with a suitable track having opposite sections hinged together, of a self-adjusting folding truss, all adapted to fold together, as shown and described.

2. The combination, with a suitably-extended frame adapted to support a trackway, having opposite sections hinged together, of a truss pivotally connected to said opposite sections of said truss-frame, and also pivotally connected to a detachable center bar, and adapted to fold together, as described.

3. The combination, with a suitable folding frame adapted to support a trackway, having opposite sections hinged together, of a truss pivotally connected to said opposite sections of said truss-frame, and also pivotally connected to a detachable center bar, and a self-adjusting rod pivotally connected to said center

bar, and also to said truss-frame at a lesser angle than that described by said truss, as shown and described.

4. The combination, with a vehicle, of a folding frame having opposite sections hinged together and adapted to be extended and inclined from the vehicle to the ground, and pivotally attached at its upper end to a swivel-joint upon said vehicle, and adapted to operate as described.

5. The combination, with a vehicle, of a folding frame having opposite sections hinged together and adapted to be extended and support a track, and inclined from the vehicle to the ground, and having one of said sections of said frame pivotally attached at its upper end to a swivel-joint upon the top of said vehicle, and obliquely-inclined hinged bearings between said sections and an adjoining section, as and for the purpose described.

6. The combination, with a vehicle, of a folding frame having adjoining sections hinged together and adapted to be extended and support a trackway, and inclined, as described, and having one of said sections pivotally attached to a swivel-joint upon the top of said vehicle, and flanges arranged upon the top of said vehicle on opposite sides of said sections of said frame, as and for the purpose described.

7. The combination, with a suitable frame upon the top of the vehicle, provided with a suitable cross bar or head, and adapted to support a track, of a swivel attached to the top of said vehicle, and a tongue upon said cross-bar, and a slot in said swivel, and pivotally connected together, as described.

8. The combination, with a vehicle, of a folding frame having opposite sections hinged together and adapted to be extended and support a track, and inclined, as described, and a carriage provided with rollers mounted upon said track, and a retaining device attached to suitable brace-irons depending from the bottom of said carriage, and extending beneath the said track, for the purpose described.

9. The combination, with a vehicle, of a suitable stationary supporting-frame rigidly attached to the top of said vehicle and extending a suitable distance over the end of said vehicle, and a pulley upon the end of said frame, a movable track-frame pivotally attached to and above said stationary frame, and provided with an end cross-bar, a carriage upon said track-frame, and an elevating-rope attached to one end of said carriage and extending over the said pulley on said stationary frame, and also attached at its opposite end to a suitable spool on the vehicle, whereby tension applied to said rope will prevent the side oscillation of the folded track, as described.

10. The combination, with a vehicle, of a folding frame having adjoining sections hinged together and adapted to be extended at an angle from and folded against the end of said vehicle, and one of said sections pivotally connected with the top of said vehicle, and hooks upon the end of said vehicle to support and retain the said sections in place, as described.

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Witnesses:
FRED. W. PERKINS,
JOSEPH H. MCGEE.