

Sept. 23 , 1924.

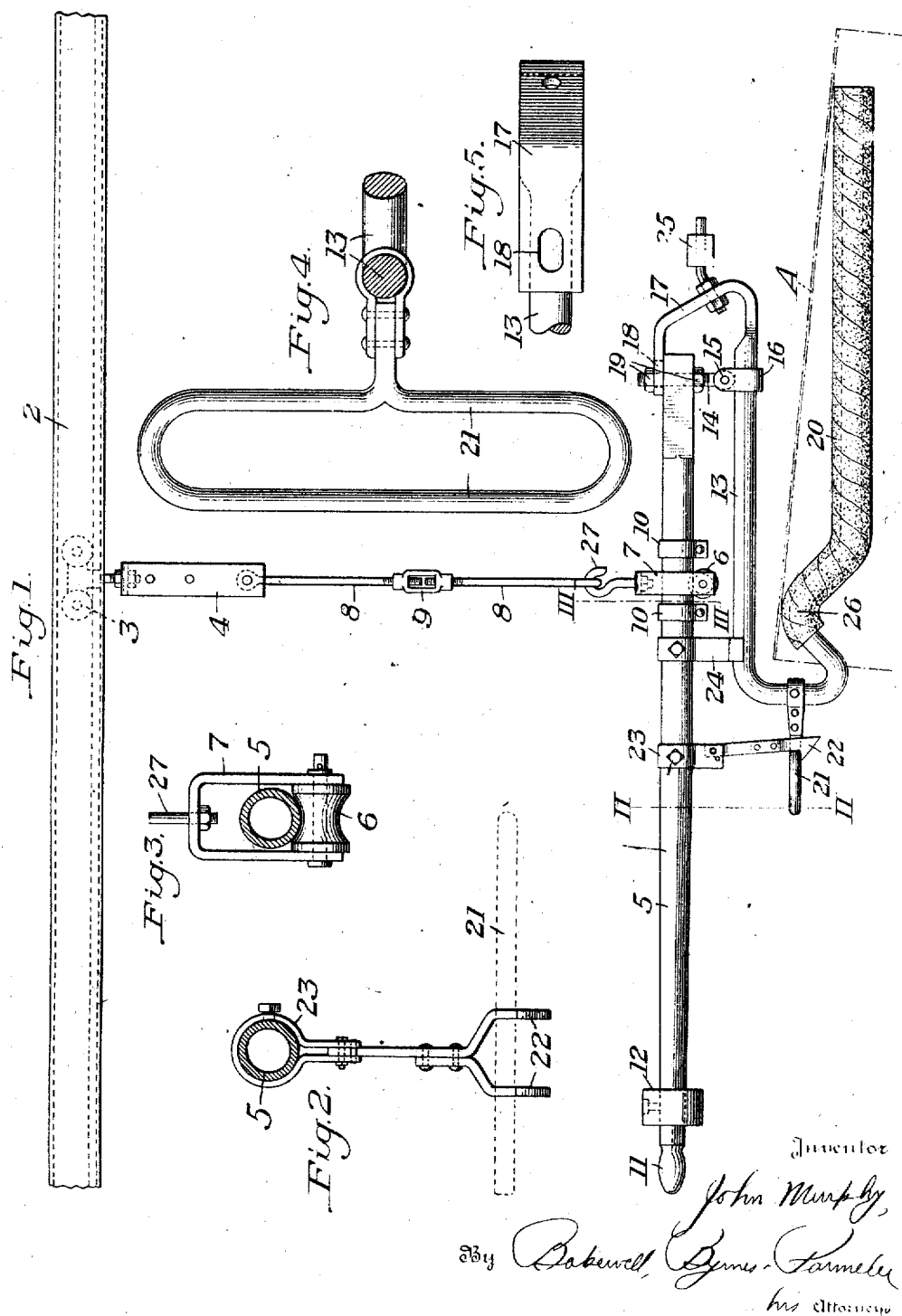
J. MURPHY

1,509,687

APPARATUS AND METHOD FOR TRANSFERRING GLASS CYLINDERS

Original Filed July 26, 1920

2 Sheets-Sheet 1



Sept. 23, 1924.

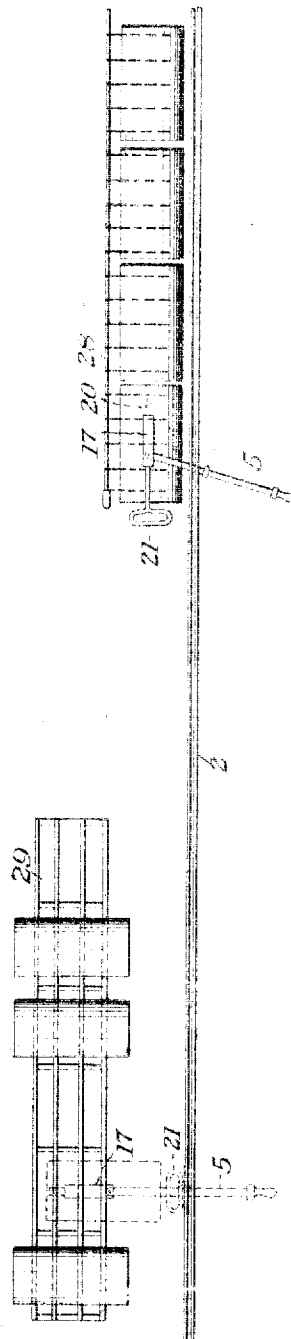
J. MURPHY

1,509,687

APPARATUS AND METHOD FOR TRANSFERRING GLASS CYLINDERS

Original Filed July 26, 1920 2 Sheets-Sheet 2

Fig. 6.



INVENTOR

John Murphy,
By: Lynde, DeBrie, Dwyer & Vannelli
Attorneys

UNITED STATES PATENT OFFICE.

JOHN MURPHY, OF HARTFORD CITY, INDIANA, ASSIGNOR TO WINDOW GLASS MACHINE COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

APPARATUS AND METHOD FOR TRANSFERRING GLASS CYLINDERS.

Application filed July 26, 1920, Serial No. 398,904. Renewed January 2, 1923.

To all whom it may concern:

Be it known that I, JOHN MURPHY, a citizen of the United States, residing at Hartford City, Blackford County, State of Indiana, have invented a new and useful Improvement in Apparatus and Methods for Transferring Glass Cylinders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification in which—

Figure 1 is a side elevation of a carrier device embodying my invention;

Figures 2, 3, 4 and 5 are detail views hereinafter more fully described; Figures 2 and 3 being sections taken on the lines II—II and III—III of Figure 1, respectively, and Figure 6 is a diagrammatic plan view showing a transfer system including the usual capping horses and the splitting bucks.

My invention has relation to means for carrying glass cylinders, and is designed to provide a simple and convenient device, whereby glass cylinders or rollers may be readily transported from one place to another without danger of breakage.

The nature of my invention will be best understood by reference to the accompanying drawing, in which I have shown the preferred embodiment thereof and which will now be described, it being premised, however, that various changes can be made in the details of construction, arrangement and combination of the various parts, without departing from the spirit and scope of my invention as defined in the appended claims.

In these drawings, the numeral 2 designates an overhead track of any suitable character and which may be supported in any well known manner. 3 designates a carriage adapted to travel on the track 2 and from which is suspended a hanger 4. 5 designates a carrier arm or bar which, in the construction shown, is of cylindrical form and which is mounted on a roller 6, of a hook block 7, which is suspended from the hanger 4, by means of the rod 8. This rod is preferably made in two sections adjustably connected by a turn buckle 9. The member 5 is capable of a limited longitudinal movement upon the roller 6, of the hook block 7, this movement being limited by the stop collars 10. One end portion of the member 5 is preferably shaped to constitute

a handle 11. 12 is a counterweight adjustably mounted on said member.

13 designates a support for the cylinders to be transported, one of which is indicated in dotted lines at A in Figure 1. This support is generally of U shape with its arms extending horizontally, and the open end of the U being directed oppositely to the handle 11. It is supported from that end of the member 5 which is opposite the handle 11 by a swivel bolt 14, to which is pivoted at 15 a strap or collar 16, secured to the upper arm of the support. The arm 13 is extended at the open end of the support to form the upwardly and rearwardly bent strap 17, whose upper rearwardly directed portion is formed with a slot 18, which engages the bolt 14. The bolt is capable of limited vertical adjustment by means of the nuts 19. The lower arm of the strap is preferably provided with a covering 20, of felt or other suitable material. The closed end of the support is provided with a horizontally projecting looped handle member 21, which is designed to be engaged by the bifurcated latch 22, which is pivoted at its upper end to a collar 23 on the carrier 5.

24 is a stop, also secured to said carrier and adapted to engage the upper arm of the support 13, when the parts are in the position shown in Figure 1, so as to maintain a definite relation between the carrier and support. The strap portion 17 is also preferably provided with a counterweight 25.

From the foregoing, it will be understood that the carriage 3 is movable upon the track 2 to any desired point; that the carrier 5 is flexibly and rotatably suspended from the hanger of this carriage; that it is capable of a limited longitudinal movement in the hook block 7; and that the support 13 is capable of being turned in a horizontal plane with the swivel bolt 14, also that it is capable of a limited and down movement on the pivot 15, to the extent permitted by the slot 18.

In operation, the operator by grasping the handle 11, propels the trolley or carriage 3 to the desired point on the track 2, with respect to the cylinders to be carried. The support 13 is then swung at any desired angle with respect to the carrier arm 5, the latch 22 having been disengaged. The sup-

port can then be given such a vertical movement on the pivot 15, and angular movement on the swivel bolt 14, as may best bring it into position to be readily thrust endwise within the open-ended cylinder A to be carried. The cylinder can then be lifted off the support on which it previously rested. The cylinder is then carried upon the lower arm of the support. The latter is preferably formed with a hump 26, so as to hold the cylinder thereon in an inclined position in order to facilitate its removal. When so lifted from its former support, the parts may be locked in the position shown in Figure 1, by means of the latch 22. The carrier, support and cylinder can then be turned horizontally upon the swivel hook 27, and the operator then propels the carrier and cylinder to any desired point.

The device is particularly useful in carrying glass cylinders or rollers from the bucks or horses upon which they have been supported while being capped off and severed to the splitting bucks, but may be used wherever it is desired to move glass cylinders or rollers from one position to another. Such a system is shown in Figure 6, wherein 28 illustrates a capping off horse where the long cylinder is capped off into sections. 2 is the overhead track leading to the splitting buck and 29 is the splitting buck.

The apparatus form a simple and convenient means for lifting and transporting cylinders with comparative ease, the construction being such that the lifting, carrying and delivering of the cylinder can be carried out with safety.

I claim:

1. A carrying device for glass cylinders, comprising an overhead track, a carrier arm flexibly suspended from said track to travel thereon, and a supporting arm mounted on the carrier and mounted for horizontal and vertical movement relative to said carrier and being adapted for endwise insertion into a glass cylinder, substantially as described.

2. A carrying device for glass cylinders, comprising an overhead track, a carrier suspended from said track to travel thereon, and a U-shaped supporting member mounted on the carrier and having a free arm which is adapted for endwise insertion into a glass cylinder, substantially as described.

3. A carrying device for glass cylinders comprising an overhead track, a carrier arm flexibly suspended from said track to travel thereon, and a supporting device mounted for horizontal and vertical movement independent of the carrier and being adapted for engagement with a glass cylinder, substantially as described.

4. A carrying device for glass cylinders, comprising an overhead track, a carrier arm

flexibly suspended from said track to travel thereon, said carrier being mounted for horizontal turning movement on its suspension, and a supporting member mounted for horizontal and limited vertical movement independent of said carrier and having a free end adapted to engage a glass cylinder, substantially as described.

5. A carrying device for glass cylinders, comprising an overhead track, a carrier arm flexibly suspended from said track to travel thereon, said carrier being mounted for endwise movement with respect to its point of suspension, and a supporting member mounted on the carrier and adapted for engagement with a glass cylinder, substantially as described.

6. A carrying device for glass cylinders, comprising an overhead track, a carrier flexibly suspended from said track to travel thereon, a cylinder engaging and supporting member suspended from the carrier and mounted for horizontal and vertical movement relative to said carrier, said member having a free arm adapted for endwise insertion into a glass cylinder and means for fixing said member relative to said carrier, substantially as described.

7. A carrying device for glass cylinders, comprising an overhead track, a carrier arm suspended from said track to travel thereon, and a cylinder-engaging device having a swivel connection with the carrier, substantially as described.

8. A carrying device for glass cylinders, comprising an overhead track, a carrier arm suspended from said track to travel thereon, and a cylinder-engaging device having a pivotal connection with the carrier, substantially as described.

9. A carrying device for glass cylinders, comprising an overhead track, a carrier suspended from said track to travel thereon, and a cylinder-engaging device having a pivotal connection with the carrier, together with means for holding the supporting member in a fixed position with respect to the carrier, substantially as described.

10. A carrying device for glass cylinders, comprising a movable suspension therefor, and a cylinder-lifting and supporting member, said member being of U-shape with its arms extending horizontally, its lower arm being free for endwise insertion into a glass cylinder, and its upper arm having a movable connection with the movable suspension, substantially as described.

11. A carrying device for glass cylinders, comprising a movable suspension therefor, and a cylinder-lifting and supporting member, said member being of U-shape with its arms extending horizontally, its lower arm being free for endwise insertion into a glass cylinder and its upper arm having a movable connection with the movable

suspension, together with means for holding the supporting member in fixed relation to the carrier, when desired, substantially as described.

12. A carrying device for glass cylinders, comprising a movable suspension therefor, and a cylinder-lifting and supporting member, said member being of U-shape with its arms extending horizontally, its lower arm being free for endwise insertion into a glass cylinder, and its upper arm having a connection with the movable suspension, substantially as described.

13. A carrying device for glass cylinders, comprising an overhead track, a carrier arm suspended from said track to travel thereon, and a supporting arm mounted on the carrier for endwise insertion into a glass cylinder, said supporting arm being constructed to maintain the cylinder in inclined position thereon, substantially as described.

14. The method of transferring severed cylindrical glass section from a capping horse to a splitting station, which includes moving a transfer device into lifting position with a section lying on the horse, causing relative movement between the horse and the transfer device and thereby lifting the section from the horse, and moving the transfer device together with the section supported thereby to the splitting station, the section during such lifting and such movement to the splitting station being supported entirely by the transfer device and out of supporting contact with the operator, thereby avoiding stains and local stresses, substantially as described.

15. The method of transferring severed cylindrical glass sections from a capping horse to a splitting station while maintained out of supporting contact with the operator to thereby avoid stains and local stresses in the glass, which includes moving a transfer device into lifting position with a section lying on the horse, lifting the section from the horse by the transfer device, moving the transfer device together with the section supported thereby to the splitting station, and transferring the section from the transfer device to the splitting station, substantially as described.

16. The method of transferring severed cylindrical glass sections from a capping horse to a splitting station while maintained out of supporting contact with the operator to thereby avoid stains and local stresses in the glass, which includes moving a transfer device into lifting position with a section lying on the horse, lifting the section from the horse by the transfer device, moving the transfer device together with the section supported thereby to the splitting station, and then causing endwise movement of the cylinder relative to the transfer device to leave the cylinder on a splitting

buck at said station, substantially as described.

17. The method of transferring severed cylindrical glass sections from a capping horse to a splitting station while maintained out of supporting contact with the operator to thereby avoid stains and local stresses in the glass, which includes moving the transfer device adjacent a section lying on the horse, transferring the section from the horse directly to the transfer device by producing relative movement therebetween, and moving the transfer device together with the section supported thereby to the splitting station, substantially as described.

18. In a system for handling blown glass cylinders a capping horse and a splitting station, a glass handling apparatus, comprising a transfer device movable between the capping horse and the splitting station and arranged to mechanically lift the sections from the capping horse for transfer to the splitting station, substantially as described.

19. In a system for handling blown glass cylinders a capping horse and a splitting station, and overhead transfer device movable between the capping horse and the splitting station and arranged to mechanically lift a cylindrical section from the capping horse for transfer to the splitting station, substantially as described.

20. In combination with a capping horse and a splitting station, an overhead transfer device movable between the capping horse and the splitting station and arranged to mechanically lift a cylindrical section from the capping horse for transfer to the splitting station, said transfer device including a supporting arm arranged to enter the cylindrical glass section and engage its upper portion, substantially as described.

21. In combination with a capping horse and a splitting station, an overhead transfer device movable between the capping horse and the splitting station and arranged to mechanically lift a cylindrical section from the capping horse for transfer to the splitting station, said transfer device including a supporting arm arranged to enter the cylindrical glass section and engage its upper portion, and a depending carrier for the arm, the parts being arranged to allow tilting and turning of the arm, substantially as described.

22. The method of transferring severed cylindrical glass sections from a capping horse to a splitting station, which includes moving a transfer device into lifting position with a section lying on the horse, causing relative movement between the horse and the transfer device and thereby lifting the section from the horse, moving the transfer device together with the section sup-

ported thereby to the splitting station, and turning the cylinder out of line during such movement, the section during such lifting and such turning and transferring movement to the splitting station being supported entirely by the transfer device and out of supporting contact with the operator, thereby avoiding stains and stresses, substantially as described.

10 23. In the method of making window glass, the steps of transferring severed sections of a glass cylinder one after another from a horse to a splitting station by moving a transfer device into lifting position
15 with a section lying on the horse, causing relative movement between the horse and the transfer device and thereby lifting the section from the horse, moving the transfer device together with the section supported thereby to the splitting station, the
20 section during such lifting and such movement to the splitting station being supported entirely by the transfer device and out of supporting contact with the operator,

thereby avoiding stains and stresses, substantially as described. 25

24. In the method of making window glass, the steps of transferring severed sections of a glass cylinder one after another from a horse to a splitting station by moving a transfer device into lifting position with a section lying on the horse, causing relative movement between the horse and the transfer device and thereby lifting the sections from the horse, moving the transfer device together with the section supported thereby to the splitting station, and turning the cylinder out of line during such movement, the section during such lifting and such turning and transferring movement being supported entirely by the transfer device and out of supporting contact with the operator, thereby avoiding stains and local stresses, substantially as described. 35 40

In testimony whereof, I have hereunto set my hand. 45

JOHN MURPHY.

Certificate of Correction.

It is hereby certified that in Letters Patent No. 1,509,637, granted September 23, 1924, upon the application of John Murphy, of Hartford City, Indiana, for an improvement in "Apparatus and Methods for Transferring Glass Cylinders," an error appears requiring correction as follows: Page 3, line 3, claim 11, for the word "carrier" read *movable suspension*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of November, A. D. 1924.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.