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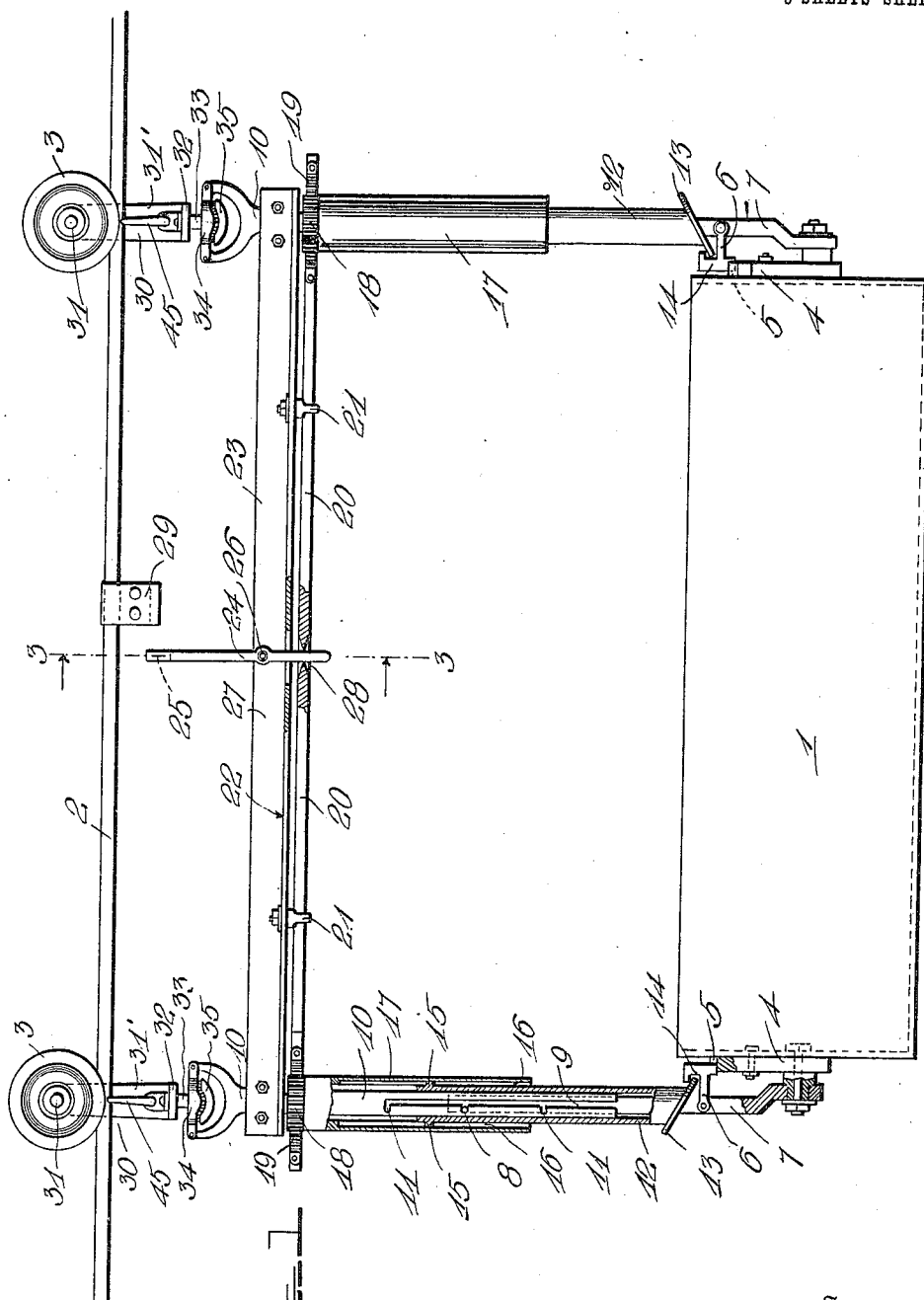
AUTOMATIC OVERHEAD CARRIER.

APPLICATION FILED JUNE 27, 1910.

994,071.

Patented May 30, 1911.

3 SHEETS—SHEET 1.



Witnesses

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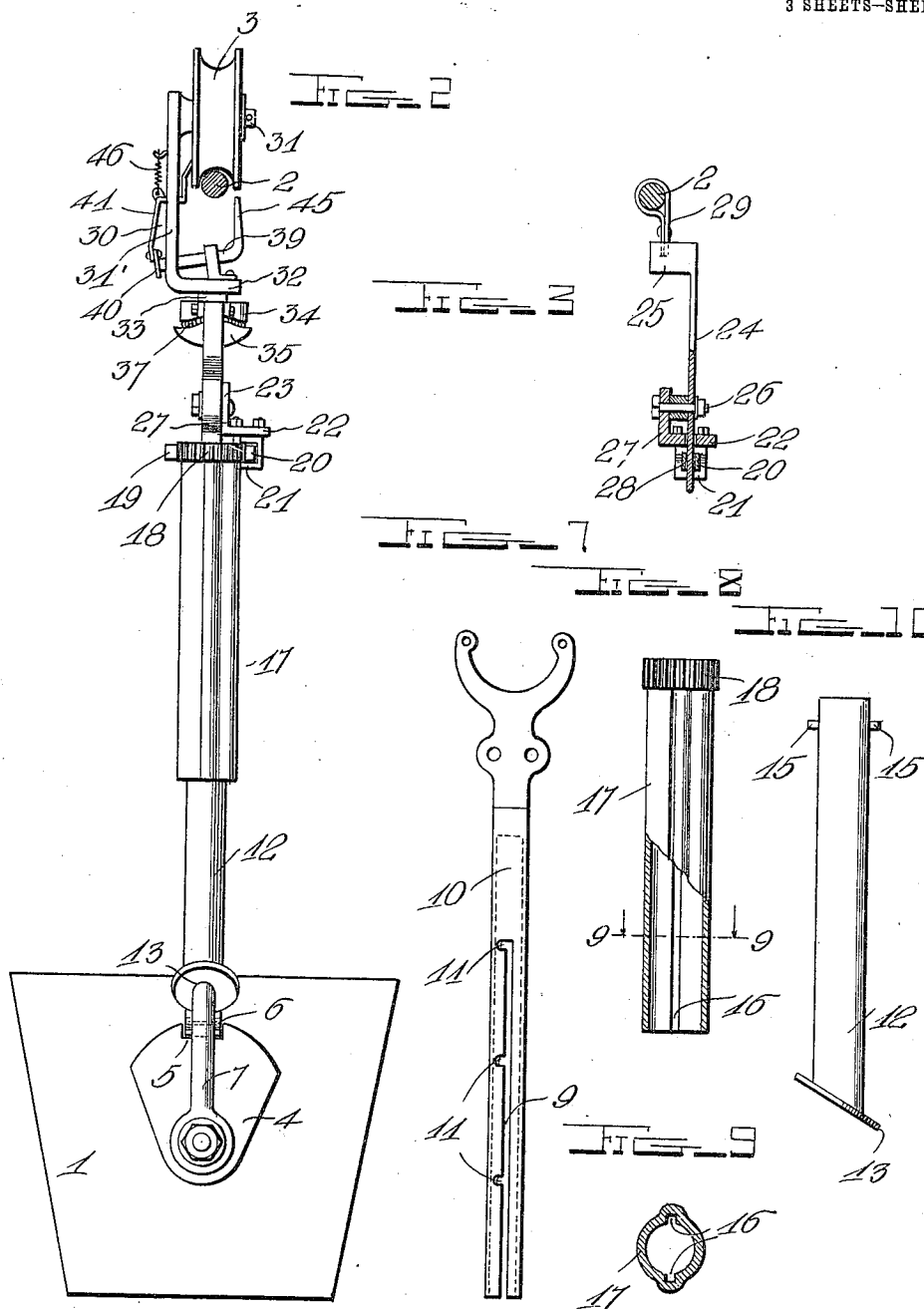
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3 SHEETS-SHEET 2.



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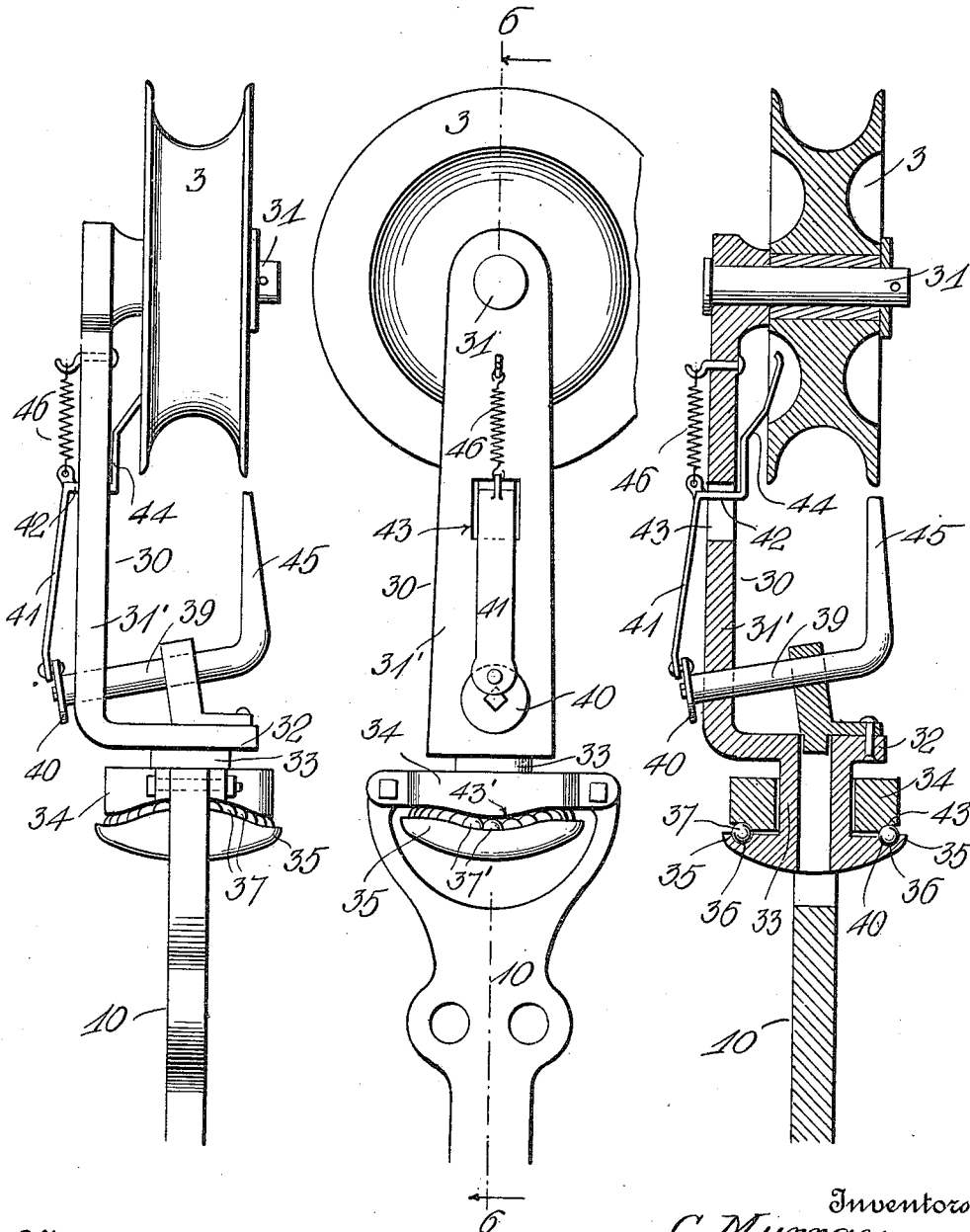
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3 SHEETS—SHEET 3.

FIG. 4

FIG. 5

FIG. 6



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UNITED STATES PATENT OFFICE.

JEREMIAH C. FITZGERALD AND CHRIST MURRAY, OF DE KALB, ILLINOIS.

AUTOMATIC OVERHEAD CARRIER.

994,071.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed June 27, 1910. Serial No. 569,059.

To all whom it may concern:

Be it known that we, JEREMIAH C. FITZGERALD and CHRIST MURRAY, citizens of the United States, residing at De Kalb, in the county of Dekalb and State of Illinois, have invented certain new and useful Improvements in Automatic Overhead Carriers; and we do 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 overhead carriers for transporting grain, coal, ashes and the like from place to place.

The primary objects of this invention are, first, to provide a carrier of this kind which shall be simple and inexpensive in construction, strong, durable and efficient in operation; second, to provide suitable latch devices for holding the car or receptacle in which the material is placed, in operative position; third, to provide a suitable swivel connection between the carrier wheels and the frame for the carrier, whereby the wheels will be allowed to turn at various angles with relation to the supporting frame and for this reason permit the carrier to easily round curves and will be brought into exact alinement when on a straight stretch of track; and, fourth, to provide an automatic trip device operable to release the latch devices from the carrier at any suitable point along the track and irrespective of the elevation of the carrier with the track.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings,—Figure 1 is a side elevation of the car carrier and a section of the track. Fig. 2 is an end elevation of Fig. 1. Fig. 3 is a vertical transverse section taken on the line 3—3 of Fig. 1. Fig. 4 is an end elevation of one of the carrier wheels and hanger members. Fig. 5 is a view looking at right angles to Fig. 4. Fig. 6 is a vertical transverse section taken on the line 6—6 of Fig. 5. Fig. 7 is a detail view of the upper hanger member. Fig. 8 is a detail elevation, partly broken away, of

a pinion carrying sleeve; Fig. 9 is a section on the line 9—9 of Fig. 8; and Fig. 10 is a detail view of a latch engaging sleeve.

Referring to the drawings for a more particular description of the invention, 1 indicates the body of the carrier in which the material to be transported is placed, 2 the track, 3 the carrier wheels which travel on the track. The carrier body 1 is provided at opposite ends with the locking plates 4, provided with notches 5, adapted to receive the pivoted latches 6 when the body is swung into operative position. The car body is pivotally mounted upon the lower ends of the hanger bars 7, to which the latches 6 are pivoted. The hanger bars 7 are provided with lateral extensions 8, which are adapted to slide through longitudinal slots 9 of the upper hanger members 10 and to be brought into engagement with any one of a series of lateral notches or recesses 11 formed in one of the side walls of the slot, whereby the hanger bars 7 may be held at different vertical adjustments to provide for the raising or lowering of the car body with relation to the track. Latch-engaging sleeves 12 are arranged on the lower ends of the hanger bars 10 and are provided at their lower ends with the cam shoulders 13, which engage recesses 14 in the latch devices 6, by which construction the latch devices may be lifted out of the notches 5 of the locking plates 4, by turning the latch-engaging sleeves 12 in either direction. The sleeves 12 are provided at their upper ends and at diametrically opposite points with extensions 15, which slide in corresponding longitudinal recesses 16 formed in the inner surfaces of the pinion-carrying sleeves 17, by means of which connection a turning movement imparted to the pinion-carrying sleeves will, in turn, communicate a corresponding movement to the latch-engaging sleeves 12 and result in the lifting of the latches 6 and the dumping of the car body. The upper ends of the sleeves 17 are provided with pinions 18, with which are engaged racks 19 formed at opposite ends of the rack bar 20, mounted for longitudinal sliding movement in guides 21 depending from the horizontal flange 22 of the angle bar 23. A trip lever 24 provided at its upper end with a lateral extension 25 is

pivoted, as at 26, to the vertical flange 27 of the angle bar 23, with the lower end of said lever passing through a longitudinal slot 28 formed in the horizontal flange 22 of the bar 23 and engaging the rack bar 20. A contact 29 is arranged at any suitable point along the track where it is desired to dump the contents of the material in the car body, said contact being arranged in the path of movement of the extension 25 of the trip lever 24. From the foregoing, it will be perceived that when the flange 25 of the trip lever engages the contact, the trip lever will be actuated and, in turn, will impart an endwise movement to the rack bar 20, which, in turn, through the medium of the connections described, will release the latches 6 from the notches 5 and permit the car body to swing down into dumping position.

The upper hanger members 10 are connected with the carrier wheels 3 by the wheel hangers 30 provided at their upper ends with the axles, on which the carrier wheels are revolubly mounted. The hanger members 30 comprise the flat body portions 31, the horizontal portions 32 formed at the lower ends of the body portions 31, and the tubular depending bearing portions 33 which extend through the top bars 34 of the hanger members 10 and are provided with the annular flanges 35, forming a ball race 36, in which is arranged a series of bearing balls 37. By this means, a swivel connection is formed between the wheel hangers and the hanger members 10 which allows the carrier wheels 3 to turn at various angles with relation to the car body and for this reason easily round a curve in the track.

The car or carrier is equipped with a combination brake and safety device comprising a rock shaft 39 mounted in the lower end of each of the wheel hangers 30 and provided at one end with the disk 40 to which is eccentrically connected the lower end of the brake bar 41, a portion 42 of which extends through a guide slot 43 in the body portion 31 of the hanger and connects with the wheel-engaging portion 44. Each of the shafts 39 is provided at its end opposite the disk 40 with a vertically disposed extension 45, which, when in vertical position, terminates at a point just beneath the adjacent wheel and thus acts as a guard to prevent the wheel from jumping the track. Coil springs 46 are attached at their lower ends to the brake bars 41, and at their upper ends to the body portions 31 of the hangers 30, and normally hold the wheel-engaging portions 44 of the brake members out of engagement with the carrier wheels 3. When the car is to be filled, the projections 45 are swung down into horizontal position, thus causing the wheel-engaging portions 44 to engage the wheels 3, whereby the latter are held against rotation.

The above described combination brake and safety device is fully set forth and claimed in an application No. 596,239, for Letters Patent filed by us on December the 8th, 1910.

Particular attention is invited to the fact that each ball race is provided with the downwardly curved portions 38' which are disposed opposite each other and in alignment with the ends of the wheel axle, between which are convex portions 43'. Owing to this construction, when the carrier wheels turn at an angle with a vertical plane, as in rounding a curve, as soon as another straight stretch of track is reached, the carrier wheels 3 immediately readjust themselves in normal position or in a true vertical plane.

It will be readily appreciated that our device provides means for adjusting the car to high or low ceilings without disturbing the engagement of the latches and the means for releasing the same, inasmuch as the cam sleeve 12 will automatically rise or fall in the pinion carrying sleeve 17 as the hanger members are adjusted.

As no weight is carried by the latch operating member, it may be made to frictionally engage the upper member of the hanger bar so that it will not rest on the latch and drop down as it is turned, or any other means may be utilized to that end. In actual practice, we prefer to provide the latch operating member with a horizontal slot which is engaged by a pin inserted there-through and secured in the hanger.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the present invention as defined in the appended claims.

What is claimed is:—

1. An overhead carrier comprising supporting wheels, a body or carriage to receive dirt or other material to be transported from one place to another, and vertically adjustable supporting means between the wheels and the carrier body or carriage consisting of a female member connected with the wheel and provided with a longitudinal slot and notches in one wall of the slot, and a male member rising from the carriage and provided with a lateral projection arranged to play in said slot and engage said notches.

2. An overhead carrier comprising supporting wheels, a body or carriage to receive dirt or other material to be transported from one place to another and vertically adjustable supporting means between the wheels

and the carrier body or carriage, means pivoted to said supporting means for holding the carriage in upright or dirt-receiving position, and a cam rotatably mounted on the supporting means and engaging said pivoted means to release the same.

3. An overhead carrier of the class described comprising a car or carriage, vertically adjustable supporting hangers for the carriage, carrier wheels, means for forming a swivel connection between the wheels and the carriage hanger members, said swiveled connections comprising a ball race having alternate convex and concave portions.

4. A carrier of the class described comprising track wheels, a pivotally mounted car or carriage, extensible supporting hangers between the wheels and the carriage, lock plates at the ends of the carriage, pivoted latches on the hanger members to engage the locking plates and normally hold the carriage in upright or dirt-receiving position, and cams rotatably mounted on the hangers and engaging the said latches.

5. A carrier of the class described comprising track wheels, a pivotally mounted car or carriage, extensible supporting hangers between the wheels and the carriage, lock plates at the ends of the carriage, pivoted latches on the hanger members to engage the locking plates and normally hold the carriage in upright or dirt-receiving position, and a self adjusting rotatably mounted tripping mechanism operable to disengage the latches with the lock plates, said tripping mechanism adapted to be actuated by a contact arranged at a suitable point along the track.

6. An overhead carrier of the class described comprising a car or carriage, supporting wheels, extensible hanger members between the wheels and carriage, pivoted latch devices at the lower ends of the hanger members to normally lock the carriage in receiving position, latch-engaging sleeves revolvably mounted on the hanger members and having cam shoulders at their lower ends to engage and release the latches when turned in either direction, and a tripping mechanism operable to turn the latch-engaging sleeves.

7. An overhead carrier of the class described comprising a car or carriage, supporting wheels, extensible hanger members between the wheels and carriage, pivoted latch devices at the lower ends of the hanger members to normally lock the carriage in receiving position, latch-engaging sleeves revolvably mounted on the hanger members and having cam shoulders at their lower ends to engage and release the latches when turned in either direction, and a tripping mechanism operable to turn the latch-engaging sleeves, said mechanism comprising

a rack and pinion connection and a tripping lever connected with the rack of said rack and pinion connection.

8. A carrier of the class described comprising track wheels a pivotally mounted car or carriage, latch devices to normally hold the carriage in receiving position, extensible hanger members between the wheels and carriage, latch-engaging sleeves revolvably mounted on the hanger members and having cam shoulders at their lower ends to engage and release latch devices when said sleeves are turned in either direction, pinion-carrying sleeves engaged with the latch-engaging sleeves, an endwise movable rack bar engaging the pinions of the pinion-carrying sleeves, and a pivoted trip device connected with the rack bar.

9. An overhead carrier comprising a revolvably mounted carriage, vertically adjustable supporting hangers to hold the carriage at different elevations with the track, latch devices for holding the carriage in operative position, and self adjusting rotatably mounted trip connections operable to disengage the latch devices from the carriage irrespective of the elevation or adjustment of the carriage with the track.

10. An overhead carrier of the class described, comprising a carriage, supporting hangers for the carriage, carrier wheels, hanger members depending from the wheels, ball races at the lower ends of the hanger members and crossheads at the upper ends of the supporting hangers having grooves to correspond with the ball races, the ball races having positively disposed downwardly curved portions which aline with the ends of the wheel axles, and the crossheads having convex portions directly opposite said downwardly curved portions of the ball races, whereby the carrier wheels are caused to assume a position in direct alignment after the car has rounded a curve and reaches a straight stretch of track.

11. The combination of carrier wheels, a carriage, telescopic hangers between the wheels and the carriage, latches mounted on the hangers and engaging the carriage to lock the same in holding position, telescopic releasing devices rotatably fitted in the hangers and engaging the latches, and means for automatically actuating said releasing devices.

12. The combination of carrier wheels, a carriage, hangers connecting the wheels to the carriage, latches mounted on the hangers and engaging the carriage, and sleeves rotatably fitted on the hangers and having inclined flanges at their lower ends engaging the latches whereby rotation of the sleeves will release the latches.

13. The combination of carrier wheels, a carriage, telescopic hangers connecting the wheels to the carriage, latches mounted on

the lower ends of the hangers engaging the carriage, cam sleeves mounted on the hangers and provided at their lower ends with lateral projections, sleeves fitting over the cam
5 sleeves and provided with internal grooves receiving the projections of the cam sleeves, and means for rotating the sleeves.

In testimony whereof we have hereunto

set our hand in presence of two subscribing witnesses.

JEREMIAH C. FITZGERALD.

CHRIST MURRAY.

Witnesses:

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M. J. HENAUGHAN.

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