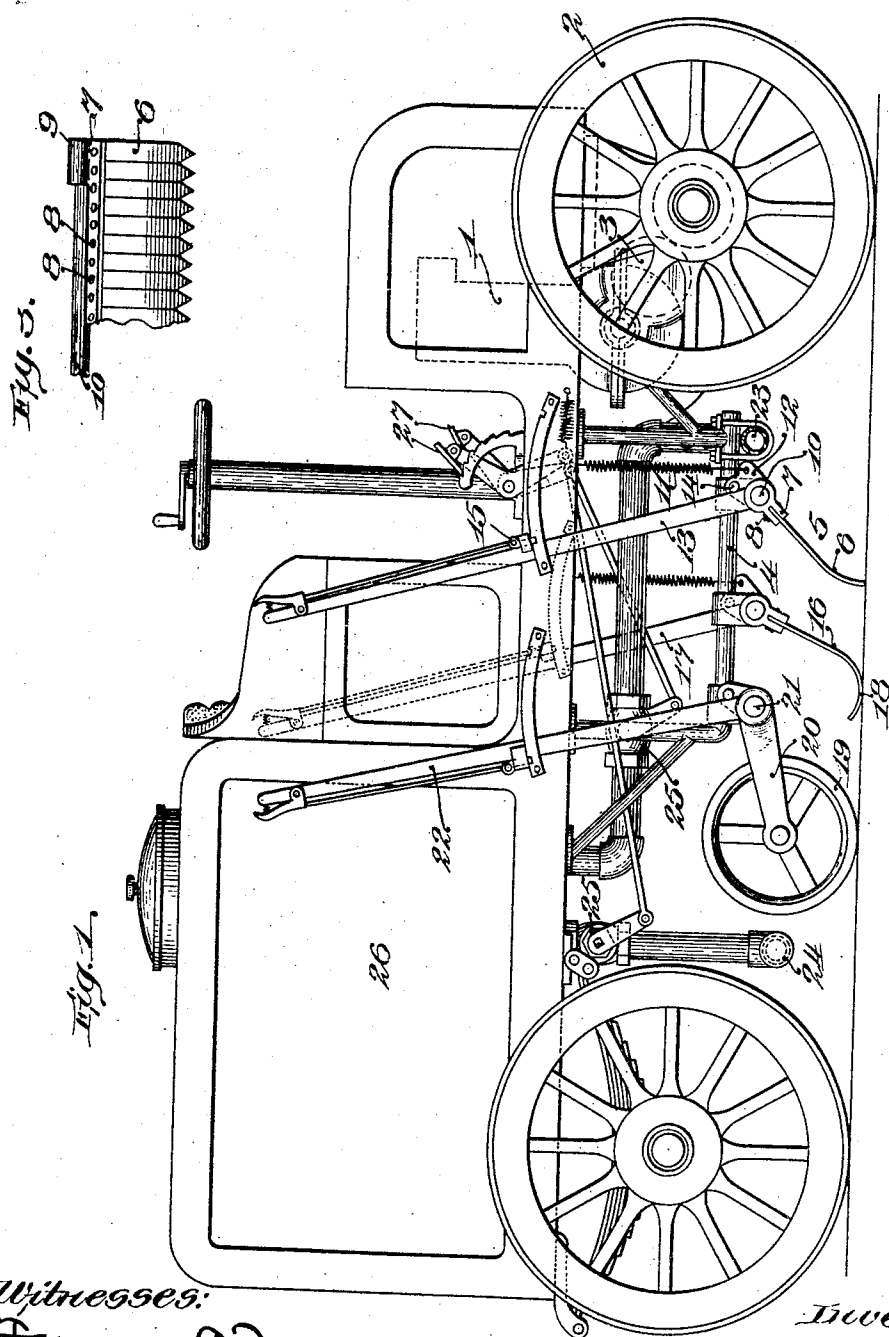


No. 796,813.

PATENTED AUG. 8, 1905.

C. W. COLLYER.
RACE TRACK MACHINE.
APPLICATION FILED NOV. 16, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Farnum F. Dorsey
Alfred H. Hildreth

Inventor:

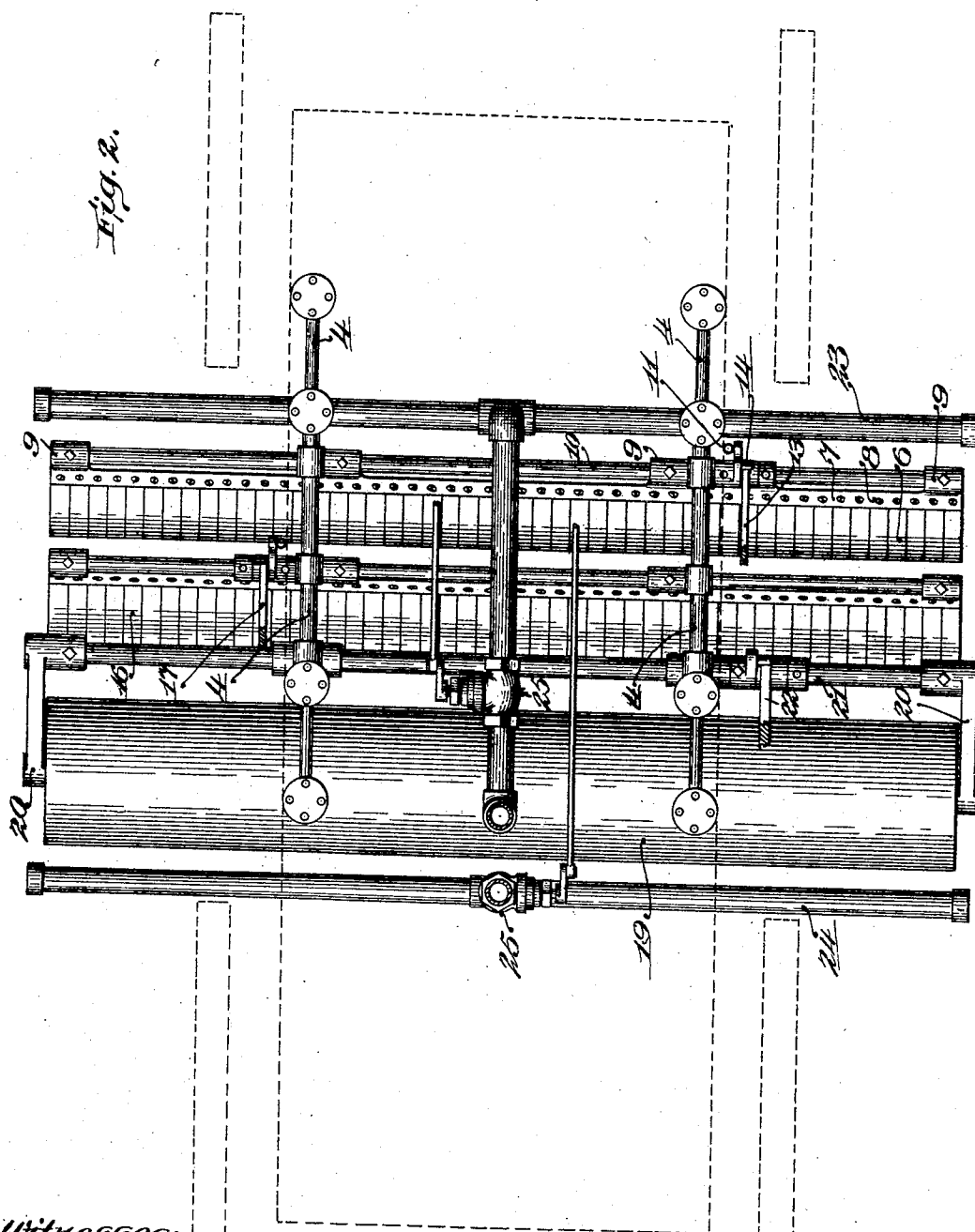
Charles W. Collyer
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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RACE-TRACK MACHINE.

No. 796,813.

Specification of Letters Patent.

Patented Aug. 8, 1905.

Application filed November 16, 1904. Serial No. 233,018.

To all whom it may concern:

Be it known that I, CHARLES W. COLLYER, a citizen of the United States, residing at Randolph, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Race-Track Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in race-track machines.

The object of the invention is to produce an improved machine for treating the surface of a race-track, the machine being designed particularly to supplant the brushes at present in common use, which are drawn over the track between the races. The present machine in addition to pulverizing the surface and filling up depressions therein also smooths and compacts the surface and leaves it in a perfectly uniform and unbroken condition.

Other objects of the invention will be apparent from the particular description thereof.

To the above ends the invention consists in the machine hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a track-machine embodying the present invention. Fig. 2 is a plan view of the instrumentalities for operating on the track-surface, and Fig. 3 is a detail view of a portion of the pulverizer.

The illustrated embodiment of the invention comprises a pulverizer, a smoother, a roller, sprinklers, a tank for water, and suitable means for carrying and actuating these parts. The machine of the drawings is of the automobile type, being propelled by power derived from a motor 1 of any suitable form, connected with the front wheels 2 by gearing 3. The front sprinkler, the pulverizer, the smoother, and the roller are carried by rigid frames 4, secured to the under side of the body of the machine.

The pulverizer 5 consists of a series of flat blades 6, of spring-steel, having pointed extremities, as shown in Fig. 3, for abrading the track-surface. These blades are in-

serted in a slotted bar 7, in which they are separately secured by rivets 8, so that they may be individually removed and replaced if broken or worn out. The independent character of the blades permits each of them to yield independently by its own elasticity when any slight obstruction, such as a stone, is encountered without raising the rest of the pulverizer from the surface. The bar 7 is secured by lugs 9 to a shaft 10, journaled on the frame 4. A spring 11, secured to an arm 12, fixed to the shaft, tends to rotate the latter, so that the blades are pressed against the track-surface. In order to interrupt the action of the pulverizer when necessary, a hand-lever 13 is loosely mounted on the shaft 10 and the arm 12 is provided with a pin 14 in position to be engaged by the hand-lever. When the pulverizer is in operation, it is free to oscillate as a whole about the axis of the shaft 10 in order to rise over any unusual obstruction; but when the hand-lever is thrown forward and held by the latch 15, with which it is provided, the pulverizer is raised clear of the track-surface by the engagement of the pin 14 with the hand-lever.

The smoother 16 is in general construction precisely similar to the pulverizer and is provided with a similar hand-lever 17; but the blades are different in form, having smooth convex rounded portions 18 bearing against the track-surface. The effect of the smoother is not only to distribute the loose earth evenly, filling all depressions, but also to smooth over and press down the surface, leaving it in a perfectly uniform and compact condition.

The roller 19 is journaled on a shaft carried by arms 20, fixed to a shaft 21, journaled on the frame 4. The roller may be raised from the track-surface by a hand-lever 22 similar to those already described.

The sprinklers 23 and 24 are perforated pipes connected, through valves 25, with the water-tank 26. The valves are opened and closed by treadles 27, by means of which the sprinklers may be thrown into operation singly or together. The object in using two sprinklers, one operating in advance of the other instrumentalities and the other after, is this: When the race-track is dry, the operation of the pulverizer and smoother tends to

raise an objectionable dust, and by sprinkling the surface lightly in advance of these instrumentalities this is to a large extent avoided. As mud would tend, however, to collect on the pulverizer and the smoother and roller in case the surface were heavily sprinkled by the forward sprinkler 23 only a slight amount of water can be applied by this sprinkler, and the rear sprinkler 24 is therefore used to give an additional sprinkling in order to moisten the track sufficiently.

In the operation of the machine the pulverizer acts to break up all lumps of earth and to obliterate ruts and hollows and to loosen the earth in preparation for the smoother, which distributes the loose earth evenly, fills all hollows, and presses the earth down lightly, leaving it perfectly smooth. The roller then renders the surface more compact. The pulverizer operates also as a rake and will collect any loose stones, sticks, &c., lying on the surface. According to the condition of the track and the use to which it is to be put some of the instrumentalities of the machine may be used, while others are left out of operation. Thus the sprinkling may be omitted when the track is sufficiently moist, and for horse-races it may be desirable to omit the use of the roller in order to leave the surface soft and easy for the feet of the horses. Under normal conditions, however, where a perfectly uniform and compact surface is desired, as in automobile-races, all of the instrumentalities will be used in conjunction to produce the best results.

The present invention is not limited to the construction shown in the drawings, but may be embodied in other forms broadly defined by the claims.

I claim—

1. A race-track machine, having, in combination, means for rolling the track-surface

and means for subsequently sprinkling the surface, substantially as described.

2. A race-track machine, having, in combination, means for sprinkling the track-surface lightly, means for pulverizing the surface after such sprinkling, and means for sprinkling the surface again after the operation of the pulverizing means, substantially as described.

3. A race-track machine, having, in combination, a roller and means for raising the roller from the track-surface, substantially as described.

4. A race-track machine, having, in combination, a pulverizer, a smoother and a roller, and means for raising each of such instrumentalities from the track-surface, substantially as described.

5. A race-track machine, having, in combination, a smoother, comprising a row of flat metal blades having downwardly-convex portions, and means for pressing the blades yieldingly against the track-surface, substantially as described.

6. A race-track machine, having, in combination, a pulverizer, a smoother and a roller, and means for sprinkling the track-surface before and after the operation of the said instrumentalities, substantially as described.

7. A race-track machine, having, in combination, a pulverizer comprising a row of flat metal blades with pointed ends, and means for pressing the blades yieldingly against the track-surface, substantially as described.

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

CHARLES W. COLLYER.

Witnesses:

FARNUM F. DORSEY,
ALFRED H. HILDRETH.