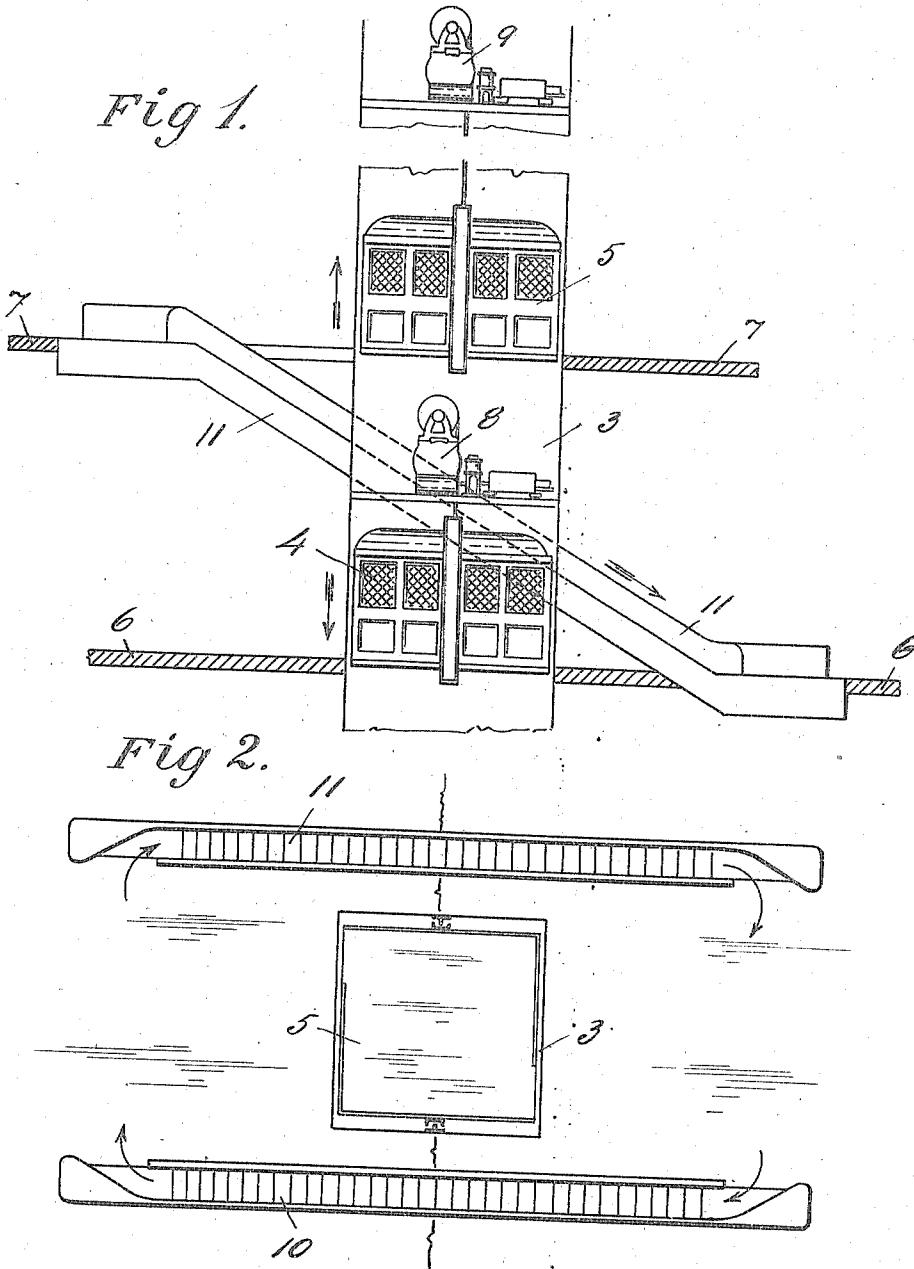


C. D. SEEBERGER.
CONVEYER SYSTEM.

APPLICATION FILED JULY 15, 1907. RENEWED AUG. 2, 1909.

951,745.

Patented Mar. 8, 1910.



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Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed July 15, 1907, Serial No. 383,830. Renewed August 2, 1909. Serial No. 510,882.

To all whom it may concern:

Be it known that I, CHARLES D. SEEBERGER, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Conveyer Systems, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to conveyer systems adapted to be used in high buildings, whereby a single elevator shaft may have its present capacity substantially doubled. To accomplish this I preferably employ two elevator-cars independently operated in the same shaft one running between a series of lower stories or landings and the other between a series of upper stories or landings, in connection with an intermediate conveyer preferably in the form of a moving stairway running between the intermediate stories or landings forming the adjacent terminals of the two cars.

My invention consists in the arrangements and organizations of parts hereinafter described and then pointed out in the appended claims.

In the accompanying drawing which exemplifies an apparatus embodying my present invention, Figure 1 is a view in elevation of a portion of an elevator shaft in which two elevator-cars are independently operated in connection with an intermediate inclined conveyer; and Fig. 2 is a plan view of the elevator shaft and car associated with a pair of oppositely moving inclined conveyers.

Referring to the drawing the numeral 3 indicates the elevator shaft in which the elevator-cars 4 and 5 are operated, and 6 and 7 indicate two intermediate floors or landings of the building as the ninth and tenth or the nineteenth and twentieth respectively, and the car 4 having its upper terminal at floor 6 and the car 5 having its lower terminal at the succeeding or adjacent floor 7. The over-head work 8 of the car 4 is just below the floor 7 and that of the car 5, shown at 9 in the drawing, may be located at any suitable point above floor 7. The cars are independently operated and controlled, and car 4 runs between the main or entrance floor (not shown) to any intermediate floor as 6, while the car 5 runs between the next higher intermediate floor 7 and the top floor (not shown).

Numerals 10 and 11 indicate traveling con-

veyers, preferably in the form of moving stairways, adapted to transfer passengers between the floors 6 and 7, 10 being an ascending conveyer to transfer passengers from floor 6 to floor 7, and 11 a descending conveyer to convey passengers from floor 7 to floor 6, these conveyers being driven from any suitable source of power and with their entrances and exits located adjacent the doors of the elevators.

Assuming that the cars in the shaft are so operated that the upper elevator completes its descent at the same time the lower elevator completes its ascent, when car 4 reaches the floor 6 it discharges the passengers which it took on, in its upward trip from the main floor of the building, and those desiring to go to upper floors step upon the ascending conveyer 10 and are transported to floor 7 where they may enter car 5 after it has discharged its passengers. Those of the passengers from car 5, which discharges passengers on its down trip at floor 7, who may desire to get off at floors below floor 6 are conveyed from floor 7 to floor 6 by the descending conveyer 11 where they enter car 4 which is waiting for them. Each car then proceeds to complete its round trip, car 4 descending to the main floor and stopping at any floor to take on or let off passengers, and car 5 likewise stopping at the different floors on its trip to and from the top floor.

It is understood that while but one shaft having two elevator-cars operating therein is shown, in the actual employment of my invention banks each having a plurality of shafts may be used, in each of which shafts two or more independently controlled cars may be operated. It is of course also understood that while I have shown two cars in each shaft with the inclined conveyers, three or more cars may be used in each shaft if desired in connection with an inclined conveyer between each pair of intermediate terminals; thus in a building of say forty floors, the low-rise car 4 may run up to the nineteenth floor and the high-rise car from the twentieth floor to the top with the inclined conveyer service between the nineteenth and twentieth floors, or the low-rise car may run to the ninth floor, the next car from the tenth to the nineteenth floor, the next from the twentieth to the twenty-ninth, and the upper one from the thirtieth to the fortieth, with an inclined conveyer service

between the ninth and tenth, nineteenth and twentieth, and twenty-ninth and thirtieth floors or landings. The division of the entire distance between the lowest and highest floors or landings may be made into as many sections or zones as desired.

In order that there may be as little delay as possible at the transferring floors it is desirable to have the cars so operated that they reach these floors approximately at the same time, thereby reducing the time for the transfer of the passengers to a minimum, and for this purpose any suitable system of signal bells may be employed so that car 4 would leave the main floor at or about the time car 5 left the top floor and they would arrive at their destination at practically the same time. In actual use, however, as has already been stated, with banks containing a plurality of shafts in each of which are operated two cars as just described, the delay of transferring the passengers would be materially reduced as there would always be at the transferring floors at least two cars ready to convey them up or down as the case might be.

Where a plurality of shafts in each bank are employed it is apparent that many different combinations of the cars may be operated. In the same shaft the two cars may be local-cars, or either one may be an express-car and the other a local-car, or both may be express cars. And likewise of the cars running between the main and the nineteenth floors and the twentieth and the top floors; in either case any proportion of them may be express-cars as may be found desirable.

By employing the present system the space necessary for the shafts or wells is reduced one-half, and at the same time the elevator service is practically doubled as each car passes only the floors that it serves and no car passes any zone or section not served by it, there being no idle runs. In systems heretofore devised some of the cars must run idle through certain parts of their flight, as an express car starting from the street level runs idle to the floor where it begins to run local, but with my invention these idle runs are obviated and each car operates only in its own zone.

The means for operating the cars may of course be of any suitable character, as may all the ancillary parts of the entire apparatus.

Having described my invention I claim;

1. A conveyer system comprising two cars operating between different sets of terminals in the same shaft, and an inclined conveyer running between intermediate terminals.

2. A conveyer system comprising two cars operating between different sets of terminals in the same shaft and different landings in the shaft intermediate the terminals, and an

inclined conveyer running between adjacent landings.

3. In a conveyer system, two cars one above the other and passing different sets of terminals in the same shaft, and an inclined conveyer to transfer passengers between the cars.

4. In a conveyer system, a shaft, a plurality of independent cars one above the other and passing different sets of terminals in said shaft, and a pair of oppositely moving inclined conveyers running between adjacent terminals.

5. In a conveyer system, two cars one above the other and operating in the same shaft from different terminals, the upper car having its lower terminal one floor above the upper terminal of the lower car, and an inclined conveyer to transfer passengers between the said lower and upper terminals.

6. In a conveyer system, two independent cars one above the other and operating in the same shaft from different terminals at each end of the shaft, the upper car having its lower terminal one floor above the upper terminal of the lower car, and a pair of oppositely moving inclined conveyers for transferring passengers between the said lower and upper terminals.

7. A conveyer system comprising an elevator-shaft divided into zones, each zone having upper and lower terminals, the lower terminal of each higher zone being above the upper terminal of the preceding zone, a car operating in each zone, and an inclined conveyer connecting the adjacent terminals.

8. In a conveyer system, a shaft, a plurality of independent cars starting from different terminals and movable both upward and downward in said shaft, each car passing a separate series of landings, and an inclined conveyer connecting adjacent landings of different series.

9. In a conveyer system, a high-rise and a low-rise car operating between upper and lower sets of terminals in the same shaft, and an inclined conveyer connecting adjacent terminals of the two sets.

10. In a conveyer system, two cars operating between upper and lower sets of terminals in the same shaft, and a pair of oppositely moving inclined conveyers connecting adjacent terminals of the sets.

11. In a conveyer system, two cars operating in both directions between upper and lower sets of terminals in the same shaft, and an inclined conveyer connecting adjacent terminals of the sets.

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

CHARLES D. SEEBERGER.

Witnesses:

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