



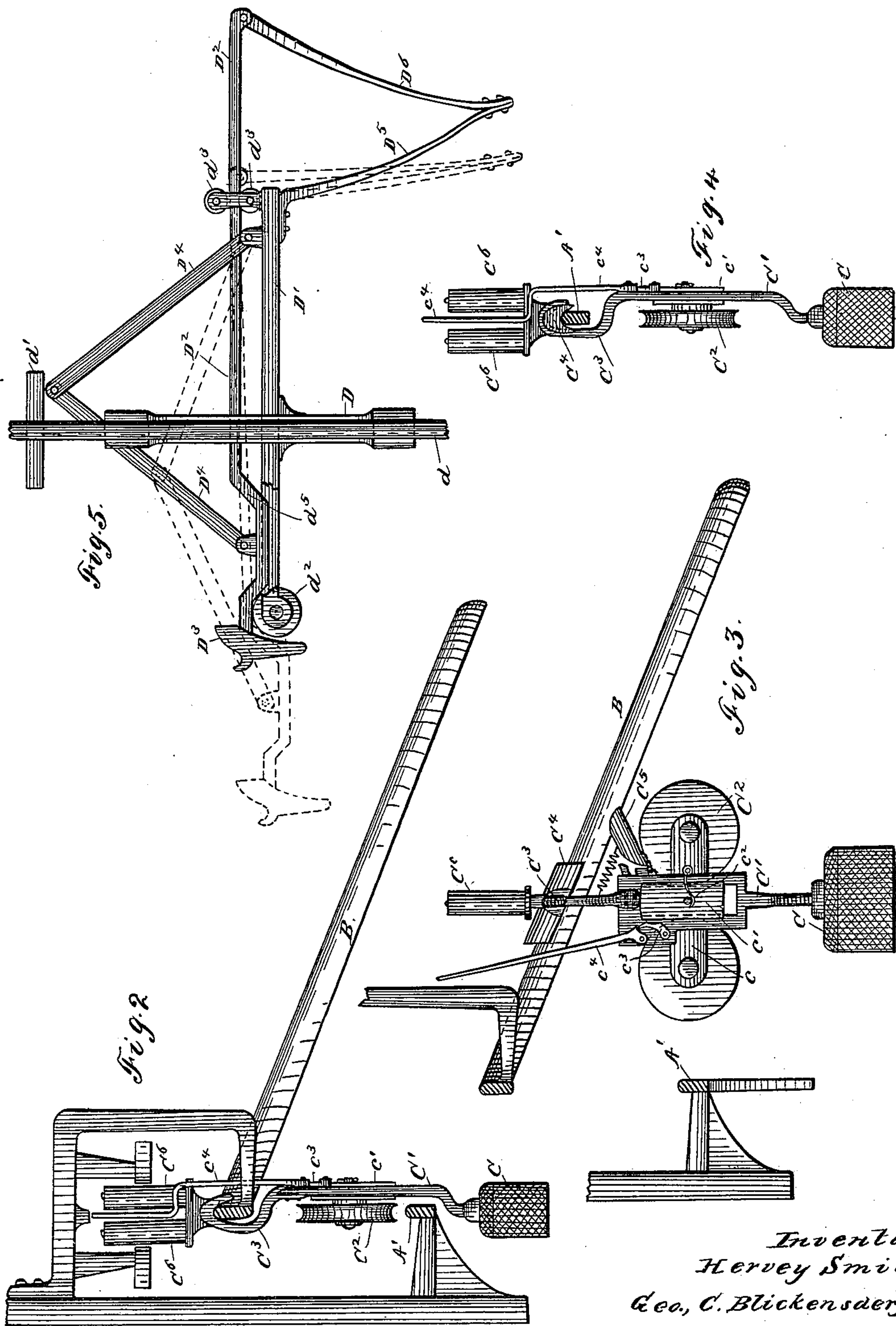
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G. C. BLICKENSDERFER & H. SMITH.  
CONVEYER APPARATUS.

No. 298,275.

Patented May 6, 1884.



Witnesses.

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Robt. H. Porter.

Inventors.  
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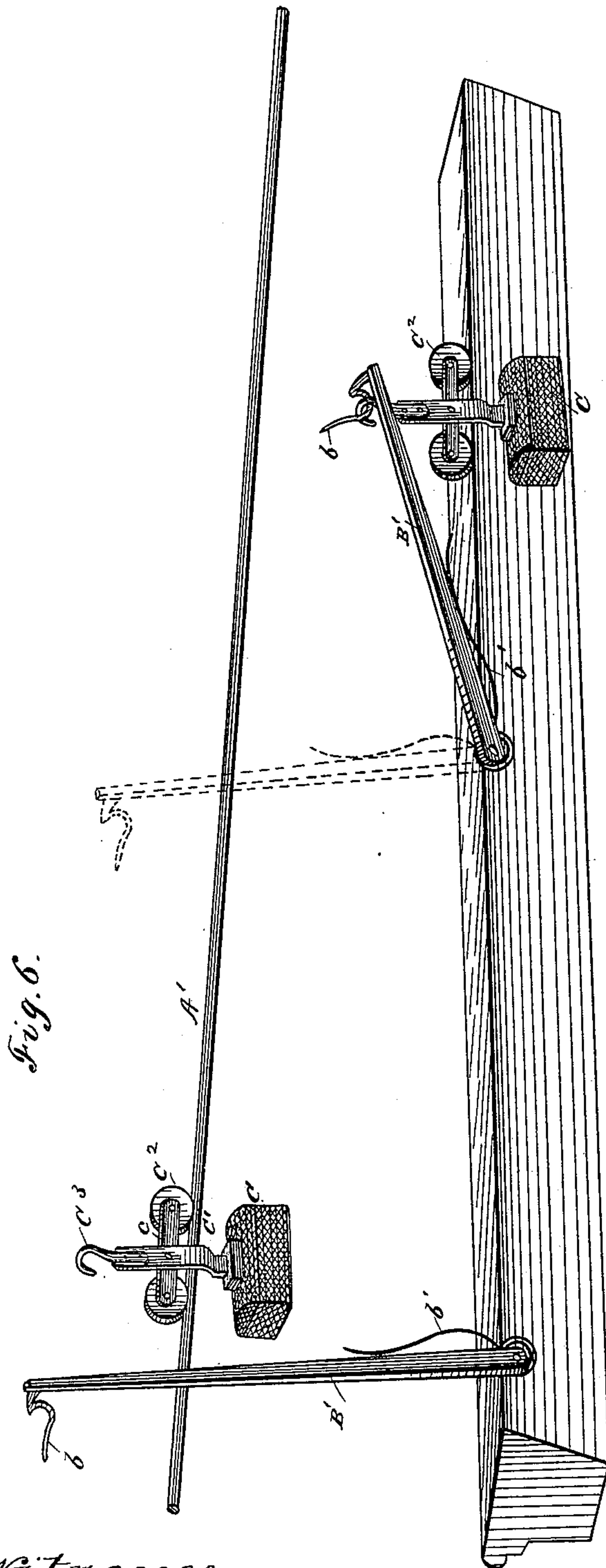
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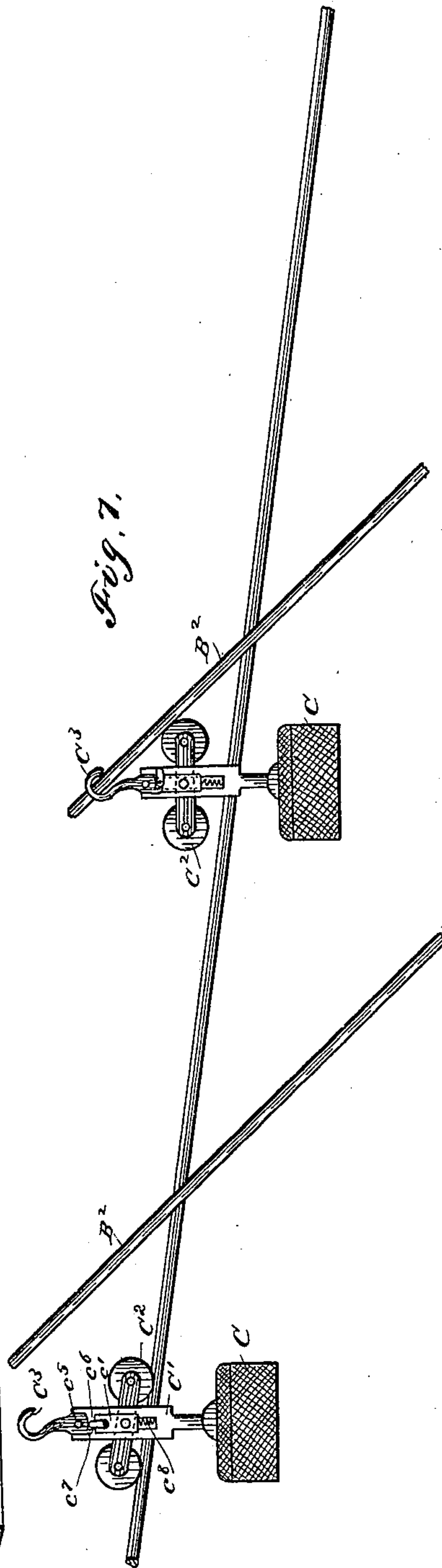
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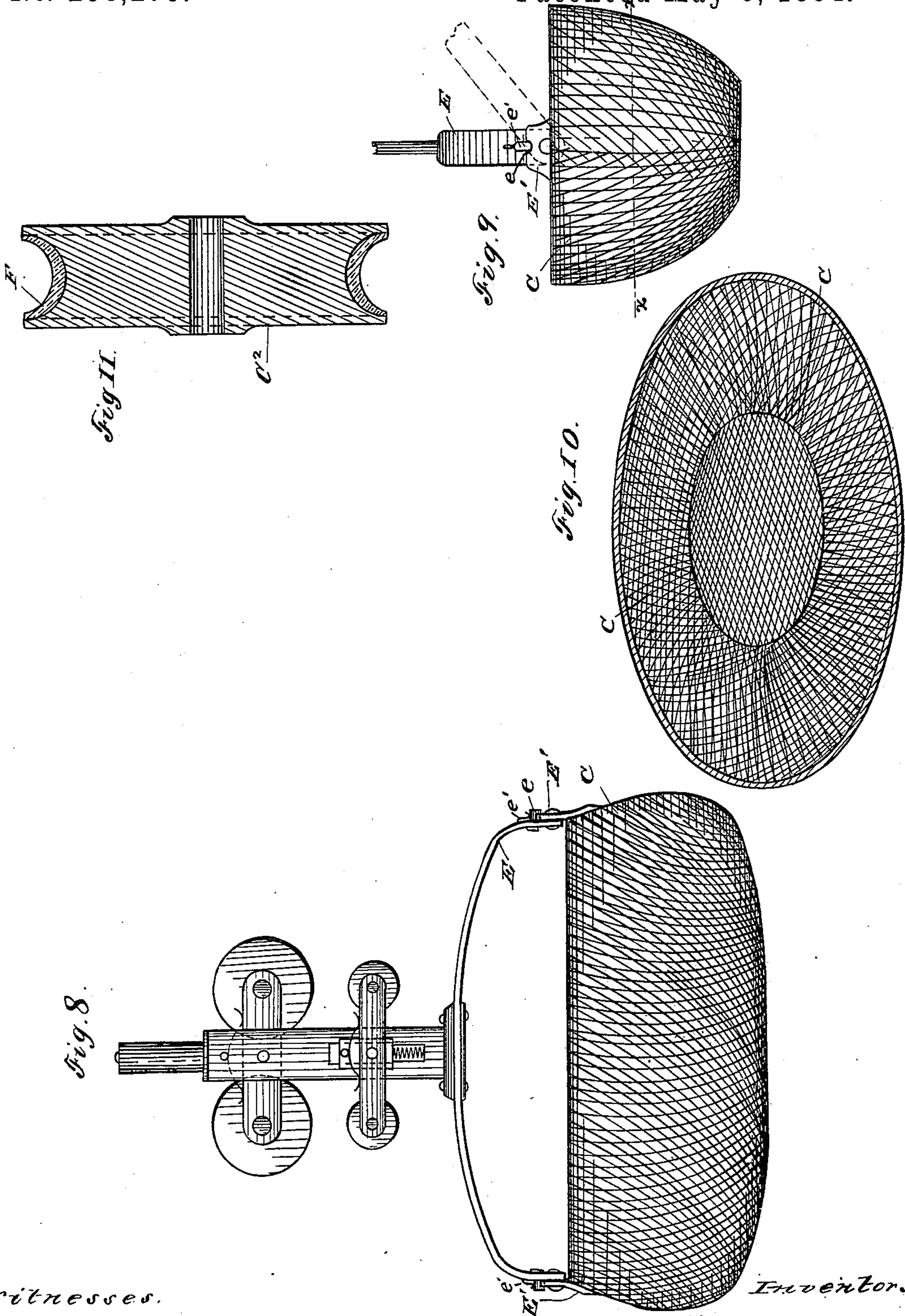
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# UNITED STATES PATENT OFFICE.

GEORGE C. BLICKENS DERFER AND HERVEY SMITH, OF ERIE, PA.

## CONVEYER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 298,275, dated May 6, 1884.

Application filed March 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE C. BLICKENS DERFER and HERVEY SMITH, citizens of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Conveyer Apparatus; and we 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.

This invention relates to conveyers such as are used for carrying packages, cash, &c., and for other like purposes.

The invention consists in providing new and improved means for switching the cars from the direct track at the stations; also, in providing improvements in the devices for putting cars onto the main or direct track at stations; also, in providing various improvements in the construction of the cars.

In a series of preceding applications we have shown various constructions of tracks, switches, and cars. This application is intended as a companion application to those named, and many of the devices here shown are applicable in connection with those we have previously shown.

Our present invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a perspective view showing two lines of track, one grading to the central station and the other from it to the way-stations, and it also shows two receiving-switches and one shipping-elevator. Fig. 2 is a view looking along the track, showing the tracks in section and showing a car just taking to switch. Fig. 3 is a similar view, and shows the car sliding down the switch. Fig. 4 is an end view of a car on a switch. Fig. 5 is a side view of the shipper. Fig. 6 is a perspective view of a track and an alternative form of switching device. Fig. 7 is a like view, and shows still another form of switch. Fig. 8 is a side view of an improved form of car. Fig. 9 is an end view of same. Fig. 10 shows the form of the car body or basket on the line  $x x$  in Fig. 9. Fig. 11 is a vertical transverse section of one of the car-wheels, and shows the manner of lining the tread with some soft material to prevent noise.

In our former applications we have shown cars provided with a special set of wheels for running on the switch-tracks. In this instance we show a car with only one set of wheels and an entirely-different arrangement for switching the cars off the direct line at the stations. We show different modifications or forms of switching devices; but they all embody the same general or leading feature—namely, catching the car by a hook or similar appliance, and letting it down to the salesman or person at the station. This improved means for switching the cars is the leading feature of our present invention. Its construction and operation are as follows:

A is the main track, leading from the salesman's stations to the cashier's desk.

A' is the reverse track—that is, the main track leading from the cashier's desk to the salesman's stations. It is from this track that cars have to be switched at the stations to which they are destined.

B, B', and B<sup>2</sup> represent different forms of switches, which will be severally explained.

C is the car body or basket, C<sup>2</sup> its wheels, and C<sup>3</sup> a hook on the top of the main post C'.

Other parts will be referred to by letter as we proceed.

In Figs. 1, 2, 3 the switch-tracks B have their points lying in a vertical plane with the main line, and as they curve away from the track they incline downward rapidly. The car is provided with means for tripping the wheels up (similar to the tripping devices we have already shown in our former applications) at the proper point, leaving the car to hang suspended on the switch-track by the hook C<sup>3</sup>. When this occurs, the momentum of the car will cause it to slide on the track B, and as that track inclines downward the car will readily slip down it.

In Fig. 7 the switch-tracks B<sup>2</sup> lie at an angle to the main line and a little above it. These tracks B<sup>2</sup> may be taut-drawn wire, if desired, and they should slant downward and also forward, as shown. The operation is clearly shown in Fig. 7, and is as follows: When the car passes under a switch which is the proper height to engage the hook, the trigger of the trip is sprung and the wheels fly up from the track and leave the car suspended by the hook



on the switch-track  $B^2$ , down which it at once slides. The height of the hooks on different cars will vary, and the switch-tracks  $B^2$  will be placed successively at varying heights, so that a car will pass under the switches to which it is not destined without the hook engaging.

As before stated, the tripping device on the car shown in Figs. 2 and 3 is about the same as one we have shown previously; but the one shown on the car in Fig. 7 is different, and is as follows: The wheels are on a bar which is pivoted on a block,  $c'$ , which slides in a slot or on guides in the upright  $C'$ . The hook  $C^3$  is pivoted at  $c^5$ , and on its lower side is a catch or lug,  $c^7$ . On the block  $c'$  is a tripping-toggle,  $c^6$ . Below the block is a spring,  $c^8$ , which will throw the block up when released. When the car is set to run on the main track, the parts above-named are in the position shown in the car at the left of Fig. 7. When the hook  $C^3$  comes in contact with the track  $B^2$ , the hook is thrown back and the lug  $c^7$  pushes over the toggle  $c^6$ , and this allows the spring  $c^8$  to raise the wheels up, as seen at the right of Fig. 7.

In the switching device shown in Fig. 6 the car need have no tripping device, for it is lifted off the track by the switch. This switch consists of a post,  $B'$ , which is pivoted at its foot, and kept upright by a spring,  $b'$ . On the upper end of the post is a hook,  $b$ , which will engage with the hook  $C^3$  on the car, which is of proper height to be caught by it. The post when upright leans somewhat up the track over its center, and when the car is caught the momentum will push the post back over its center, and this will lift the car up so the flanges of its wheels will clear the track. The pivot of the post should be at an angle to the line of track, so that as it swings it draws the car to one side of the track, so it will clear it as it goes down. On the right of Fig. 6 the car is shown let down onto the counter. While this method differs as to the devices employed considerably from the others above described, it is the same in general effect, for it takes the car up off the track by the hook  $C^3$  and lets it down. A crane proper might be used to catch the car, swing it clear of the track, and let it down.

The above-described methods are sufficient to illustrate fully the use and purpose of a hook on the top of the car as part of the means for switching the car automatically from the direct track.

When an inclined switch-track—such as is shown in Figs. 1, 2, 3, and 7—is used, it may be desirable to use a shoe on the hook. This may be seen at  $C^4$  in Figs. 3 and 4. It may also be desirable to use a brake to prevent the car sliding too rapidly down the track.

$C^5$  in Fig. 3 is an illustration of one manner of constructing and applying a brake for that purpose. It consists of a shoe which would not come in contact with the track if it was

not so inclined as to do so, and the more inclined the track the greater will be the pressure of the brake on the under side of the track. The shoe is held by a spring so as to be yielding and not rigid. Such a brake can be used as well with cars having two or more sets of wheels.

On the top of the cars shown in Figs. 2 and 4 are two friction-rollers,  $C^6$   $C^6$ , for contact on the guides at the switches.

In Fig. 11 we show a car-wheel having its tread lined with an india-rubber, gutta-percha, or other lining,  $F$ , which will prevent noise.

In Figs. 8, 9, and 10 we show a car-body,  $C$ , and bail  $E$ , which is best adapted for the purpose. The body is formed of wicker-work preferably, and it is oval shape in its greatest longitudinal horizontal section, as seen in Fig. 10. Its bottom is rounded except a small space at the extreme, which is sufficiently flat to allow the basket to set upright, and its ends are rounded or bilged vertically as well as horizontally. Such a shaped basket will not be catching on any object it may come in contact with when running on the track, as a square-cornered basket would, and its ends, being rounded each way, are elastic, more than a square end, so that they make a good buffer, and when two cars come in collision, or a car comes in collision with any other object, the ends will spring and buff the concussion. The bail is pivoted to ears  $E'$  at each end, and the ears have notches  $e$ , into which catches  $e'$  engage. When the bail is to be turned down, or perhaps we should say when the basket is to be turned up, so as to empty it, the catches  $e'$  are lifted out of the notches  $e$ . These baskets or bodies can be used on all forms or types of conveyers.

In Figs. 1 and 5 we show a new car shipper and elevator.

$D$  represents the elevator-frame, which is provided with friction-rollers or sheaves  $d^4$ , which run on the posts  $d$ .

$D'$  is the horizontal part of the elevator-frame. It is provided at one end with a roller,  $d^2$ , and at the other with two rollers,  $d^3$ .

$D^3$  is the slide, which passes between the rollers  $d^3$  and rests on the roller  $d^2$ . On this slide is a deflected part,  $d^5$ , which gives to that part which acts upon the roller  $d^2$  two inclined surfaces, so that as the slide moves over the roller  $d^2$  it is lifted up and let down again.

On the end of the slide  $D^2$ , nearest the track, are horns  $D^3$ , for receiving the car, (the bar  $c$ , on which the wheels  $C^2$  are journaled, is set on horns  $D^3$ ), and at the other end of the slide is a spring,  $D^5$   $D^6$ . A toggle-lever,  $D^4$ , is connected at one end with the part  $D'$  and at the other with the slide  $D^2$ , and is in such a position, as shown, that when the elevator is drawn up the joint of the toggle  $D^4$  will come in contact with a fixed plate,  $d'$ , and will thus be depressed, and as it is depressed it will push the slide out, and as it is pushed out the incline  $d^5$  will lift it up and let it down. This



movement of the slide will carry the car out toward the track, lift it up, so as to bring it above the track, and let it down again onto the track, (and the downward movement is 5 enough to disengage the horns from the car.) As soon as the car is thus shipped onto the track, the elevator is lowered, and this allows the spring D<sup>5</sup> D<sup>6</sup> to draw the slide back.

The position of parts when the slide is 10 thrown forward is seen in Fig. 5 by dotted lines.

What we claim as new is—

1. In a conveyer apparatus substantially as shown, a car having a running-gear for use 15 on the main or direct track, and a hook by which it can be caught by the switching devices, substantially as shown.

2. In a conveyer apparatus substantially as shown, the combination, with the main or 20 direct track and a car having a running-gear for use upon said track and a hook thereon, of a switching device consisting of devices, substantially as shown, for engaging with said hook and conveying the car from said main 25 track thereby.

3. In a conveyer apparatus substantially as shown, a car having a running-gear for use on the main or direct track, which is adapted, substantially as shown, to be tripped, and a 30 hook by which the car can be caught and sustained when said running-gear is tripped, substantially as shown, and for the purposes mentioned.

4. In a conveyer apparatus substantially as shown, the combination, with the main 35 track, of a switch-track, which is set at a sufficiently precipitous angle thereto, as shown, to serve as a slideway for the cars when caught thereon by a hook, as shown and described.

40 5. In a conveyer apparatus, the combination, with a precipitously-inclined track, of a car having thereon a brake, which is held against the track by the plumb position of the car, as shown.

45 6. In a car for a conveyer apparatus substantially as shown, the combination of the body C, standard C', wheels C<sup>2</sup>, and hook C<sup>3</sup>, substantially as and for the purposes mentioned.

50 7. In a car for a conveyer apparatus substantially as shown, the combination of the body C, standard C', wheels C<sup>2</sup>, hook C<sup>3</sup>, and shoe C<sup>4</sup>, substantially as and for the purposes mentioned.

8. In a conveyer-car substantially as shown, the combination of the body C, standard C', 55 wheels C<sup>2</sup>, hook C<sup>3</sup>, and brake C<sup>5</sup>, substantially as and for the purposes mentioned.

9. In a conveyer-car substantially as shown, the combination of the body C, standard C', wheels C<sup>2</sup>, block c', toggle c<sup>6</sup>, pivoted hook C<sup>3</sup>, 60 lug c<sup>7</sup>, and spring c<sup>8</sup>, substantially as and for the purposes set forth.

10. In a conveyer-car substantially as shown, the combination, with the body C, of the pivoted bail E, with catches e', and the ears 65 E', with the notches e, substantially as and for the purposes mentioned.

11. In a conveyer-car substantially as shown, a body, C, formed of wicker-work, and having an oval form, with rounded bottom and 70 ends, as shown and described, and for the purposes mentioned.

12. In a conveyer-car, the combination of the body C, standard C', wheels C<sup>2</sup>, hook C<sup>3</sup>, and rollers C<sup>6</sup> C<sup>6</sup>, as shown, and for the pur- 75 poses named.

13. In a conveyer apparatus substantially as shown, the combination of the guide-posts d d, elevator-frame D, and friction-rollers d<sup>4</sup> d<sup>4</sup> d<sup>4</sup>, placed at the corners of said frame, 80 substantially as and for the purposes mentioned.

14. In a conveyer apparatus, a car loading or shipping apparatus consisting of the combination of an elevator-frame, a platform on 85 said frame, a slide on said platform, horns for holding the car on said slide, a lever for moving said slide forward, an inclined surface for raising up and letting down the forward end of said slide as it is moved forward, and a 90 spring for moving said slide backward, substantially as shown.

15. In the car elevating and shipping device of a conveyer apparatus, the combination of the posts d d, frame D, platform D', 95 slide D<sup>2</sup>, toggle D<sup>4</sup>, and the plate d', substantially as shown.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. C. BLICKENSDECKER.  
HERVEY SMITH.

Witnesses:

J. K. HALLOCK,  
ROBT. H. PORTER.