

No. 754,229.

PATENTED MAR. 8, 1904.

T. McDONALD & W. McKEE.  
CONVEYER.

APPLICATION FILED NOV. 25, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

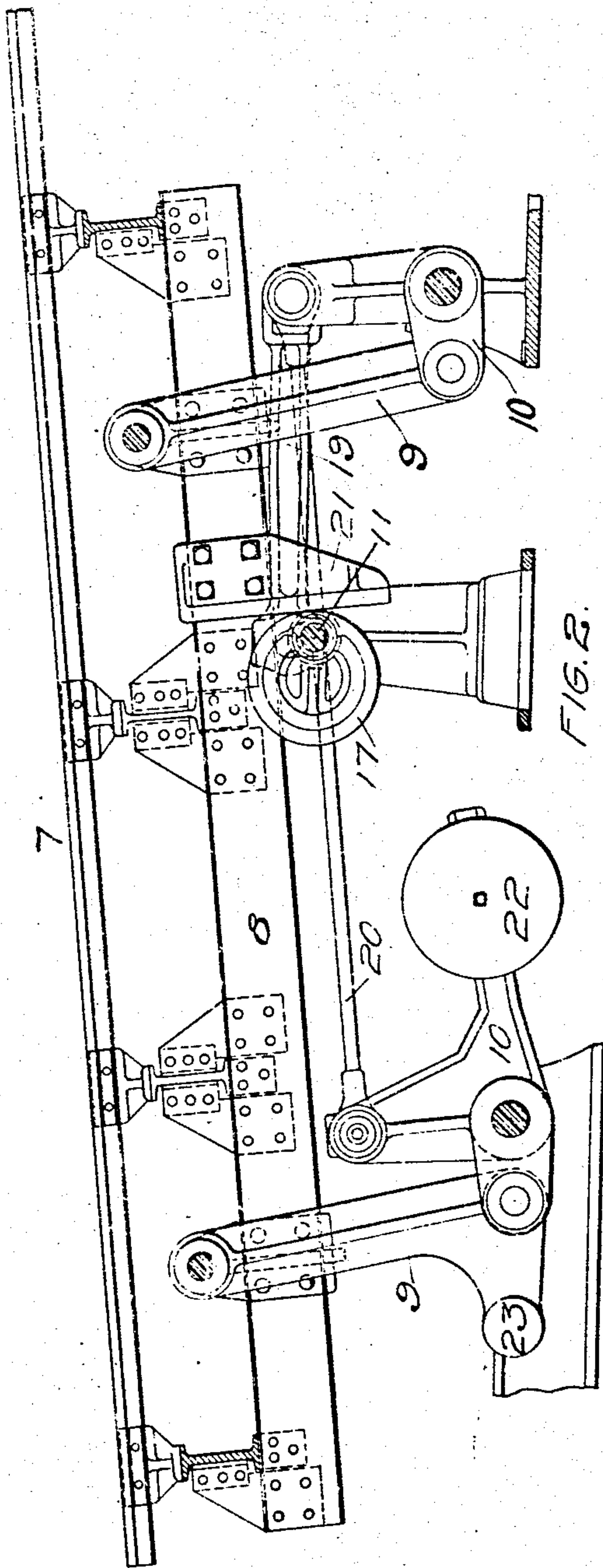


FIG. 2.

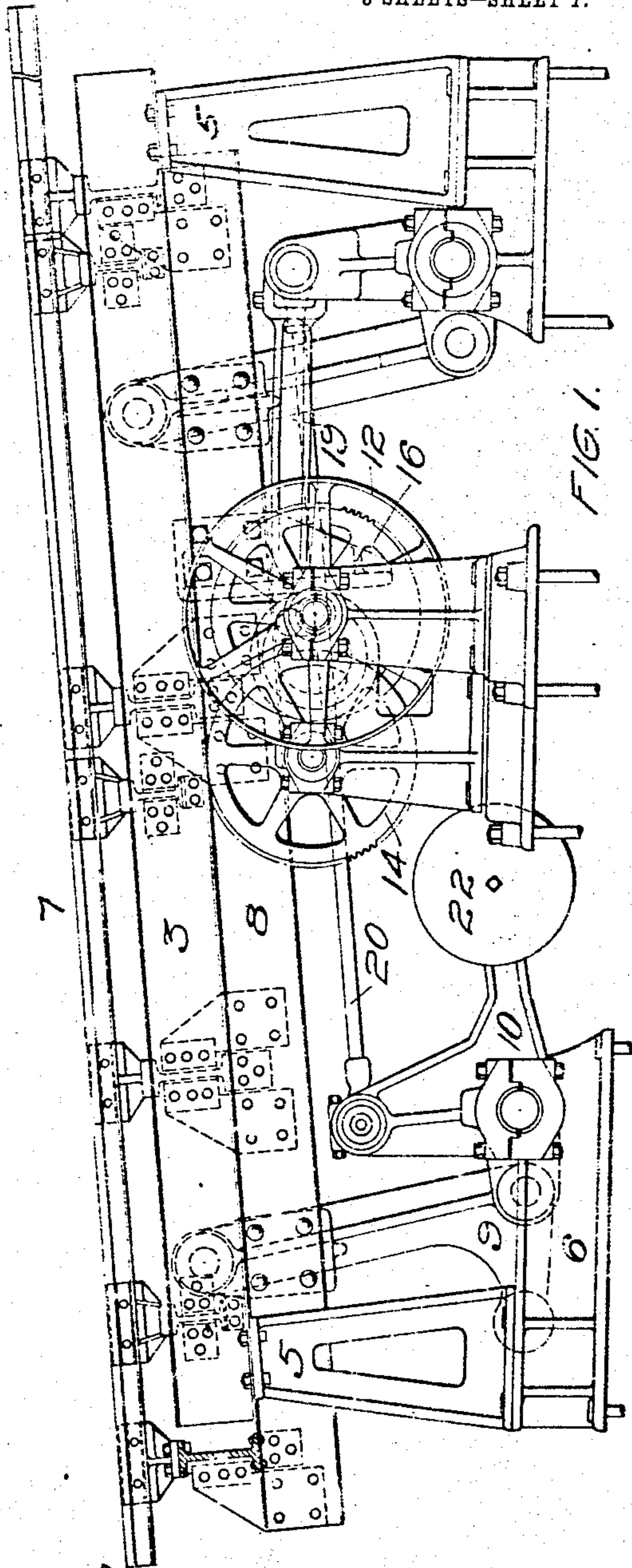


FIG. 1.

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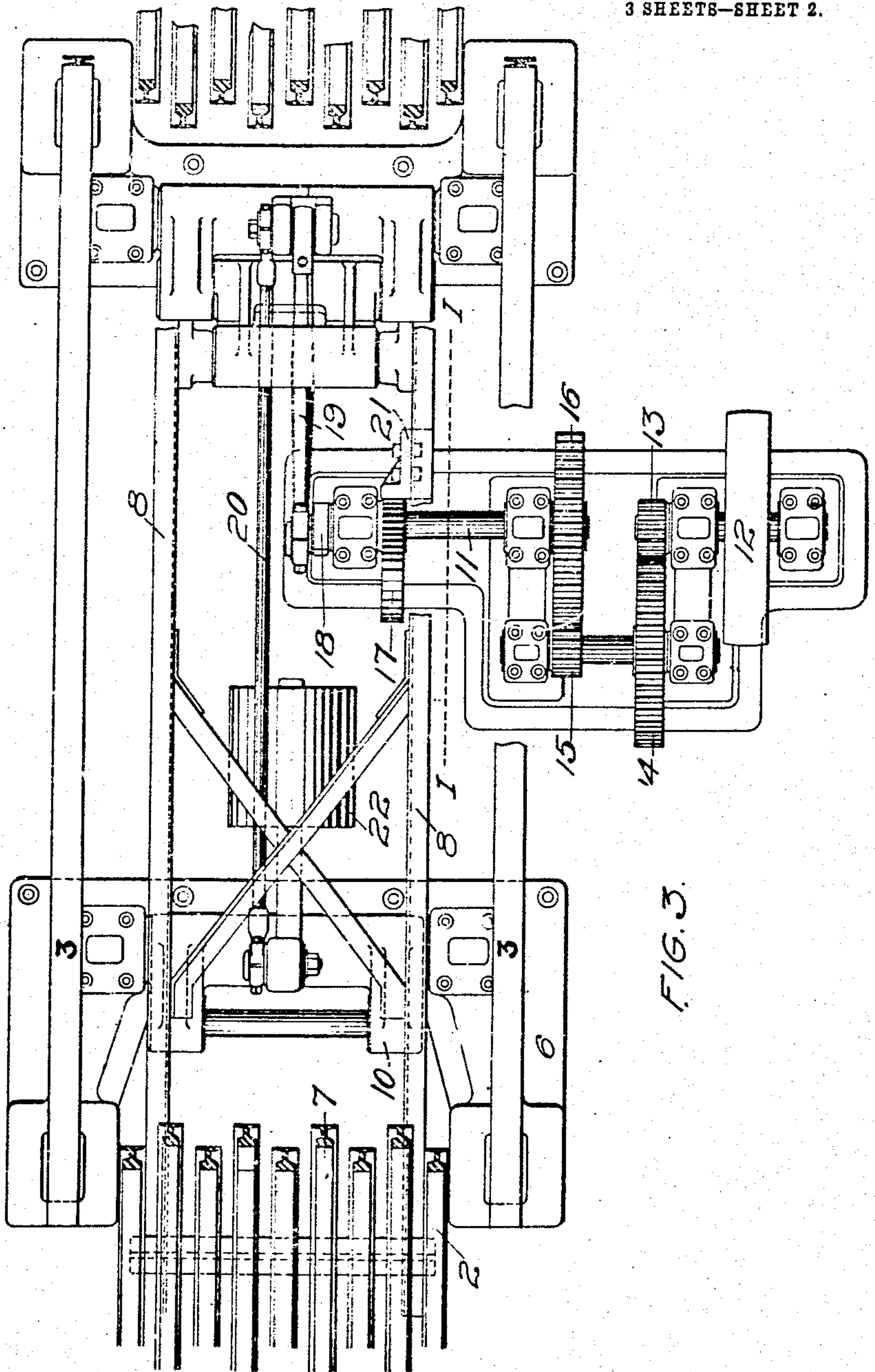
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3 SHEETS—SHEET 2.



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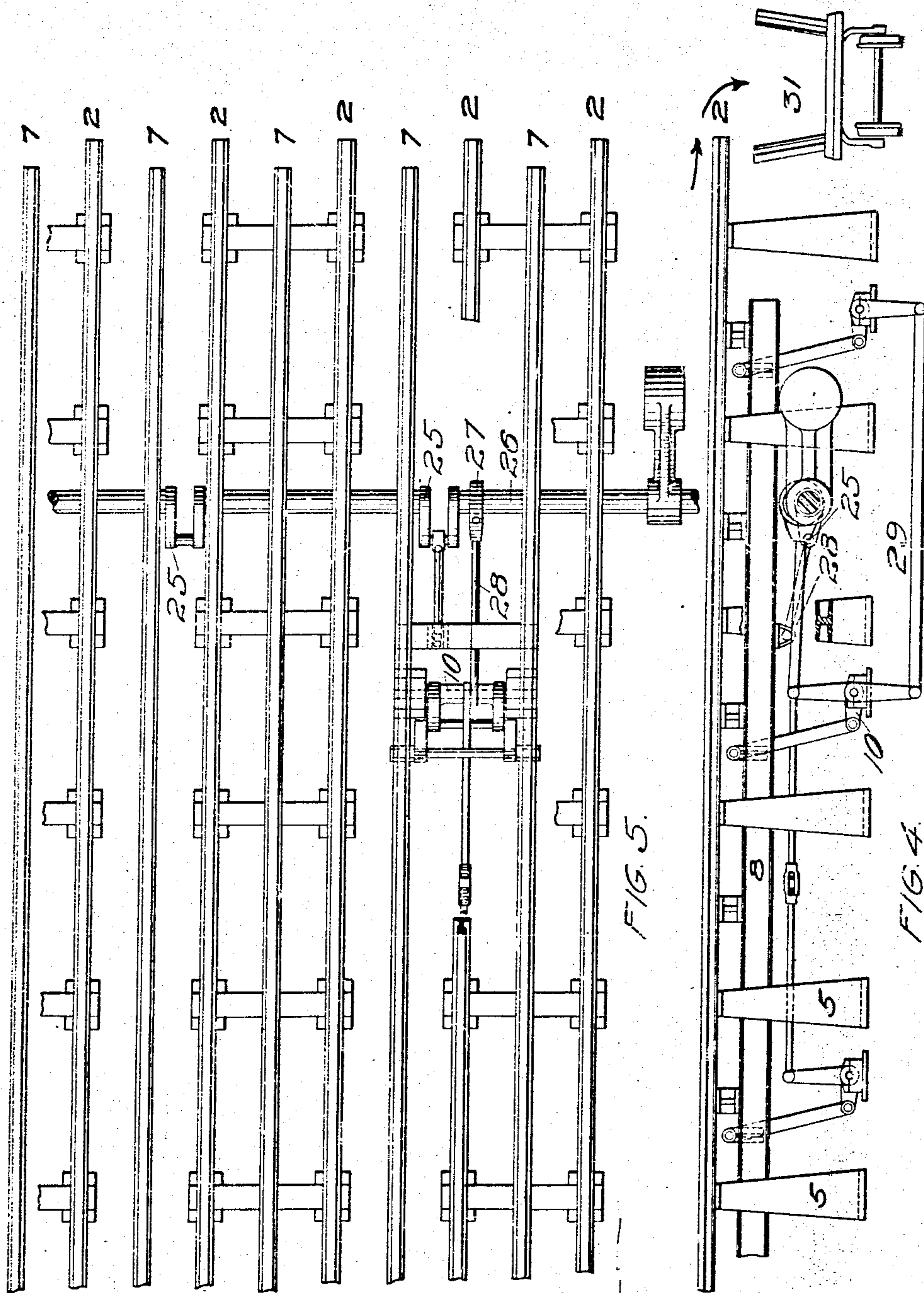
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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

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## CONVEYER.

SPECIFICATION forming part of Letters Patent No. 754,229, dated March 8, 1904.

Application filed November 25, 1903. Serial No. 182,581. (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS McDONALD and WILLIS MCKEE, citizens of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented new and useful Improvements in Conveyers, of which the following is a specification.

The object of our invention is to provide means for conveying materials, and in the embodiment of our invention as shown by the accompanying drawings we have shown our invention in the form of cooling-beds particularly designed for conveying plates, bars, rails, &c. We do not desire, however, to be limited to a cooling-bed, for our invention consists of a new and improved conveyer and in the construction and combination of parts, all as fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevational view of one form of our invention; Fig. 2, a side elevational view taken on line I I of Fig. 3; Fig. 3, a plan view; Fig. 4, a side elevational view of a modified form of conveyer, and Fig. 5 a plan view of the form of Fig. 4.

Referring to the drawings, 2 represents a set of fixed supports, preferably comprising a series of rails or beams, which latter are supported by a fixed frame 3. Fixed frame 3 is in turn supported by standards 5, extending upwardly from foundations 6. A set of movable supports 7, arranged parallel with and intermediate of the fixed supports, preferably comprising rails or beams similar to the fixed supports, are mounted on a movable frame 8. The movable frame 8, the manner of mounting the movable supports thereon, and movable standards 9 for supporting frame 8 are particularly shown by Fig. 2. The lower end of each standard 9 has its bearings on a bell-crank 10. Power-shaft 11 is driven in the forms shown by means of driving-pulley 12 and intermediate gear mechanism comprising pinion 13, gear 14, pinion 15, and gear 16, and in the form of Fig. 1 shaft 11 is provided with an eccentric 17 and a crank 18. Driving-rod 19 connects one bell-crank with crank 18, and the two bell-cranks are joined by connecting-rod 20. Vertical motion is imparted to the movable frame and its set of supports

by revolving power-shaft 11. This revolution of the shaft rocks the connected bell-cranks and the movable standards 9.

In the form of Fig. 1 we employ for the purpose of effecting a longitudinal movement of the movable supports a bracket 21, secured to the movable frame so as to make contact with the eccentric 17 as the latter revolves with shaft 11. By these means we successively raise the load from the fixed supports, carry it forward without sliding friction, and deposit it at a point on the fixed supports equal to the length of the longitudinal movement of the movable frame. Combining these two positive motions of the movable frame gives us a curved or an elliptical motion, and it will be noted by varying the two motions we are enabled to produce any desirable curved or elliptical movement of the movable supports. In the form of Fig. 1 we preferably employ weights 22 and 23, respectively connected with one of the bell-cranks 10 and with movable standards 9.

The modified form of our invention, as illustrated by Figs. 4 and 5, is particularly designed for conveying rails and similar materials, and it is especially applicable as a cooling-bed for rails. By the employment of this form the whole bed can always be kept full of rails, thereby greatly increasing the capacity over the usual form of cooling-bed. It will also handle the rails in such a manner as not to affect the camber of the rails, without making dents in the rails, as is frequently done under present methods, and, further, the successive rails may be passed over the cooling-bed without being brought into contact with each other. Our invention will therefore deliver the rails in such shape as to greatly minimize the work required in the rail-finishing department.

In the construction shown by the diagrammatic views Figs. 4 and 5 we employ a number of cranks 25, carried on a broken shaft 26. Said shaft in this instance is to be operated by means similar to the means shown and described for operating the power-shaft 11. In addition to the cranks 25 we employ a number of eccentrics 27, the eccentrics in turn being connected up with the bell-cranks



10 by means of rods 28 and 29. The vertical movement of the movable frame in this form is effected by means of the eccentrics and the means described for producing the vertical  
5 movement of the movable frame in the form of Fig. 1 and the longitudinal movement made by the same means as above described in the form of Fig. 1, taken in connection with the cranks 25.

10 In connection with Fig. 1 we have indicated a skidway 30, by which the material is introduced to the conveyer, and in connection with Fig. 4 a car 31, into which the material falls after its passage over the conveyer. At-  
15 tention is called to the fact that the fall the material is required to make from the conveyer to the car is much less with our construction than is the case with conveyers of this class as heretofore constructed.

20 What we claim is—

1. In a conveyer, a fixed frame having a set of fixed supports, a movable frame having a set of movable supports, and means for effecting a curved movement of the movable  
25 frame and its supports for the purpose of giving a positive forward motion to the material being conveyed, substantially as set forth.

2. In a conveyer, a fixed frame having a set  
30 of fixed supports, a movable frame having a set of movable supports, and means for effecting an elliptical movement of the movable frame and its supports, substantially as set forth.

35 3. In a conveyer, a fixed frame having a set of fixed supports, a movable frame having a

set of movable supports, said movable supports parallel with and intermediate of the fixed supports, and means for effecting a curved movement of the movable frame and  
40 its supports for the purpose of giving a positive forward motion to the material being conveyed, substantially as set forth.

4. In a conveyer, a fixed frame having a set of fixed supports, a movable frame having a  
45 set of movable supports, and means for effecting a curved movement of the movable frame comprising, a power-shaft, bell-cranks, movable standards for supporting the movable frame and means connecting the power-  
50 shaft and the bell-cranks and the power-shaft and the movable frame, substantially as set forth.

5. In a conveyer, a set of fixed supports, a set of movable supports, a power-shaft provided with a crank, means connecting the  
55 crank and the movable supports for effecting a vertical movement of the movable supports, and an eccentric mounted on the power-shaft arranged to make contact with a fixed part  
60 carried by the movable supports whereby a longitudinal movement of the movable supports is effected, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of  
65 two subscribing witnesses.

THOMAS McDONALD.  
WILLIS McKEE.

Witnesses:

GEORGE C. McKEE,  
WARREN F. PERRY.