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TAKE DOWN FOR MACHINE DRAWN CYLINDERS.

APPLICATION FILED FEB. 11, 1918.

1,281,914.

Patented Oct. 15, 1918.

2 SHEETS—SHEET 1.

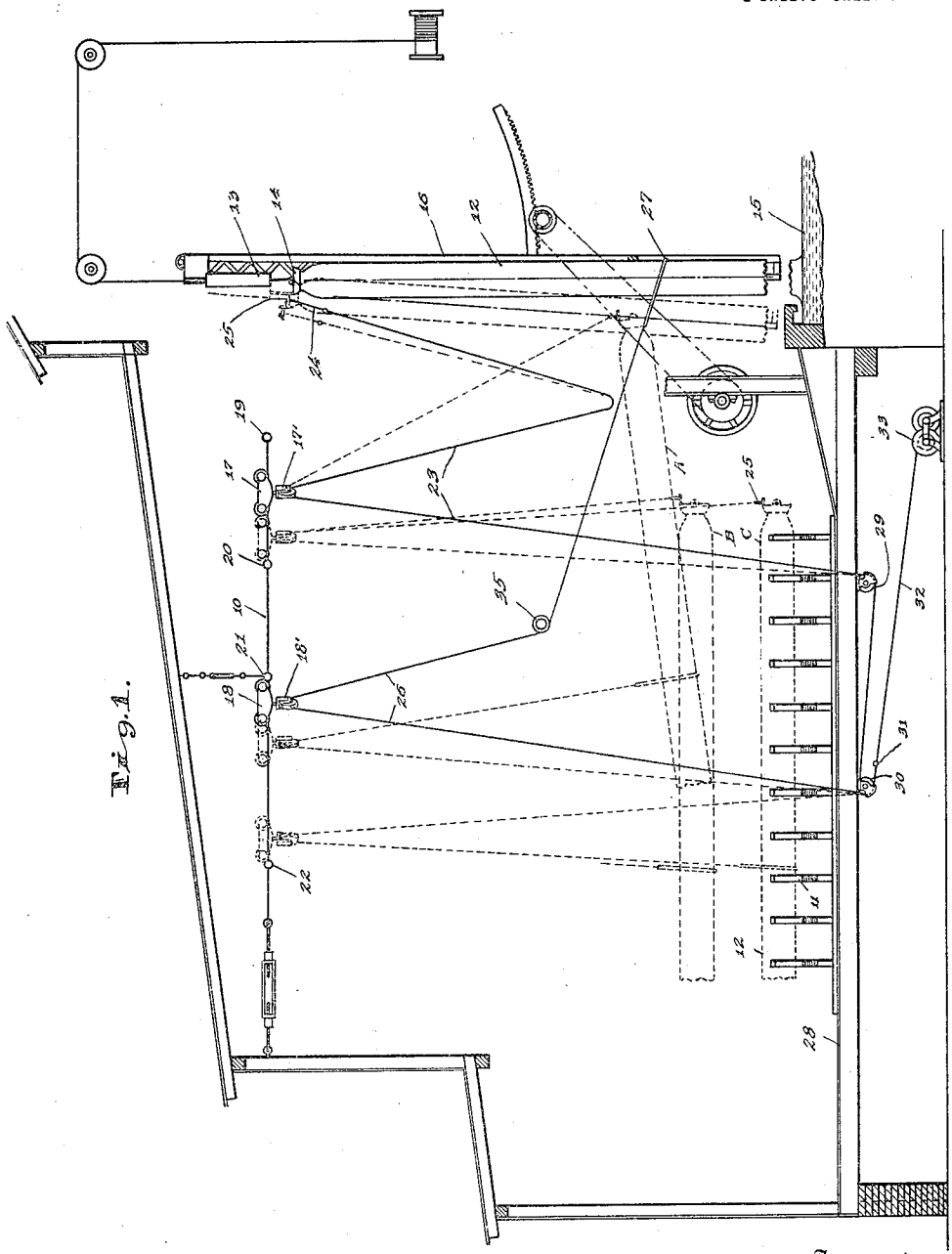



Fig. 1.

Witness
Frank A. Fahle

Inventor
Henry J. Douchamp,

By Woodworth Sheley
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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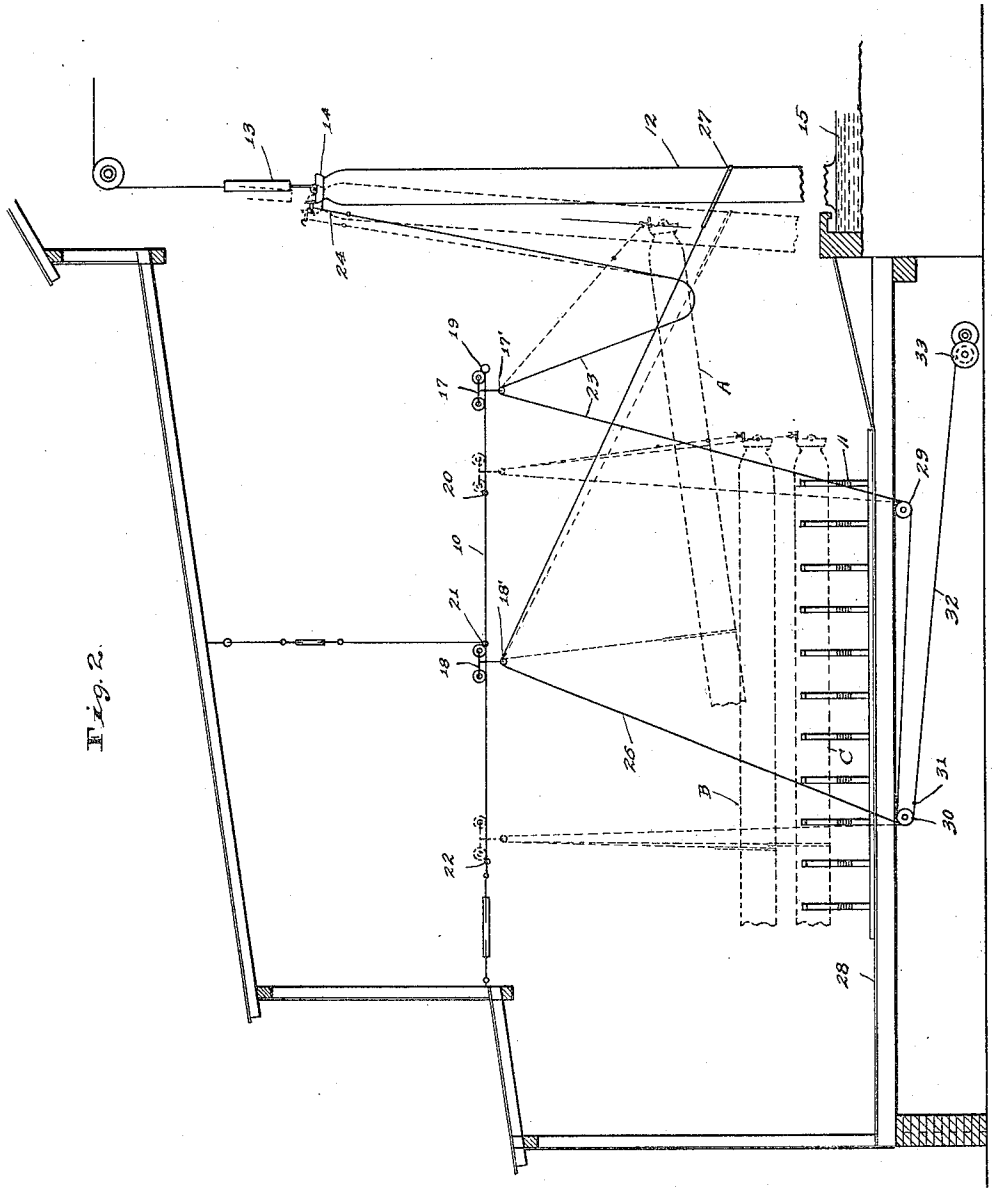



Fig. 2.

Witness
Frank A. Fahle

Inventor
Henry J. Douchamp,

By Hood & Schley
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

HENRY J. DOUCHAMP, OF SMETHPORT, PENNSYLVANIA, ASSIGNOR TO SMETHPORT GLASS COMPANY, OF SMETHPORT, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## TAKE-DOWN FOR MACHINE-DRAWN CYLINDERS.

1,281,914. Specification of Letters Patent. Patented Oct. 15, 1918.

Application filed February 11, 1918. Serial No. 216,600.

*To all whom it may concern:*

Be it known that I, HENRY J. DOUCHAMP, a citizen of the United States, residing at Smethport, in the county of McKean and State of Pennsylvania, have invented a new and useful Take-Down for Machine-Drawn Cylinders, of which the following is a specification.

The object of my invention is to produce an efficient device, by means of which the completed cylinders of glass, produced by machine drawing methods, may be readily taken down from their vertical position to a horizontal position and deposited upon a suitable horse, the mechanism being of such character as to be controllable by a single operator, conveniently the operator who has control of the drawing apparatus.

The accompanying drawings illustrate my invention. Figure 1 is a side elevation, largely diagrammatic in character, of an apparatus embodying my invention, and Fig. 2 is a similar view of substantially the same apparatus having, however, a lower track for the take down trolleys.

In the drawings, 10 indicates a tract extending outwardly from a point near the drawing apparatus and substantially parallel with the horse 11, upon which the completed glass cylinder 12 is to be deposited in a horizontal position. The track 10 may be of any desired character, either rigid, or somewhat vertically flexible, in which case the track will be formed of a cable supported at its ends only. This track may be located at any convenient height, depending somewhat upon the character of the building in which the apparatus is placed, so long as it is sufficiently high to clear the down-coming cylinder.

The cylinder 12 may be produced by any form of drawing apparatus comprising a hoisting mechanism 13, by means of which a bait 14 may be associated with the bath 15 and raised in a proper manner to cause the formation of a cylinder. In the drawings, I have illustrated this apparatus as of a well known type, wherein the hoisting apparatus 13 is guided in a swinging guide 16, the lower end of which may be swung outwardly, preliminary to the take down operation, so that the downward line of travel of the bait is somewhat inclined, relative to the vertical. While I have found that this particular arrangement is a convenience in the take down operation, it is by no means essential.

Mounted upon track 10 are two carriages, or trolleys, 17 and 18, which carry swiveled pulley blocks 17′ and 18′, respectively. The travel of carriage 17 on track 10 is limited by means of stops 19 and 20, and the travel of carriage 18 is limited by stops 21 and 22. Passing over, and supported by, the pulley of block 17′, is the bait-end take-down-cable 23, which is provided at its free end with a hook 24 which may be hooked into an eye 25, carried by bait 14. Passing over, and supported by, the pulley of block 18′ is the hole-end take-down-cable 26 which is provided at its free end with a hook, yoke or hoop 27 which may be slipped over, or associated with the hole-end of cylinder 12 in a manner common in the art.

I have found it desirable to reduce as much as possible the pulling effect of cables 23 and 26 upon the carriages 17 and 18 longitudinally of the track 10, and I have therefore found it convenient to carry these cables 23 and 26 down through the floor 28 to one side of the horse 11, of course leaving passageway between these cables and the horse. Cable 23 is passed beneath a guide pulley 29 and over a guide pulley 30, passing also beneath guide pulley 30 alongside of cable 26, which is carried beneath guide pulley 30. The two cables 23 and 26 are connected together at 31 and from that point continue as a single cable 32 to a winding drum 33, which may be conveniently electrically driven, so that it may be controlled from a distant point, such, for instance, as the controlling pulpit of the drawing apparatus (not shown). It will be readily understood that considerable variation may be had in the manner of operating the two cables 24 and 25 without departing from my invention.

The lengths of the two cables 23 and 26 are determined primarily by the distances between the rearmost positions of carriages 17 and 18, and the bait-end of the cylinder and the point of normal association of the hoop 27 with the hole end of the cylinder, when the cylinder is on the horse 11, the cables being so adjusted in lengths, relative to their point of junction 31, that the cylinder may be raised and lowered in a substan-

tially horizontal position. Cable 26 must, of course, be of sufficient length to permit the hoop 27 to be associated with the hole end of the cylinder 12 when it is ready to be taken down, and when this is done, and the relationship already mentioned also established, the cable 23 will have considerable slack in it during the formation of the cylinder and during the initial portions of the take down operation.

In operation, the winding drum 33 will be backed off so that the free ends of cables 23 and 26 may be drawn forwardly to the required amount. Hook 24 is then associated with eye 25 of bait 14, some time during, or prior to, its rise in the drawing operation. When the cylinder 12 has been completed, the hoop 27 will be associated with the hole end of the cylinder in the manner indicated in full lines in the drawings, or this association may be delayed until the lower end of guide 16 has been swung to the position indicated in dotted lines in Fig. 1, if the apparatus is equipped with this swinging cage guide. Thereupon, the operator will lower bait 14 and at the same time drum 33 will be operated so as to draw in cables 23 and 26, this operation taking place with a speed coördinated with the lowering movement of the bait until the cylinder 12 is drawn out nearly to a horizontal position, as indicated by the position A, at which time cable 23 will have all of its slack taken up and be tightened upon the bait 14, whereupon the bait will be drawn away from its hoisting apparatus 13 and the cylinder will swing automatically to the position B, where it is substantially horizontal and vertically above the horse 11. It may be that at times the automatic outward swing of the cylinder 12 may not be quite far enough to bring the cylinder directly vertically above the horse, in which case a slight push lengthwise of the cylinder will cause the carriages 17 and 18 to move outwardly along track 10, until the cylinder is vertically above the horse, whereupon a backward movement of the winding apparatus 13 will serve to lower the cylinder to the position C on horse 11. Where the track 10 is elevated to a point above the highest draw point, it is advisable, in order to prevent an upward slipping of the hoop 27 during the early take down movement, to provide a pulley 35 under which the cable 26 must be passed in order to associate the hoop with the cylinder. Where the track 10 is located at a lower point, as indicated in Fig. 2, the pulley 35 may be dispensed with.

I claim as my invention:

1. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, two independent carriages mounted on said track at different points in its length, and each of said carriages carrying a support over which a cable may be passed, a bait-end cable passed over the cable support of one of said carriages and provided with means for engaging the bait end of the cylinder, a hole-end cable passed over the cable support of the other carriages and provided with means to engage the hole-end of the cylinder, and means for taking up the slack in said cables during lowering of the bait end of the cylinder, and for paying out said cables to lower the cylinder after it has been separated from its initial lowering means.

2. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, a carriage mounted on said track and carrying a support over which a cable may be passed, a bait-end cable passed over the cable support of said carriage and provided with means for engaging the bait end of the cylinder, a hole-end cable provided with means to engage the hole end of the cylinder, an elevated support for said hole-end cable beyond the carriage which supports the bait-end cable, and means for simultaneously taking up and paying out said cables.

3. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, a carriage mounted on said track and carrying a support over which a cable may be passed, a bait-end variable-length cable passed over the cable support of said carriage and provided with means for engaging the bait end of the cylinder, a hole-end variable-length cable provided with means to engage the hole end of the cylinder, and an elevated support for said hole-end cable beyond the carriage which supports the bait-end cable.

4. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, a carriage mounted on said track and carrying a support over which a cable may be passed, a hole-end variable-length cable passed over the cable support of said carriage and provided with means for engaging the hole-end of the cylinder, a bait-end variable-length cable provided with means for engaging the bait-end of the cylinder, and an elevated support for said bait-end cable between the carriage and the lowering means.

5. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, a carriage mounted on said track and carrying a support over which a cable may be passed, a hole-end variable-length cable passed over the cable

support of said carriage and provided with means for engaging the hole-end of the cylinder, a bait-end variable-length cable provided with means for engaging the bait-end of the cylinder, an elevated support for said bait-end cable between the carriage and the lowering means, and means for simultaneously taking up and paying out said cables.

6. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, two independent carriages mounted on said track at different points in its length, and each of said carriages carrying a support over which a cable may be passed, a bait-end variable-length cable passed over the cable support of one of said carriages and provided with means for engaging the bait-end of the cylinder, and a hole-end variable-length cable passed over the cable support of the other carriage and provided with means to engage the hole-end of the cylinder.

7. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, two cable supports movably mounted on said track, a bait-end cable passed over one of said movable supports and provided with means for engaging the bait-end of the cylinder, a hole-end cable passed over the other of said movable supports and provided with means to engage the hole-end of the cylinder, and means for simultaneously taking up and paying out said cables.

8. A take-down apparatus comprising means for lowering the bait-end of the cylinder, an elevated track extending outwardly relative to this means, two cable supports movably mounted on said track, a bait-end variable-length cable passed over one of said movable supports and provided with means for engaging the bait-end of the cylinder, and a hole-end variable-length cable passed over the other of said movable supports and provided with means to engage the hole-end of the cylinder.

In witness whereof, I have hereunto set my hand at Smethport, Pennsylvania, this 31st day of January, A. D. one thousand nine hundred and eighteen.

HENRY DOUCHAMP.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."