

No. 708,899.

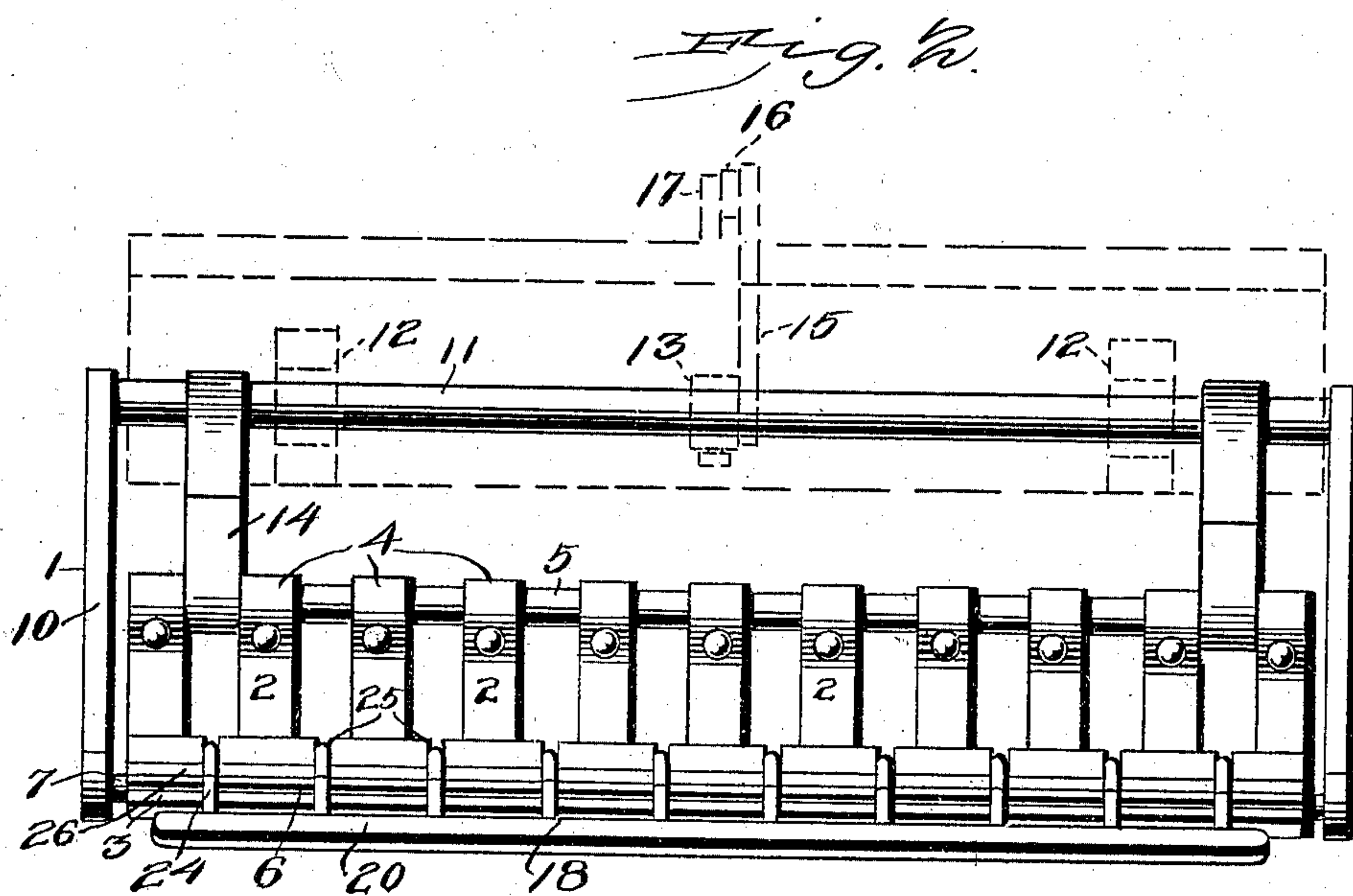
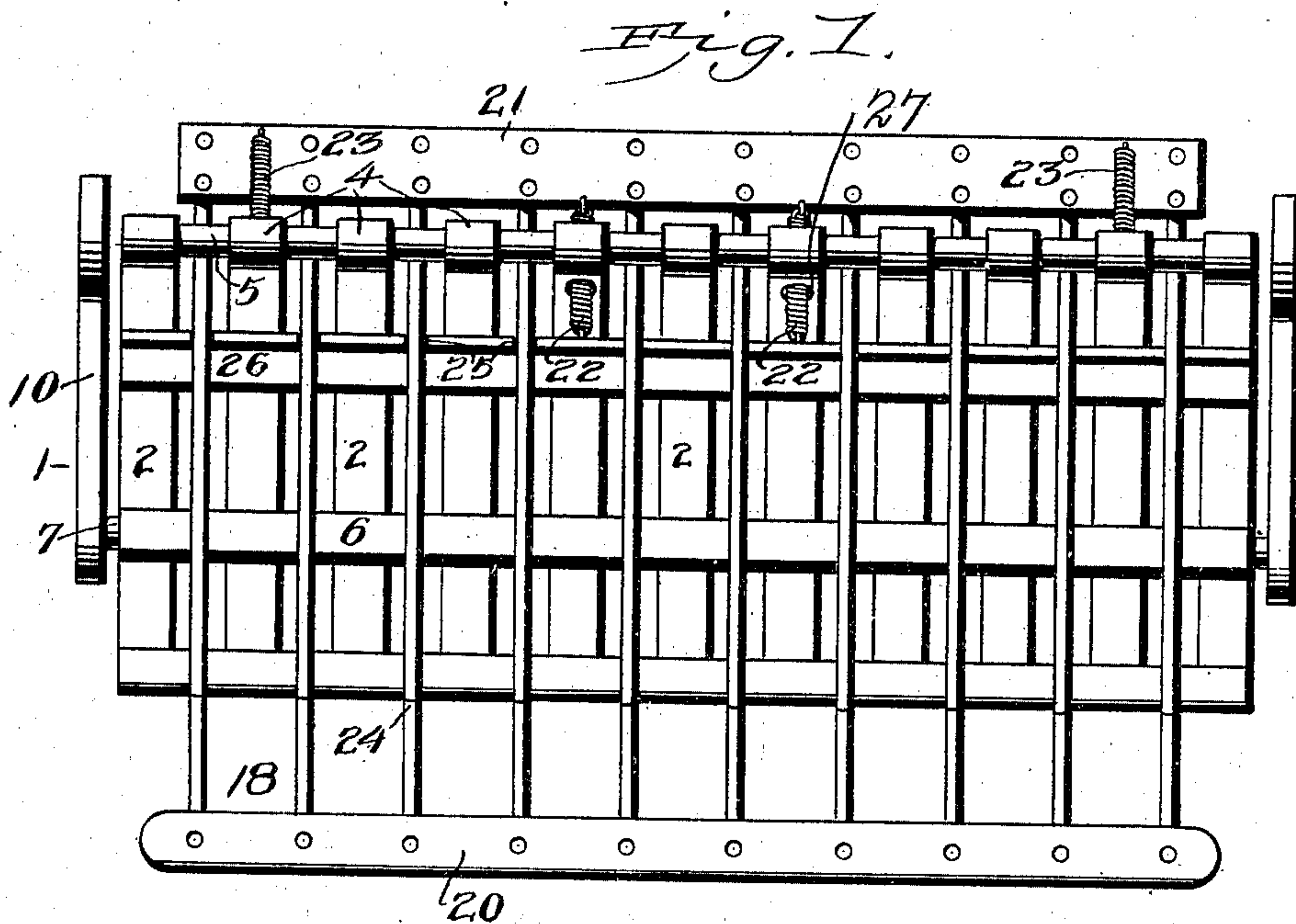
Patented Sept. 9, 1902.

E. C. MOULTON.
CAR FENDER.

(Application filed Mar. 4, 1902.)

(No Model.)

2 Sheets--Sheet 1.



Witnesses
E. J. Stewart
J. J. Riley

E.C. Moulton, Inventor,
by *C.A. Snow & Co.*
Attorneys

No. 708,899.

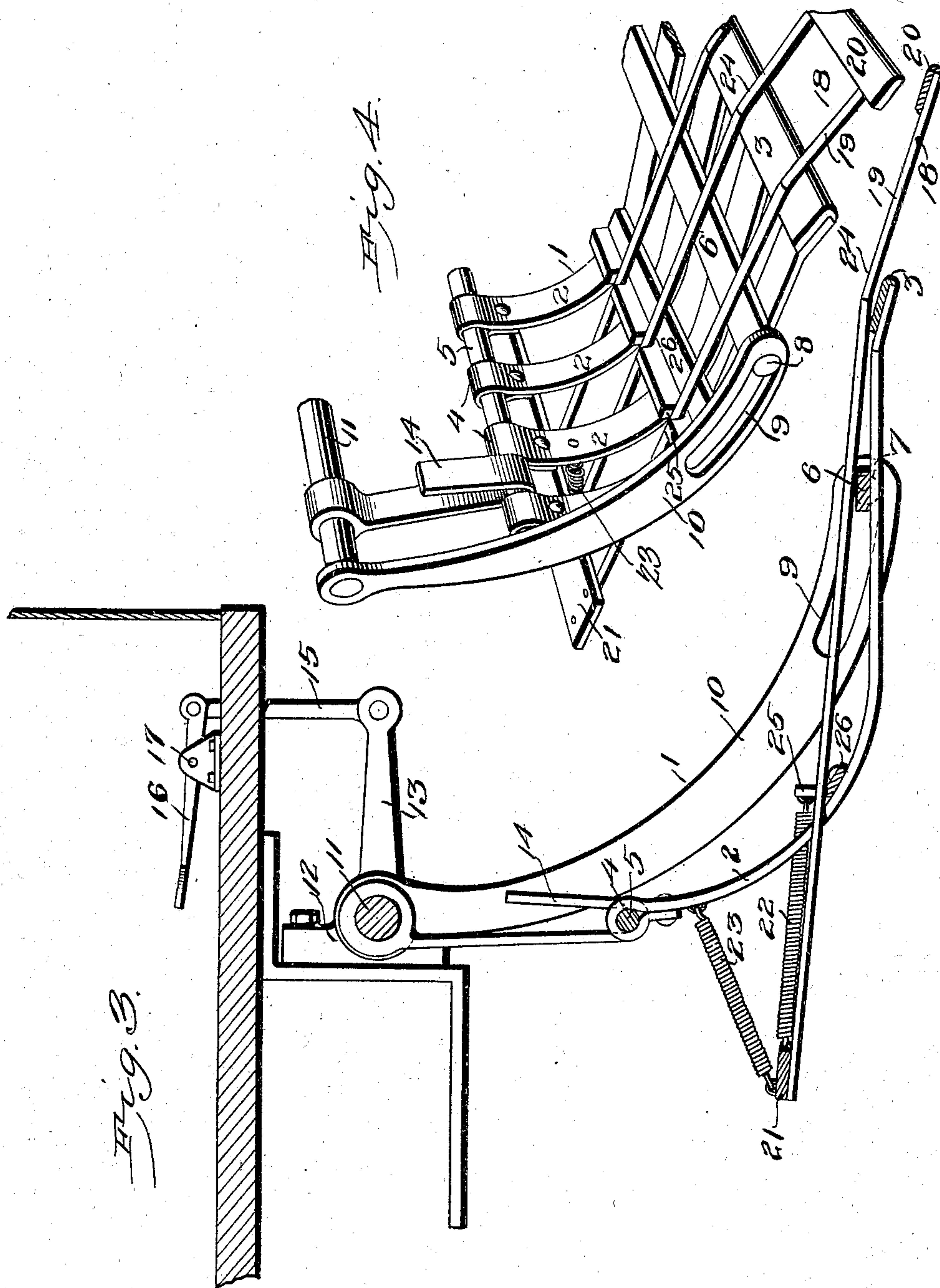
Patented Sept. 9, 1902.

E. C. MOULTON.
CAR FENDER.

(Application filed Mar. 4, 1902.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
E. G. Church
J. F. Riley

E.C. Moulton, Inventor.
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

EDWARD C. MOULTON, OF SAN JOSE, CALIFORNIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 708,899, dated September 9, 1902.

Application filed March 4, 1902. Serial No. 96,672. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. MOULTON, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented a new and useful Car-Fender, of which the following is a specification.

The invention relates to improvements in car-fenders.

10 The object of the present invention is to improve the construction of car-fenders and to provide a simple and comparatively inexpensive one designed for use on electric and other street-cars and adapted to run close to
15 the track or road-bed and capable of effectually picking up a person or object and of preventing such person or object from getting beneath it.

20 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

25 In the drawings, Figure 1 is a plan view of a car-fender constructed in accordance with this invention. Fig. 2 is an elevation of the same, partly in section. Fig. 3 is a longitudinal sectional view. Fig. 4 is a detail perspective view of a portion of a fender.

30 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a car-fender composed of longitudinal bars 2 and suitable connecting-bars; 35 but the fender, which is curved longitudinally to present a concave upper face, may be constructed in any other suitable manner. The front ends of the bars 2 are connected by a front transverse bar 3, and the rear ends
40 of the said bars 2 are provided with loops 4, through which passes a rear end bar 5, arranged as clearly illustrated in Figs. 1 and 4. The fender is also provided at a point between its ends with an intermediate transverse bar 6, projecting laterally from the sides
45 of the fender to form arms 7, which are rounded and which are provided with suitable antifriction-rollers 8, arranged in curved slots 9 of guide-arms 10 of a rock-shaft 11.
50 The rock-shaft is journaled in suitable bearings 12 at the end of the car, and it is provided with an arm 13, arranged between its

ends and extending outward approximately horizontally, as illustrated in Fig. 3 of the accompanying drawings. The rock-shaft is 55 adapted to be partially rotated by the means hereinafter described to adjust the fender to enable it to clear the track when the car is traveling up a hill or other incline and also to enable the fender to be lifted to clear 60 any rough portions of a road-bed. The arms 10, which are arranged at opposite sides of the fender, are curved, and the slots 9 are also curved, as clearly shown in Figs. 3 and 4. The rear transverse bar of the fender is rounded 65 and is arranged in upright guides 14, adapted when the fender is moved rearward to contact with a person or object to elevate the rear portion of the fender, whereby the front portion will be depressed and held close to the 70 track to prevent a person or object getting beneath it. The fender after the pressure has been removed will drop back by gravity to its normal position. The guides consist of loops depending from the rock-shaft and located 75 near the ends thereof, and they may be of any desired construction, and they may also be arranged in any desired position to effect the desired dip or depression of the front portion of the fender. The forwardly or outwardly 80 extending arm of the rock-shaft is connected by an upright link 15 with a foot-lever 16, fulcrumed on a suitable support 17 at the platform of a car and adapted to be engaged by the foot of a motorman. The rear portion 85 of the foot-lever is enlarged to receive the foot of the operator, and when it is depressed the front or outer arm will be raised, thereby lifting the arm 13 and swinging the arms 10 upward to raise the front of the fender above 90 the track. This will prevent the fender from striking the track when the car is traveling up a hill or other incline, and the lever may also be operated to enable the fender to clear any rough portions of a track or road-bed. 95

The front of the fender is designed to be arranged normally clear of the track, and in order to prevent effectually any person or object getting beneath it it is provided with a supplemental slidable frame 18, composed of 100 longitudinal rods 19 and front and rear connecting-bars 20 and 21 and normally held in an extended position by springs 22 and 23. The supplemental slidable frame, which may

be constructed in any other desired manner, has an inclined front portion 24, adapted to run close to and practically rest upon the track, and it may, if desired, be provided with any suitable antifriction devices. The rear portion of the slidable frame is arranged in guide-openings 25 of a transverse guide-bar 26, mounted on the rear portion of the fender and preferably consisting of a flanged bar, as clearly shown in Fig. 4. The weight of the supplemental frame is adapted to maintain its longitudinal rods in the guide openings or recesses 25, and when the supplemental slidable frame comes in contact with an object or a person it will remain close to the track, the springs permitting it to yield, and being also adapted to return the slidable frame to its normal position when the resistance is removed. The springs 22, which are located near the center of the rear portion of the slidable frame, are secured at their front ends to the guide-bar and at their rear ends to the rear transverse bar 21 of the slidable frame. The other springs 23, which are located near the sides of the fender, are connected at their upper ends to the adjacent longitudinal bars of the fender and are suitably secured at their lower ends to the said rear bars 21 of the slidable frame. The springs 22 extend through suitable openings 27 of the adjacent bars 2 of the fender.

It will be seen that the car-fender is exceedingly simple and inexpensive in construction, that it is adapted to be readily applied to a car, and that it is capable of effectually preventing a person or an object from getting beneath a car. It will also be apparent that the fender is slidably mounted in its supports and that when it encounters a person or object the resistance resulting therefrom will depress the front of the fender to prevent such person or object from getting under it. Also it will be clear that when the fender is relieved of the resistance it will drop back to its normal position and that the supplemental slidable frame is normally arranged close to the track and that it is adapted to move backward and forward independently of the fender.

What I claim is—

1. The combination with a slidable fender, of guide-arms located at opposite sides of the fender and connected with the same at points between the ends thereof and adapted to form a fulcrum for the said fender, said guide-arms being arranged to permit the fender to have a limited inward or backward movement when it comes in contact with an object, and an upright guide receiving the rear portion of the fender and adapted to depress the front portion of the same when the said fen-

der is moved inward or rearward, substantially as described.

2. The combination with a slidable fender, of guide-arms located at opposite sides of the fender and provided with slots receiving the same, and an upright loop arranged to receive the back of the fender and adapted to depress the front of the same when the said fender is moved rearward, substantially as described.

3. The combination with a slidable fender, of a rock-shaft provided with guide-arms receiving the fender at a point between the ends thereof, an upright guide also carried by the rock-shaft and receiving the rear portion of the fender, and means for operating the rock-shaft, substantially as described.

4. The combination of a rock-shaft provided with slotted guide-arms and having upright guides, a slidable fender having arms arranged in the slots of the guide-arms, said fender being also arranged in the upright guides, and means for operating the rock-shaft, substantially as described.

5. The combination of a fender, a supplemental slidable frame mounted on the fender and extending in advance of the same, and springs connecting the supplemental frame with the fender and located in rear of the latter, substantially as described.

6. The combination of a fender capable of a limited sliding movement, a supplemental frame arranged on the fender, guides carried by the fender and receiving the supplemental frame, and springs connecting the rear portion of the slidable frame with the fender, substantially as described.

7. The combination of a slidable fender capable of pivotal movement, means for supporting the fender and for holding the same normally in an extended position, and a slidable frame extending in advance of the fender and capable of movement longitudinally thereof, and carried by the said fender in its movements, substantially as described.

8. The combination of a fender provided with a guide-bar having guide-openings, a slidable frame arranged in the guide-openings and extending in advance and in rear of the fender, the approximately horizontal springs 22 connecting the rear portion of the frame with the fender, and the inclined springs 23 connecting the rear portion of the frame with the fender, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD C. MOULTON.

Witnesses:

R. M. WRIGHT,
C. D. WRIGHT.