(No Model.) 2 Sheets—Sheet 1.

M. DETTMAR.

CAR FENDER.

No. 588,816. Patented Aug. 24, 1897.

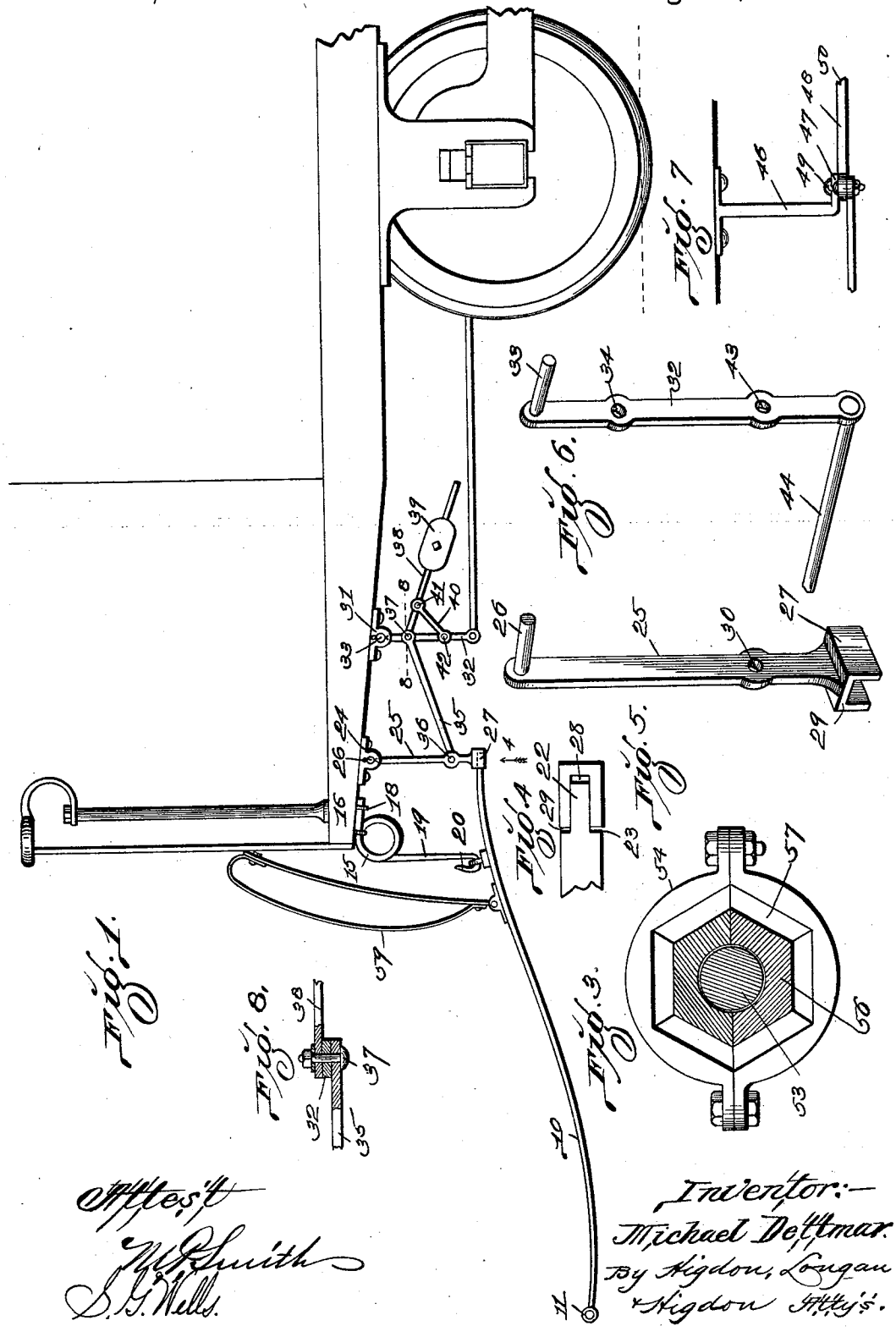


Fig. 1.

Fig. 7.

Fig. 6.

Fig. 5.

Fig. 4.

Fig. 3.

Fig. 8.

Witnesses:
M. R. Smith
S. G. Wells.

Inventor:—
Michael Dettmar.
By Kigdon, Longan
& Kigdon Atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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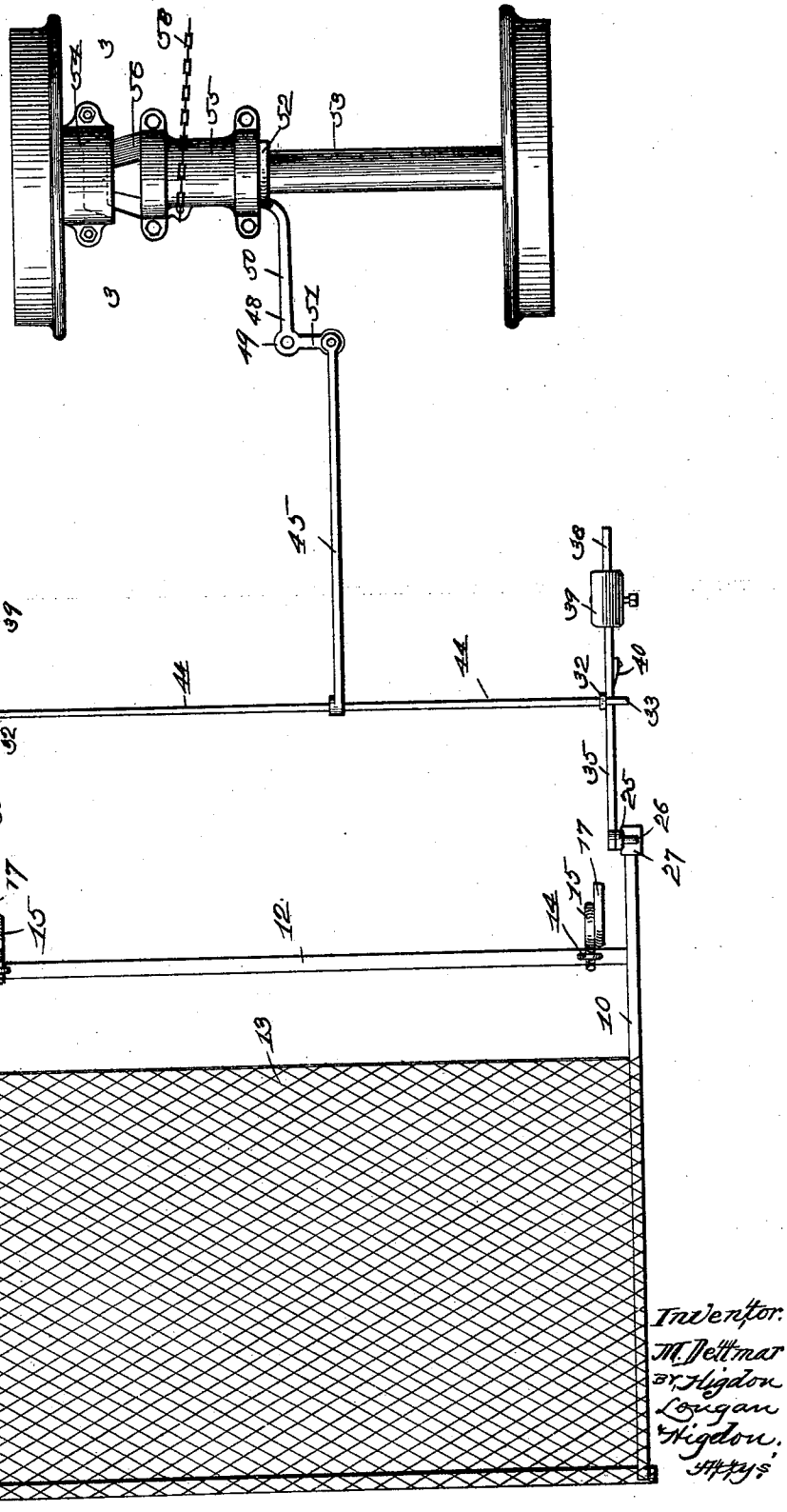


Fig. 2.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

MICHAEL DETTMAR, OF ST. LOUIS, MISSOURI.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 588,816, dated August 24, 1897.

Application filed May 10, 1897. Serial No. 635,955. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL DETTMAR, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Car-Fenders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to car-fenders; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a side elevation showing the front end of a car and my improved car-fender in position for use. Fig. 2 is a plan view of the car-fender and its connections with the front axle of the car. Fig. 3 is a sectional view taken approximately on the line 3 3 of Fig. 2. Fig. 4 is a bottom plan view of the parts seen looking in the direction indicated by the arrow 4 in Fig. 1, parts being broken away to economize space. Fig. 5 is a view in perspective of the hanger indicated by the arrow 4 in Fig. 1. Fig. 6 is a view in perspective of one of the intermediate hangers. Fig. 7 is a view in elevation of the rear hanger. Fig. 8 is a horizontal section taken approximately on the line 8 8 of Fig. 1.

Referring by numerals to the drawings, the side bars 10 are rigidly connected by the front bar 11 and the rear bar 12, and the wire-netting 13 is secured to the side bars 10 and the front bar 11. The eyes 14 are rigidly secured to and project upwardly from the rear bar 12 at points slightly inside of the side bars 10. The coil-springs 15 are placed below the front edge of the platform 16 of the car, and the ends 17 of the springs are secured to the platform by means of the clips 18, and the ends 19 of the springs extend downwardly and are bent to form the hooks 20, and the hooks 20 engage the eyes 14.

The ends 21 of the side bars 10 extend backwardly some distance from the rear bar 12, and the extreme rear ends of said side bars 10 are reduced in size, thus forming the tenons 22 and the shoulders 23 between said tenons and the bodies of said side bars, as shown in Fig. 4.

The bearing-blocks 24 are attached to the under side of the platform 16 in vertical alinement with the tenons 22, and horizontal bearings are formed through said bearing-blocks on a line transversely of the car. The hangers 25 are pivotally connected to the bearing-blocks 24 by means of the pins 26, fixed in the upper ends of the hangers 25 and inserted through the bearings in the blocks 24. The blocks 27 are formed integral with and fixed upon the lower ends of the hangers 25, and in the lower faces of said blocks 27 are formed rectangular recesses 28, said recesses being open at their bottoms and at their front sides, and said recesses being designed to receive the tenons 22 upon the rear ends of the side bars 10, the shoulders 23 engaging the front faces 29 of the blocks 27. Horizontal apertures 30 are formed through the hangers 25 near their lower ends and on lines transversely of the car. Bearing-blocks 31 are attached to the under side of the platform 16 a short distance behind the bearing-blocks 24, said bearing-blocks 31 being similar to the bearing-blocks 24 in construction.

The hangers 32 are pivotally connected to the bearing-blocks 31 by means of the pins 33, fixed in the upper ends of said hangers 32 and operating in the bearings of said blocks 31. Apertures 34 are formed horizontally through the hangers 32 on lines transversely of the car and at points some distance below the upper ends of said hangers. The connecting-rods 35 are pivotally attached at their forward ends to the hangers 25 by means of the pins 36, inserted through said connecting-rods and through the openings 30 in the hangers 25, and the rear ends of said connecting-rods are pivotally attached to the hangers 32 by means of the pins 37, inserted through said connecting-rods and through the openings 34. The pins 37 also pass through the forward ends of the levers 38, carrying the weights 39. The braces 40 are attached to the levers 38 near their forward ends by means of the pins 41, and the opposite ends of said braces are attached to the hangers 32 by means of the pins 42, inserted through said braces and through the openings 43, formed in the hangers 32 at points a short distance above the lower ends of said hangers 32. The lower

ends of the hangers 32 are connected by the rod 44, and the connecting-rod 45 has a bearing in its forward end, through which the rod 44 operates, said bearing being located approximately in the center of said rod 44. The hanger 46 is attached to and projects downwardly from the bottom of the car at a point approximately half-way between the forward wheels of the car and to a point on a level with the axle. The lower end 47 of the hanger is bent into a horizontal plane and the bell-crank lever 48 is pivotally attached to said lower end 47 by means of the bolt 49, said bell-crank lever being mounted to swing in a horizontal plane, one arm 50 of said lever projecting backwardly and the other arm 51 of said lever projecting laterally, and the rear end of the connecting-rod 45 is attached to the free end of the arm 51. The free end of the arm 50 is bifurcated, forming the fork 52, and the axle 53 operates between the arms of said fork 52. The clamp 54 is rigidly mounted upon and carried by the axle 53 and the collar 55 is slidingly and rotatably mounted upon the axle 53. The inner end of the collar 55 is engaged by the fork 52 and the opposite end 56 of said collar is hexagonal and tapered. A recess 57 is formed in the end of the clamp 54, around the axle 53, to receive the end 56 of the collar, as required to form a clutch. The chain 58 has one of its ends attached to the collar 55, and its opposite end is attached to the brake-lever.

Any suitable apron, such as 59, may be attached to the side bars 10 and extend upwardly in front of the dashboard of the car.

When the fender or the front bar 11 of the fender strikes an obstruction, the hooks 20, carried by the springs 15, will swing backwardly, the shoulders 23 will strike the blocks 27 and swing the hangers 25 backwardly, and the connecting-rods 35 will swing the hangers 32 backwardly, thus pushing the connecting-rod 45 backwardly and operating the bell-crank lever 48 and sliding the collar 55 to operate the clutch. When the end 56 of the collar 55 engages in the recess 57, the collar 55 will be rotated, thus winding the chain 58 upon said collar and tightening the brakes and stopping the car. The strength of the chain 58 will also be exerted to resist the rotation of the axle 53. As soon as the pressure upon the fender is removed the tension of the springs 15 and the power of the weights 39 will operate to restore the parts to their normal positions and release the brake.

The weights 39 are adjustably mounted upon the levers 38 by means of set-screws, and by sliding the weights upon the levers the sensitiveness of the fender is increased or decreased, as desired.

I claim—

1. In a device of the class described, coil-springs 15 having their upper ends attached to the under side of the platform of the car and their lower ends extending downwardly some distance from the platform and formed into hooks, a fender having eyes attached to its side bars and engaging said hooks, said side bars extending backwardly some distance from said eyes, hangers pivotally connected to the platform of the car some distance behind said coil-springs and depending downwardly and engaging the rear ends of said side bars as required to hold the forward part of the fender clear of the track and as required to allow the fender to swing back and forth, clutch mechanism mounted upon the forward axle of the car and positive connections between said clutch mechanism and the fender whereby said clutch mechanism is operated by the swinging of the fender and connections between said clutch mechanism and the brake mechanism whereby the brakes are operated by the operation of the clutch mechanism, substantially as specified.

2. In a device of the class described, spring-actuated arms extending downwardly from the platform of the car, a fender mounted with its rear end under the platform of the car and hinged to the lower ends of said spring-actuated arms as required to allow the front end of the fender to be turned upwardly, hangers pivotally connected to the platform of the car some distance behind said spring-actuated arms and extending downwardly, connections between the lower ends of said hangers and the rear end of the fender as required to hold the forward end of the fender elevated from the track and as required to allow the fender to be turned upwardly on its hinges and as required to allow the fender to swing back and forth, clutch mechanism mounted upon the front axle of the car, positive connections between said clutch mechanism and the fender whereby the clutch mechanism is operated by the swinging of the fender and connections between said clutch mechanism and the brakes whereby the brakes are operated by the operation of the clutch mechanism, substantially as described.

3. In a device of the class described, spring-actuated arms extending downwardly from the platform of the car, a fender mounted with its rear end under the platform of the car and hinged to the lower ends of said spring-actuated arms as required to allow the front end of the fender to be turned upwardly, hangers pivotally connected to the platform of the car some distance behind said spring-actuated arms and extending downwardly, connections between the lower ends of said hangers and the rear end of the fender as required to hold the forward end of the fender elevated from the track and as required to allow the fender to be turned upwardly on its hinges and as required to allow the fender to swing back and forth, clutch mechanism mounted upon the front axle of the car, posi-

tive connections between said clutch mechanism and the fender whereby the clutch mechanism is operated by the swinging of the fender, connections between said clutch mechanism and the brakes whereby the brakes are operated by the operation of the clutch mechanism and means of swinging the fender forwardly to its normal position when the obstruction is removed, thereby releasing the brakes, substantially as specified.

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

MICHAEL DETTMAR.

Witnesses:
EDWARD E. LONGAN,
S. G. WELLS.