

July 15, 1952

O. E. GONZALES

2,603,482

CAR DOOR OPENER

Filed May 1, 1948

2 SHEETS—SHEET 1

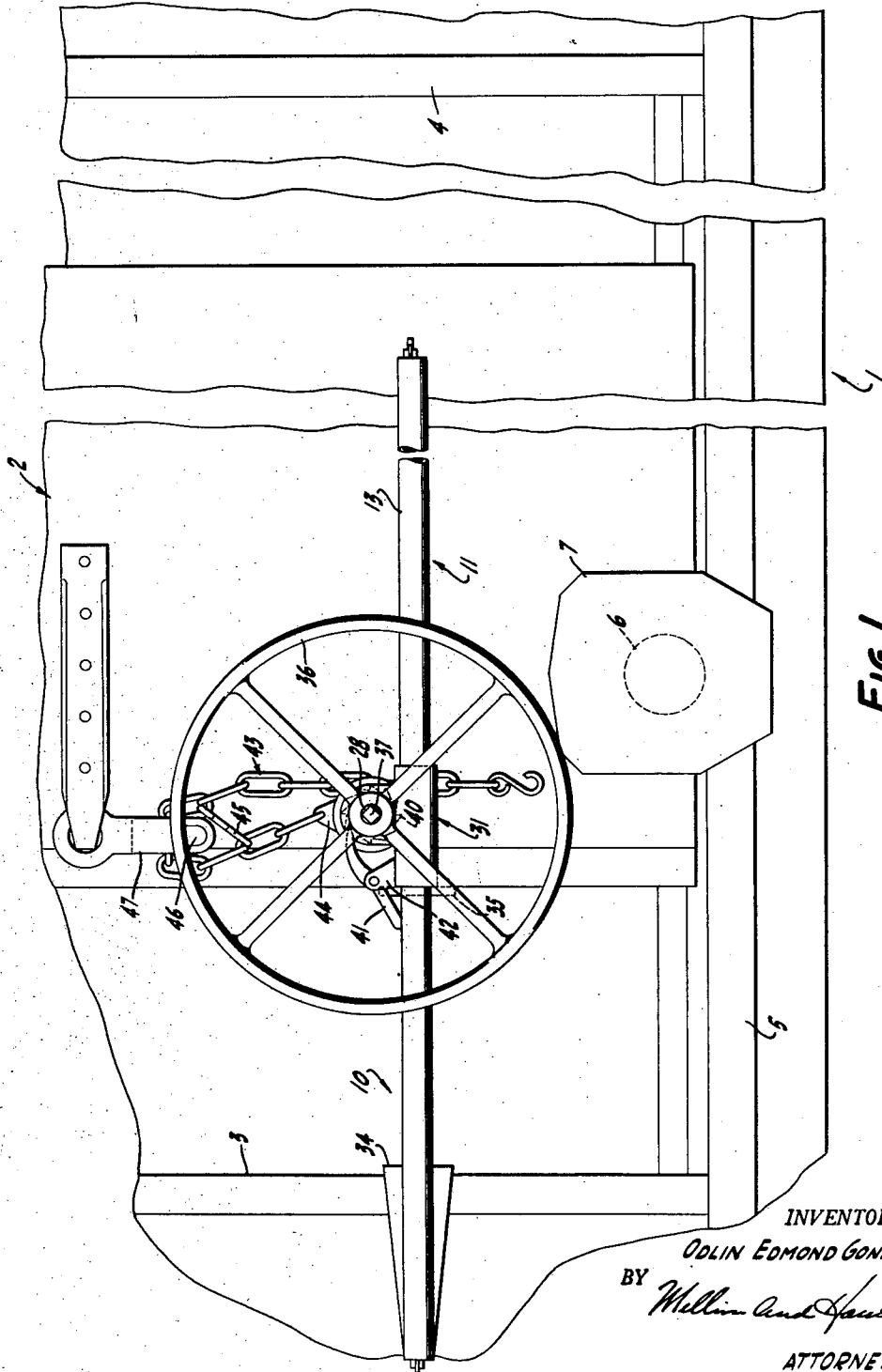


Fig. 1

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2 SHEETS—SHEET 2

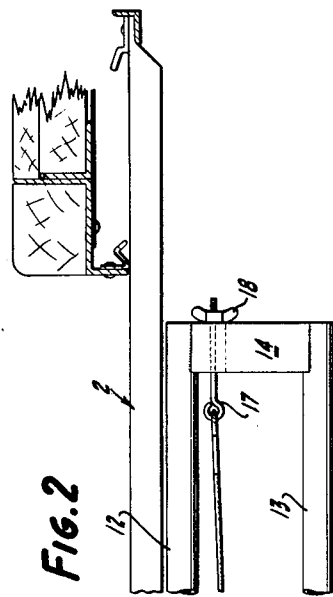


FIG. 2

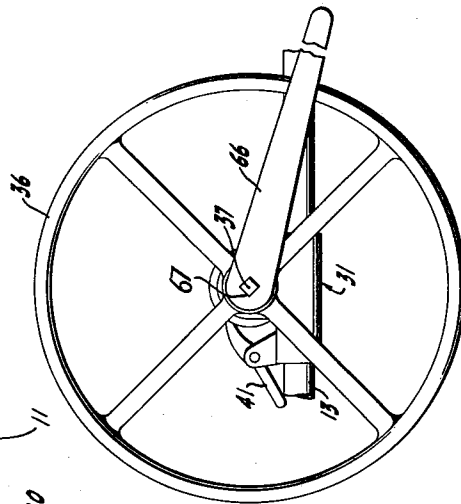


FIG. 5

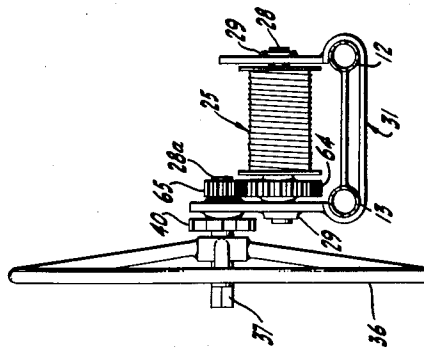


FIG. 4

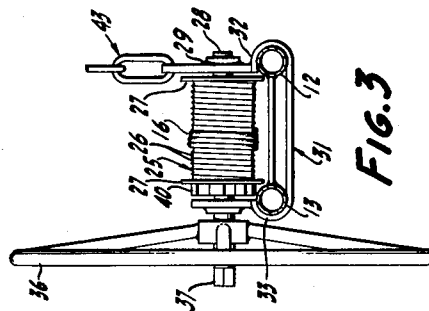
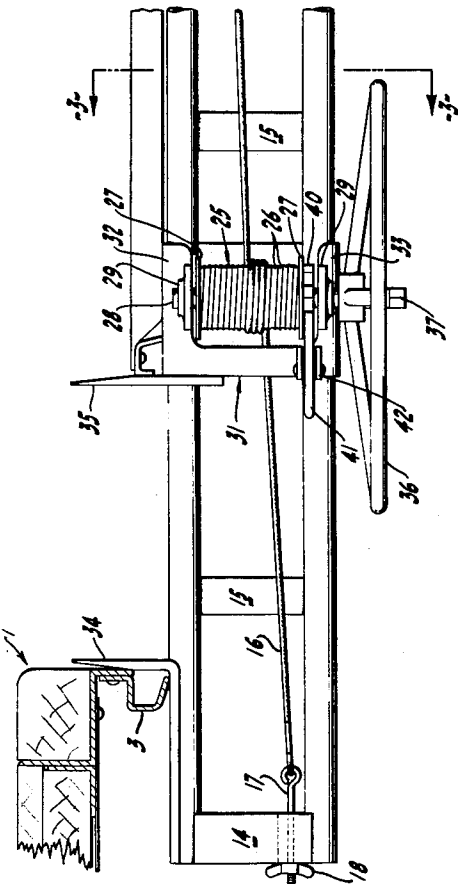


FIG. 3



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3 Claims. (Cl. 268—44)

Referring now to Fig. 4, there is shown a modification in which the shaft 28 carrying the drum 25 is provided at its outer end with a gear 64, and the handwheel 36 is carried on a separate shaft 28a suitably journaled in the bracket 31, and at its inner end the shaft 28a is provided with a pinion 65 meshing with the gear 64. Any desired gear ratio between the pinion gear 64 and

pinion 65, e. g., a 4 to 1 ratio, may be employed to increase the mechanical advantage.

Referring to Fig. 5, there is shown a lever 66 having at one end thereof a rectangular opening 67 engaging the rectangular end portion 37 of the shaft 28. Thus, the lever 66 may be used to open a "sticky" door, or it may be used as a prying tool or crowbar to pry open a closed door to provide a crack for inserting the prongs 34 and 35.

In operation, the device is used as follows: Assuming that it is desired to open the door of a freight car, the prongs 34 and 35 are inserted between the car door and the door frame. If necessary, the door may be opened slightly by means of the tool 66 to permit insertion of the prongs. Meanwhile, the device is supported by draping the chain 43 over the lug 46 on the door latch 47 and by hooking together opposite links of the chain by means of the hook 45, as shown. With the prongs 34 and 35 properly seated between the door and the door frame, the handwheel 36 is turned clockwise, thus causing the drum 25 to rotate and to travel along the cable 16 between the ends of the framework 11, carrying with it the movable prong 35 and thus opening the door.

Assuming that it is desired to close a freight car door, the device is used similarly except that it is reversed, with the fixed prong 34 at the extreme right, and the prongs 34 and 35 are inserted between the opposite end of the car door 2 and the door stop 4, with the fixed prong 34 abutting the door stop.

In the event that a door is particularly difficult to open or close, the tool 66 may be used as indicated.

It is thus apparent that a light weight, movable car door opener has been provided which can be manipulated by one man and which does not place any strain upon safety devices such as the rungs of ladders secured to the sides of a freight car. Also, the device is simple in design and construction and can be manufactured by assembly of standard parts. Among the important advantages of the device may be mentioned the following: Except for temporary support by the chain 43 while engaging the prongs 34 and 35 with the door frame or door stop and door, the device engages the door structure at only two points, and at these points the engagement is by abutment against solid, substantial members. Thus, no strain is placed upon weak structures or safety devices. Also, the handwheel 36 follows the movable prong 35, which is advantageous in that the operator has better control.

While I have shown the preferred form of my invention, it is to be understood that various changes may be made in its construction by those skilled in the art without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A portable freight car door opening device

comprising an elongated frame arranged to be placed in a horizontal position over a door to be opened, a carriage supported by the frame for movement therealong, a fixed abutment member fixed to the frame and adapted to abut the vertical edge of a door frame, a movable abutment member supported by the carriage, and means carried by the carriage and operatively connected to the frame for causing movement of the carriage along the frame and therefore relative movement of the abutment members, said means including a windlass on the carriage and a cable secured at its ends to the frame and coiled about the drum of the windlass.

2. A portable door opening device comprising an elongated frame, a carriage supported by the frame for movement therealong, a fixed abutment member fixed to the frame and adapted to abut the vertical edge of a door frame, a movable abutment member supported by the carriage, and means carried by the carriage and operatively connected to the frame for causing movement of the carriage along the frame and therefore relative movement of the abutment members, said means including a windlass on the carriage and a cable secured at its ends to the opposite ends of the frame and coiled about the drum of the windlass.

3. A portable door opening device comprising a frame, a carriage supported by the frame for movement therealong, a fixed abutment member fixed to the frame and adapted to abut the vertical edge of a door frame, a movable abutment member supported by the carriage, and means carried by the carriage and operatively connected to the frame for causing movement of the carriage along the frame and therefore relative movement of the abutment members, said means including a windlass on the carriage and a cable secured at its ends to the opposite ends of the frame and coiled about the drum of the windlass, means for tensioning the cable.

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