

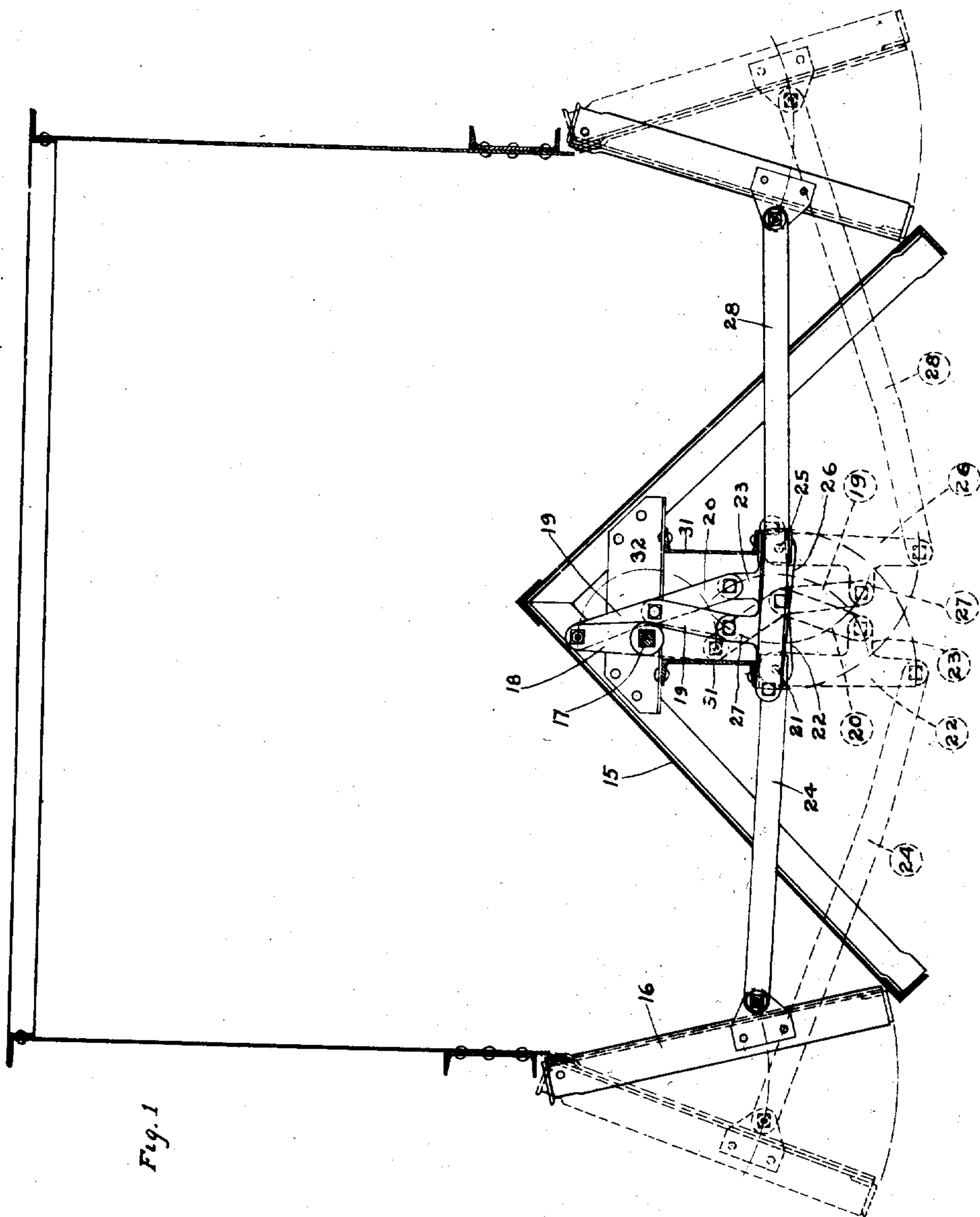
F. SEABERG.
DUMP CAR.

APPLICATION FILED MAR. 12, 1908.

974,097.

Patented Oct. 25, 1910.

4 SHEETS—SHEET 1.



Witnesses
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4 SHEETS-SHEET 2.

Fig. 2

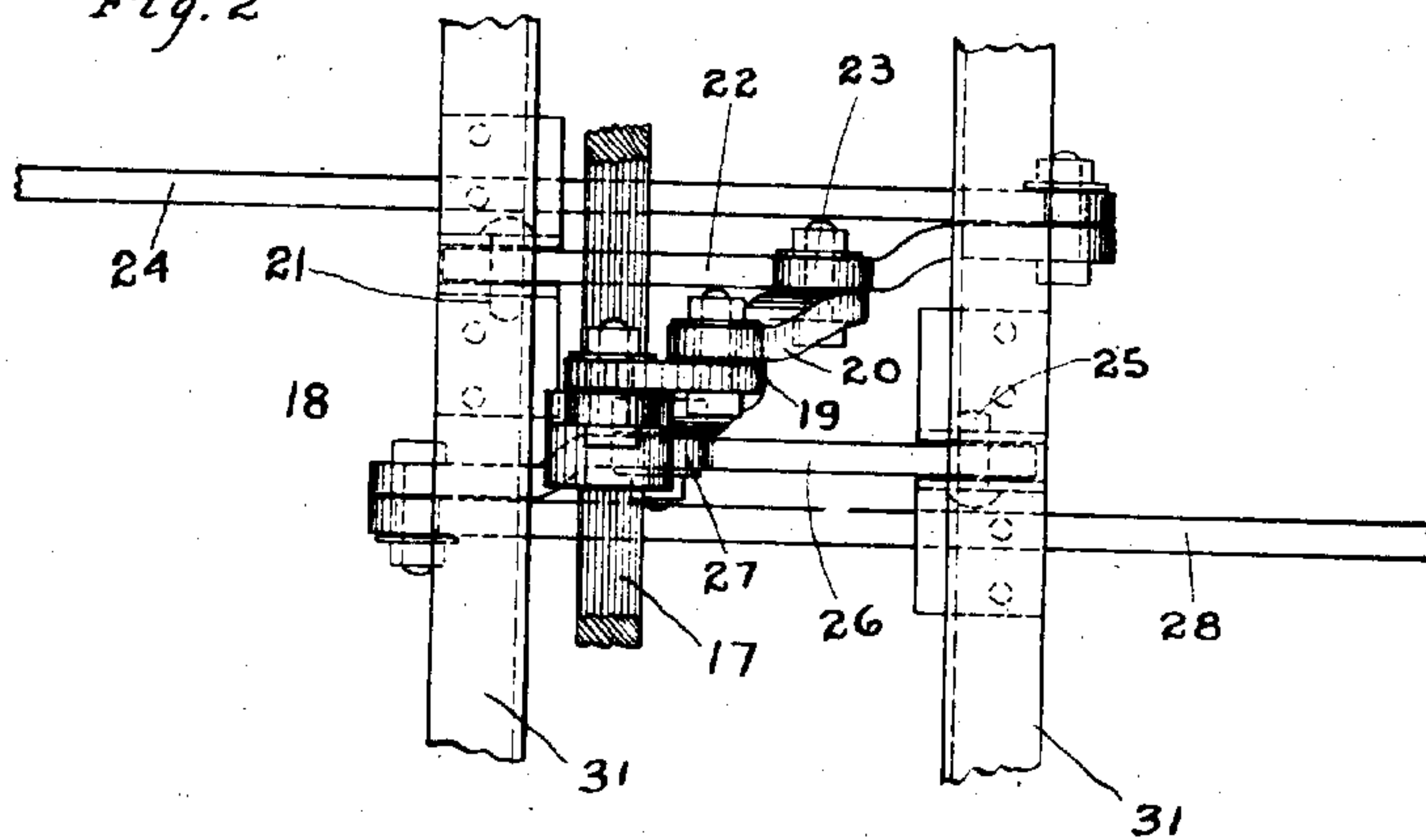
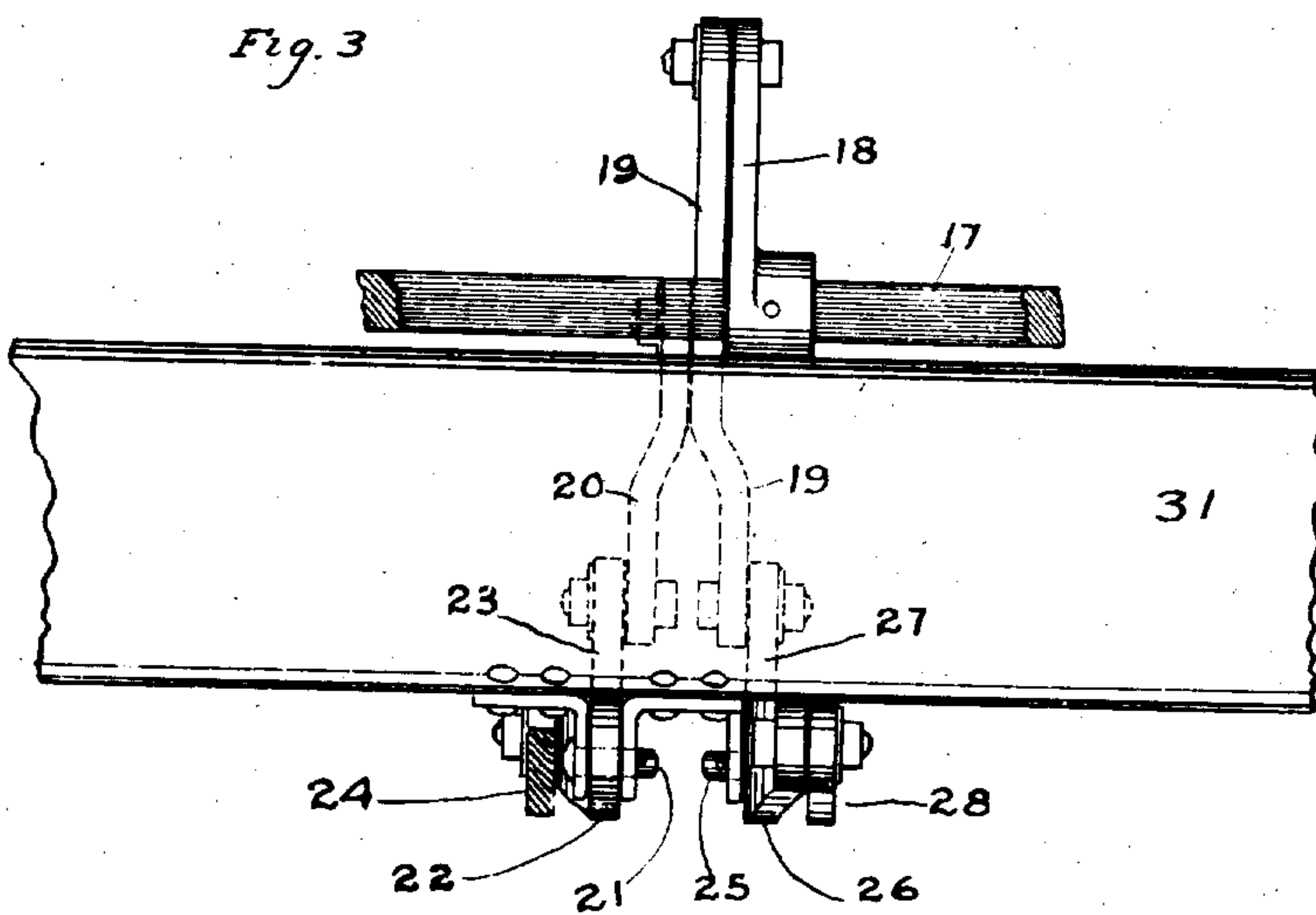


Fig. 3



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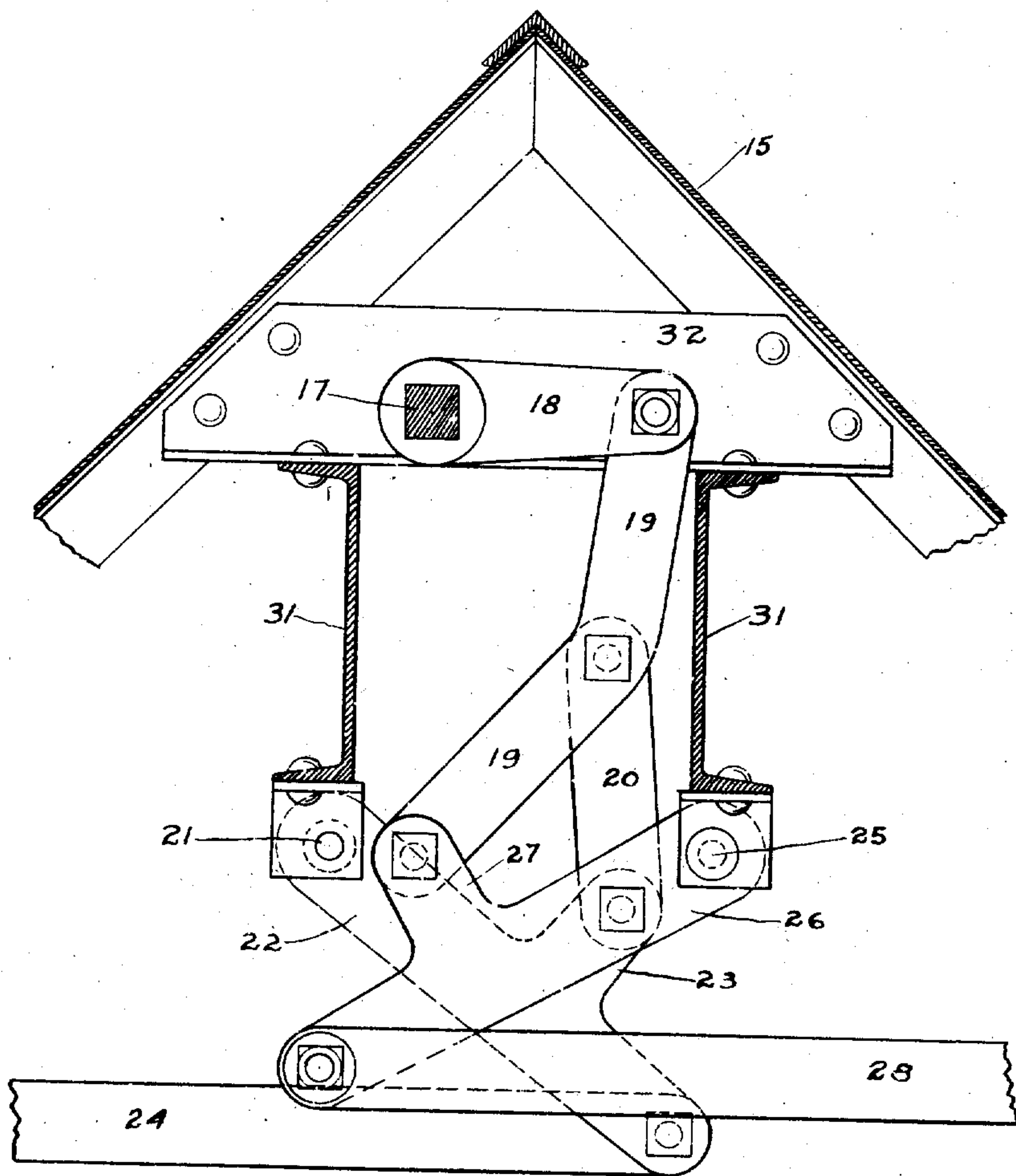
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Fig. 4



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Fig. 5

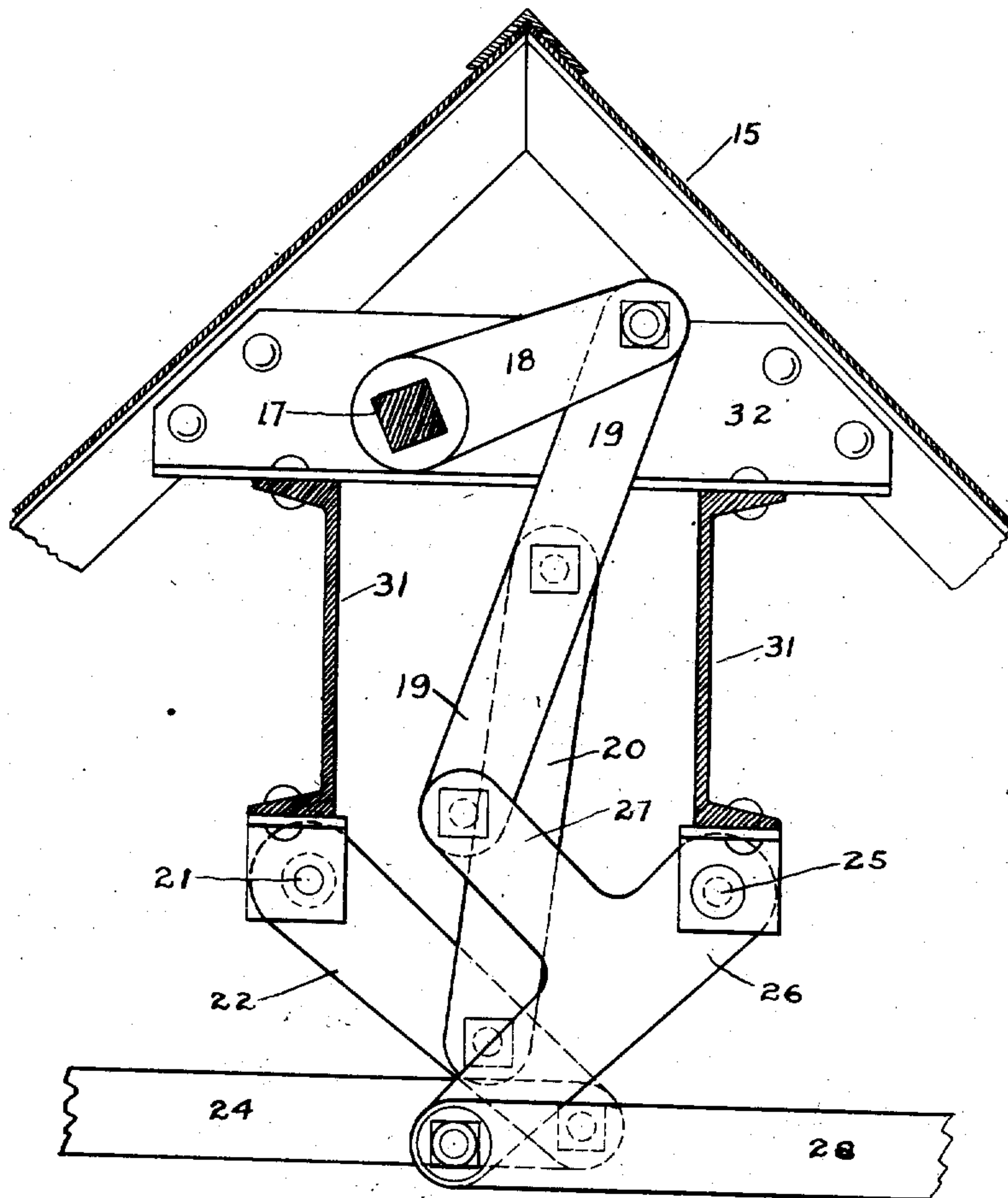
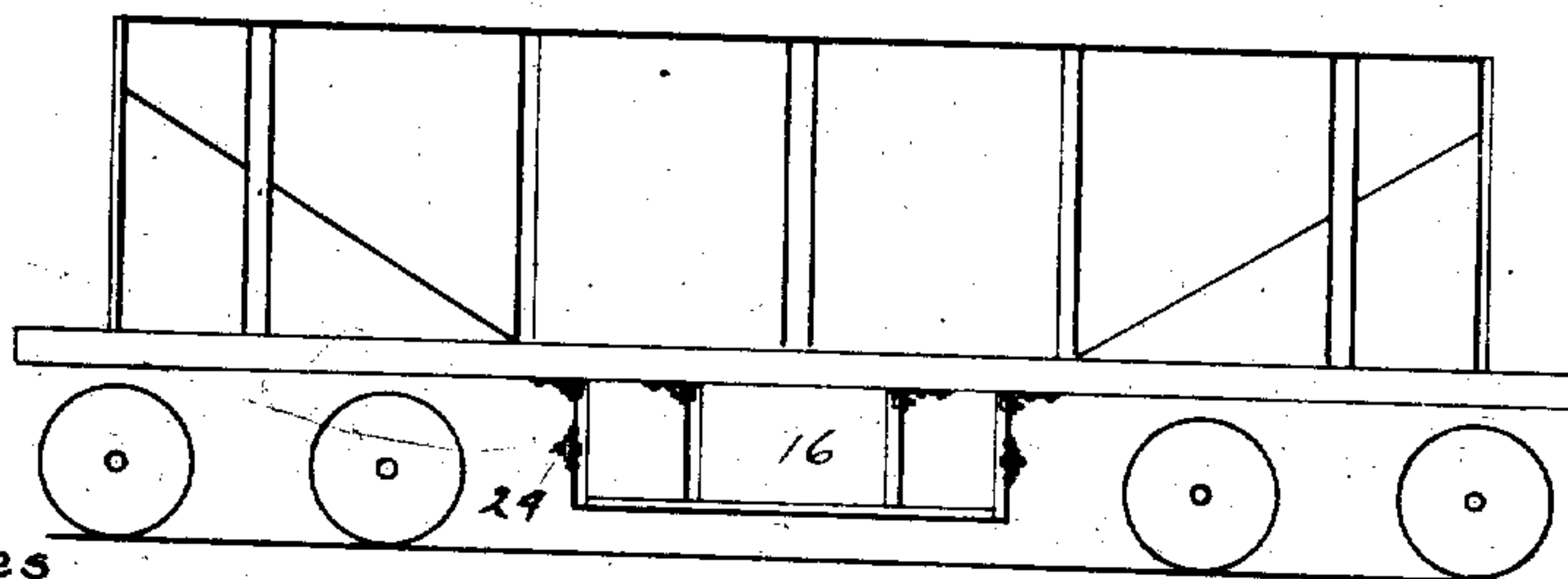


Fig. 6



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UNITED STATES PATENT OFFICE.

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DUMP-CAR.

974,097.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed March 12, 1908. Serial No. 420,649.

To all whom it may concern:

Be it known that I, FREDERICK SEABERG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

The object of my invention is to provide a new and improved mechanism for holding and operating dump-car doors.

More specifically my object is to provide a mechanism which shall serve to hold the doors locked in either open or closed position, and which may be used to change the doors from one of these positions to the other.

These objects and others will be made apparent in the following specification and claims, taken in connection with the accompanying drawings, in which—

Figure 1 is a cross section of a dump car body embodying my improvement. Fig. 2 is a plan view on an enlarged scale of the door holding and operating mechanism. Fig. 3 is an elevation of the same mechanism. Fig. 4 is an elevation corresponding to Fig. 1, showing the door holding and operating mechanism on an enlarged scale in an intermediate position. Fig. 5 is an elevation of a modification. Fig. 6 is an elevation showing a type of car in which my invention may be embodied.

The dump car illustrated is of a type having its floor composed of downwardly and outwardly sloping sections 15. The side walls are terminated below by pendent swinging doors 16, which, when closed, have their lower edges adjacent to the lower edges of the sloping floor 15. The center sill consists of two parallel channel beams 31, and it supports short cross members 32, which in turn support the floor 15.

To hold and control the doors, I provide the following described mechanism referring more particularly to Figs. 1, 2, 3, and 4. A square shaft 17 extends longitudinally under the floor being journaled in the cross members 32, and a crank 18 projects therefrom. To the end of this crank there is pivoted a crooked link 19 and at the middle point of this crooked link 19 there is pivoted a shorter link 20. These links are adapted to hang down between the members 31 of the center sill. At the fixed point 21 there is pivoted a lever 22 which has an offset 23

intermediate of its length to which the end of the aforesaid link 20 is attached. To the outer extremity of the lever 22 there is pivoted a long link 24 which is connected to the door 16. Opposite the lever 22 is the lever 26 having a fixed fulcrum 25 and an offset 27 which is pivoted to the aforesaid link 19. This lever 26 is connected by the link 28 to the door on the opposite side.

The door or doors 16 are held and controlled by means of any desired number of links 24 and 28 each pair being operated from the squared shaft 17 by such a mechanism as has been described. Only one such mechanism is shown in the drawings. When the doors are closed the parts will occupy the position shown in full lines in Fig. 1, and when the doors are opened wide the moving parts will have the position shown in dotted lines in Fig. 1. Fig. 4 shows the essential parts of the operating mechanism in a position intermediate between the extreme open and closed positions.

It will be noted that in the closed position the lever 22 and its attached link 24 are substantially in line, that is, the lever is on its dead center, and thus the door 16 is locked shut. Similarly for the other door. Moreover, when the doors are closed the crank 18 is practically on its dead center and thus there are two dead centers in the train of mechanism from the shaft 17 to either door. On the other hand, when the doors are in extreme open position, it will be noted that the crank 18 has just passed its dead center with relation to the attached link 19, and thus it will be seen that the doors are locked in open position. But it is obvious that rotation of the squared shaft 17 will change the mechanism from either one of these positions to the other. Any desired means may be used for locking the squared shaft 17 in either of its extreme positions, but it is to be observed that such locking is merely a matter of security, for none of the load would be transmitted in any substantial degree to the lock. I have not shown mechanism for rotating the shaft 17 or for locking it, as such mechanism is well-known and could be readily supplied by one skilled in this art. It will be seen that my door controlling mechanism is located compactly beneath the apex of the floor of the car, that this mechanism comprises only a single shaft extending lengthwise of the car, and connections there-

from to the several doors, and that the connections are of a positive character thus being distinguished from such means as chains which may be effective in one direction only.

5 Referring to the modification illustrated in Fig. 5, this differs from the one previously described in that the link 19 is straight instead of being bent, and the offset 23 on the lever 22 is omitted, the link 20 being length-
10 ened correspondingly and having its end pivoted directly to the lever 22.

I claim:

1. In a dump car, doors on both sides thereof, a single operating shaft extending
15 lengthwise of the car, intermediate mechanism directly below said shaft and pivoted to a fixed part of the car, and positive link connections from the shaft through said mechanism to the said doors.

20 2. In a dump car, pendent side doors adapted to swing outwardly, a longitudinal shaft under the car, a crank projecting from said shaft, and door operating mechanism extending from the end of said crank to the
25 doors on both sides of the car.

3. In a dump car, a longitudinal shaft, a crank projecting therefrom, a link connected to the end thereof, a branch link connected to an intermediate point on the aforesaid
30 link, and operating connections from the ends of the two links to the respective doors on opposite sides of the car.

4. In a dump car, a floor sloping downwardly from the center to each side, pendent
35 doors at the sides, a shaft under the center

of the floor, mechanism directly below the shaft and connected thereto, and links from said mechanism to the doors.

5. In a dump car, a dumping door, a center sill, a longitudinal shaft supported above
40 the center sill, and mechanism extending from said shaft down through the center sill, and thence to the said door.

6. In a dump car, pendent doors at the sides thereof, a longitudinally disposed oper-
45 ating shaft adjacent the center of the car, a crank on said shaft, levers pivoted to a fixed part of the car adjacent the center thereof, connections between said crank and levers, and links connecting said levers with
50 said doors.

7. In a dump car, a center sill comprising two longitudinal members spaced apart, a bottom comprising sections sloping downwardly and outwardly from a longitudinal
55 line above the center sill, pendent side doors, a longitudinal operating shaft beneath said bottom and supported upon said center sill, a crank upon said shaft, levers pivoted to said center sill members,
60 links between said center sill members connecting said levers to said crank, and links extending from said levers to said doors.

In testimony whereof, I, have subscribed my name.

FREDERICK SEABERG.

Witnesses:

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