(No Model.) 2 Sheets—Sheet 1.

S. R. HEIDELBERG.

DEVICE FOR LOADING BAGGAGE.

No. 489,003. Patented Jan. 3, 1893.

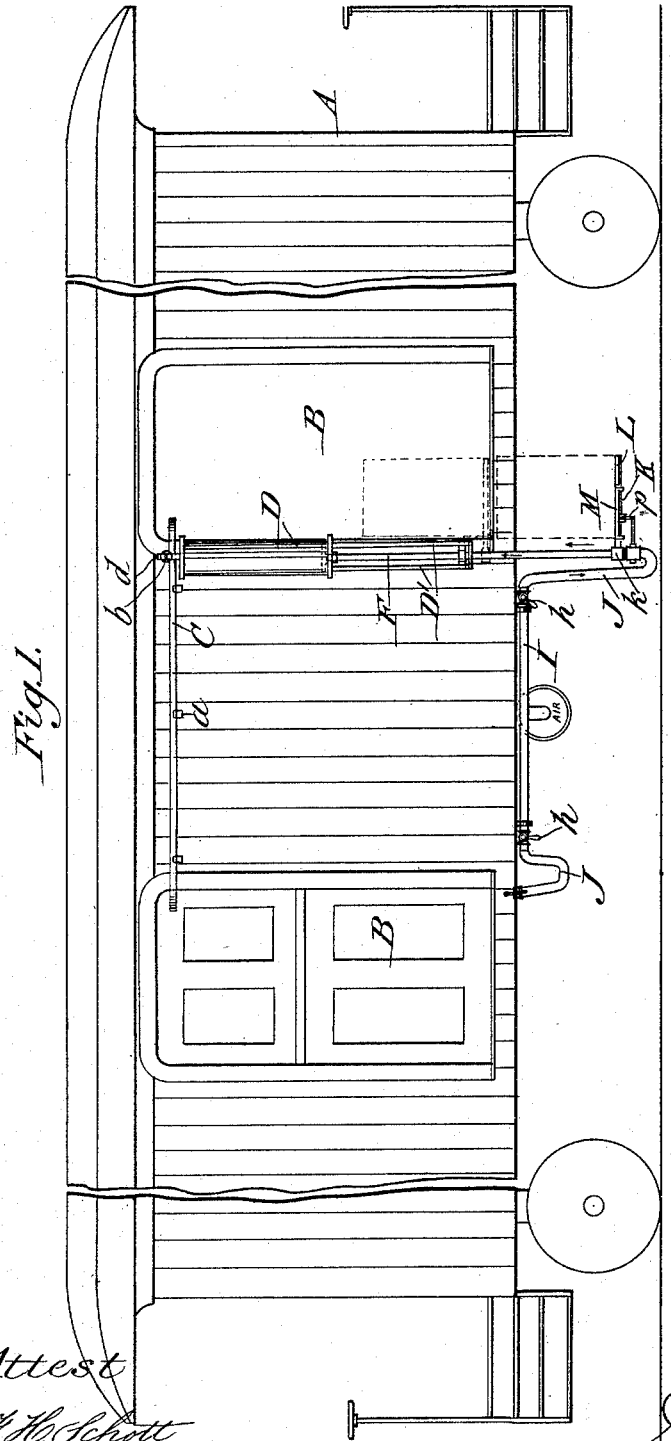

Fig. 1.

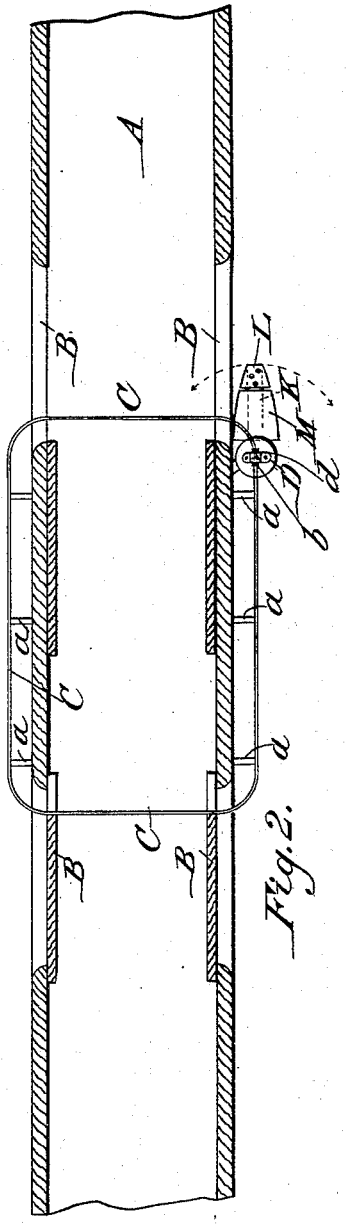

Fig. 2.

Attest
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(No Model.) 2 Sheets—Sheet 2.

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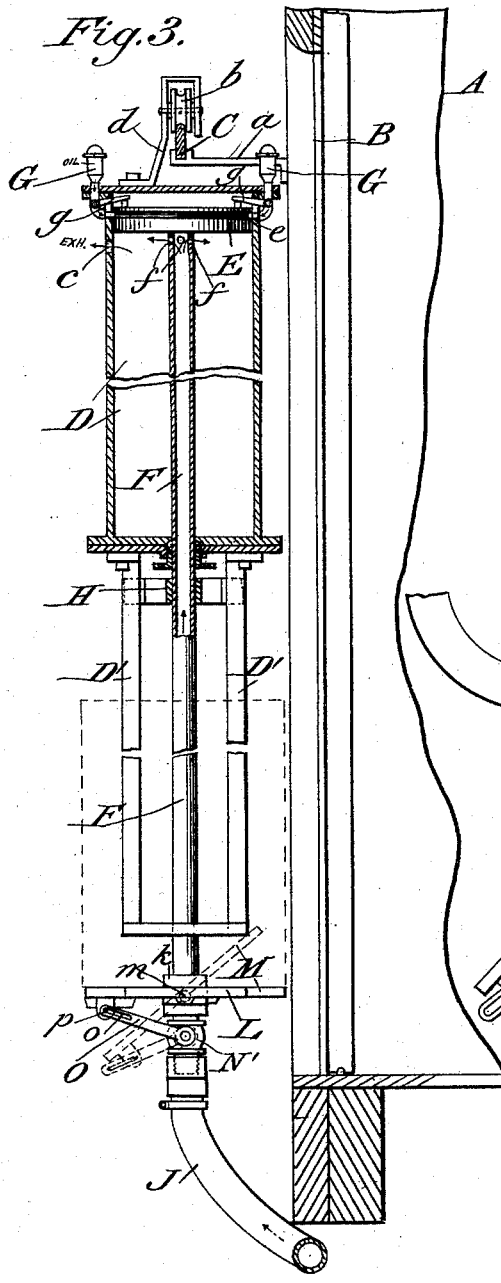
Fig. 3.



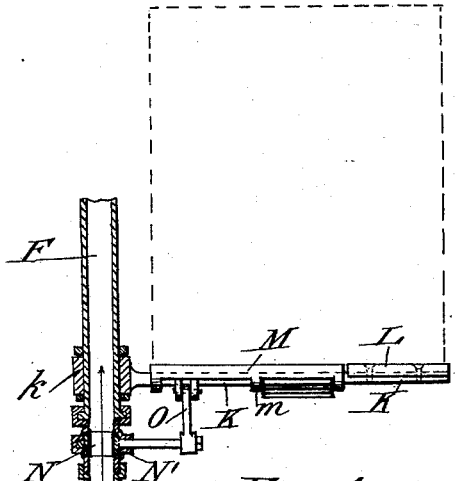


Fig. 4.

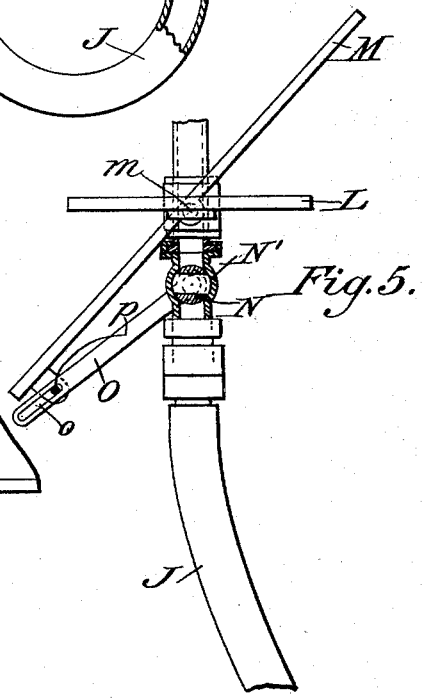


Fig. 5.

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UNITED STATES PATENT OFFICE.

SAMUEL RICHARD HEIDELBERG, OF JACKSONVILLE, TEXAS.

DEVICE FOR LOADING BAGGAGE.

SPECIFICATION forming part of Letters Patent No. 489,003, dated January 3, 1893.

Application filed May 25, 1892. Serial No. 434,364. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL RICHARD HEIDELBERG, a citizen of the United States, residing at Jacksonville, in the county of Cherokee and State of Texas, have invented certain new and useful Improvements in Devices for Loading Baggage; 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 an improved device for lifting baggage such as trunks or other articles, in loading and unloading them from cars, platforms or other locations, the device being essentially designed as an attachment for the baggage car to assist in manipulating trunks, the object of the invention being to provide a simple and efficient labor-saving contrivance by the use of which a great amount of heavy lifting may be avoided, and the invention accordingly consists in the construction, arrangement and combination of the several parts, substantially as will be hereinafter described and claimed.

In the annexed drawings illustrating my invention: Figure 1 is a side elevation of a baggage car provided with my improved device for lifting trunks, boxes and other articles in loading or unloading them onto or from the car. Fig. 2 is a horizontal detail sectional plan view. Fig. 3 is an enlarged detail vertical section of the air cylinder and the accompanying mechanical parts. Figs. 4 and 5 are enlarged sectional detail representations of portions of the baggage lifting mechanism shown in different positions so as to fully explain the operation as well as the construction of the device.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A designates a baggage or other car. This car is simply given as an example to show the application of the invention. Obviously my device can be used with a car of this kind or with any other kind of a car or with any other kind of moving vehicle or in any other construction where it may be needed without departing from the invention which does not confine its use to a car. The car A is provided with the usual side doors B B for the reception and delivery of baggage.

When my improved baggage lifting device is used in connection with a car, it is supported or hung upon a track so that it may be shifted in position from one door to the other and from the outside to the inside of the car as occasion may require.

C designates the track which supports the baggage lifting device. This track is rectangularly arranged. It is located near the car roof. It is supported horizontally by means of arms *a a* projecting from the sides of the car to which they are firmly secured. The track C therefore lies on each side of the car and also passes through the doors and transversely across the car, all as clearly represented in Fig. 2 so as to provide a convenient rail on which the lifting device may be swung along and shifted from point to point so as to be permitted to occupy a position at either of the four doors shown or at points within the car between said doors.

D designates a vertical air cylinder which is provided at its upper end with the arm, that carries a grooved pulley *b* journaled therein which pulley engages the track C and rolls thereon. By pushing the cylinder D therefore, or the parts that are connected thereto below it, the entire lifting device is caused to roll along from point to point upon the track C by means of the pulley *b*. The air cylinder D therefore occupies a depending position and it may be of greater or less size. Within cylinder D is a piston E to which is connected a vertical hollow tube F which serves as a piston-rod and which passes down through a suitable stuffing box in the lower head of cylinder D—see Fig. 3. On the lower end of cylinder D are secured the vertical guide bars D′ within which reciprocates the cross head H which is secured on the piston tube F. The piston tube F is provided at a point closely adjacent to the piston E with a lateral perforation *f* to permit the exit of air coming upward through tube F into the interior of cylinder D below piston E so that the force of the air may impel the latter upward. Furthermore it will be noted that piston E is provided with a peripheral groove or recess *e* and that the upper head of the cyl-

inder D is provided with a pair of oil cups G G, the lower ends of whose tubes enter the wall of the cylinder at such points as to be contiguous to the aforesaid peripheral groove *e*. These pipes leading from the oil cups are provided with valves having latches or arms *g*, that project into proximity to the piston E on which are formed stops, which, when the piston E arrives at near the upper limit of its stroke, strike against these valve arms thereby opening the valves and allowing the oil to pass through the oil pipes into the groove *e*, and thus insure a thorough and complete lubrication of the piston. When the piston again descends, the oil valves automatically close.

I designates a main air pipe located horizontally beneath the car and receiving its air from any suitable supply which air comes under pressure from a pump and has sufficient power to accomplish the work which it is required to do in my present mechanism. At each end of the main pipe I is a coupling pipe J, said pipes J being near the doors B of the car and adapted to be readily attached to the lower end of piston tube F as shown in Fig. 1. Pipe I is provided at each end with hand valves *h* which control the passage of the air from the main pipe into the coupling hose J. Connected to the pipes J at the ends thereof are valve casings N′, one of which is shown in Fig. 5, which casing N′ contains a valve N having an arm O provided near its end with a slot *o*.

K denotes a horizontal arm having formed at one end a sleeve *k* which encircles the lower end of the piston tube F′ and is held in position by means of suitable collars above and below said arm K, being thus susceptible of horizontal adjustment. The outer end of the arm K is provided with a horizontal platform L which retains its position of horizontality and does not deflect therefrom. Adjacent however to platform L is another platform M, which sometimes occupies a horizontal position alongside of platform L but is susceptible of being tipped up or down or deflected from its horizontal position, it being hung upon a pivot *m* on arm K, and one end of the platform is provided with a pin *q* which enters the slot *o* in the arm O. Thus it will be readily seen that when the platform M is vibrated it will move the arm O and thus interact upon the valve N, opening or closing the latter. The valve N is a three-way valve. The parts are so adjusted and arranged that when the platform M occupies an inclined position, valve N will be closed in which case air cannot pass from supply pipe J into piston tube F, and thus piston E will remain stationary but when the platform M has been placed horizontally, then the valve N will be opened so that air may pass into the piston tube F, and emerging thence into the cylinder D below the piston E, move the latter upward. Platforms L, M are adapted to sustain or hold the trunk, box or other article of baggage and as the arm K which carries this platform is connected to the lower end of the piston tube, it will be obvious that the upward movement of the piston will lift the platforms and thus lift the weight superposed thereon. The platforms L and M when in their lowermost position are near the ground as shown in Fig. 1, but when elevated they occupy a position near the car floor and thus a piece of baggage can readily be lifted from the ground to the car by placing it upon these platforms.

The operation of my improved device for lifting baggage in loading and unloading cars and for other purposes will be readily understood by giving a few more words of description. Suppose the device to be in the position shown in Fig. 1, all that the operator has to do is to place a piece of baggage upon the platform L M and by tilting the end of said baggage in such a manner as to cause the platform M to be moved into a horizontal position, the valve N will be opened and air will be permitted to pass into the air cylinder D and push the piston E upward until said piston arrives at a point above the exhaust port *c*. When the piston arrives at its uppermost position however, the platforms L and M will be in such positions contiguous to the car floor as to readily admit of the discharge of the baggage from the platform into the car by an easy movement. Furthermore the piston E being in this uppermost position, the air beneath it will exhaust and the valve N being closed, the platforms L M may readily be lowered by an easy manipulation. Thus it will be seen that baggage can readily be lifted from the ground into the car or unloaded from the car or shifted from one side of the car to the other, or heavy boxes or other articles can be transferred from point to point by means of my improved lifting device which is easily and rapidly operated and which accomplishes its work with efficiency and dispatch.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:—

1 In a lifting device, the combination of the rail, the pulley-provided air cylinder suspended thereon, the piston therein provided with a piston tube, an arm supported on the lower end of said tube, a rigid platform on said arm and a pivoted platform on said arm, a supply valve arranged in connection with the air supply pipe, said valve having an arm which is pivotally connected to the pivoted platform, all arranged to operate, substantially as described.

2. The herein-described baggage lifting attachment for a baggage or other car which consists essentially in a suspended lifting mechanism and a track or rail on which it is adapted to be shifted from point to point where it may be required for work, said lift-

ing mechanism consisting essentially of a pulley-provided air cylinder which is suspended on the track, a piston therein provided with a piston tube, an arm supported on the lower end of said tube, a rigid platform on said arm and a pivoted platform on said arm, a supply valve arranged in connection with the air supply pipe, said valve having an arm which is pivotally connected to the pivoted platform, all arranged to operate, substantially as described.

3. In a baggage lifting device, the combination of the air cylinder containing a piston, provided with a piston tube, an arm supported on the lower end of said tube, a rigid platform on said arm and a pivoted platform on said arm, a supply valve arranged in connection with the air supply pipe, said valve having an arm which is pivotally connected to the pivoted platform, all arranged to operate, substantially in the manner and for the purpose specified.

4. The combination of the air cylinder D, having exhaust port *c* and containing piston E, provided with piston tube F, having lateral openings *f*, the arm K having a sleeve on the lower end of tube F, platform L secured rigidly on arm K, platform M pivoted to arm K, main air pipe I coupled to the lower end of tube F, valve N for supplying air at the lower end of tube F, said valve having arm O pivotally connected to the end of platform M, substantially as described.

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

SAMUEL RICHARD HEIDELBERG.

Witnesses:
A. W. EWING,
D. MCGOWAN.