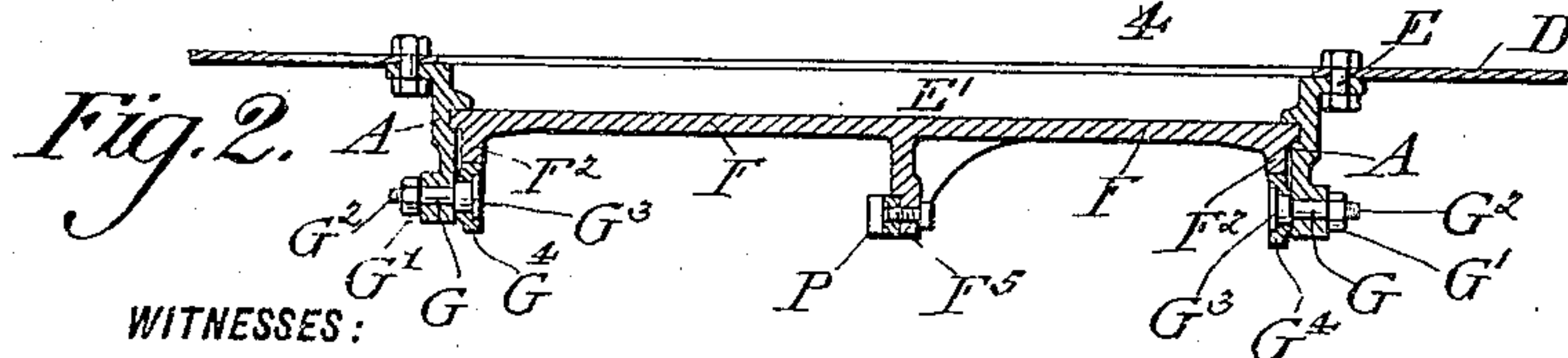
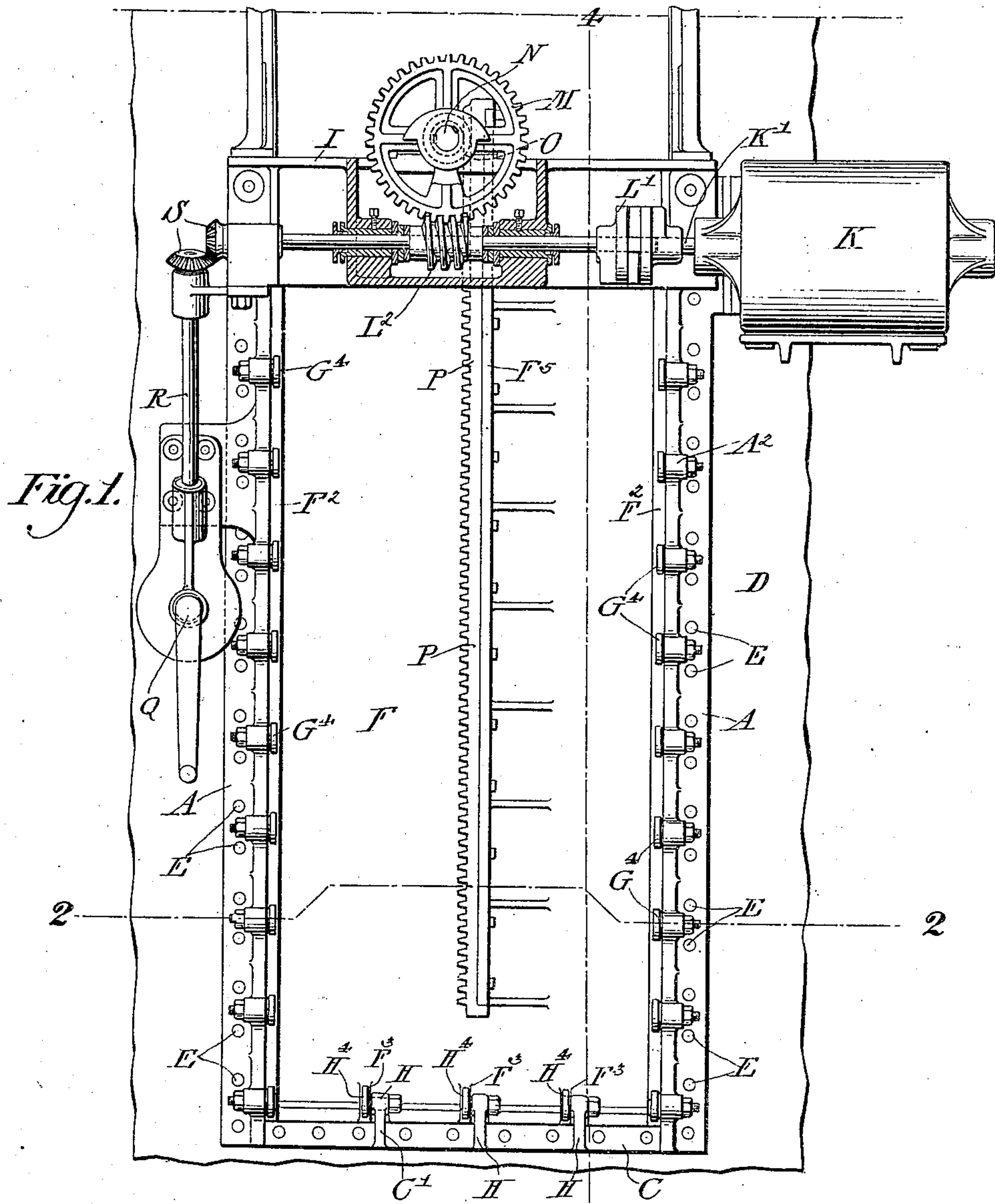


DE COURCY MAY.
BULKHEAD DOOR.
APPLICATION FILED SEPT. 4, 1906.

898,666.

Patented Sept. 15, 1908.

3 SHEETS—SHEET 1.



WITNESSES:

Ernest H. Hobbs.
Norman W. Elliott.

INVENTOR

DeCourcy May.

BY

John E. Hubbell

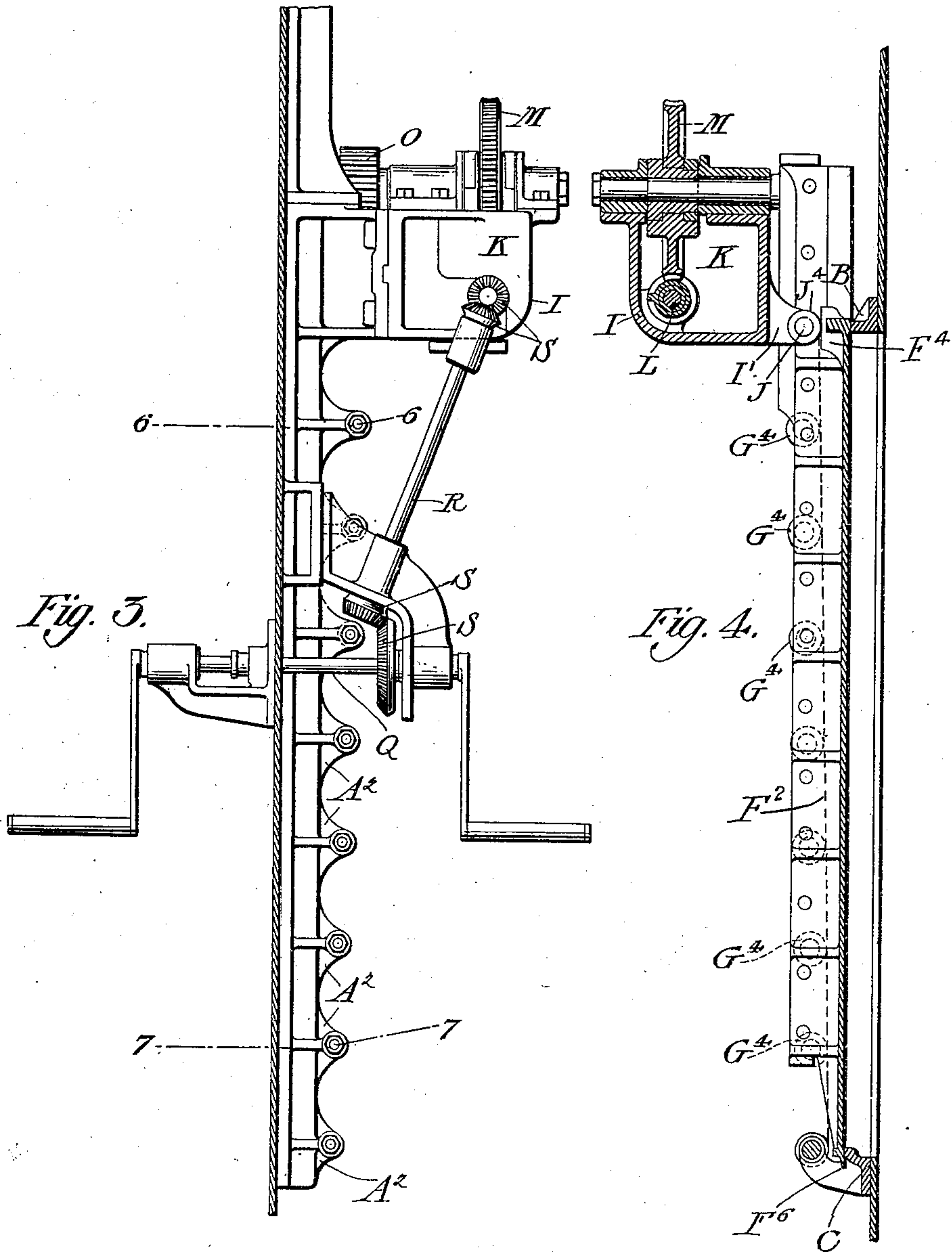
ATTORNEY.

DE COURCY MAY.
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898,666.

Patented Sept. 15, 1908.

3 SHEETS—SHEET 2.



WITNESSES:
Ernest H. Hobbs.
Norman W. Elliott.

INVENTOR
DeCourcy May.
BY
John E. Hubbell
ATTORNEY.

DE COURCY MAY.
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3 SHEETS—SHEET 3.

Fig. 5.

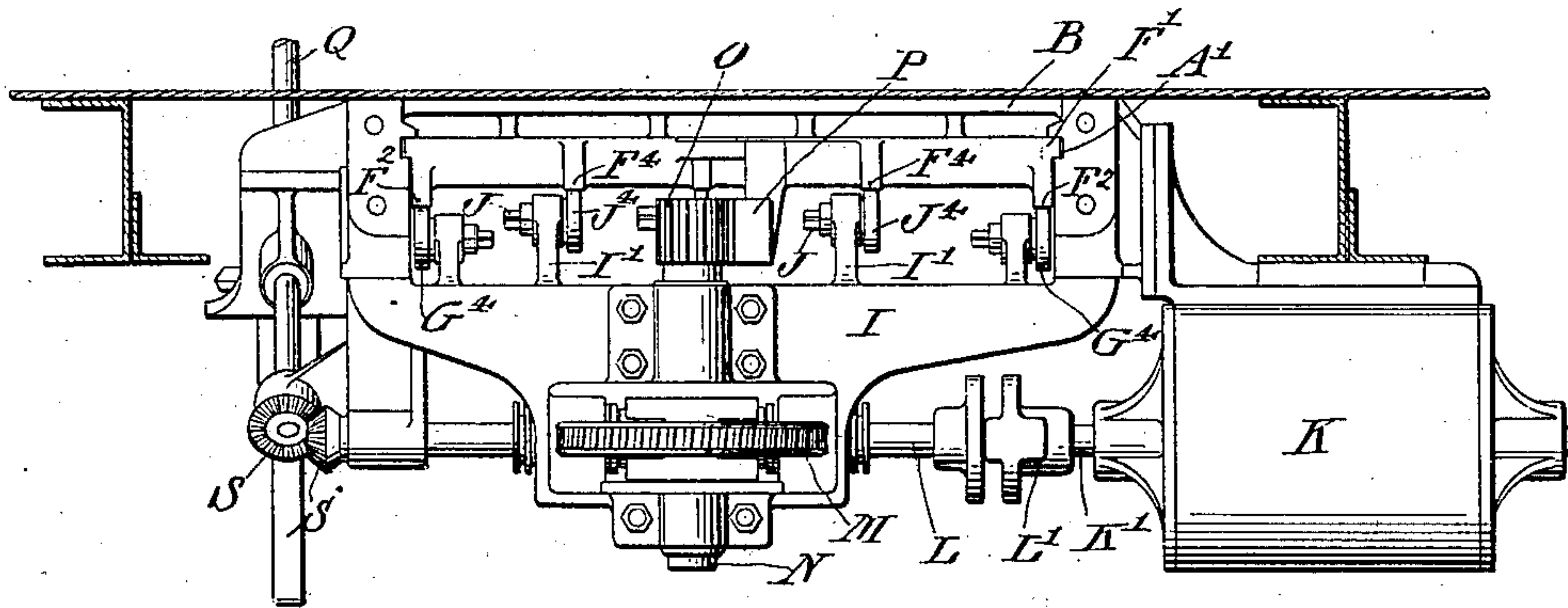


Fig. 6.

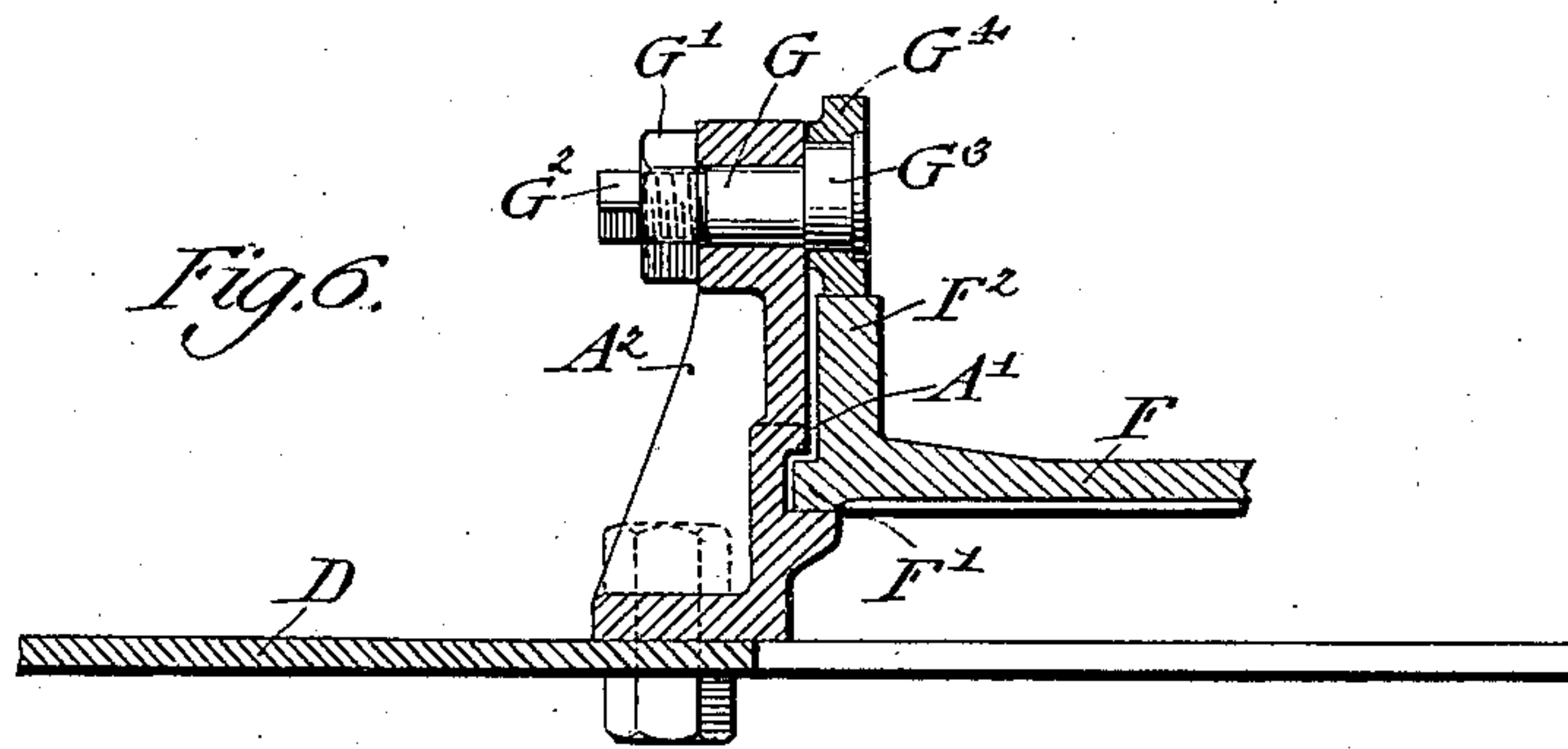
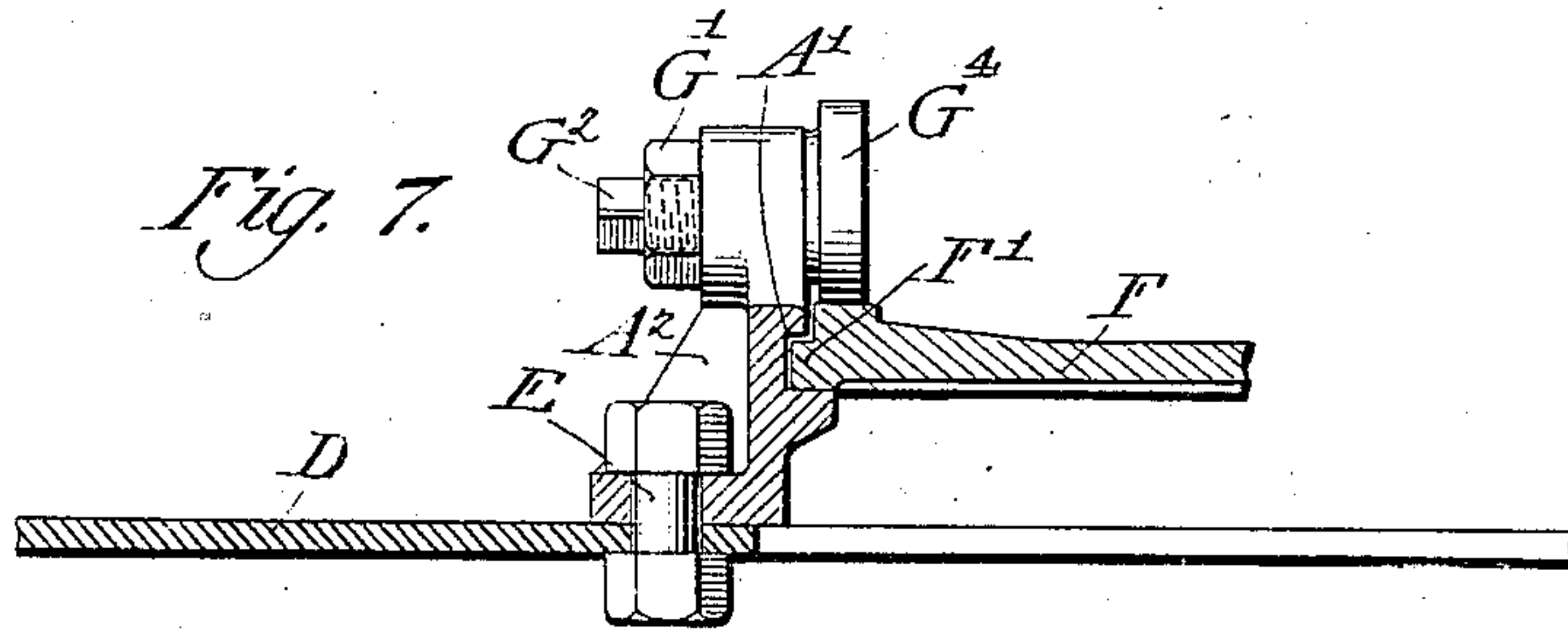


Fig. 7.



WITNESSES:

Ernest H. Hobbs.
Norman W. Elliott.

INVENTOR

DeCourcy May
BY

John E. Hubbell
ATTORNEY.

UNITED STATES PATENT OFFICE.

DE COURCY MAY, OF PHILADELPHIA, PENNSYLVANIA.

BULKHEAD-DOOR.

No. 898,666.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed September 4, 1906. Serial No. 333,125.

To all whom it may concern:

Be it known that I, DE COURCY MAY, a citizen of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Bulkhead-Doors, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My present invention relates to doors, such as the bulkhead doors of ships, and has for its object the provision of means by which a door may be firmly forced into contact with the door frame to make tight joints when in the closed position, while, at the same time, the door may be readily moved into and out of the closed position.

In carrying out my invention, I provide means for engaging the door at numerous points along its edges and arrange such means to permit an adjustment of the pressure at each point of engagement and form them so that they exert but little frictional retardation to the movements of the door into and out of its closed position.

The various features of novelty which characterize my invention are pointed out with particularity in the claims annexed to and forming part of the specification.

For a better understanding of my invention and the advantages possessed by it reference may be had to the accompanying drawings and descriptive matter in which I have illustrated one of the forms in which my invention may be embodied.

In the drawings: Figure 1 is an elevation with parts broken away and in section of a portion of a bulkhead and door therefor. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 a side elevation of the door and operating mechanism with the bulkhead in section. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 a plan view showing the door and operating mechanism. Fig. 6 is a partial section on the line 6—6 of Fig. 3 but on a large scale, and Fig. 7 is a view similar to Fig. 6 taken on the line 7—7 of Fig. 3.

In the form of invention shown in the drawings, the door frame proper comprises side members A, and top and bottom members B and C, respectively. The members A, B and C, may be made in the form of an integral casting, or the members may be

separable. As shown they are secured to the wall or bulkhead D, about the door opening E¹, by rivets or bolts E.

The side members A are formed each with a groove A', to slidably receive the corresponding edge F' of the door F. The members A are also provided at intervals along their lengths with ears or projections A², each of which receive a shaft or stud member G extending parallel with the top and bottom edges of the door. Each stud G is clamped in place by means of a nut G' engaging a threaded portion of the bolt and has a squared portion G² by which it may be angularly adjusted in its supporting ear A². The head G³ of each stud is eccentric with respect to the body portion so that the roller member G⁴, mounted on the head G³, may be moved toward and away from the groove A' by turning the stud in its supporting ear. The door member F is provided adjacent each side edge with the rib F², the outer edge of which is inclined to the plane of the door as shown by the dotted line in Fig. 4, the upper end of each rib being farther from the plane of the door than the lower end. These ribs form wedges which cooperate with the rolls G⁴ to wedge the door against its stud as it moves into its closed position. It will be observed that the studs G are spaced at varying distances from the groove A' to correspond to the inclination of the rib.

The bottom member C of the door frame is provided with ears or projections C' which support stud members H similar to the studs G and carrying rollers H⁴ similar to the rollers G⁴ which engage with short inclined ribs F³, provided for the purpose on the door F. A member I secured to the door frame at its upper end is provided with ears I' which support studs J similar to the studs G and H and supporting rolls J⁴ similar to the rolls G⁴ and H⁴ which engage with short wedge ribs F⁴ formed for the purpose on the upper end of the door.

It will be understood that, with the construction described, as the door moves into the closed position it is forced tightly against the door frame by the wedging action between the rolls G⁴, H⁴, and J⁴, with the corresponding tapered ribs on the door frame, thus forming a tight joint between the door and frame. As each stud may be adjusted independently to carry its roller toward or

away from the cooperating wedge surface each portion of the door may be forced home with the desired pressure.

Any suitable mechanism may be employed 5 for operating the door, though the form shown has been found to give excellent results in practice. In this form an electric motor K is ordinarily employed for operating the door. The shaft K' of the motor K is 10 connected to a shaft L by a coupling L', which may be arranged to permit a certain amount of lost motion between the shafts H and L whereby the motor may acquire some momentum before taking up its load in either 15 direction. The shaft L carries a worm L² which meshes with a spur gear M and through it drives a shaft N. The latter carries a gear O which gears with a rack P secured to a rib or flange F⁵ of the door F. 20 The shafts L and N are journaled in the member I and the motor K may be supported in any suitable manner from the door frame or bulkhead. Suitable provision is made for the manual operation of the door 25 by means of the crank shaft Q geared to the shaft L through the shaft R and bevel gears S.

To prevent impedance of the closing movement of the door by dirt at the bottom of the door frame I prefer to sharpen the 30 lower edge of the door, as indicated at F⁶, so that it may cut through any dirt, such as particles of coal or the like, which may collect at the bottom of the doorway. It will 35 be observed that with the construction disclosed no pocket is formed to receive the

lower edge of the door and in which dirt may collect in such manner that it could not be readily cleared or cut out by the sharp edge of the door.

While the form of my invention herein- 40 before disclosed has been found to give excellent results in practice it will be readily understood by those skilled in the art that changes may be made in the form of my in- 45 vention without departing from its spirit and I do not wish the claims to be limited more than is made necessary by the state of the art.

Having now described my invention, what 50 I claim as new and desire to secure by Letters Patent is,

1. In combination, a door frame member, a sliding door member, one of said members being provided with a wedging surface and 55 rollers cooperating with said surface and adjustably carried by the other of said members.

2. In combination, a door frame, studs supported thereby so as to be angularly ad- 60 justable, rolls journaled on said studs and eccentric with respect to the bodies thereof, and a door provided with wedging surfaces engaging said rolls.

3. In combination, a door having side ribs 65 F² and end ribs F³ and F⁴ and cooperating angularly adjustable members having eccentrically mounted rollers.

DE COURCY MAY.

Witnesses:

D. M. TWEED,
B. FRANK FOX