No. 847,724. PATENTED MAR. 19, 1907.

A. F. BIONDI.

ILLUSION DEVICE.

APPLICATION FILED JULY 22, 1905.

3 SHEETS—SHEET 1.

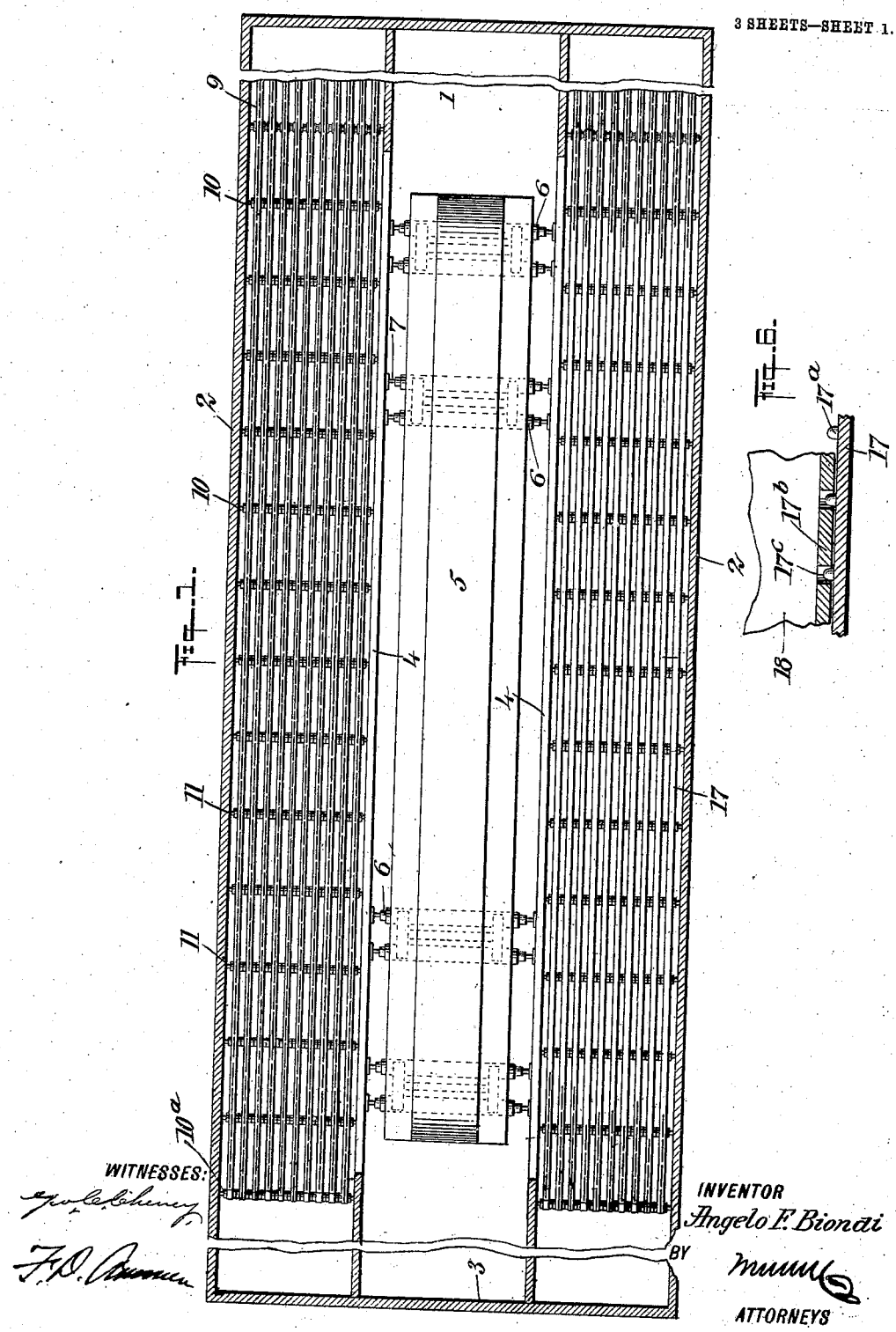

FIG. 1.

FIG. 6.

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3 SHEETS—SHEET 2.

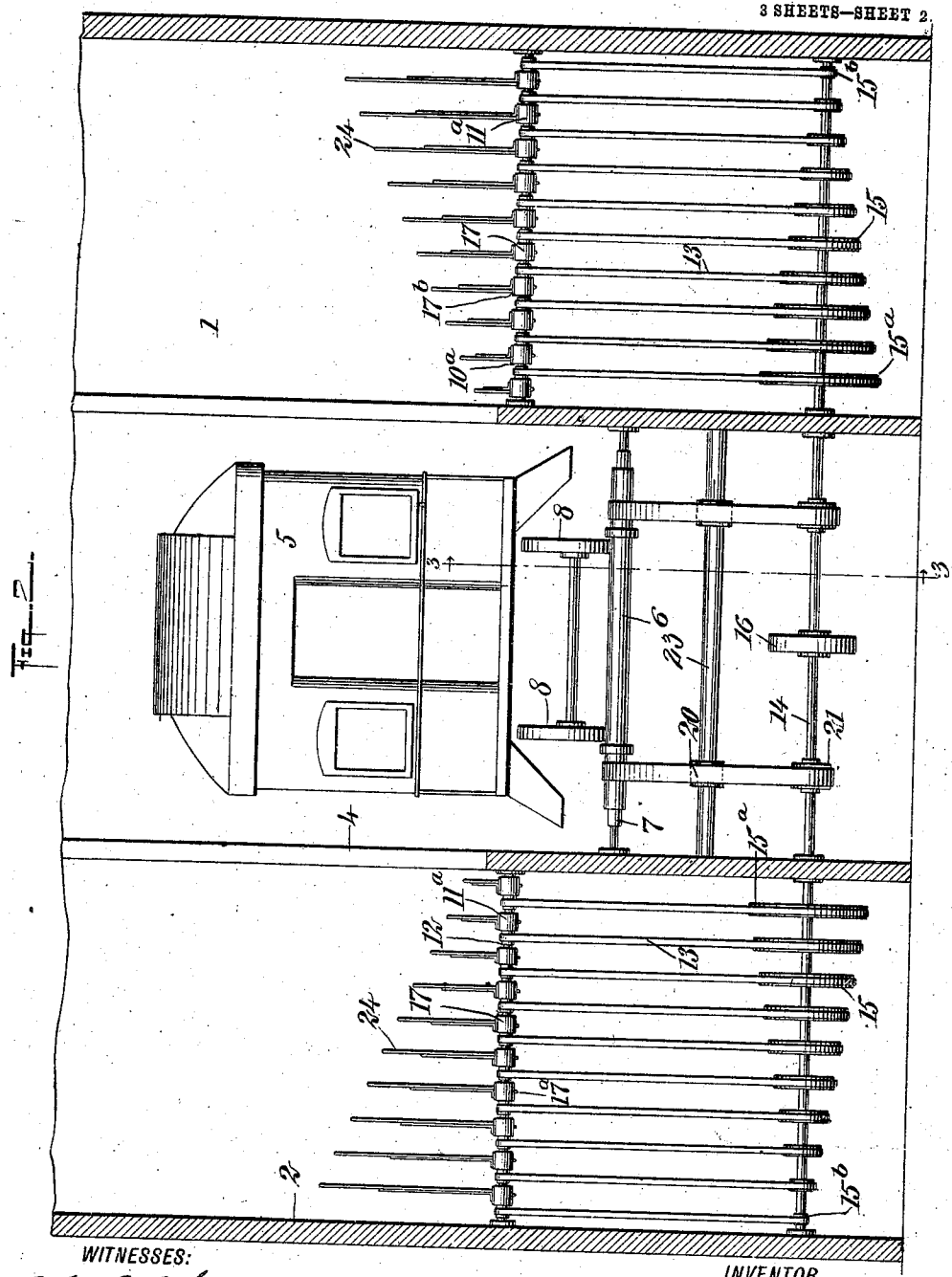

Fig. 2.

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3 SHEETS—SHEET 3.

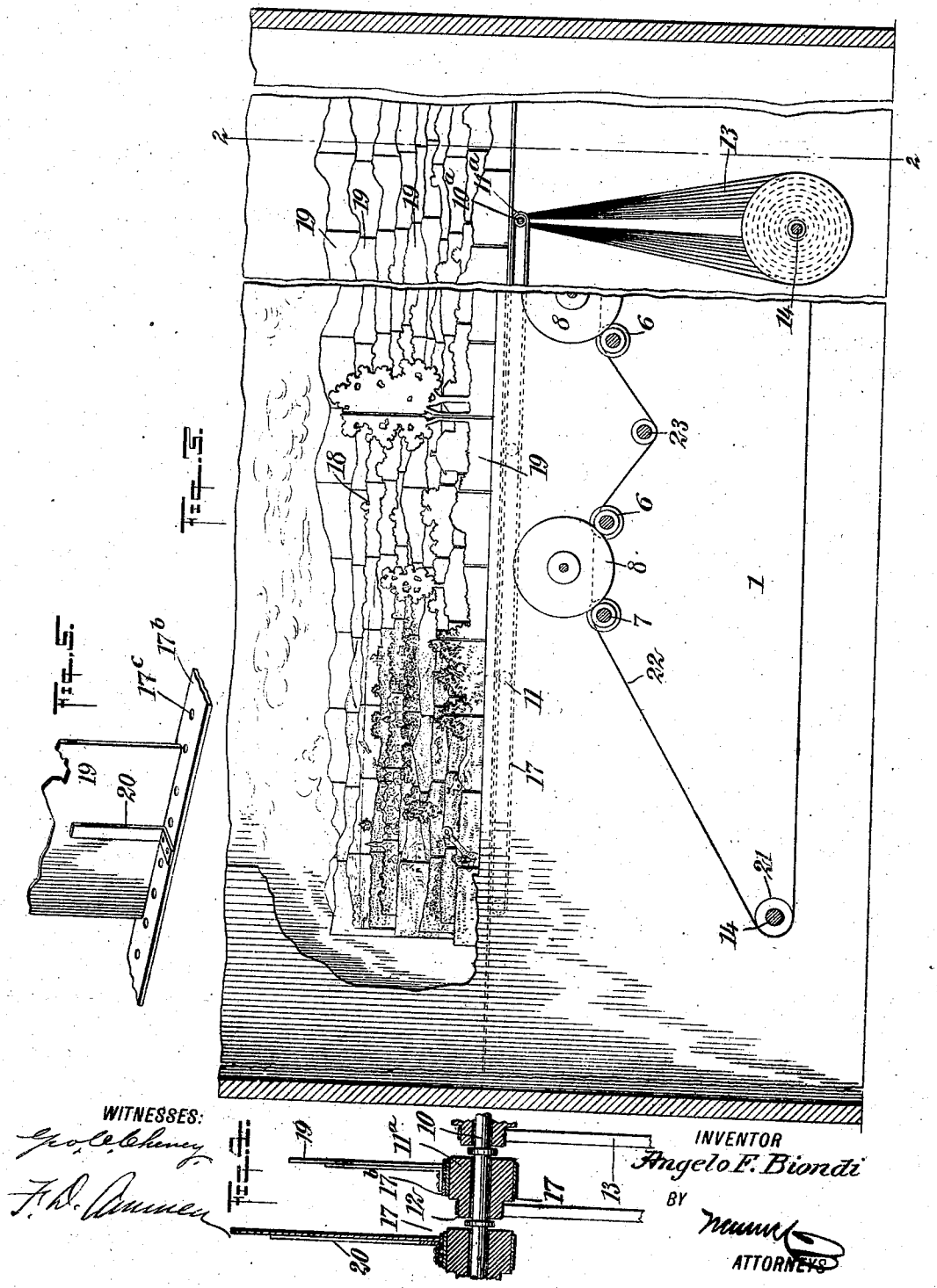

FIG. 5.

FIG. 5.

FIG. 6.

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UNITED STATES PATENT OFFICE.

ANGELO F. BIONDI, OF NEW YORK, N. Y.

ILLUSION DEVICE.

No. 847,724. Specification of Letters Patent. Patented March 19, 1907.

Application filed July 22, 1905. Serial No. 270,810.

To all whom it may concern:

Be it known that I, ANGELO F. BIONDI, a citizen of the United States, and a resident of New York city, borough of Manhattan, in the county and State of New York, have invented a new and useful Illusion Device, of which the following is a full, clear, and exact description.

This invention is an illusion apparatus which is intended to afford entertainment and amusement at summer resorts and other places.

The object in view is to provide an apparatus adapted and designed to give occupants of a car or vehicle the impression that they are traveling at a high rate of speed through various places.

One part of the invention is the means employed for changing the character of the landscape within the field of view of the car or vehicle. This end is attained by the employment of a succession of scenery-panels on each of a plurality of carriers, the latter being coupled detachably to an endless driving member, all as will hereinafter be set forth.

In the drawings, Figure 1 is a horizontal section through an apparatus embodying my invention. Fig. 2 is a vertical transverse section on an enlarged scale, showing the observation-car in elevation, the plane of the section being indicated by the dotted line 2 2 of Fig. 3. Fig. 3 is a vertical longitudinal section taken on the line 3 3 of Fig. 2, illustrating the details of the driving mechanism for the scenery, a portion of said figure being broken away. Fig. 4 is a longitudinal section showing a portion of a shaft on which the guide-pulleys for the scenery are mounted, said view illustrating also the interlocking connection between the scenery-panel carriers and the driving-aprons. Fig. 5 is a perspective showing a portion of a carrier-apron and a panel, the latter being attached to said apron; and Fig. 6 is a longitudinal section through a portion of a driving-belt and a scenery-carrier.

1 designates an exhibition-chamber, which, as shown, is preferably of rectangular form, having side walls 2 and end walls 3. The chamber is divided longitudinally by two parallel partitions or walls 4, which provide a smaller chamber between them. In this chamber is mounted an observation-car 5, which is shown as being supported upon a plurality of rollers 6, the latter being disposed, preferably, in pairs, and these rollers are carried by horizontal shafts 7, which are supported in the partitions or walls 4, as indicated most clearly in Fig. 2. The car has wheels 8, which rest on the pairs of rollers 6 for the purpose of supporting the car in such a way as to give motion to the wheels thereof by the rotary motion of the rollers 6.

Between the walls 4 and the side walls 2 are provided the spaces or chambers 9, adapted to receive the scenery employed in the illusion apparatus. In these spaces or chambers are mounted a plurality of horizontal shafts 10, and upon each shaft there is a plurality of rollers 11, which are quite short and disposed close together, as indicated by Fig. 1. One of the shafts 10, preferably the shaft 10^a at one end of the series, is provided with pulleys 11^a of special form, as shown by Fig. 4. These pulleys have reduced necks 12 formed thereon, and over these necks extend suitable driving-belts 13. A driving-shaft 14 is journaled in the lower portion of the exhibition-chamber, said shaft 14 being parallel with the aforesaid shaft 10. At suitable points on the shaft 14 pulleys 15 are secured rigidly thereto, said pulleys 15 being of different diameters. The pulleys 15^a, which are disposed adjacent to the partitions or walls, are of the greatest diameter, and the pulleys diminish gradually in diameter toward the outermost pulleys 15^b, which are the smallest. These pulleys are in vertical alinement with the aforesaid reduced necks 12 of the pulleys 11^a, and said pulleys 15 are operatively connected with said necks by the aforesaid belts 13. A pulley 16 is attached rigidly to the driving-shaft 14, near the middle thereof, said pulley 16 affording means for driving the shaft 14 from a motor of any kind.

Over the rollers 11 are fitted the endless driving-belts 17, and each driving-belt is provided with spurs 17^a, as shown in Fig. 6, which spurs project from outer faces of the driving-belts.

In addition to the belts 17 I employ aprons 17^b, which lie upon the belts 17 and are propelled or driven thereby. To secure an interlocking connection between each carrier-apron and its driving-belt, the aprons 17^b are provided with openings 17^c, which receive the spurs 17^a of the diving-belts. (See Figs. 5 and 6.) It is manifest that as the belts 17 travel in one direction the spurs 17^a will operate to drive the aprons 17^b. To each apron 17^b is attached a series of scenery-panels 18.

The scenery for each apron is composed of a plurality of separate panels 18, which are adjacent to each other or overlap at their edges. Each panel is preferably attached to its proper apron by means of an angle-clip or foot-plate 20, as indicated in Fig. 5.

It should be understood that the belts 17 are endless, the upper lengths of each belt passing horizontally along the upper faces of the pulleys 11, and the lower lengths, which travel in the other direction, pass along the under faces of said pulleys. The arrangement at the end shaft 10^a, at which the belts are driven, will appear very clearly from an inspection of Fig. 4.

The scenery-carriers 17^b are laid in position and will be fed to the endless spur-belts beneath them by attendants who are concealed in the flies at the respective ends of the exhibition-chamber. The scenery-carriers are placed on the driving-belts by an attendant at one end, and they pass off the driving-belts at the other ends thereof, from where they may be removed by other attendants. By this arrangement the scenery may be changed and varied as may be desired.

Provision is made for driving the car-wheels 8 so as to give the patron seated in the car or vehicle the impression that the car is in motion due to the vibration thereof, as when an ordinary car is running over a track. For this purpose a pair of main driving-belts 20 are provided, said belts passing around pulleys 21, the latter being rigidly secured by the shaft 14. (See Fig. 2.) The upper lengths 22 of these belts pass in an upwardly-inclined direction over the upper sides of the rollers 6 aforesaid. Between the separated pairs of rollers 6 I provide guide-rollers 23, which are slightly depressed, as shown in Fig. 3, so as to insure a sufficient pressure on the rollers 6 by the driving-belt. The same arrangement is employed at the respective ends of the car.

From the construction described it will be seen that the scenery is disposed in separate courses or sections 24, (see Fig. 2,) and these courses vary in height toward the rear, or toward the point most remote from the observer in the car. With this arrangement all of the courses of the scenery will be constantly in view, one course being seen projecting above the courses in front thereof. When the apparatus is operated by the driving-belt 16, the belts 13 are driven at different speeds by the pulleys 15, and these belts in their turn drive the pulleys 11^a so as to propel the belts 17 and the scenery-aprons at different speeds. It is preferred to so arrange and proportion these several parts that the scenery nearest to an observer within the car will move past the car-windows at a great speed, while the scenery disposed more remotely will move with a less speed. In this way I imitate the apparent movement of a landscape as it seems to an observer sitting in a car moving across the country. There will in practice be as many of the courses of scenery as desired, and the gradations from the highest speed to the lowest may be regulated as required. The inner faces of the side walls 2 of the exhibition-chamber should be painted to represent the sky, so that no disillusion can occur from the stationary walls.

One of the important features of this invention is the means employed for changing the character of the landscape within the field of vision of the car. This end is secured by the employment of separate or individual panels representing scenes of different kinds and connected in series in the proper order or sequence to the scenery-carriers. The aprons which I employ as the scenery-carriers are supported and driven by the endless belts described, said belts passing around pulleys, the axes of rotation of which pulleys are horizontal. This arrangement makes the belts and the aprons occupy such positions that the faces thereof are in horizontal planes, and such arrangement admits of the aprons and the scenery-panels 18 being loaded or placed upon the endles belts with ease and despatch. The panels in my apparatus extend upwardly from the carrier-apron and the belts on which they are imposed or loaded, thus allowing the carrier-apron to be hid from view by a platform or stage, while the scenery-panels are adapted to be moved into the field of vision of the occupants of the vehicle, said panels being carried into and out of view by the belts.

Having thus described my invention, what I claim as new is—

1. In an illusion device, an observation-car, a horizontally-disposed driving-shaft beneath said car, a plurality of pulleys carried by said shaft, said pulleys being of diameters decreasing toward the end of the shaft most remote from said car, horizontal shafts disposed above said first shaft, rollers carried by said last shafts, a plurality of belts adapted to drive said rollers and passing over said pulleys, and scenery-panels carried by said belts and projecting substantially vertically.

2. In an illusion device, an observation-car, horizontal shafts disposed transversely at the side of said car, a plurality of endless belts passing over said shafts, means for continuously driving said belts, removable scenery-belts carrying panels representing scenery and adapted to lie upon said endless belts, and interlocking means between said scenery-belts and said endless belts for advancing said scenery-belts.

3. In an illusion device, an observation-car having wheels below the body thereof, rollers disposed in pairs and engaging the under sides of said wheels for supporting said car, a driving-shaft, pulleys carried by said shaft, belts passing over said pulleys and

driving said rollers, a plurality of pulleys carried by said driving-shaft and diminishing in diameter toward the extremity of said shaft, a plurality of horizontal shafts disposed transversely at the side of said car, rollers mounted on said shafts, scenery-belts adapted to be advanced by said rollers, and a plurality of belts passing over said pulleys and driving said last rollers.

4. In an illusion device, a plurality of endless belts, means for guiding the same, and scenery-belts adapted to lie upon said endless belts and carrying scenery-panels, said endless belts having spurs on the upper faces thereof, and said scenery-belts having openings receiving said spurs whereby said scenery-belts may be advanced by said endless belts.

5. In an apparatus of the class described, an endless driving-belt, a scenery-carrier, scenery-panels on said carrier, and means for securing an interlocking connection between the scenery-carrier and the driving-belt.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANGELO F. BIONDI.

Witnesses:
CHARLES J. LONG,
J. M. DE LA TERGA.