

(No Model.)

M. GRAFF.
GRAIN CAR DOOR.

No. 255,280.

Patented Mar. 21, 1882.

Fig. 1

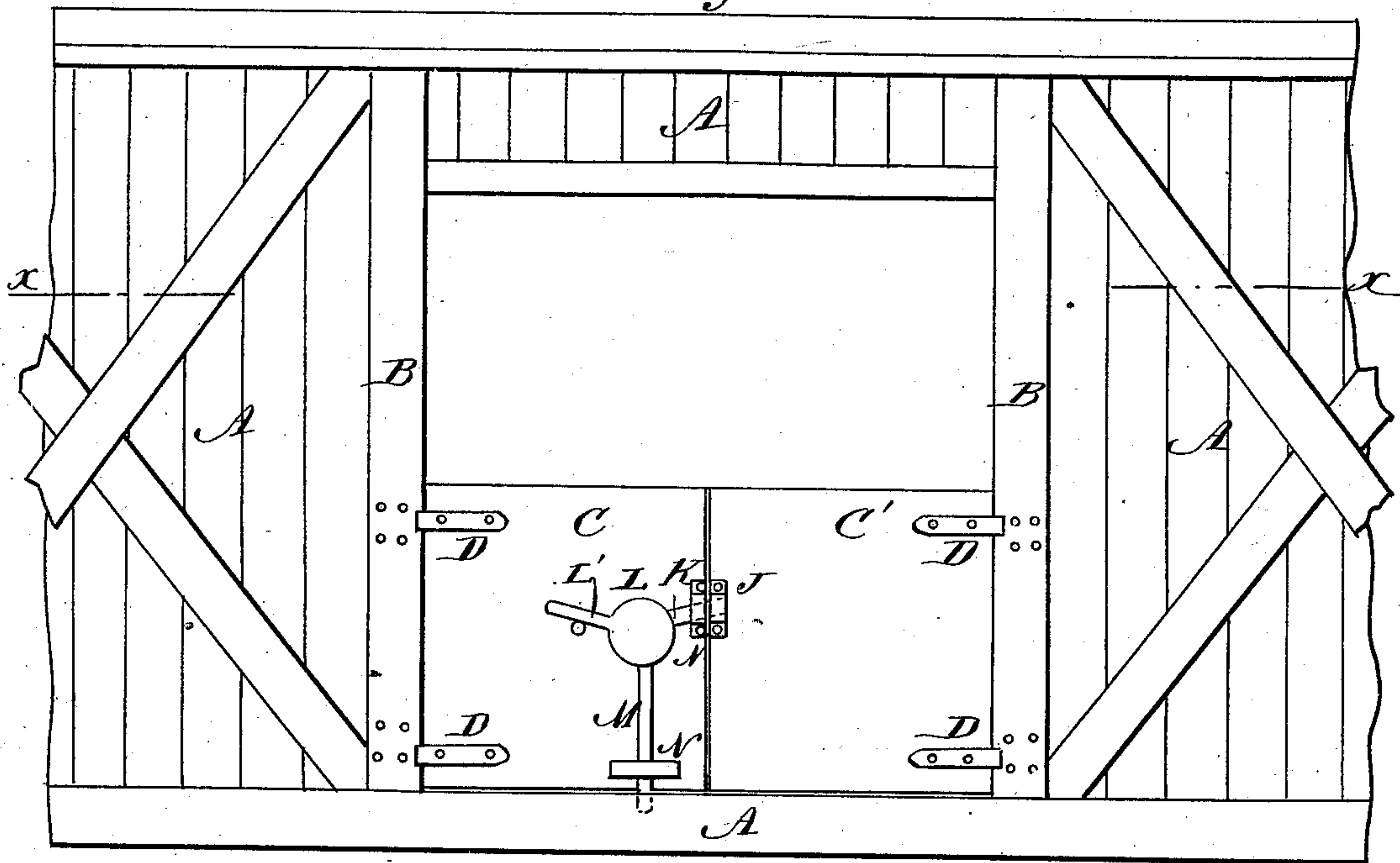


Fig. 2

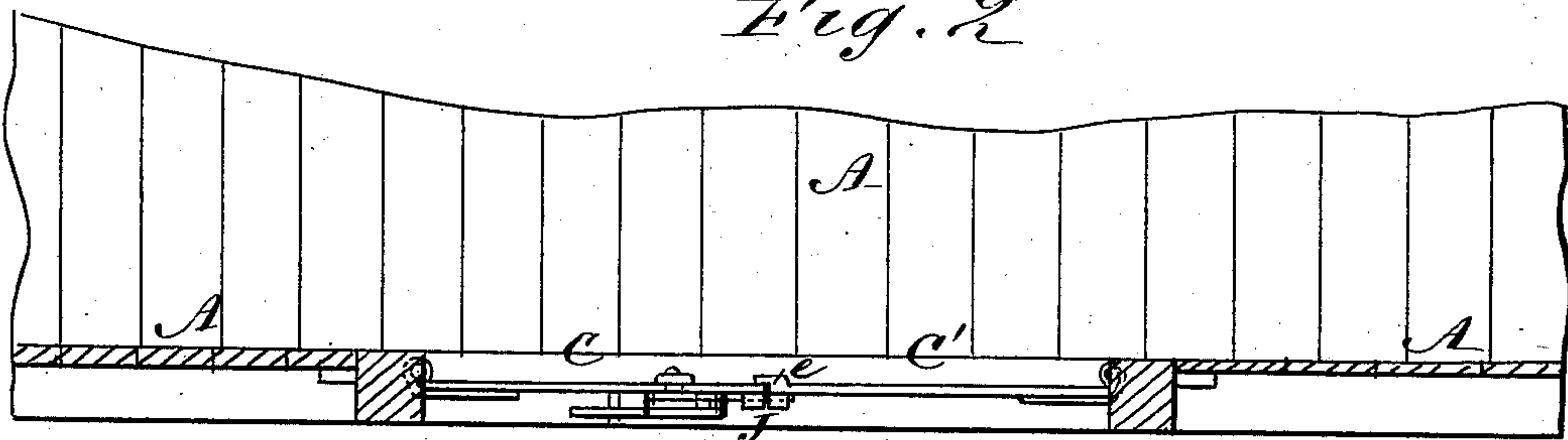


Fig. 3

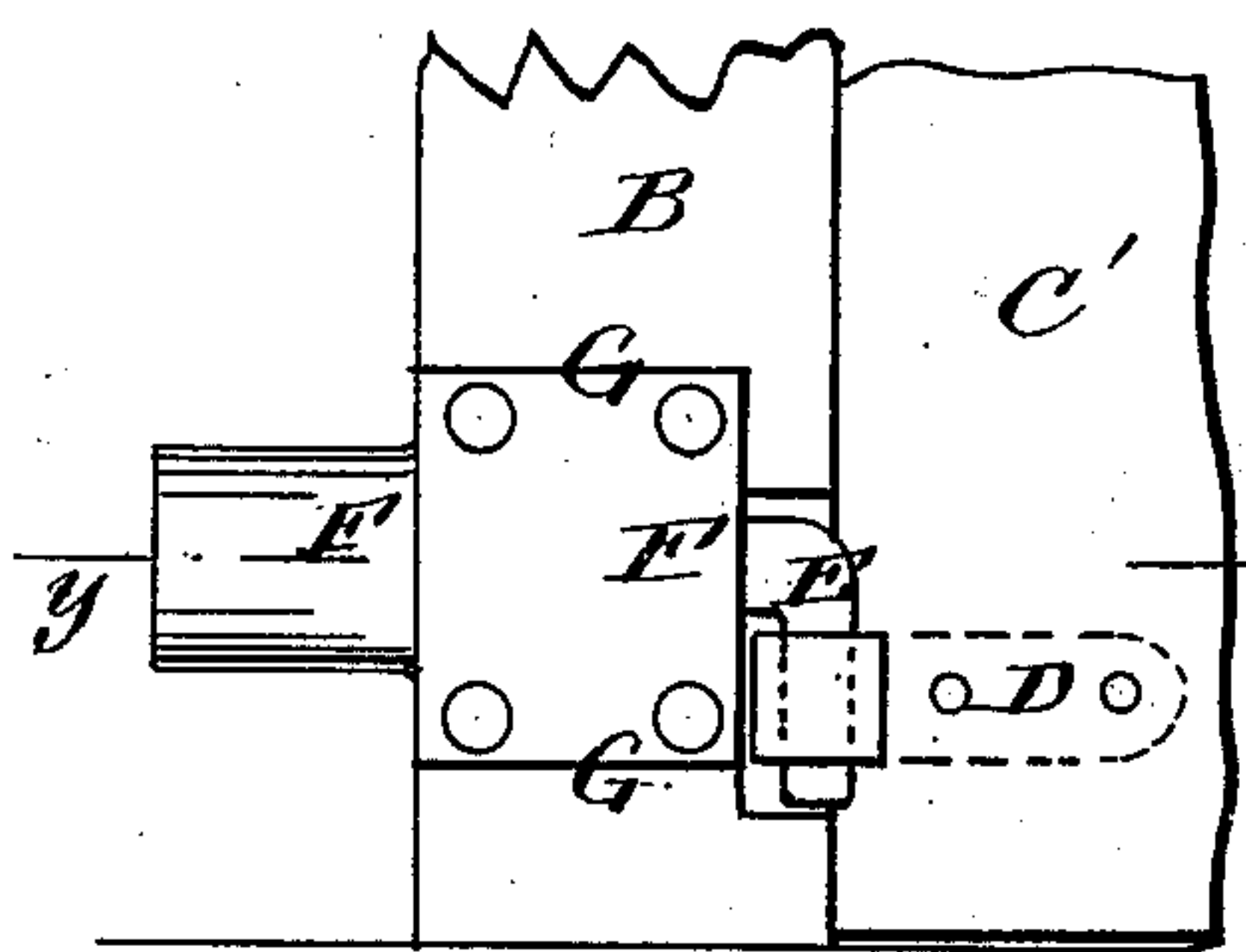


Fig. 4

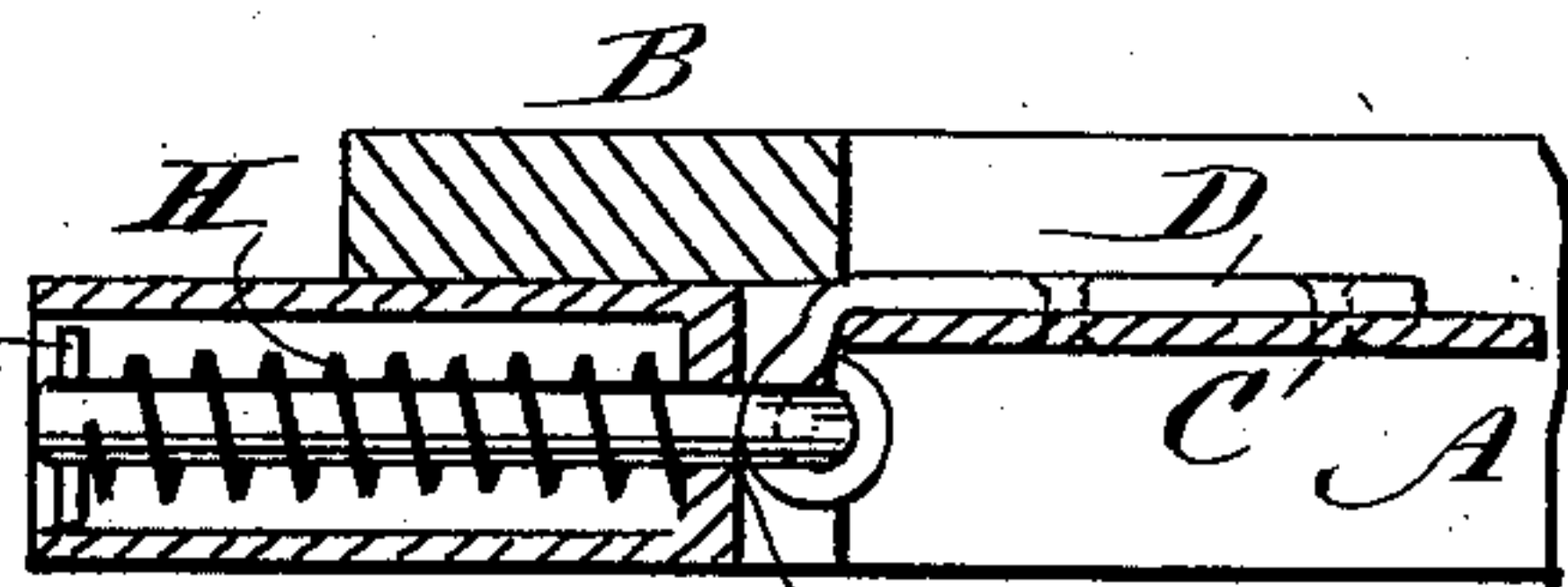


Fig. 5

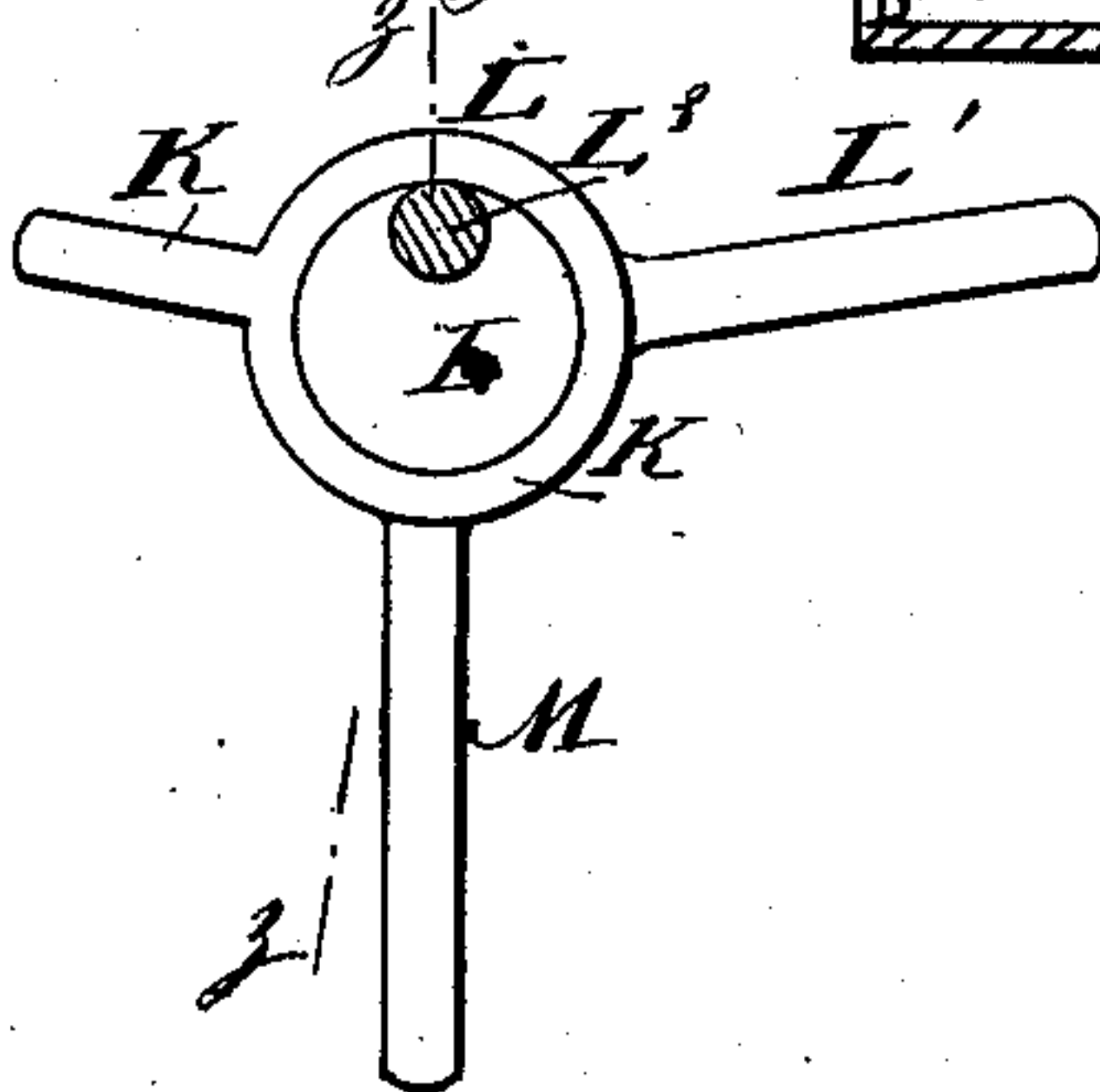
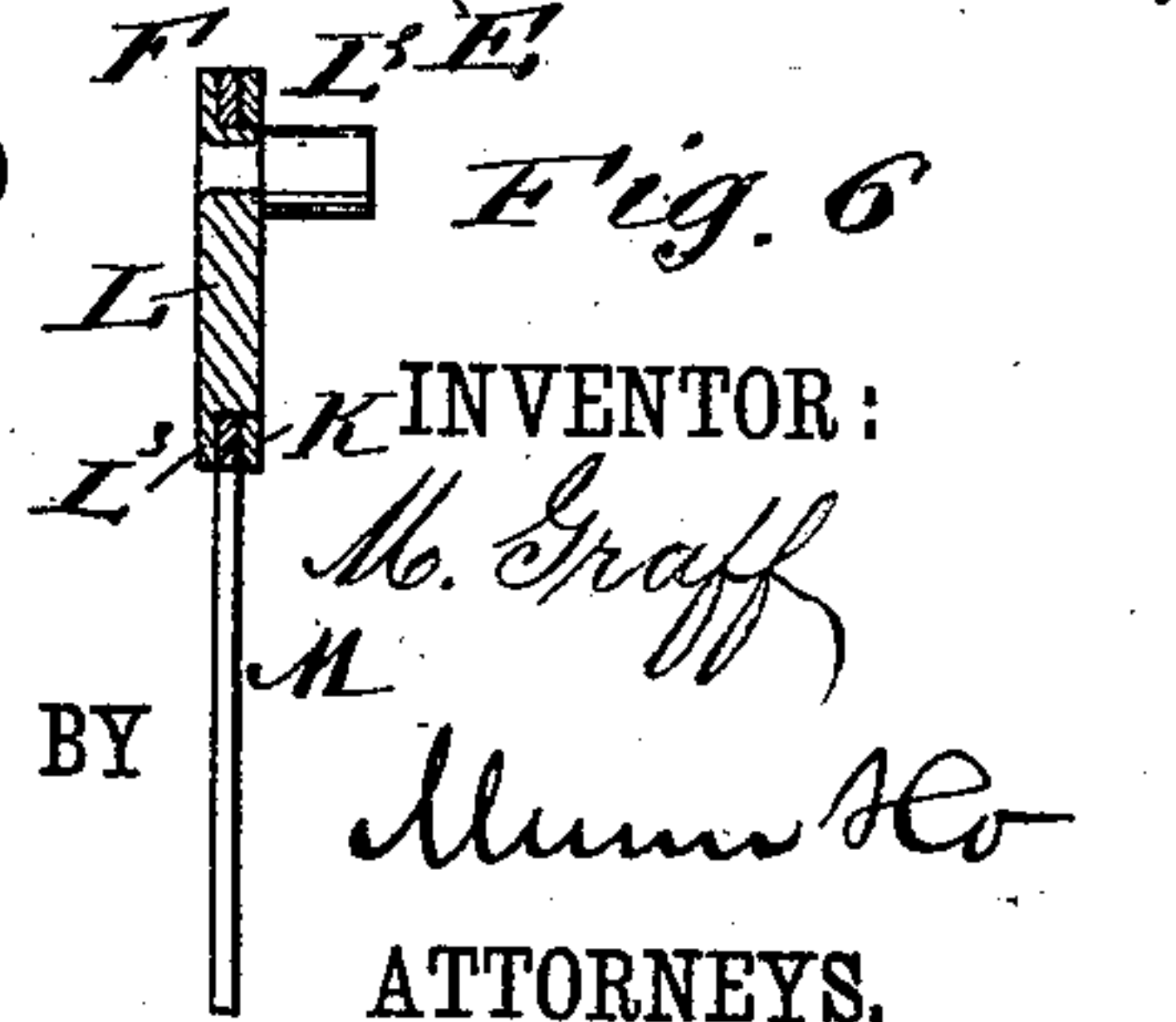


Fig. 6



WITNESSES:

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UNITED STATES PATENT OFFICE.

MARTIN GRAFF, OF TERRE HAUTE, INDIANA.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 255,280, dated March 21, 1882.

Application filed January 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, MARTIN GRAFF, of Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful
5 Improvement in Doors for Grain-Cars, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification,
10 in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improvement shown as applied to a grain-car. Fig. 2 is a plan view of the same, the car being
15 shown in section through the line *x x*, Fig. 1. Fig. 3 is an elevation of the inner side of a hinge, and showing a part of the door-post and door. Fig. 4 is a sectional plan view of the same, taken through the line *y y*, Fig. 3.
20 Fig. 5 is an elevation of the eccentric and bolts. Fig. 6 is a sectional elevation of the same, taken through the line *z z*, Fig. 5.

The object of this invention is to facilitate the opening of the doors of loaded grain-cars
25 and insure the closing of the said doors.

The invention consists in the combination, with the door-posts and the doors of the grain-car, of eye-straps, hook-pintles, and sockets, and springs connected with the hook-pintles,
30 whereby the doors can be opened outward by the pressure of the grain and will close automatically when the outward pressure is removed, and also in the combination, with the doors, of bolts and an eccentric connected with
35 the bolts, whereby the doors can be readily fastened and unfastened, as will be hereinafter fully described.

A represents a grain-car, to the door-posts B of which are hinged the doors C C'.

40 To the outer corners of the doors C C' are attached the eye-straps D of the hinges, the shanks of the pintles or hooks E of which pass through holes in the inner ends of the tubular sockets F, inserted in recesses in the inner sides
45 of the door-posts B, where they are secured in place by flanges G, formed upon the said sockets and attached to the said posts.

Upon the shanks of the pintles E, within the sockets F, are placed spiral springs H, the
50 forward ends of which rest against the forward

ends of the said sockets F, and against their rear ends rest pins I or other suitable fastenings attached to the ends of the pintle-shanks. With this construction, when the doors C C' are unfastened the pressure of the grain causes the
55 said doors to swing outward, so that the grain can run out. The outward movement of the doors C C' compresses the springs H, so that when the said doors are released from outward pressure the tension of the said springs will
60 swing the doors shut, and thus prevent the said doors from projecting from the sides of the cars and being broken should the car be drawn forward without fastening the doors.

The inner edge of the door C' has a rabbet
65 formed in its outer side, or has a cheat, *e*, attached to its inner side to form a seat for the inner edge of the other door, C. To the outer side of the rabbeted edge of the door C' is attached a
70 keeper, J, to receive the forward end of a bolt, K, connected with the outer side of the other door, C.

L is an eccentric, provided with a handle, L', for convenience in operating it, and a pin, L², whereby it is pivoted to the face of the door. In
75 the construction shown the eccentric is formed with an annular rabbet cut in its inner edge or face, leaving an outer face-flange, L³.

Upon the eccentric L, against the face-flange L³, is placed loosely a flat collar or sleeve, provided with the outwardly or downwardly projecting bolt M, and against this sleeve is placed
80 loosely another annular sleeve, having the projecting bolt K formed thereon. When in place on the door the two bolt-sleeves are held between the flange L³ and the face of the door.
85 The bolt-sleeves are so placed upon the eccentric that upon lowering the handle L' thereof the bolt K will pass into the keeper J on door C' to hold both doors longitudinally of the car, and
90 the bolt M will be projected downward into a recess in the car-sill to lock the doors closed. When the handle L' is brought to a vertical, or nearly vertical, position, the bolts K and M will be withdrawn and the doors unlocked. The
95 movements of bolts K and M are nearly simultaneous both in locking and unlocking the doors. Keepers N serve to guide the movements of the bolts and retain them in position.

Having thus fully described my invention, I 100

claim as new and desire to secure by Letters Patent—

1. The combination, with the door-posts B and the doors C C', of the eye straps D, the hook-
5 pintles E, the sockets F, and the springs H, substantially as herein shown and described, whereby the doors can be opened outward by the pressure of the grain, and will close automatically when the outward pressure is removed.

2. The combination, with the doors C C', of the bolts K M and the eccentric L, substantially as herein shown and described, whereby the doors can be readily fastened and unfastened, as set forth.

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Witnesses:

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