

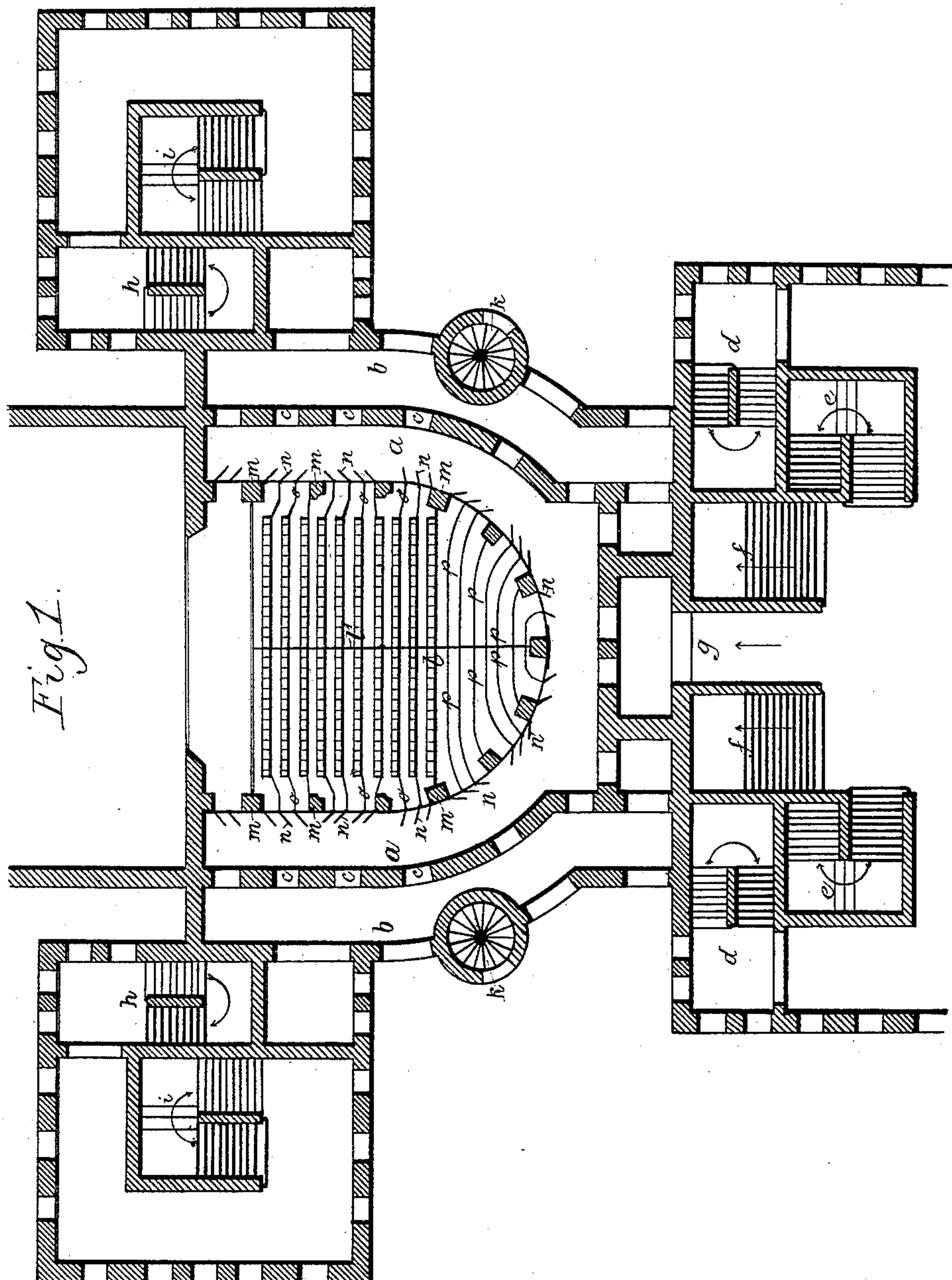
(No Model.)

2 Sheets—Sheet 1.

A. PALTER.
CONSTRUCTION OF THEATERS.

No. 394,130.

Patented Dec. 4, 1888.



Witnesses.

W. Theodorovic

H. Kraus

Inventor.
Alexander Palter

by *Armin H. Kramig*
Attorney.

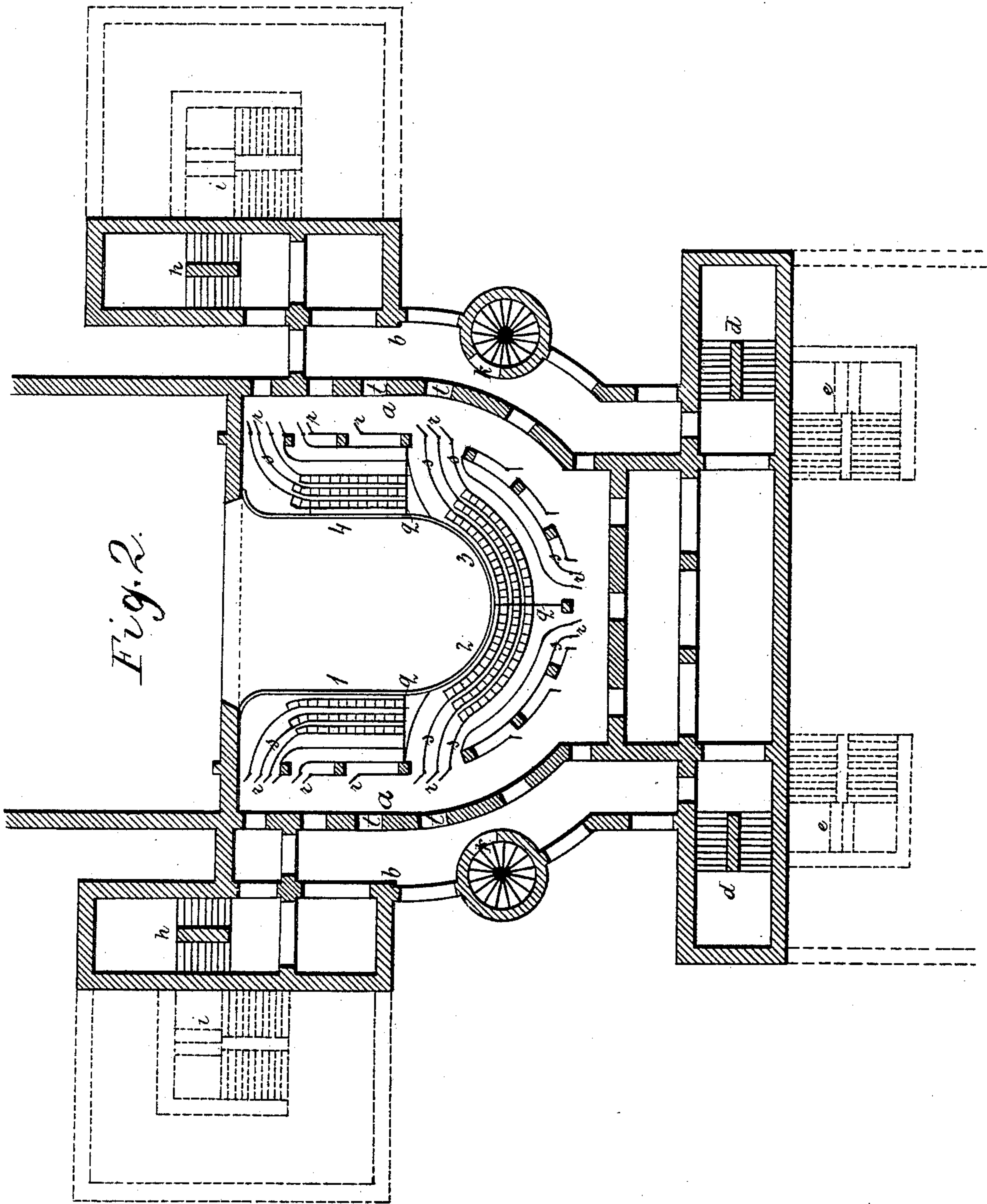
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Inventor.
Alexander Palter,
by *Heinrich Kuehnig*
Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER PALTER, OF VIENNA, AUSTRIA-HUNGARY.

CONSTRUCTION OF THEATERS.

SPECIFICATION forming part of Letters Patent No. 394,130, dated December 4, 1888.

Application filed April 11, 1888. Serial No. 270,356. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER PALTER, a subject of the Emperor of Austria, residing at Vienna, Austria-Hungary, have invented a new and useful Improvement in the Construction of Theaters, of which the following is a specification.

In order to render possible a rapid and safe departure of the spectators and to avoid the thronging or crowding of people, several arrangements were made after the fires in Vienna, Paris, Nice, &c., for the safety of the theaters, consisting, especially, in augmenting the number of outlets without taking into consideration that, besides that augmentation of outlets, it is necessary to compel the public to distribute themselves uniformly to the outlets, so that a small (more or less equal) number of persons is admitted to each outlet and those one by one or in small groups. The augmentation of the outlets has proved itself, therefore, quite useless, as well as the use of an iron curtain.

The object of this present invention consists in distributing in theaters the staircases, entrances and exits, the seats, and standing room in such a manner that every person has a predetermined way in and out of the theater, so that in event of a sudden emptying of the theater in case of accident or panic every person must follow his own prescribed way, so that a crowding of persons at the several outlets is entirely prevented. As soon as the public arrive in the corridors, the doors leading to the auditorium close automatically, so that the public are already saved at this moment, since smoke, &c., cannot pass there, owing to the automatically-closing doors.

Before explaining the particulars of my invention I must remark that the theater constructed in accordance with my invention comprises only the stage, with dressing-rooms, (green-rooms,) auditorium, with corridors and retiring-rooms, vestibule, with cloak-rooms and staircases, sundry offices, store-rooms, ticket-offices, sitting-rooms, libraries, painting-rooms, rehearsal-rooms, and property-rooms. Machines for ventilation, lighting, &c., ought to be placed in annexed buildings.

The stage ought to be disconnected on all sides and overtop the whole of the other building, being covered, fire-proof, and provided

with a large chimney for the waste gases and foul air.

From the green-rooms of the actors, as well as from separate parts of the scene, separate doors or outlets ought to lead directly into the street or into a corridor opening toward the street. The arrangement of these outlets, as well as the construction and disposition of the stage, is no object of this present invention, and is therefore not shown in the annexed drawings.

The auditorium is surrounded, as may be seen in the annexed drawings, by a wide and roomy corridor, *a*, of about three meters width, and the same is surrounded by a corridor, *b*, of the same width, being open toward the street. The first-mentioned corridor has at the height or level of the fourth gallery of the second-box floor and of the pit several doors or outlets, *c*, closing automatically outward, (preferably folding glass doors,) whereas in the first and third box floor windows are to be applied.

From three vestibules lead entrances into the interior of the theater, viz: From the large main vestibule at the front side of the theater opposite to the stage lead two staircases, *d*, at the right and left direct to the fourth gallery, two staircases, *e e*, (also at the right and left,) lead to the second-box floor, and, thirdly, two staircases, *f f*, in the first-box floor. These staircases are situated, as may be seen in the annexed drawings, symmetrically at the right and left in the vestibule, and in such a manner that no staircase communicates with another. Between these staircases leads a corridor, *g*, into the pit. From each of the two sides or secondary vestibules, laterally from the auditorium and from the stage, for instance, to the right and left of the orchestra, a staircase, *h*, leads separately, and staircase *i i* leads to the third tier of boxes. Besides, there may be arranged two further staircases, *k k*, (in the drawings are represented two spiral staircases for the fourth gallery.)

In the annexed drawings are represented in a plan view the pit, Sheet I, and the fourth floor or gallery, Sheet II, with an auditorium for about one thousand to ten hundred and fifty persons. The drawings are only skeleton drawings or sketches without any architectural instruction.

As my invention only refers to the pit and gallery auditorium, there are represented but those two plan views. The box-floors, where danger is not to be apprehended, may be constructed and arranged in the usual manner. In the vestibule may be arranged the ticket-offices and wardrobes. It must be, however, observed that the wardrobes are constructed of fire-proof material. The boxes are preferably constructed of iron, with outwardly-opening and automatically-closing doors.

In order to understand my invention, I will now describe the particulars.

I. *The pit.*—The pit is in the beginning on the level of the vestibule and of the corridors. Projecting thresholds and steps must be avoided. Only the inner real auditorium is to slope with steps toward the stage, so that each row is situated a step lower. The pit can be arranged only for seats; or it may be provided with standing-room. In the latter case the whole pit or floor is divided by a lattice or barrier, *l*, parallel to the stage, in two parts, in such a manner that the larger part adjacent to the stage forms the stalls or better class of seats, and the other one the standing-room or pit. Throughout the whole length of the pit and perpendicularly to the stage is arranged a lattice or barrier, *l'*, which divides the stalls in two equal halves.

The walls inclosing the pit of the auditorium are provided with large openings, so that only pillars *m* support the upper brick-work or masonry. In these openings are provided small iron doors *n*, preferably hermetically and automatically closing and opening outwardly, one door for every row. From each of the several doors lead small but solid and fire-proof staircases to the respective rows of seat and standing places, and a barrier, *o*, separates the several rows, so that every communication between the rows is prevented. At the standing places a separate barrier or lattice, *p*, extends to the middle barrier, *l'*, and separates the rows. This barrier, which may have the breast height of a man, is very comfortable for the public. What will be the consequence of a such-arranged separation (division) of the pit in case of an accident or panic? Every spectator will leave his seat and take his own way, which is prescribed to him by the guidance of the barriers, the whole people will go slowly and in separate rows to the outlets, and as large doors (opposite to the small iron doors) lead into the open air it is a matter of course that every accumulation or thronging is prevented. As shown in the drawings, (which serve only as examples for illustrating,) fourteen outlets lead from the corridor *b* into the street, and as the pit receives three hundred and sixty persons, and as the longest distance a person has to make is twenty-five meters, it results: from every row comes every person in three seconds into the corridor of three meters width, and as there are twelve persons in every row these twelve persons want thirty-six seconds to arrive at

the corridors. In these thirty-six seconds the whole pit is empty. Every person wants, besides, three seconds to come across the corridor in the open air, so that this part of the building is empty in one minute twelve seconds.

The emptying of the boxes is of course just as quick and every danger is prevented, inasmuch as every box-floor (tier of boxes) has its own two separate spacious stairs and foyers.

It is a chief requisite that all doors open outwardly and close automatically, and that upon every door is marked by an arrow or hand the direction of outlet. The seats in the pit are not numbered. Only the several rows are provided with current (continuous) numbers, and the first coming person has to occupy the place toward the middle. It is not allowed to sell more tickets than seats existing.

Description of the fourth floor, (fourth gallery, (Sheet II.—This part of the auditorium is also a double one and provided with seats and standing places. The whole space is divided similarly to the pit into several compartments (four in the drawings) by means of barriers *q*. Each compartment has amphitheater seats and standing places. From the corridor a separate iron door, *i*, leads to every row, and from the doors lead iron or stone steps down to the rows. Each of the several rows is separated from the next by barriers *s*, so that every communication is impossible. The large mentioned corridor *a* is provided with a great number (fifteen in the drawings) of folding doors opening outwardly, which lead either to the open corridor *b* or to the staircases. Four to six, or more stairs lead to the street. The emptying of a gallery so constructed may be effected in two minutes or less. Here, also, only the rows are to be numbered as for the pit. The lighting of the theater may be an arbitrary one; but it is preferable to employ an electrical lighting for the stage and gas for the auditorium and for the corridors. As the large first corridor possesses toward the street windows or doors, one must place in the street gas-burners at such places that they may light the corridors through these windows from without, so that in case of an internal darkness the corridor is lighted. It must be, however, observed that these burners are fed from the main pipe of the street, so that they are in no communication with the service gas-pipe in the theater; also, the burners in the corridors, foyers, and vestibules must have their own separate gas-meters.

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

1. In theaters, the several floors thereof divided into compartments by suitable barriers, said compartments being divided or separated into a certain number of separate rows which lead to a common corridor, the latter being closed by doors, opposite to which other doors lead to the outside of the building, whereby communication between the several rows is impossible.

2. In theaters, the fire-proof and automati-
cally-closing doors located at the openings
leading to the several seat or standing rows
in order to separate the auditorium from the
5 surrounding corridors, substantially as de-
scribed.

In testimony whereof I sign this specifica-

tion in the presence of two subscribing wit-
nesses.

ALEXANDER PALTER.

Witnesses:

EDMUND JUSSEN,
OTTO SCHIFFER.