

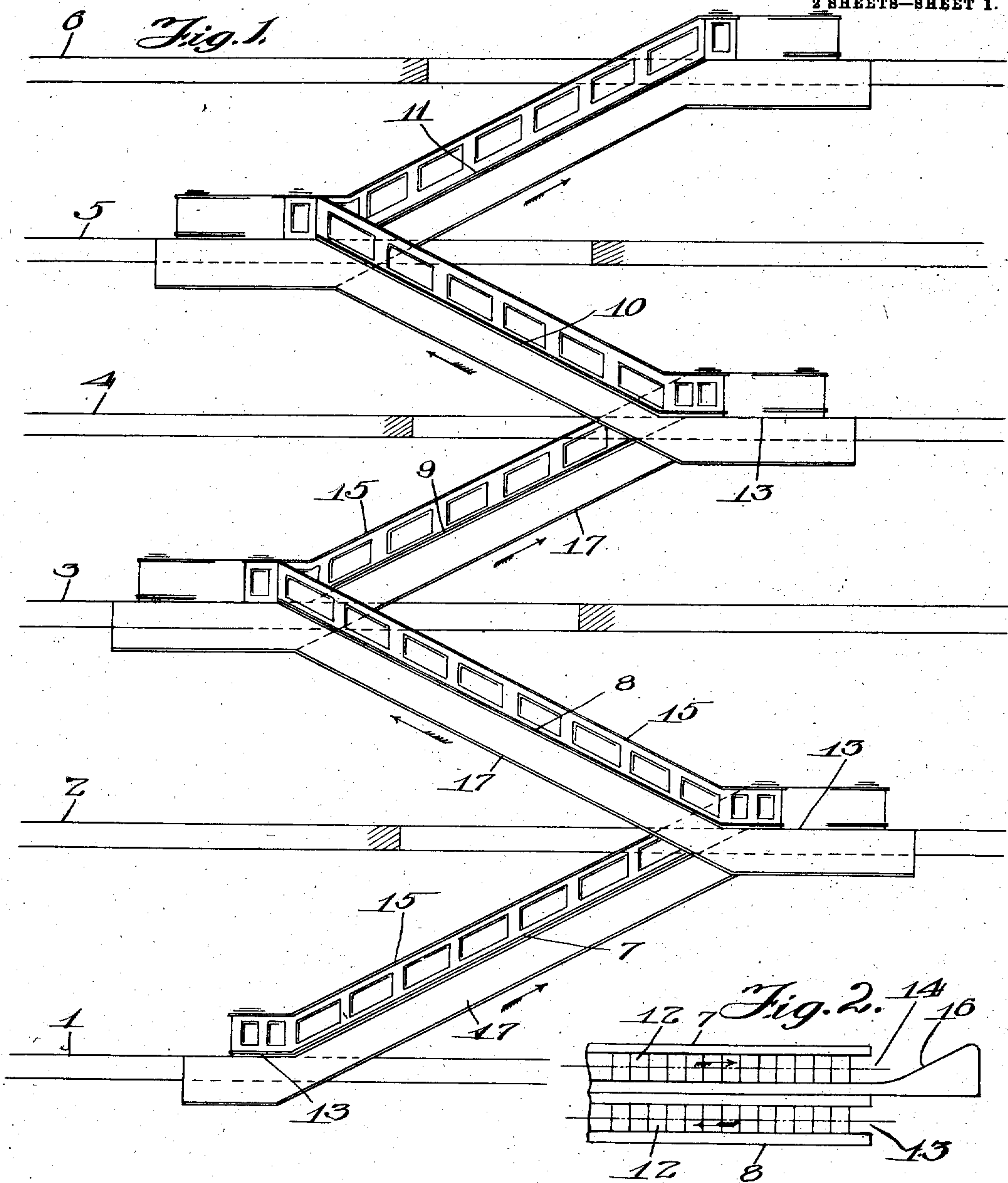
C. D. SEEBERGER.
CONVEYER.

APPLICATION FILED APR. 10, 1906. RENEWED MAY 21, 1908.

906,945.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.



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Inventor:
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2 SHEETS—SHEET 2.

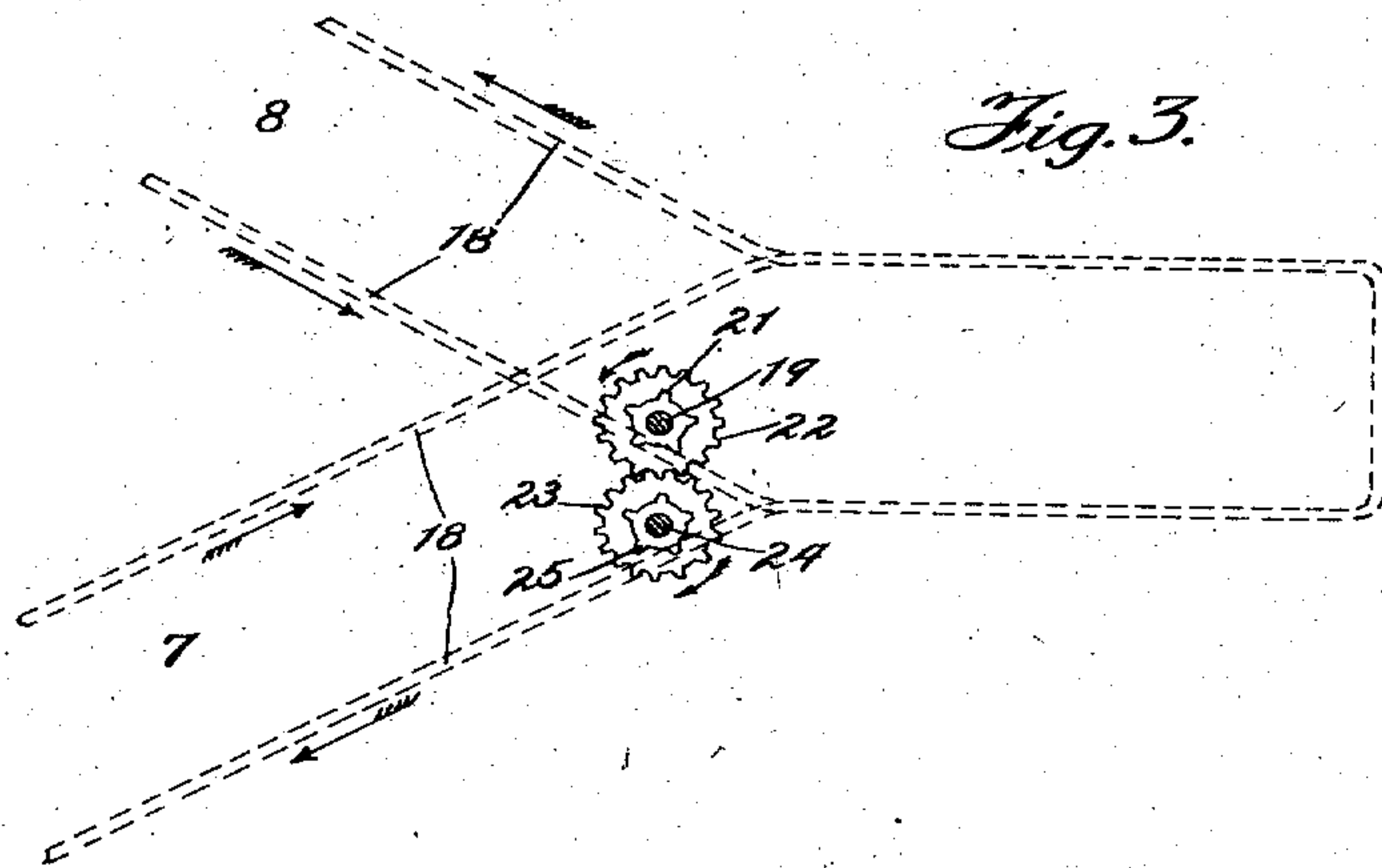


Fig. 3.

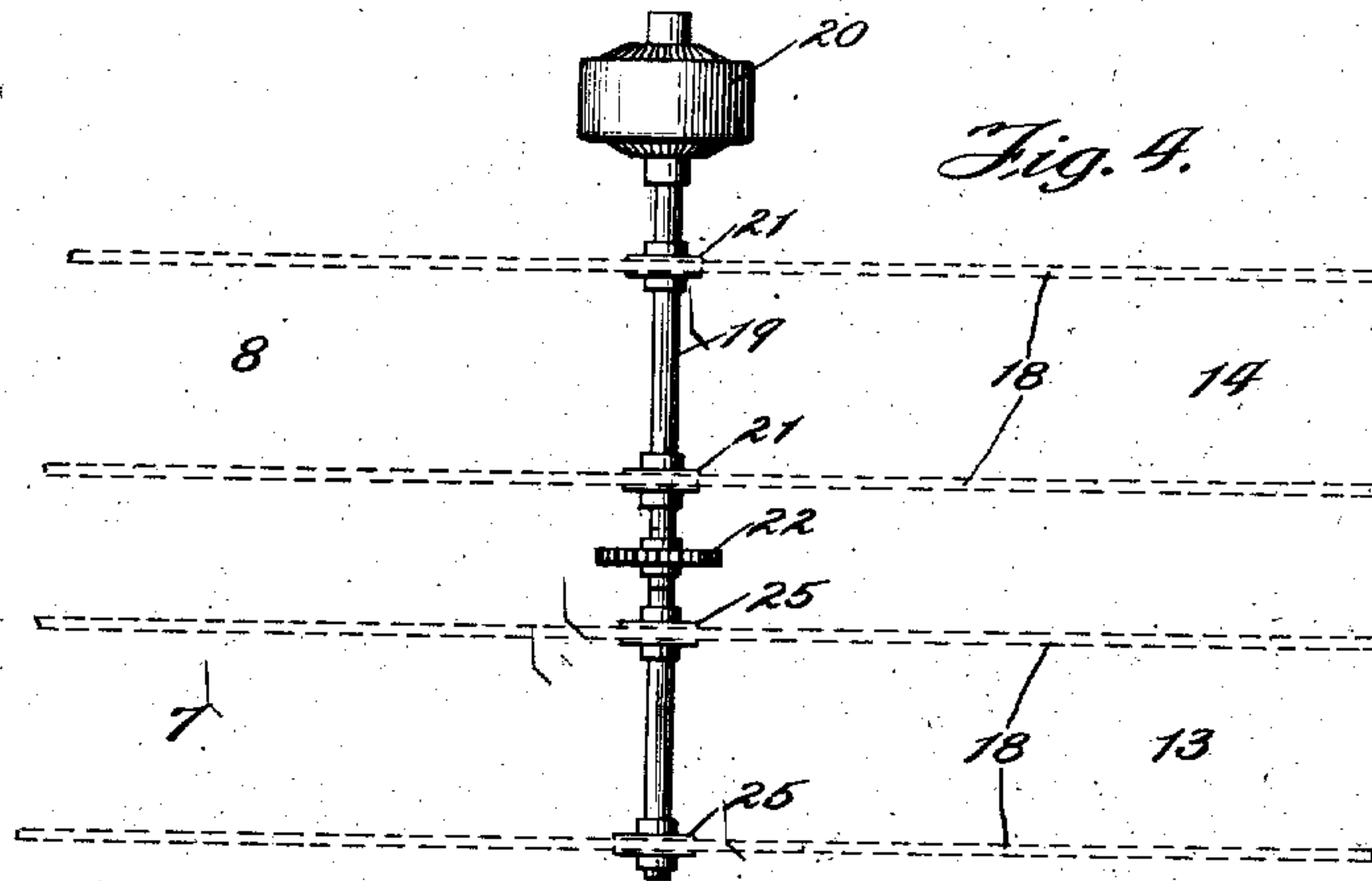


Fig. 4.

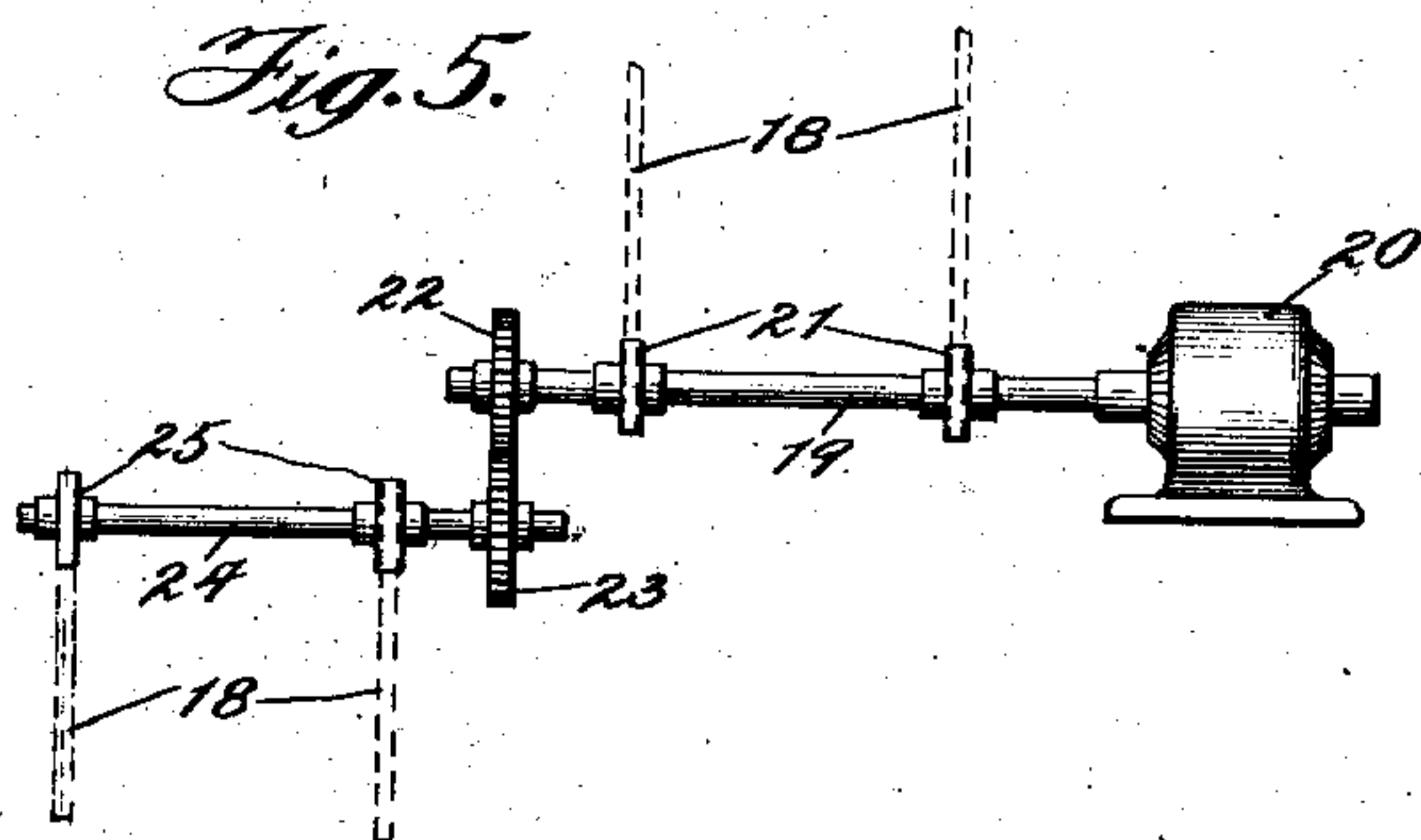


Fig. 5.

Witnesses;

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UNITED STATES PATENT OFFICE.

CHARLES D. SEEBERGER, OF YONKERS, NEW YORK.

CONVEYER.

No. 906,945.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed April 10, 1905, Serial No. 254,622. Renewed May 21, 1908. Serial No. 434,163.

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 Conveyers, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a system of conveyers, such as traveling stairways, and comprises a series of ascending or descending transporting runs connecting successive levels, the arrangement being such that the exit landing of each run is located at the same end as the entrance landing of the succeeding run.

15 The invention consists of the novel organizations and arrangements of parts, which are hereinafter more particularly described and then pointed out in the appended claims.

20 In the accompanying drawings—Figure 1 is a diagrammatic view of the system of conveyers arranged in accordance with my invention; Fig. 2 is a plan view partially illustrating the construction at one of the intermediate levels; and Figs. 3, 4 and 5 are side, plan and end views respectively of the driving means.

30 In the present instance I have shown the system providing runs between six levels, 1, 2, 3, 4, 5 and 6 indicating the floors of a building or successive levels of any other structure.

35 In Fig. 1, the numerals 7, 8, 9, 10 and 11 indicate the conveyers of the series, all of such conveyers being in the form of endless carriers and having their transporting runs 12 either ascending or descending. The alternate conveyers 7, 9 and 11 are arranged in 40 vertical alinement, that is in one vertical plane, while the conveyers 8 and 10, which alternate with the conveyers 7, 9 and 11, are located one over the other and in a vertical plane complementary to the plane of the 45 conveyers 7, 9 and 11. The arrangement is such that the alternate runs are on the same side of a median line, as shown in Fig. 2, the conveyers 7, 9 and 11 being on one side and the conveyers 8 and 10 on the other.

50 As clearly shown and as viewed in side elevation the series of conveyers present a zig-zag appearance, that is to say the conveyers 7, 9 and 11 extend at substantially the same angle of inclination while the conveyers 8 and 55 10 are inclined in an opposite direction, that is, one end of the conveyor 8 extends from

floor 2 at a point opposite the end of conveyor 7 to a point opposite the end of conveyor 9 at floor 3, and the conveyor 10 extends from points opposite the ends of conveyers 9 and 11, at floors 4 and 5, respectively. In the present instance I have shown a series of conveyers providing ascending transporting runs, although it is to be understood the series may be driven in the opposite 60 direction to provide descending transporting runs. In either case all of the units of the system carry or transport in the same general direction, i. e., either up or down. Each conveyor is provided with an entrance 65 landing 13 at the level from which its transporting run originates and an exit landing 14 at the level at which such run terminates. At each intermediate level the landings 13 and 14 are laterally opposite each other. In 70 other words, the exit landing of each run is located at the same end of the run as and at a point opposite to the entrance landing of the next run, the landings being in associated pairs, as shown in Fig. 2, where the landings 80 14 and 13 of the runs 7 and 8 are illustrated.

By reason of the arrangement shown and described there is substantial continuity of ascent or descent as the case may be, the passenger on leaving one run, as 7 for example, 85 having merely to step across to a point laterally opposite the landing from which he has just alighted to get on the entrance landing of the succeeding run 8. This arrangement of the landings continues throughout the 90 series.

The conveyers may be provided with hand-rails or balustrades 15 of any suitable character, and the exit landings 13 may be provided with suitable shunts 16. The conveyers may be of any suitable or preferred 95 type, and in the present instance girders 17, extending between the successive floors provide a supporting structure for the system. Each conveyor is preferably composed of a 100 series of steps connected at their ends by suitable chains 18 and adapted to form horizontal landing portions at the levels and an inclined intermediate portion.

I provide a drive for each pair of conveyers, it being of course understood that all 105 the drives may be tied together. A suitable drive is shown in Figs. 3, 4 and 5, and is adapted to be located at an intermediate landing for service with a pair of conveyers. 110 The drive shaft 19 is driven by a suitable motor 20, and is provided with a pair of

driving sprockets 21 which mesh with the chains 18 of the conveyer 8, the arrangement preferably being such that the sprockets cooperate with the chains on their descending portion or run. The shaft is provided with a spur-gear 22 which meshes with a corresponding spur-gear 23 on a suitably supported shaft 24 adapted to drive the conveyer 7. The shaft 24 carries driving sprockets 25 which mesh with the chains of the lower conveyer 7 and preferably on the descending run or portion thereof, as shown. The drive is preferably located beyond the line of divergence of the associated pair of conveyers, although it is obvious that it may be located on the other side of the line in which case the oppositely driven shafts 19 and 24 will be offset in a horizontal line.

Having described my invention what I claim as new and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, a series of conveyers between successive pairs of bevels providing runs moving in the same general direction, the exits and entrances of which at intermediate levels are laterally opposite each other.

2. In a device of the class described, a series of conveyers between successive pairs of levels providing runs moving in the same general direction and having entrance and exit landings, the exit landing of each run at each intermediate level being laterally opposite the entrance landing of the succeeding run.

3. In a device of the class described, a series of conveyers between successive pairs of levels providing transporting runs moving in the same general direction and having entrance and exit landings, the exit landing of each run being located at the same end as the entrance landing of the succeeding run.

4. In a device of the class described, a series of conveyers arranged in zig-zag formation and providing transporting runs moving in the same general direction and having entrance and exit landings, the exit landing of each run being opposite to the entrance landing of the succeeding run.

5. In a device of the class described, a series of conveyers arranged in zig-zag formation and providing transporting runs moving in the same general direction and having entrance and exit landings, the alternate conveyers being disposed in parallel vertical planes, and the exit landing of each run being opposite the entrance landing of the succeeding run.

6. In a device of the class described, a series of independent conveyers connecting successive levels and providing transporting runs moving in the same general direction and having entrance and exit landings, the runs of alternate conveyers extending in the same general direction and being

disposed in parallel vertical planes, and the exit landing of each run being opposite to the entrance landing of the succeeding run.

7. In a device of the class described, a series of conveyers between successive pairs of levels providing runs, the exits and entrances of which at intermediate levels are laterally opposite each other, and a drive common to the conveyers at such intermediate level.

8. In a device of the class described, a series of conveyers between successive pairs of levels providing runs having entrance and exit landings, the exit landing of each run at each intermediate level being laterally opposite the entrance landing of the succeeding run, and a common drive for a pair of conveyers.

9. In a device of the class described, a series of conveyers between successive pairs of levels providing transporting runs having entrance and exit landings, the exit landing of each run being located at the same end as the entrance landing of the succeeding run, and a common drive for a plurality of conveyers.

10. In a device of the class described, a series of conveyers arranged in zig-zag formation and providing transporting runs having entrance and exit landings, the exit landing of each run being opposite to the entrance landing of the succeeding run, and hand-rails associated with the conveyers.

11. In a device of the class described, a series of conveyers arranged in zig-zag formation and providing transporting runs having entrance and exit landings, the alternate conveyers being disposed in parallel vertical planes, and the exit landing of each run being opposite the entrance landing of the succeeding run, and hand-rails and shunts associated with the conveyers.

12. In a device of the class described, a series of independent conveyers connecting successive levels and providing transporting runs having entrance and exit landings, the runs of alternate conveyers extending in the same general direction and being disposed in parallel vertical planes, and the exit landing of each run being opposite to the entrance landing of the succeeding run, and a drive extending to a pair of alternate conveyers in different planes.

13. In a device of the class described, the combination with a pair of conveyers arranged between successive levels and running in opposite directions, of a pair of drive-shafts for the conveyers, a common motor for said shafts and means to oppositely drive the shafts.

14. In a device of the class described, the combination with a pair of oppositely moving conveyers arranged between successive levels, of a drive arranged beyond the line of

divergence of said conveyers at the common level and comprising a pair of shafts having intermeshing spur-gears and sprockets meshing with the down runs of the associated conveyers, and means to drive the shafts.

15. In a device of the class described, a series of conveyers between successive levels, each intermediate conveyer having its entrances and exit opposite the exit and entrance respectively of the preceding and succeeding conveyer.

16. In a device of the class described, a series of conveyers between successive levels, the entrances and exits of which at intermediate levels are laterally opposite each other.

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

CHARLES D. SEEBERGER.

Witnesses:

W. H. BRADY,
W. T. RICKARD.

Correction in Letters Patent No. 906,945.

It is hereby certified that in Letters Patent No. 906,945, granted December 15, 1908, upon the application of Charles D. Seeberger, of Yonkers, New York, for an improvement in "Conveyers," an error appears in the printed specification requiring correction as follows: Page 2, line 24, for the word "bevels" read *levels*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of April, A. D., 1912.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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