Jan. 29, 1929. 1,700,711

E. W. SCHELLENTRAGER ET AL

CLAY CARRIER

Filed June 9, 1926 2 Sheets-Sheet 1

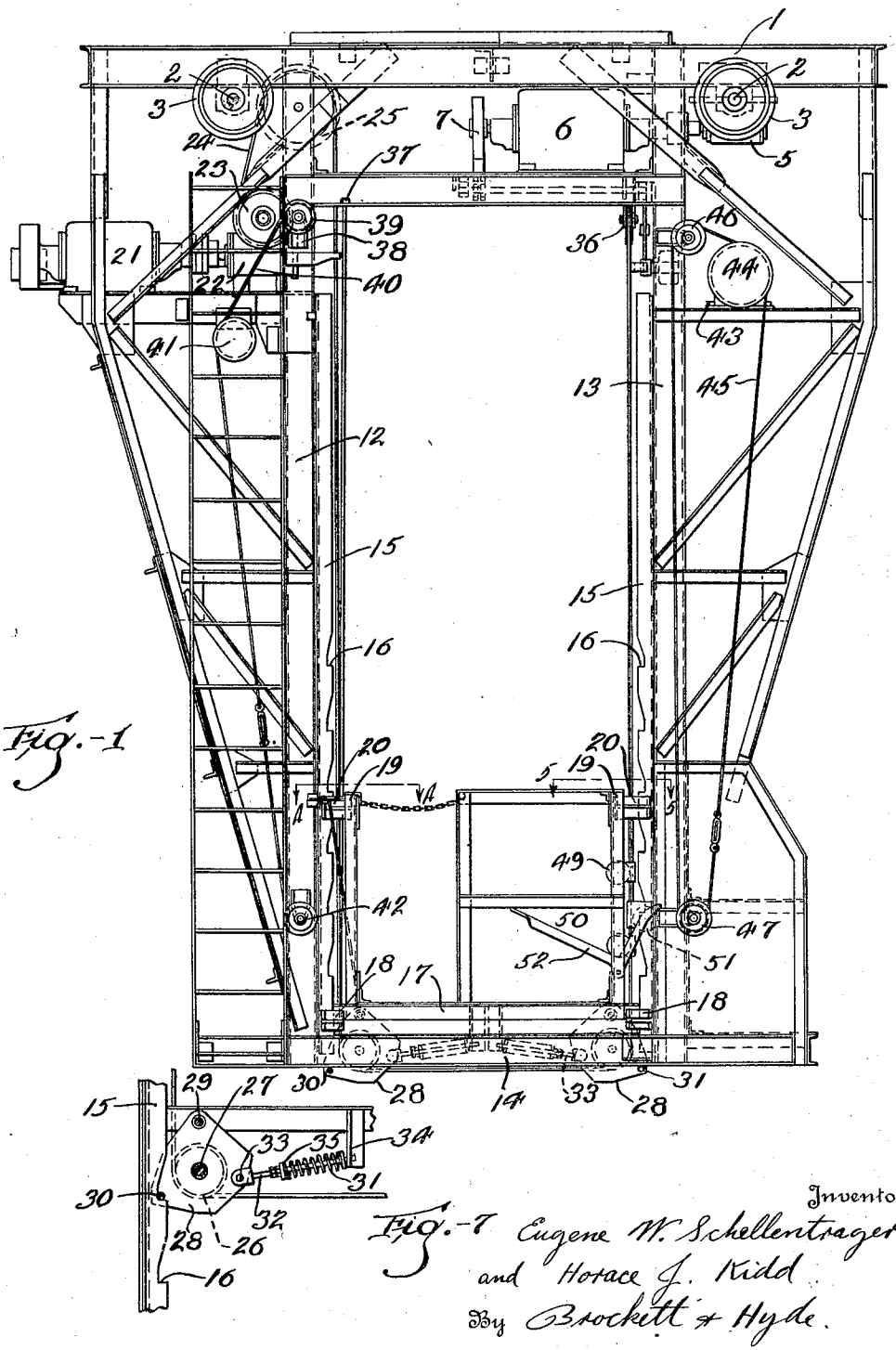



Fig. -1

Fig. -7

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Fig.-2

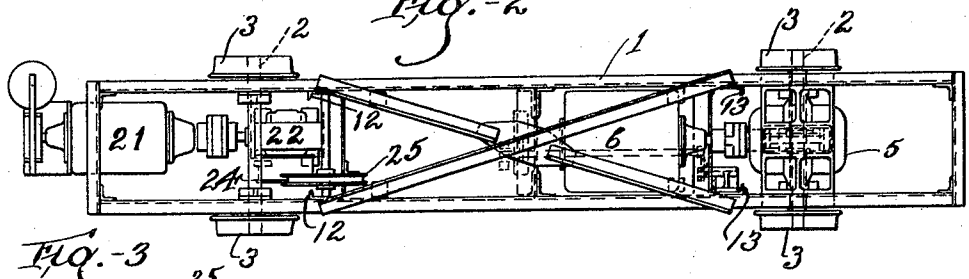
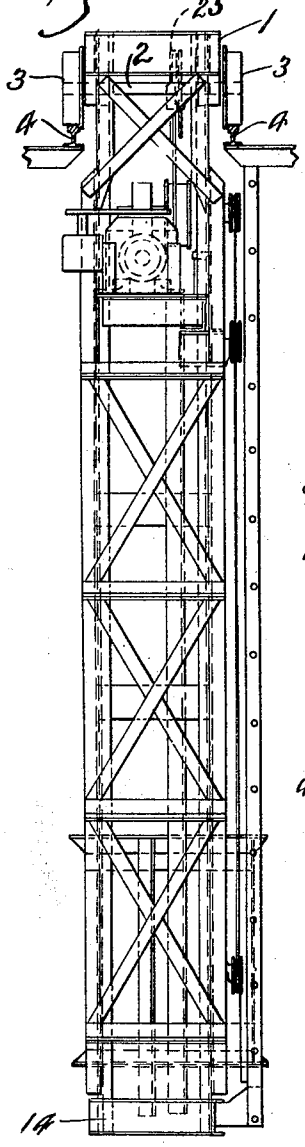



Fig.-3



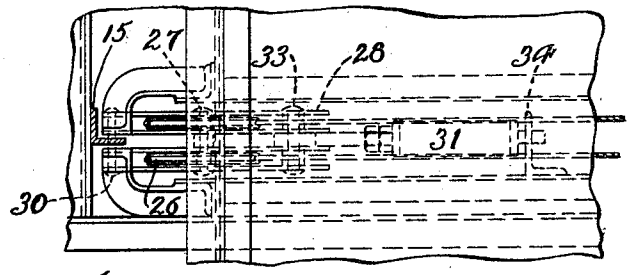




Fig.-4

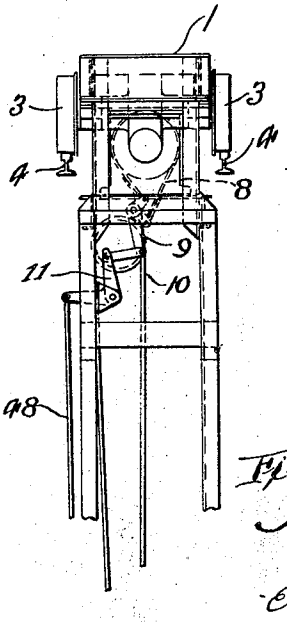



Fig.-6

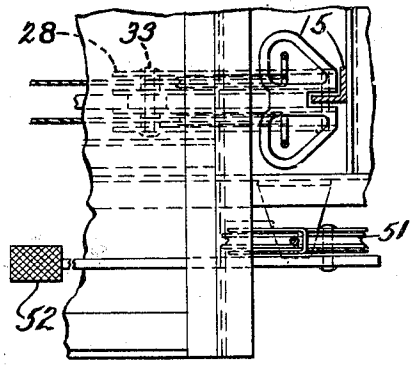



Fig.-5

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# UNITED STATES PATENT OFFICE.

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## CLAY CARRIER.

Application filed June 9, 1926. Serial No. 114,752.

This invention relates to clay carriers for use in connection with the doors of coke ovens and particularly to that class of such devices employing a car provided with an upwardly or downwardly extending frame work in which is mounted a suitable elevator. The invention herein described and claimed has particular reference to the manner of arranging the hoisting rope and means for catching the car or movable platform in case of failure of the hoisting mechanism.

Referring to the drawings, Fig. 1 is a side elevation of the device; Fig. 2 is a top plan; Fig. 3 is a view looking from left to right in Fig. 1; Fig. 4 is a section taken upon the line 4—4 of Fig. 1; Fig. 5 is a section taken upon the line 5—5 of Fig. 1; Fig. 6 is a view of a portion of the upper mechanism looking from right to left in Fig. 1; and Fig. 7 is a detailed view of one of the safety devices in engagement with one of the racks.

In the arrangement shown in the drawings, 1 represents the car or trolley frame which is mounted upon suitable axles 2 carrying supporting wheels 3 adapted to engage suitable rails 4 (Fig. 6) supported adjacent the coke oven. One of these axles is provided with a suitable transmission gearing 5 adapted to be operated by a motor 6 having a brake drum 7 adapted to be engaged by a brake band 8 connected through a suitable lever 9, link 10 and lever 11. This lever 11 is connected to a suitable brake operating mechanism which will be described.

The frame 1 is provided with a downwardly extending frame work comprising uprights 12 and 13 connected to a lower transverse frame work 14. Secured to the uprights 12 and 13 are rails 15, each of which is provided with a series of shoulders 16 extending as a group. Vertically movable between the uprights 12 and 13 and above the lower frame work 14 is an elevator platform 17 having guides 18 engaging the sides of the rails 15. The platform carries suitable side frames 19 extending upwardly and provided near their upper ends with guides 20 engaging the sides of the rails 15. This elevator platform is adapted to move up and down between the rails 15 and to be supported in any desired position by the elevating mechanism.

The elevating mechanism comprises a motor 21 mounted on the frame work and operating through suitable gearing 22 and a winding drum 23 which receives one end of a cable 24 passing upwardly over a sheave 25 and thence downwardly along the left side of the elevator and under a sheave 26 mounted upon a pin 27 carried by a safety latch frame. This safety latch frame comprises four plates 28 of substantially the shape shown in Fig. 7 mounted in a gang as a unit upon a pin 29 secured to the underside of the platform 17. There are two sheaves 26 in each of these latch members and the latch members are all connected by pin 30 at the outer corner as shown. Each one of these latch units is pressed outwardly toward the rail 15 by a spring 31 surrounding a rod 32 pivoted to the latch unit at 33 and passing through a suitable guide 34. The spring 31 thrusts against an adjustable collar 35. The normal tendency of each one of these latch members is to move outward and to cause the pin 30 to engage one of the shoulders 16. There is a similar one of these latch members at the opposite side of the car and the cable 24 after passing under the left hand one passes under the right hand one and thence up along the side of the car to the upper part of the frame work where it passes around a transversely arranged sheave 36 thence downward around the other pair of sheaves 26 on the safety latches and upward to the point 37 where it is dead ended in the frame. The weight of the platform and its load is sufficient to cause the safety latches by engagement with the bights of the rope to move inward thereby normally being held out of engagement with the shoulders of the rails 15. If, however, the cable should break these safety latches are moved out by their springs into a position to engage the shoulders 16 and prevent the platform from falling to the bottom.

The motor 21 is controlled by a suitable controller 38 operated by sheave 39 engaged by a controller cable 40 extending down over an idler 41 and over a lower sheave 42, one part of this line being at a convenient point to be grasped by the user when standing on the platform.

The motor 6 is controlled by a suitable controller 43 actuated by controller sheave 44 operated by a rope 45 passing over an idler 46 at the top and an idler 47 at the bottom, one part of the line being convenient to the operator. The brake lever 11 is connected to a

rope 48 leading down along side of the car and engaging sheaves 49 and 50 thereon. These sheaves are spaced and a sheave 51 carried by a bell crank brake lever 52 is adapted to engage the rope between the sheaves 49 and 50 and pull upon the same producing an operation of a brake.

Advantages of our construction will be obvious. By passing the cable around and beneath the platform the overhead clearance of the platform is limited only by the trolley frame, a feature of particular importance in the use for which our invention is intended. Moreover, the latch plates and latch pin being of relatively light construction the latching operation is accomplished almost immediately with the initial emergency and the cable passing over a total of four latch operating sheaves a failure in any part of the cable is immediately responded to by the latch mechanism. The cable itself is arranged in a very simple manner, passing from the hoist drum, beneath the elevator over an idling sheave and back beneath the elevator to a fixed position in the frame. By this arrangement a length of cable substantially bears only a quarter of the total elevator weight so that the latch construction employed becomes of particular importance.

What we claim is:

1. In a clay carrier, a conveyor, a frame carried thereby and including guide means, a platform movable along said guide means, a safety member movably mounted upon said platform, means urging said safety member to platform supporting engagement with said guide means, a sheave carried by said safety member, and a platform supporting cable passing around said sheave to maintain when supporting said platform, said safety member from said engagement.

2. In a clay carrier, a conveyor, a frame carried thereby and including notched elevator guides, a platform movable in said guides, safety latches pivotally mounted upon said platform and spring urged to engagement with said guide notches, sheaves carried by said latches, and a supporting cable passing under said platform around said sheaves whereby said latches are normally prevented from engaging said notches.

3. In a clay carrier, a conveyor, a frame carried thereby and including notched elevator guides, a platform movable in said guides, a safety latch pivotally mounted at each side of said platform and spring urged to engagement with said notches in the adjacent of said guides, a plurality of sheaves carried by each of said latches, and a supporting cable passing under said platform around said sheaves whereby said latches are normally prevented from engaging said notches.

4. In a clay carrier, a conveyor, a frame carried thereby and including notched elevator guides, a platform movable in said guides, a safety latch pivotally mounted at each side of said platform and spring urged to engagement with said notches in the adjacent of said guides, a plurality of sheaves carried by each of said latches, and a supporting cable passing under said platform around said sheaves whereby said latches are normally prevented from engaging said notches, each of said latches comprising a plurality of spaced plate members maintained in assembly by members passing therethrough and forming respectively latch pivoting means, notch engaging means, sheave carrying means and spring connection means.

In testimony whereof we hereby affix our signatures.

EUGENE W. SCHELLENTRAGER.
HORACE J. KIDD.