No. 621,163. Patented Mar. 14, 1899.

F. SHELDON & H. M. MILLIKEN.

CAR COUPLING.

(Application filed Mar. 9, 1898.

(No Model.)

Fig. 1.

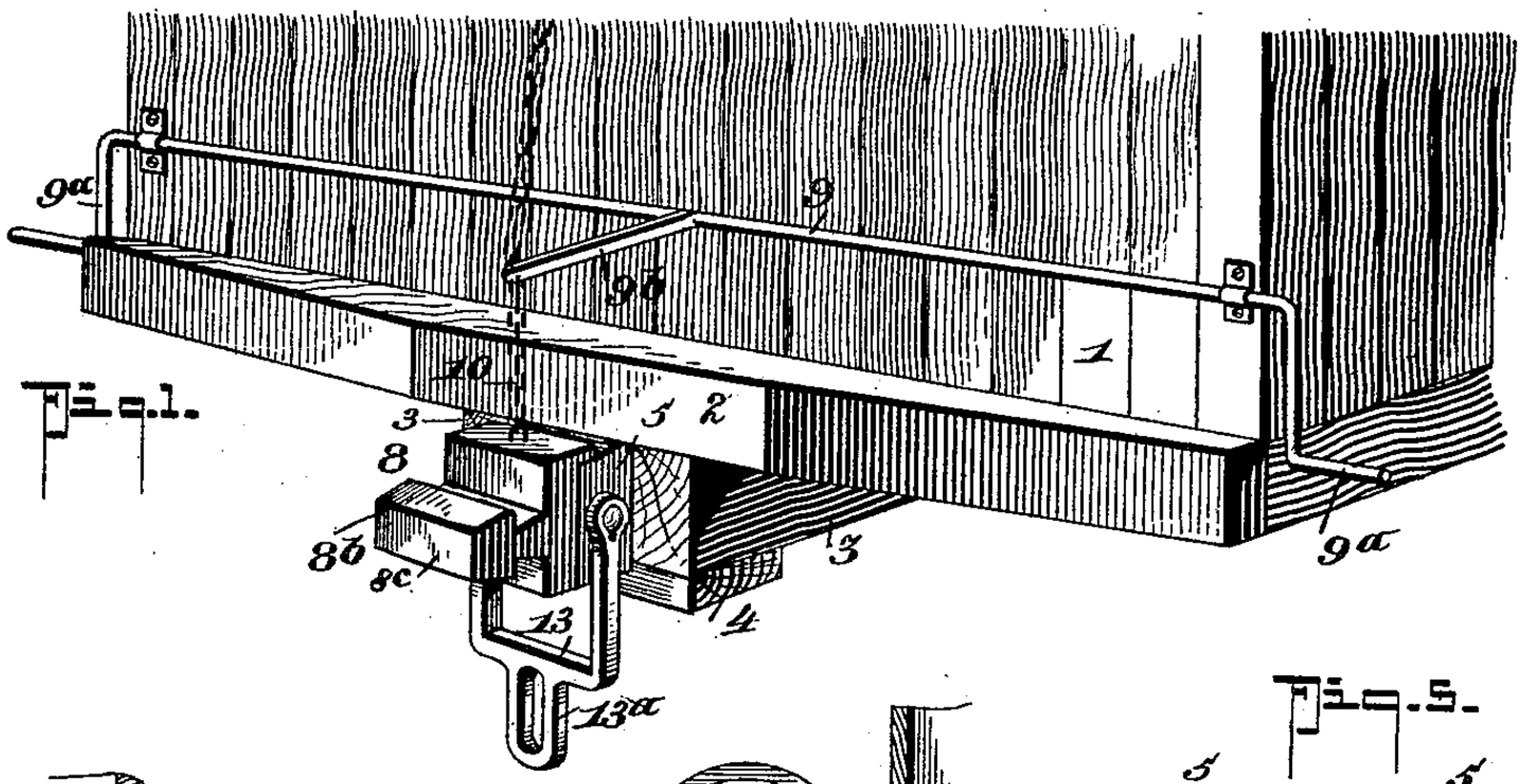

Fig. 2.

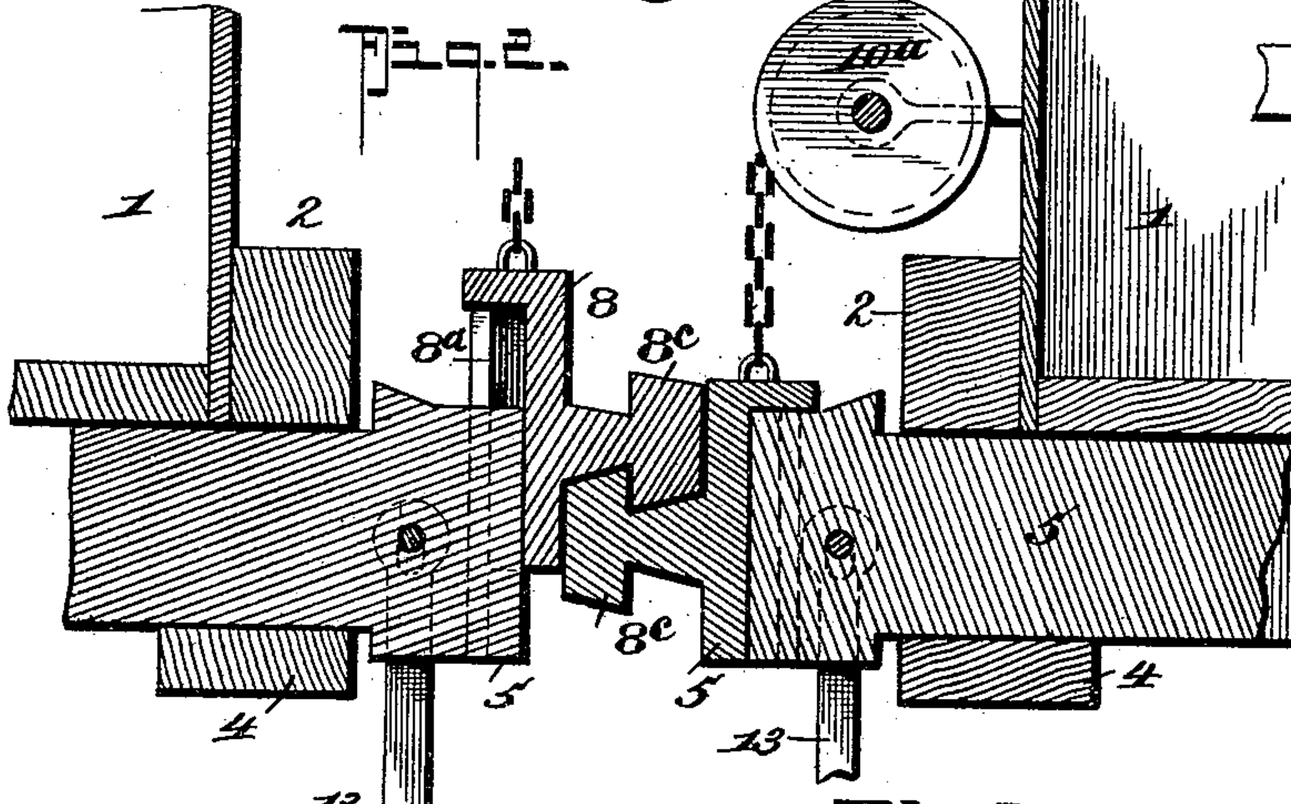

Fig. 5.

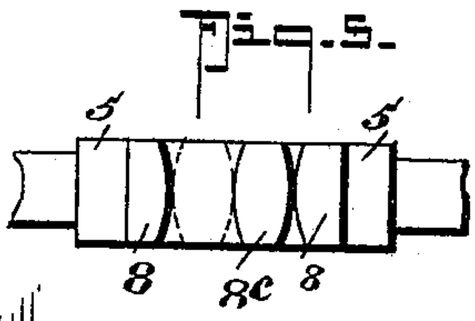

Fig. 3.

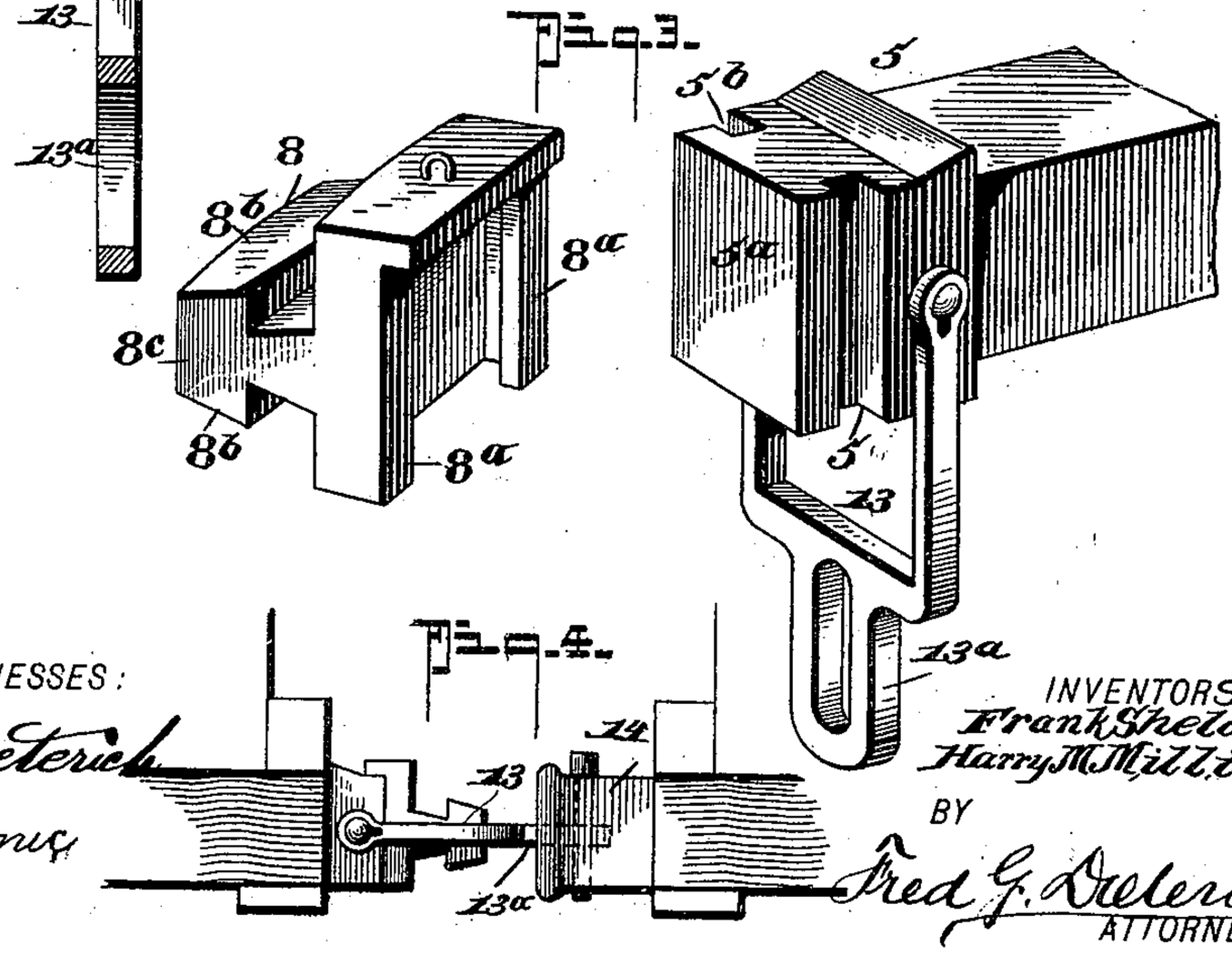

Fig. 4.

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FRANK SHELDON AND HARRY M. MILLIKEN, OF CHEBOYGAN, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 621,163, dated March 14, 1899.

Application filed March 9, 1898. Serial No. 673,208. (No model.)

To all whom it may concern:

Be it known that we, FRANK SHELDON and HARRY M. MILLIKEN, residing at Cheboygan, in the county of Cheboygan, State of Michigan, have invented a new and Improved Car-Coupling, of which the following is a specification.

This invention relates to that class of car-couplers having the draw-bars equipped with coupling-heads vertically adjustable and means for setting such heads to a coupling position operated either from the sides or top of the car. In couplings of this character heretofore provided the draw-bar is usually held for lateral movement on its supporting members and also for vertical swing. Our invention differentiates from such construction and arrangement of the draw-bar in that the draw-bar is fixedly held so far as it relates to a lateral and vertical movement, and its draw-head is connected thereto to have a clearly-defined vertical movement, whereby it can be readily set by suitable lifting means operated from the top or sides of the car to travel onto the opposing draw-head to couple therewith, the relation of the draw bars and heads being such that the said bars will at all times maintain a fixed position lengthwise of the car and have only the usual longitudinal spring-buffer motion whereby to provide a positive, strong, and simple form of coupling.

Our invention also comprehends a coupler of this character having supplemental coupling means whereby our improved draw-head can be readily coupled with the ordinary pin coupling-heads.

In its subordinate features our improvement consists in certain details of construction and peculiar combination of parts, all of which will be first described in detail and then be specifically pointed out in the appended claim, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the end of a car equipped with our improvements. Fig. 2 is a longitudinal section showing the two draw-heads coupled. Fig. 3 is a perspective view of one of the draw-heads, the sliding member being shown detached. Fig. 4 is a side view showing one of our improved draw-heads coupled with the ordinary pin coupler-head, and Fig. 5 is a detail plan of the abutting ends of the draw-heads.

Referring now to the accompanying drawings, in which like numerals indicate like parts in all the figures, 1 indicates the car-body; 2, the end sill; 3, the longitudinal draw-bar guide-beams, and 4 the transverse draw-bar-supporting timbers.

5 5 indicate the draw-bars of our improved coupler, which, as will be seen by reference to Fig. 1, are of a width to fit the space between the beams 3, whereby they are held from lateral movement, they being, however, held for the usual longitudinal or buffer movement and provided with buffer-springs 6. The bars 5 are also held from vertical movement by a close engagement with the bottom of the car and the timbers 4.

So far as described it will be seen that while the draw-bars have the usual longitudinal movement in their bearings they are positively held from lateral and vertical movement, such construction being provided to maintain the opposing draw-bars always in a positive longitudinal position, and thereby draft members having positive bearings at the front and rear ends, whereby to produce a strong and firm coupling and to keep the draw-heads in a true central position to insure a positive engagement and coupling action.

The draw-heads 8 are detachably connected to the draw-bars and have a clearly-defined vertical adjustment—*i. e.*, they are held from lateral movement as well as longitudinal movement independent of the draw-bars. For this purpose the draw-bars have their outer ends terminating in enlargements 5^a and the sides thereof formed with vertical grooves 5^b to receive the vertical side flanges 8^a of the detachable draw-heads 8.

By referring more particularly to Fig. 3 it will be observed that the heads 8 have each a forwardly-extending horizontally-disposed arrow-like locking member 8^c, provided with a vertical front abutting face, the upper and lower faces 8^b being beveled, as shown, so as to admit of the higher member 8 riding freely onto opposing member 8.

Any suitable means may be provided for lifting the members 8; but we prefer to em-

ploy a rock-shaft 9, held transversely on the front end of the car, having handles 9^a at the end. This bar can have a central crank member 9^b, to which is attached the lift-chain 10, as shown in Fig. 1, or it may have a drum or chain-disk 10^a, as shown in Fig. 2, it being obvious that a second lift-chain 10^a, extending to the top of the car, may be connected to either the crank or disk.

So far as described it will be readily seen that to adjust the draw-heads to a coupling position it is only necessary to elevate one of the heads 8 sufficiently high so its lower beveled face 8^b will engage the upper beveled face 8^b of the opposing head, it being obvious that as the two heads thus engage and are closed against each other by releasing the lift on the upper coupling-head the same will drop by gravity into a coupled engagement with its mate, it being understood that in practice the said heads will have sufficient free play to automatically adjust themselves vertically to compensate for the vertical movement of the opposing draw-bars caused by the irregular vertical movement of the two car-bodies. To overcome any lateral binding of the two draw-heads when the cars are on curves, the impact faces of such heads are curved, as shown in Fig. 5.

For coupling to the ordinary pin coupling-head our improved coupler has a supplemental coupling member in the nature of a swinging link 13, hung on the draw-bar 5, which consists of a bifurcated portion of a length to swing freely over the front end of the head 8, and a link end 13^a, adapted to enter the pin coupler-head 14, as shown in Fig. 4, and while we have shown no means for lifting the coupling member 13 from the side or top of the car it is obvious that in practice such means for this purpose are provided.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of our improvement will be readily apparent. It will be seen that the opposing draw-heads will at all times be held in the same longitudinal plane to admit of a quick, free, and positive coupling action of the vertically-movable heads 8.

Our coupler is of such a nature as to admit of its being economically made and the coupling ends of such character as to produce a very strong and effective connection.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

In a car-coupling, the combination of a draw-bar provided with a solid enlargement at its outer end having a vertical front face and provided at opposite sides with vertical grooves, the vertically-movable draw-head having a vertical rear face to fit against the vertical face of the draw-bar and having vertical flanges working in the aforesaid grooves, said head having a horizontal arrow-shaped coupling member provided with upper and lower curved engaging portions and having a vertical front face, said head being provided above and below the arrow-shaped member with vertical faces to fit against the vertical front face of another draw-head, and means for lifting the heads, substantially as described.

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