

No. 887,652.

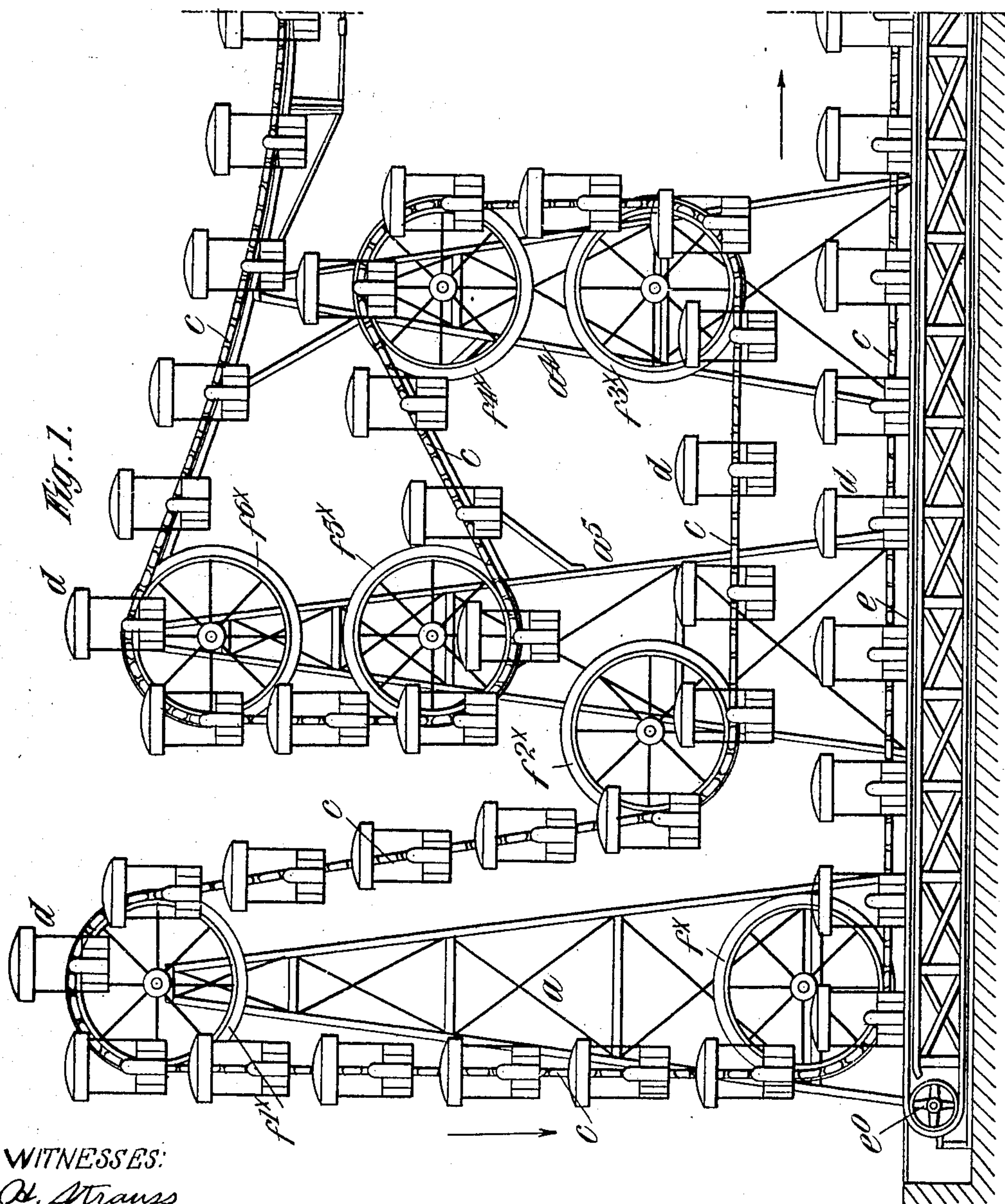
PATENTED MAY 12, 1908.

I. KIRALFY.

DEVICE FOR CONVEYING OR TRANSPORTING AND AFFORDING AMUSEMENT.

APPLICATION FILED NOV. 18, 1907.

6 SHEETS—SHEET 1.



WITNESSES:

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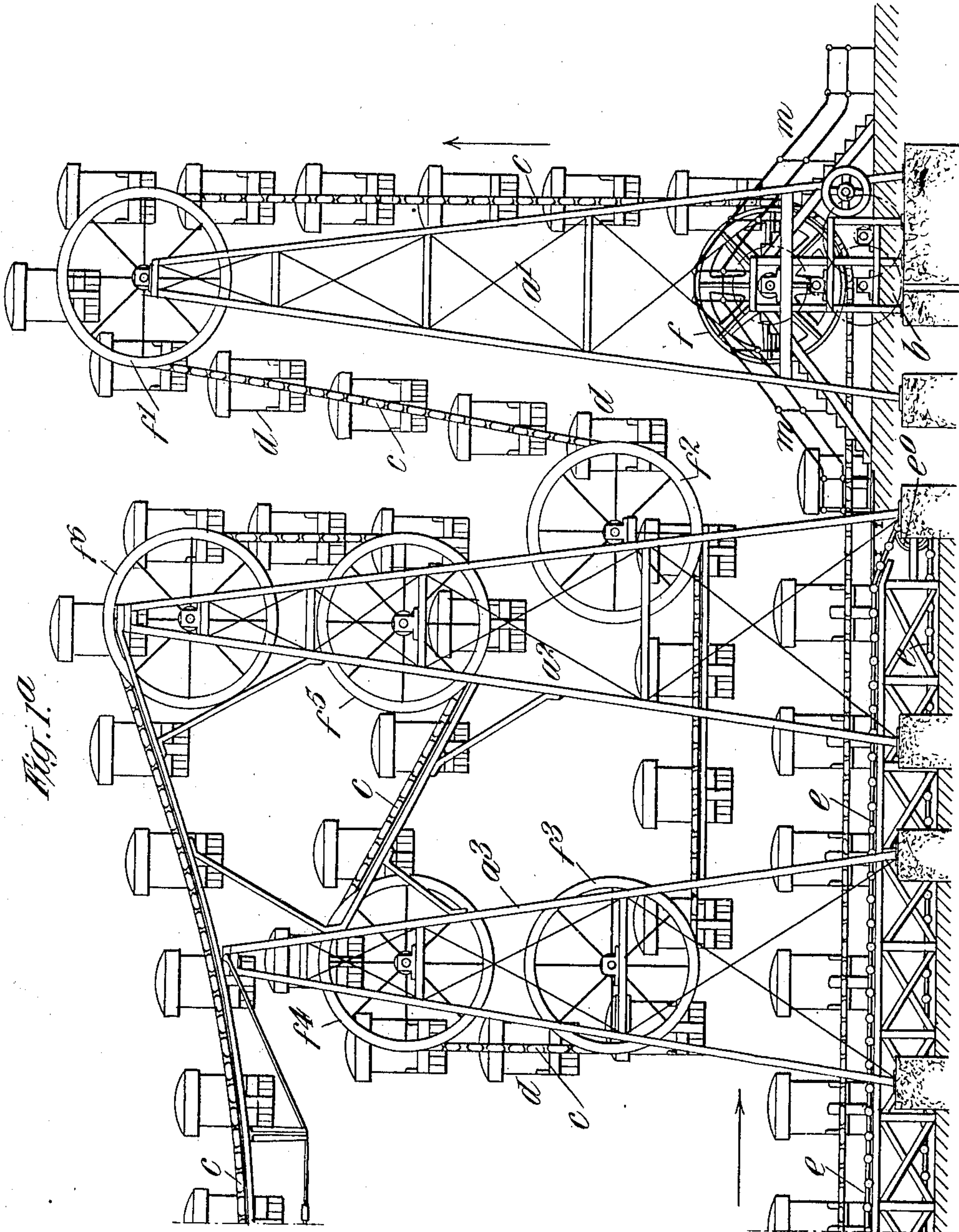


Fig. 1.

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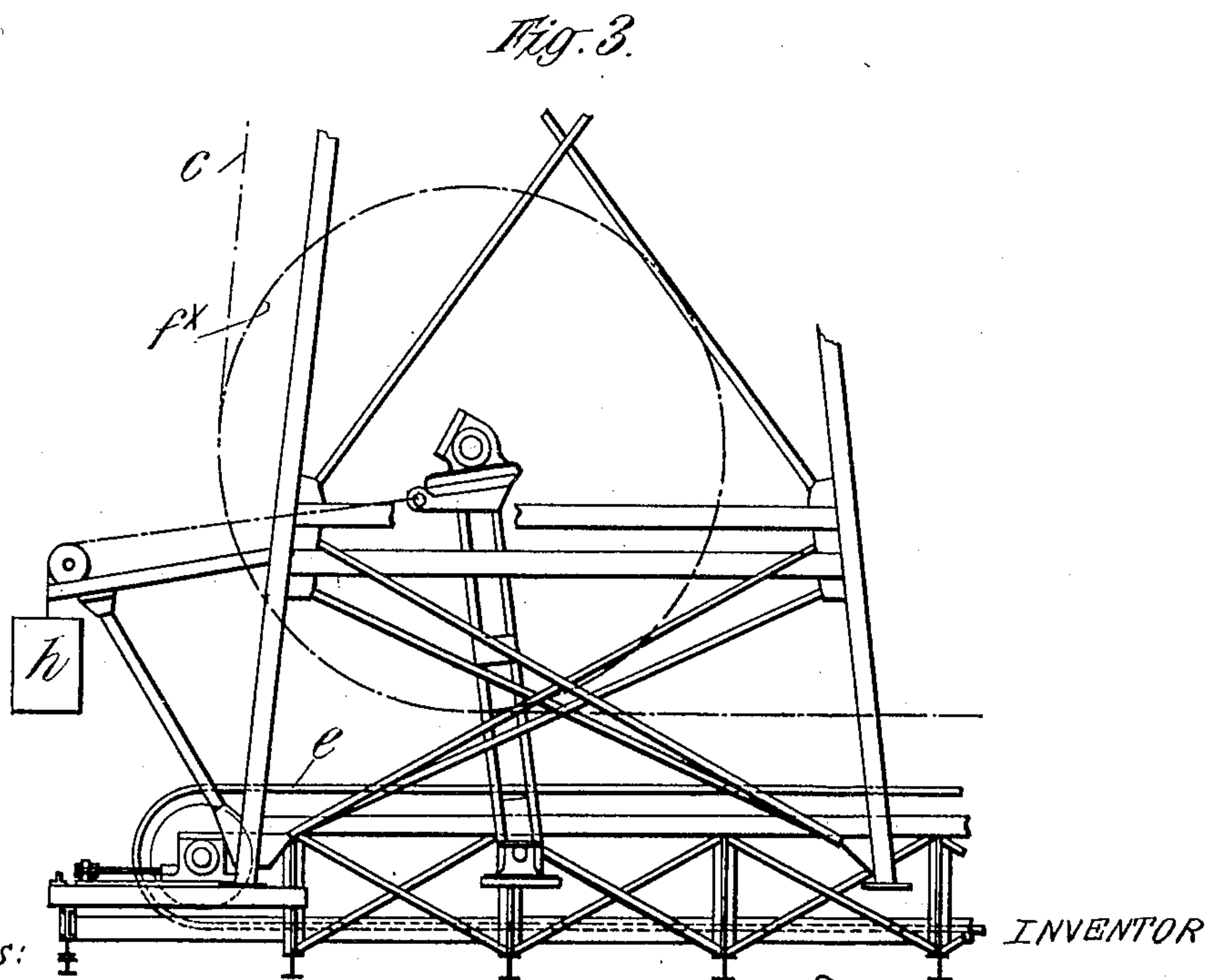
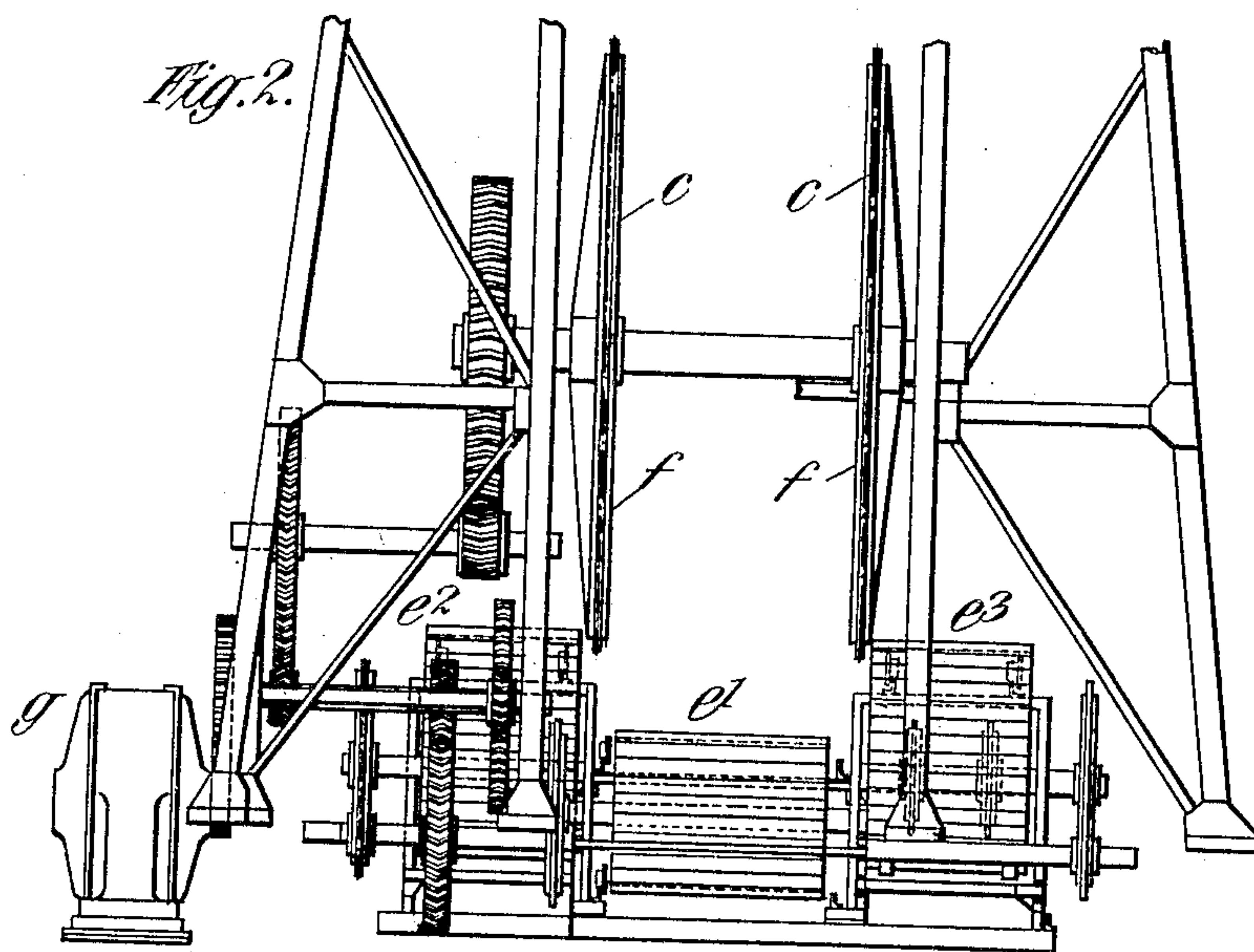
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6 SHEETS—SHEET 3.



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Fig. 10.

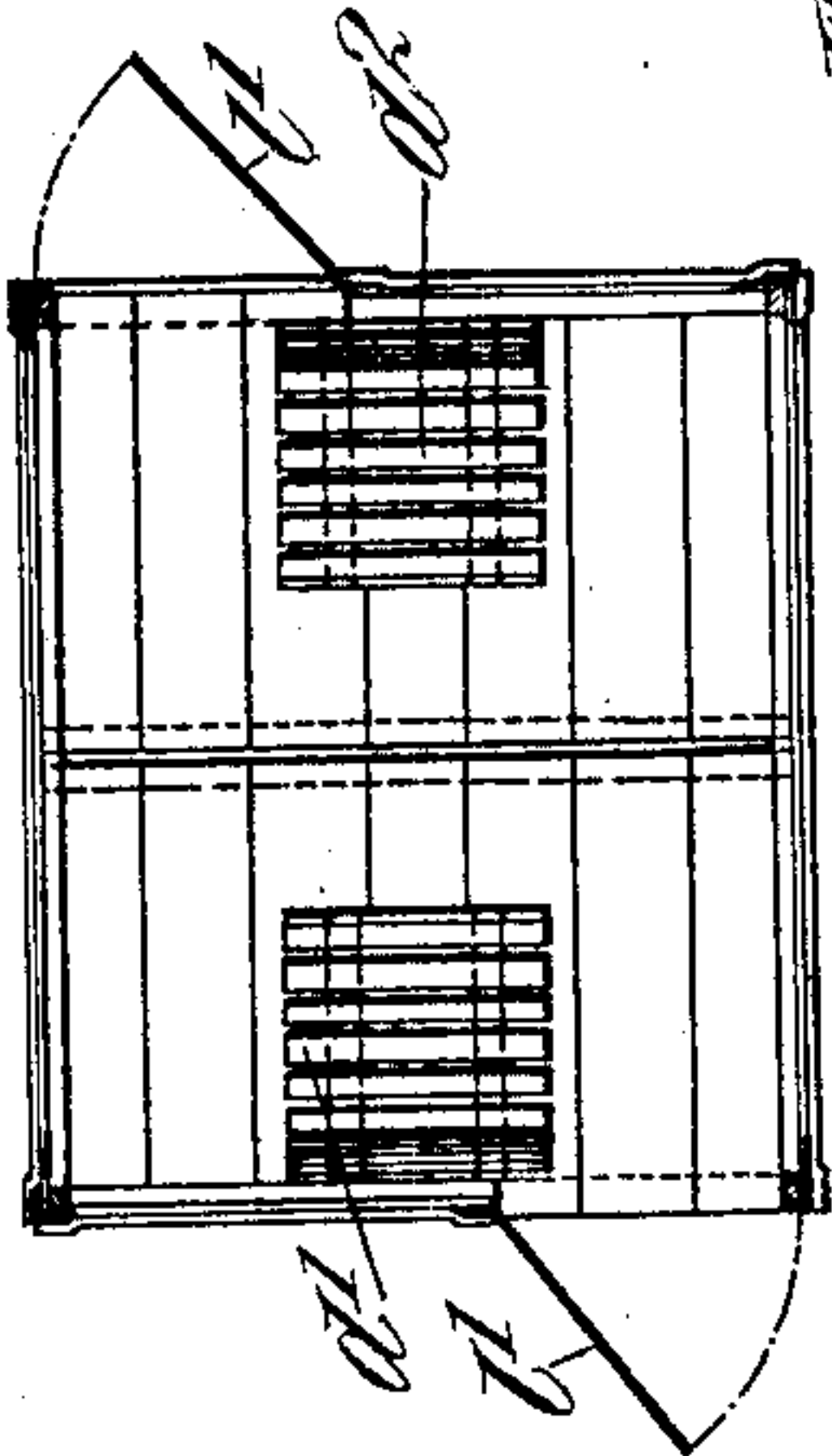


Fig. 14.

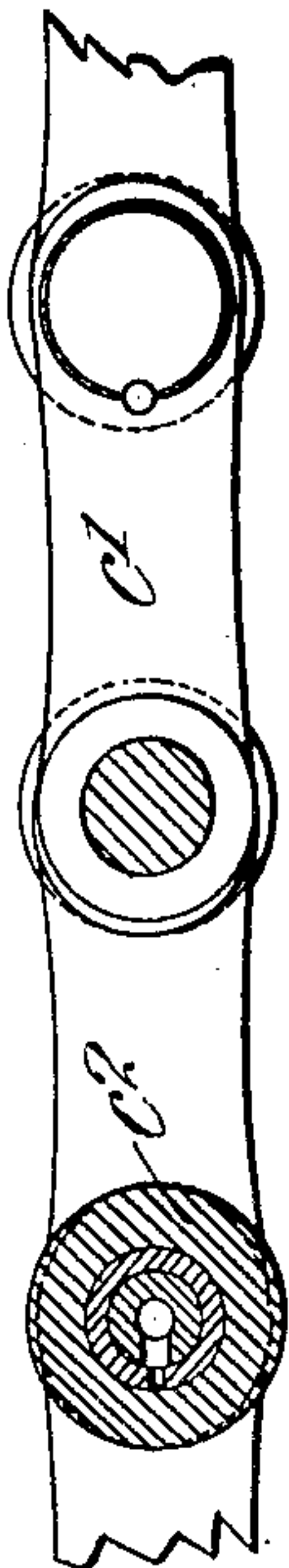


Fig. 15.

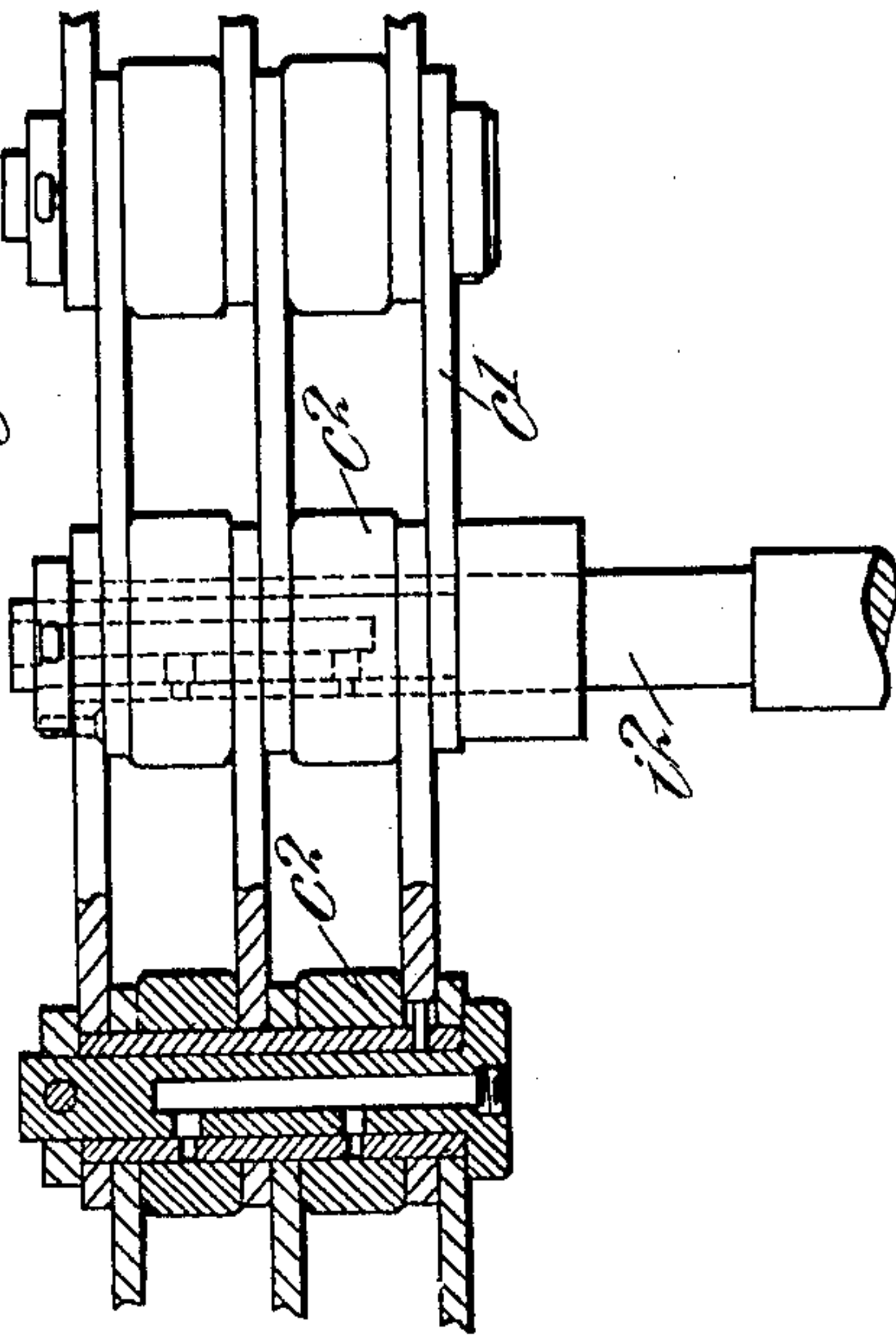


Fig. 5.

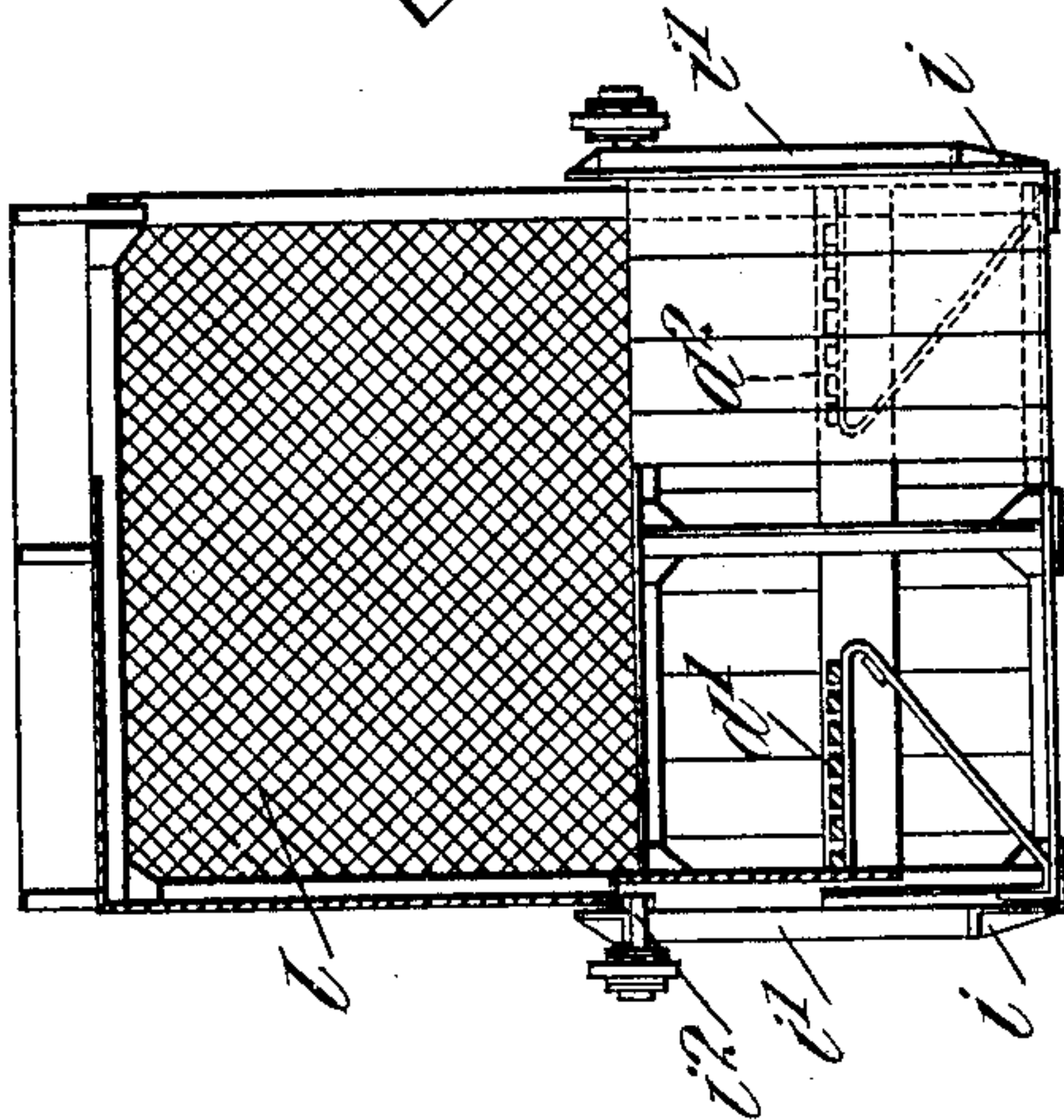


Fig. 6.

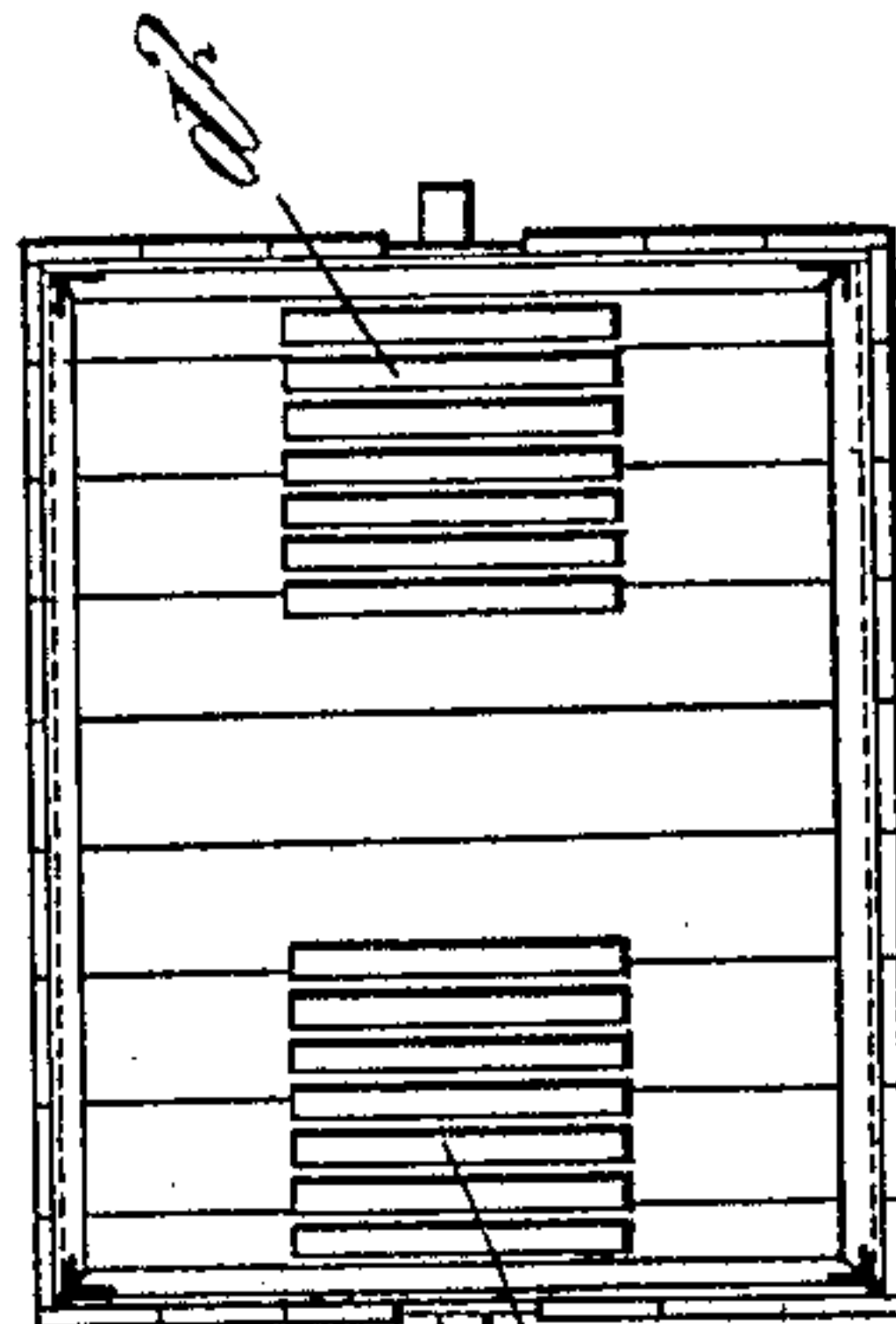
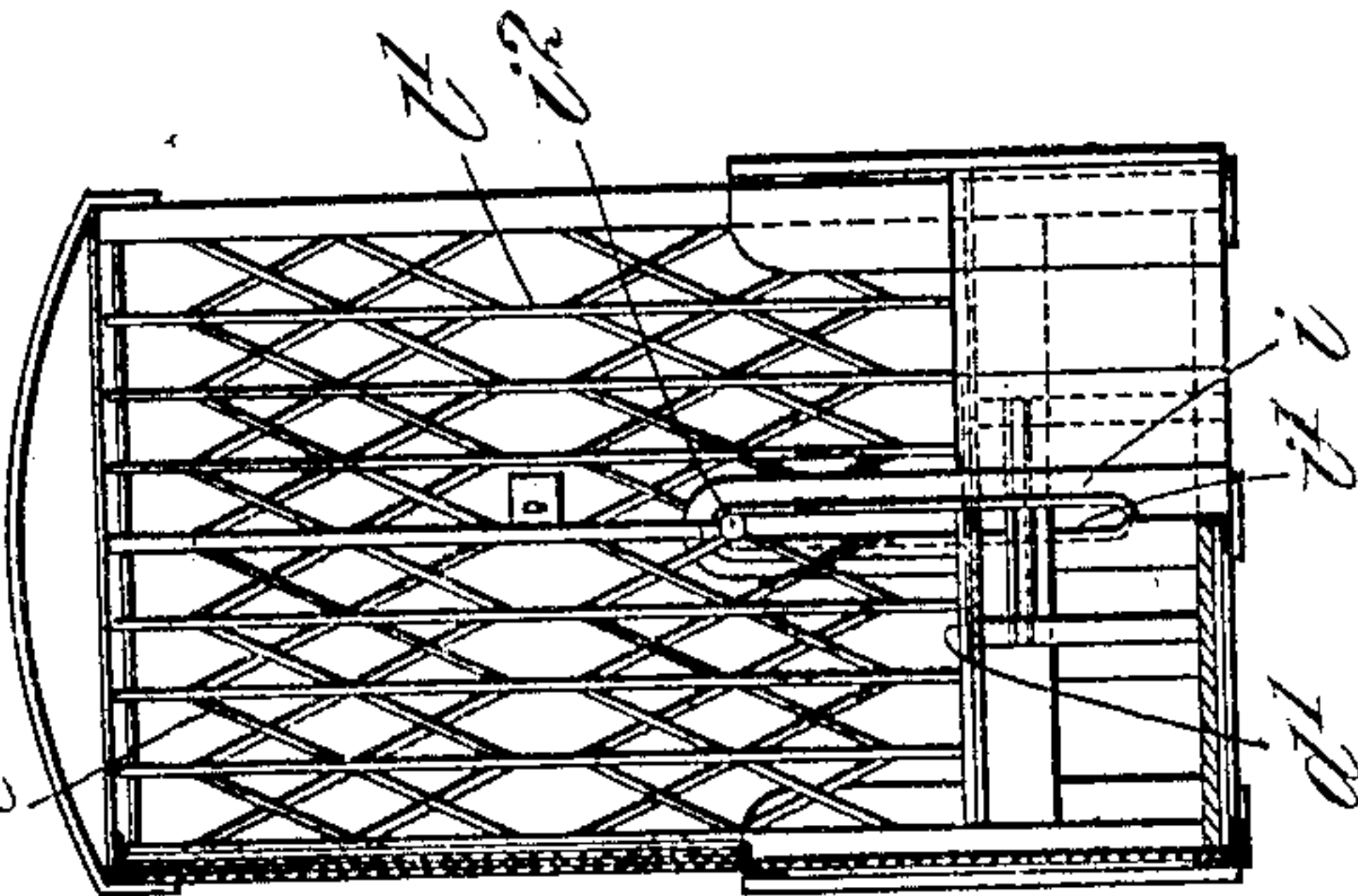


Fig. 4.



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Fig. 7.

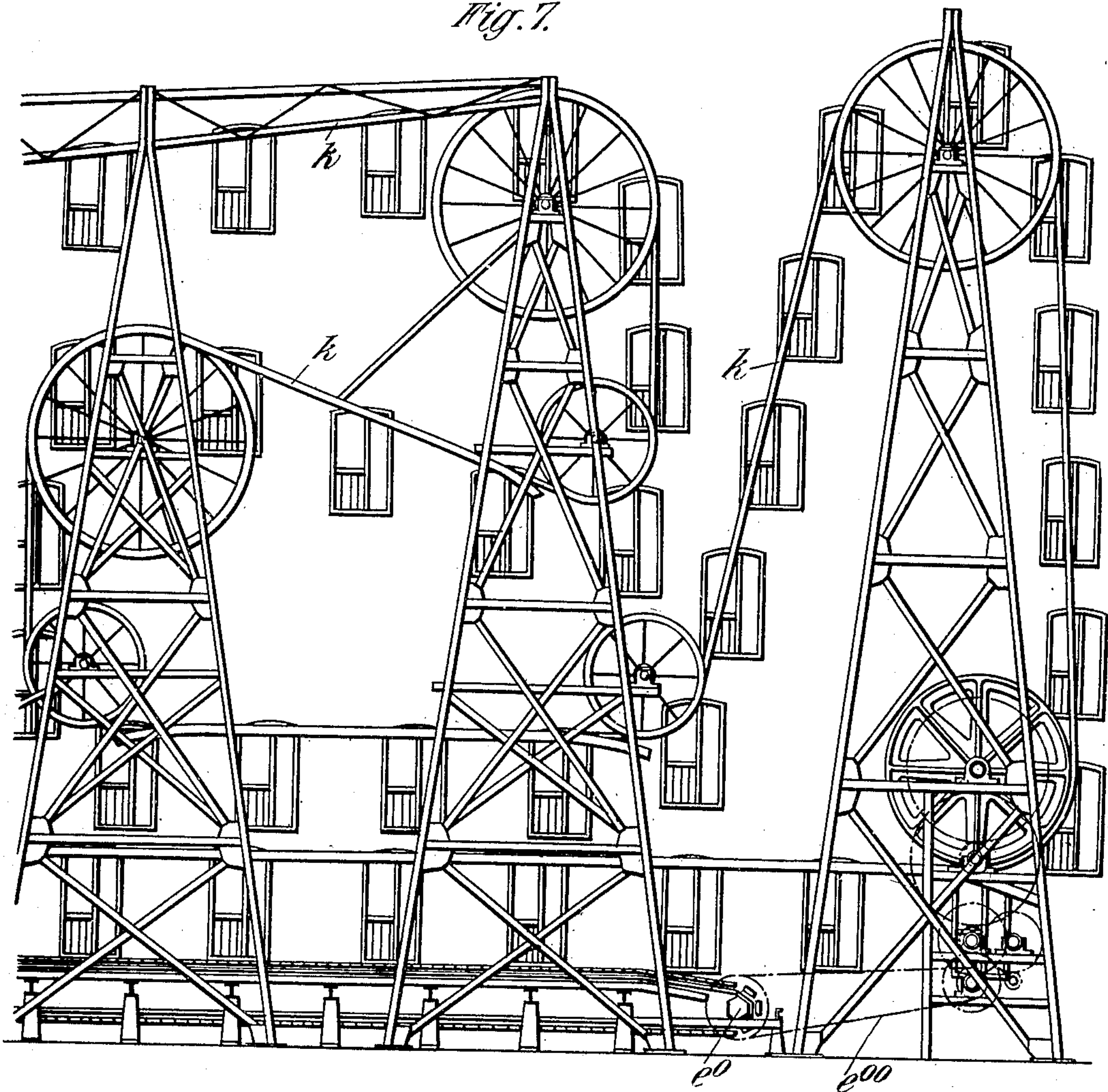


Fig. 12.

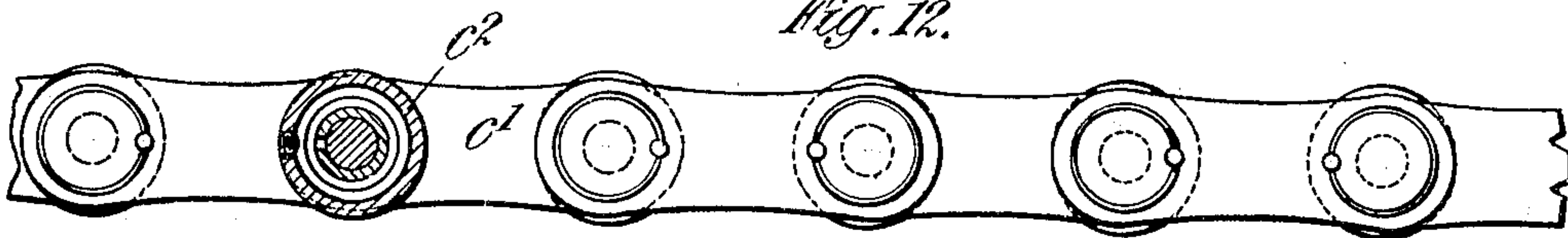
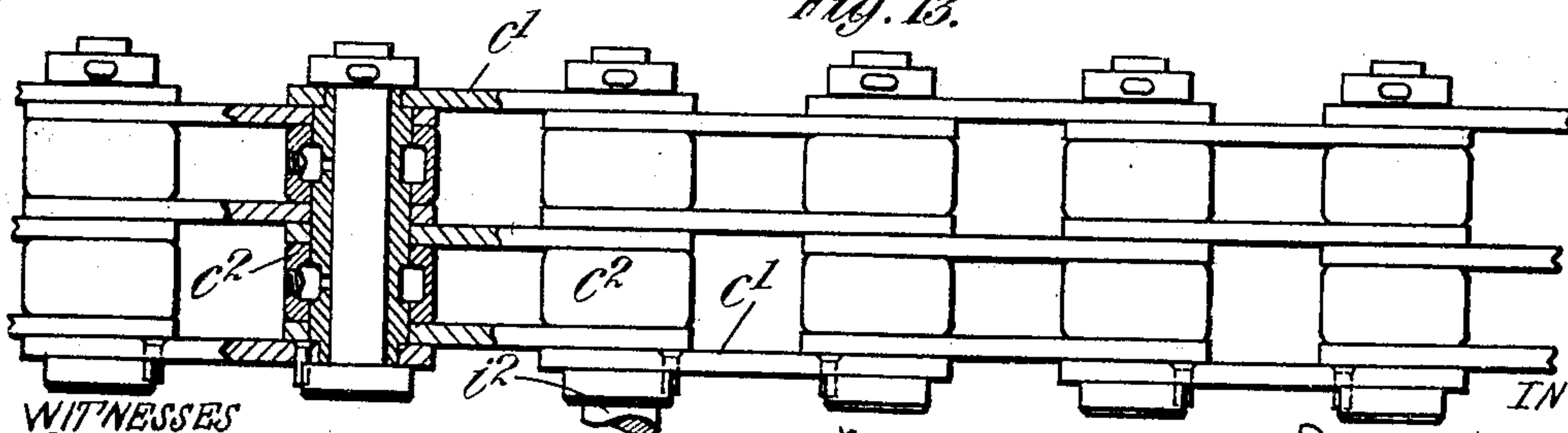


Fig. 13.



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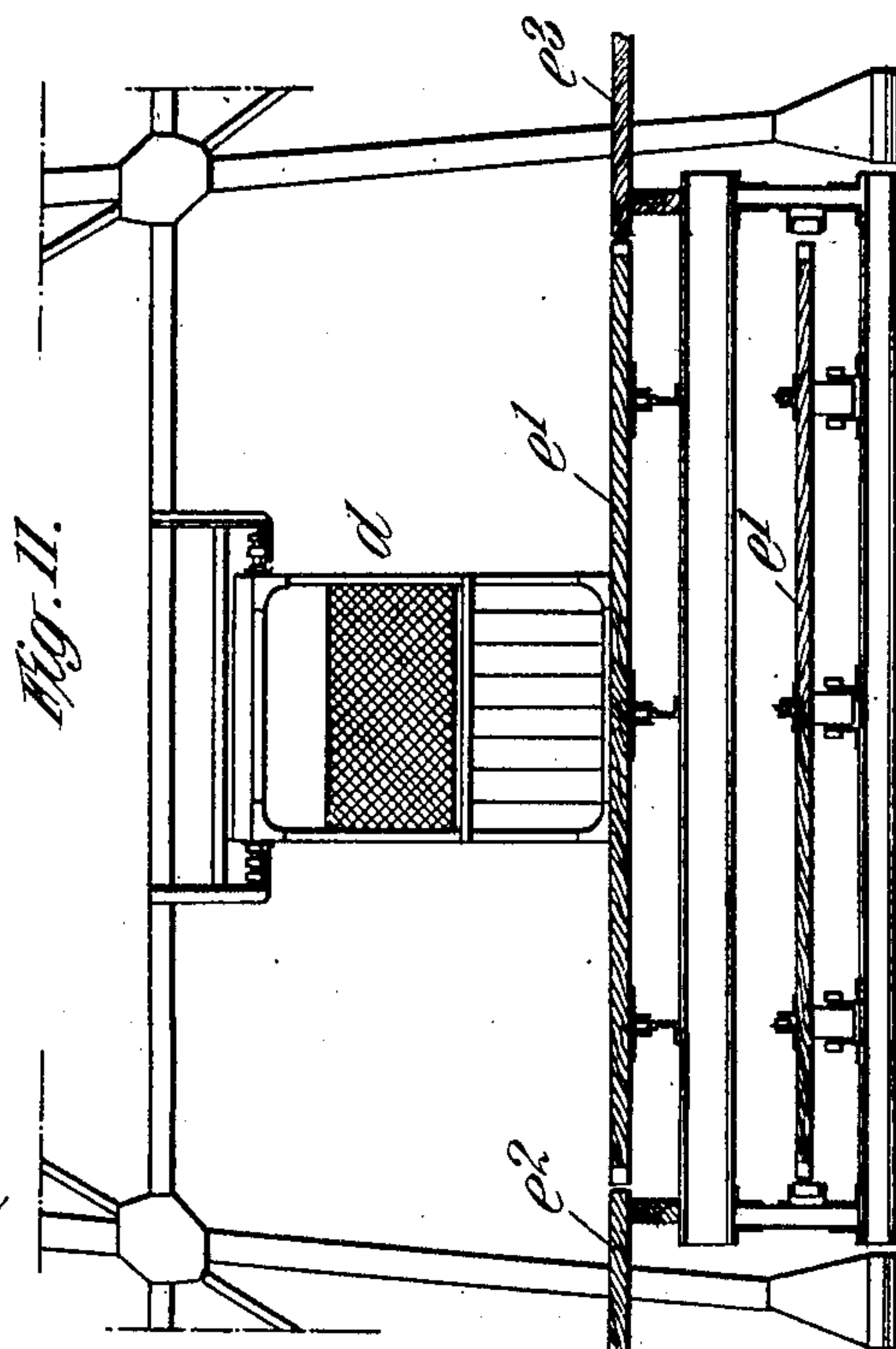
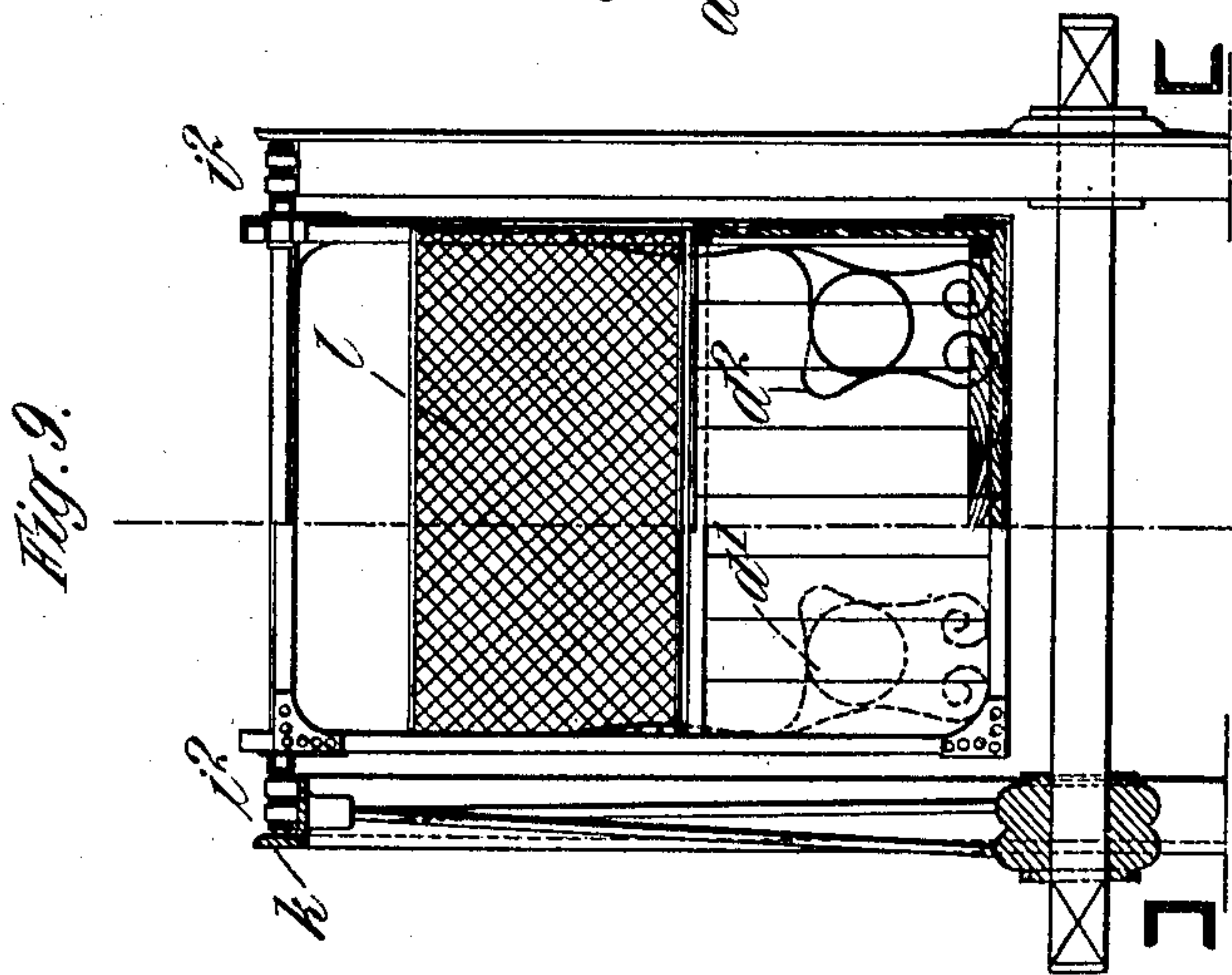
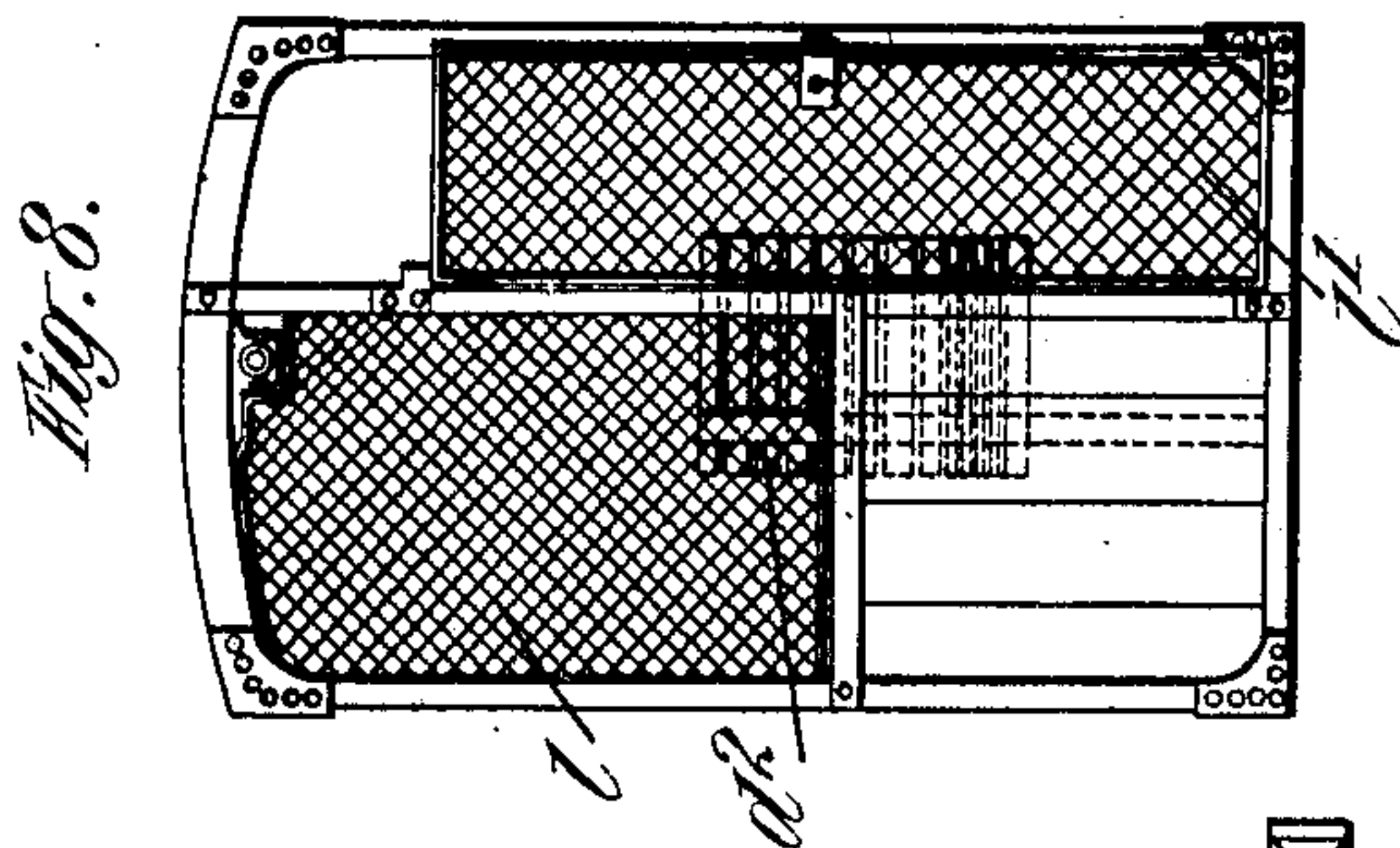
I. KIRALFY.

PATENTED MAY 12, 1908.

DEVICE FOR CONVEYING OR TRANSPORTING AND AFFORDING AMUSEMENT.

APPLICATION FILED NOV. 18, 1907.

6 SHEETS—SHEET 6.



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UNITED STATES PATENT OFFICE.

IMRE KIRALFY, OF SOUTH KENSINGTON, LONDON, ENGLAND.

DEVICE FOR CONVEYING OR TRANSPORTING AND AFFORDING AMUSEMENT.

No. 887,652.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed November 18, 1907. Serial No. 402,715.

To all whom it may concern:

Be it known that I, IMRE KIRALFY, a subject of the King of Great Britain, residing at Tower House, Cromwell Road, South Kensington, in the county of London, England, have invented certain new and useful Improvements in Devices for Conveying or Transporting and Affording Amusement, of which the following is a specification.

10 This invention relates to an improved apparatus, applicable for use as an amusement device and also to serve in transporting or conveying passengers or merchandise from one position or spot to another, in which an endless train of cars in a state of suspension from an endless chain or traveler is adapted to traverse a circuitous or extended course.

15 The apparatus consists essentially of an endless chain upon which are mounted a series of cars arranged at a suitable distance apart; the chain is arranged about suitably constructed guide sheaves and driving pulleys, wheels or drums disposed at various heights in a structure adapted to contain and support the same, the chain being driven by means of suitable power. The cars are approached by way of a traveling platform adapted to move at the same or approximately the same speed as that at which the train of cars is moving so as to enable the passengers to enter and leave the cars while the same are in motion without the necessity of stopping the cars. Or the platform may be fixed and the cars be provided with wheels or runners. The platform if of the traveling type may also be arranged in three portions on the same level or on different levels so that the cars may be supported by a central portion of the platform while the chain is prevented from interfering with the entry and exit of the passengers.

20 The cars are arranged on the chain so as to preserve a vertical attitude whatever their position or the direction of travel of the chain; the cars may be arranged for seating two occupants, the seats being situated centrally so as not to affect the center of gravity of the car. Screens or lattice may be provided around the car, portions of the screens or lattice serving as doors for permitting of entry and exit of the passengers, such doors being adapted for being actuated automatically or otherwise as desired. Suitable steps or stairways or other convenient means may be provided for affording entrance to and exit from the platform or structure.

In order that the said invention may be clearly understood and readily carried into effect I will proceed to describe the same with reference to the accompanying drawings, in which:—

Figure 1 and Fig. 1^a represent a diagrammatic view of one mode of carrying out my invention. Fig. 2 is a transverse section illustrating a construction wherein the traveling platform is arranged in three portions on different levels. Fig. 3 is a view of the lower end of one of the outer tower like structures showing a counterweight as a means of tensioning the sheave or pulley about which the chain passes. Figs. 4, 5 and 6 are respectively a front view, a side view and a plan of a form of car adapted for being suspended about the mid point of its vertical center line. Fig. 7 is a diagrammatic view illustrating another mode of carrying out the invention in which the cars are suspended from a point situated at their upper ends. Figs. 8, 9 and 10 are views respectively similar to Figs. 4, 5, and 6 illustrating a form of car adapted for use with the arrangement shown in Fig. 7. Fig. 11 is a transverse section illustrating a construction of platform in which the three portions are arranged on the same level. Figs. 12 and 13 are respectively a transverse section and a plan illustrating a construction of chain adapted for employment with the device; Figs. 14 and 15 being respectively similar views showing a slightly modified form of chain.

According to the mode of carrying out the invention, illustrated by way of example in Figs. 1 and 1^a, the apparatus comprises a structure of suitable material such as steel or iron in which by means of suitable shafts or trunnions, sheaves and pulleys, drums or wheels are mounted. The aforesaid structure may comprise tower like ends *a a'* which may be carried to a suitable height between which other tower like devices *a² a³ a⁴ a⁵* may be erected. One of the outer towers, as for example *a'*, may contain or be in proximity to the power imparting device or means *b* of operating the apparatus and affording tension and movement to the chain *c*; the operating device may be adapted to actuate both the endless chain *c* carrying the train of cars *d* and the platform *e* from which the passengers enter and leave the cars *d*. The arrangement of the chain *c* may be such that the cars upon leaving the aforesaid platform *e* first pass round the lower and outer part of

the driving drum f and thence upward round a drum f' near the upper end of the tower a ; the cars pass thence downward to a drum f^2 mounted on the intermediate tower a^2 whence they are led to a drum f^3 on the intermediate tower a^3 , then upward to another drum f^4 on the same tower a^3 from whence they pass in an oblique direction to a drum f^5 on the aforesaid intermediate tower a^2 . The cars are led from thence upward to another drum f^6 on the tower a^2 and from this last mentioned drum they pass direct to the other end of the apparatus to traverse a similar but inverted course; that is to say, the cars then pass around the upper side of the drum f^{6x} at the upper end of the tower a^5 , then downwardly around the lower side of the drum f^{5x} , then from this drum in an oblique direction to the drum f^{4x} on the tower a^4 , then downwardly around the drums f^{3x} also on the last mentioned tower and thence to the drum f^{2x} on the lower end of the tower a^5 . The cars pass thence in an upward direction to the drum f^{1x} at the top of the tower a ; passing round the upper portion of the last mentioned drum the cars by traversing a downwardly directed path arrive at and pass around the under side of the drum f^x . The cars thereupon arrive at the end of the platform opposite to the point at which they left at the commencement of the journey. The cars now travel the length of the platform e . Those passengers requiring to alight may thus do so while other passengers may take their places in the cars. The course taken by the cars may obviously be modified so as to shorten or lengthen the course of travel and so vary the journey performed, the object being to include an up and down course for the cars.

The traveling platform may be arranged in three portions on the same level or on different levels, so that the cars upon arriving at such platform are supported by the central portion, the arrangement being such as to prevent the chain interfering with the entry and exit of the passengers into and from the cars.

In Fig. 2 I have shown an arrangement of three platforms in which two outer platforms are arranged at a different level to a central platform. The several platforms indicated at e' e^2 e^3 may be actuated from the motor represented at g which is employed for driving the endless chain c ; the motion being derived from suitable gearing arranged operatively in relation to the platform and the chain or the actuating drum pertaining to the said chain.

In Fig. 11 I have shown another arrangement of three platforms in which the central platform e' is on the same or approximately the same level as the outer platforms e^2 e^3 ; the point of suspension of the cars d in this instance being near their upper ends. The

platforms may be composed of a number of slats or planks e^x placed transversely to the direction of motion and suitably connected with a flexible carrier such as an endless band, chain or other suitable means whereby the platform may be rendered operative in a longitudinal direction, the carrier passing round suitably mounted drums e^0 e^0 in operative connection with the motor or driving mechanism such as by means of the band or chain e^{00} (Fig. 7). The platform may be supported by suitably arranged guides disposed along the sides of the track; the arrangement will however be readily understood and may comprise means ordinarily adopted in connection with devices of similar nature. A suitable weight h may be arranged in such a manner in relation to the respective drums pertaining to the chain or to some of the drums in order to afford the requisite tension to the chain c . With a view to insuring the necessary stability and reliability to the device the several drums and the chain are duplicated; the chain thus engaging on each side of the cars and thereby affording the desired support while maintaining a steady and even movement of the cars.

The cars are hung on the chain from a point situate at or near the center or at or near the top thereof. In the former case the cars are hung on the chain by means of side pieces i formed or provided with slots or grooves i' or a link motion or other suitable device whereby the chain or chains may have an independent movement in an upward and downward direction relatively to the cars. The pins or pivots i^2 engage in the said slots i' and when the cars d arrive in contact with the traveling platform e the slots acting as lateral guides or supports enable the chain c to assume a position near the floor of the car or in a position not to interfere with the ingress or egress of the passengers to or from the cars. The safety of the passengers is hereby assured and owing to the platform and the cars traveling at the same or approximately the same speed, the loading of the cars is enabled to be effected without stopping the cars. When the cars leave the traveling platform the chain takes them from the level of the latter and by the pins or pivots moving vertically in the said guides or slots the cars resume their former position relatively to the chain and continue their journey about the towers and the drums mounted therein. It will be understood that the cars are arranged or pivoted relatively to the chain so that they always preserve a vertical attitude whatever the direction of travel of the chain; that is to say whether the latter be traveling in a horizontal, inclined or vertical direction.

In the case of the cars being suspended from the top or upper ends the arrangement

of the structure is similar to that illustrated diagrammatically in Fig. 7, the cars pertaining thereto being shown in Figs. 8, 9, and 10. From the sides of the cars there project the pins or pivots e^2 for engaging the chain c . There may be provided shields or guide ways k for the chain and pins or pivots, the shields adding to the safety of the device.

The cars may be provided at each side with a lattice or wire work screen or with screens arranged to open or close automatically as the cars arrive at or leave the platforms. The lattice or wire work is indicated at l in Figs. 4 to 6, and Figs. 8 to 10 inclusive.

l' represents a door for closing the entrance or exit passage to or from the cars. The screen or screens may be arranged for differential movement by means carried by the car or be adapted for automatic operation by means of a suitable device mounted upon the platform or on the structure adjacent to the said platform. The cars may be arranged for seating two occupants the seats d' d^2 being placed centrally in the cars and in such a manner as to permit the occupants to assume a position of view from various aspects without affecting the center of gravity of the car.

As a modification, the cars may be provided with wheels or runners and the platform be fixed instead of being arranged to travel as described above.

The chain employed may be of any suitable construction but preferably the spaces between the links c' are provided with raw hide or hard wood washers or distance pieces c^2 (Figs. 12 to 15 inclusive) the pins i^2 for supporting the cars d projecting a suitable distance laterally so as to engage the aforesaid side pieces or other engaging means pertaining to the cars.

The entrance to the traveling platform may be by way of steps or stairways m in Figs. 1 and 1^a or by any other suitable or convenient means.

Although I have described above a mode of arranging the train of cars in a circuitous or extended course it will be understood that this course may be varied as occasion may require or according to the dictates of fancy. For instance, the intermediate towers may be dispensed with or the chain may be arranged in various ways to obtain the herein described up and downward course of the cars.

It will be obvious that the above described device may be employed with or without suitable modifications for use in transporting or conveying passengers, cattle, merchandise or the like from one position, point or locality to another such as in the case of buildings from one floor to another or one part of a building to another. For instance the device may be arranged so that the chain

travels in a zigzag manner so as to cause the cars to ascend in a zigzag course say from floor to floor or the chain and consequently the cars may be otherwise disposed with a view to accomplishing the objects aimed at.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In an amusement device, a plurality of upstanding structures, carrying drums journaled upon said structures, an endless carrier passing over said structures, and traveling in a horizontal plane adjacent the bottom of said structures, and in inclined plane above such horizontal plane, and means to admit passengers to the cars while traveling in a horizontal plane.

2. In an amusement device, a plurality of supporting structures, an endless carrier passing over said structures, and adapted to travel in a horizontal plane between the bases of said structures, cars carried by said endless carrier, and means connecting the cars with the carrier whereby the carrier drops relative to the cars while traveling in a horizontal plane.

3. An amusement device comprising upright structures, a traveling platform moving between the bases of said structures, an endless carrier passing over the structures and moving between the bases of said structures, adjacent the traveling platform, a plurality of cars carried by the endless carrier and positioned to ride upon the traveling platform between the bases of said structures.

4. An amusement device comprising upright structures, a traveling platform moving between the bases of said structures, an endless carrier passing over the said structures and moving in a horizontal plane adjacent the said platform between the bases of the said structures, a plurality of cars carried by the carrier, and means connecting the cars with the carrier whereby the carrier drops relative to the cars while moving between the bases of the structures and permits the cars to ride upon the traveling platform.

5. An amusement device comprising a plurality of spaced upright structures, carrying drums arranged adjacent the bases and tops of the said structures, an endless carrier passing about said drums, and adapted to travel in a horizontal plane between the bases of said structures, and to travel in varying planes between the tops of said structures.

6. In an amusement device, a plurality of spaced upright structures, other upright structures disposed between the first-mentioned structures, carrying drums journaled upon all of said structures, an endless carrier passing over all of said drums and adapted to travel at times in vertical, horizontal and inclined planes.

7. In an amusement device, spaced supporting structures, a traveling platform disposed to move between the bases of said up-

right structures, other supporting structures
disposed between the first-mentioned struc-
tures, an endless carrier passing over all of
said structures, and adapted to move in a
5 horizontal plane between the bases of the
first-mentioned structures and adjacent the
traveling platform, and means whereby the
carrier travels in a horizontal plane adjacent
the said traveling platform, and in vertical,
10 horizontal and inclined planes at other times.
8. In an amusement device, supporting
structures, an endless carrier passing over the

structures, a traveling platform moving be-
tween the structures, cars adapted to ride
upon the moving platform, and provided 15
with vertically sliding engaging means where-
by the cars are connected with the endless
carrier.

In testimony whereof I affix my signature
in presence of two witnesses.

IMRE KIRALFY.

Witnesses:

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F. J. RAPSON.