H. M. PFLAGER.

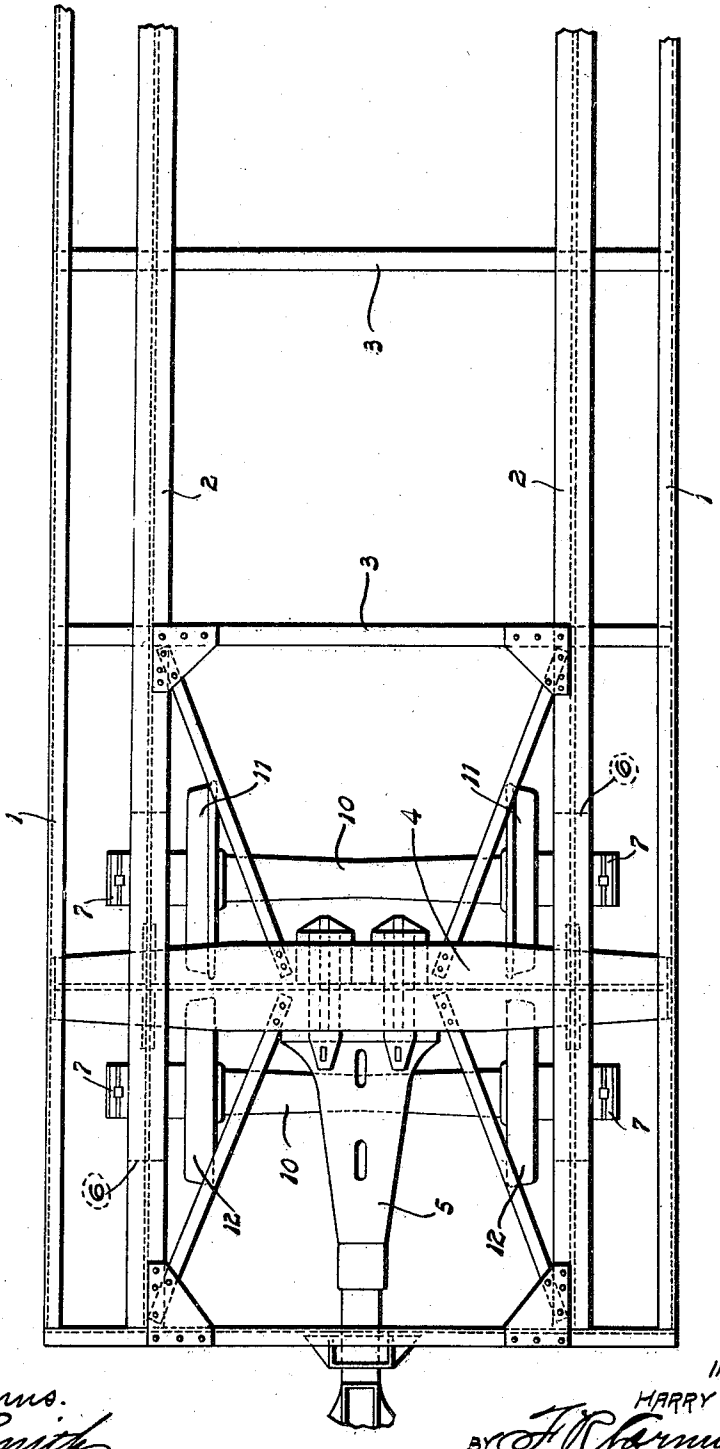
CAR CONSTRUCTION.

APPLICATION FILED DEC. 16, 1910.

999,253. **Patented Aug. 1, 1911.**

2 SHEETS—SHEET 1.

FIG. 1



WITNESSES

H. M. James.

M. C. Smith

INVENTOR

HARRY M. PFLAGER

BY F. K. Cornwall ATT'Y.

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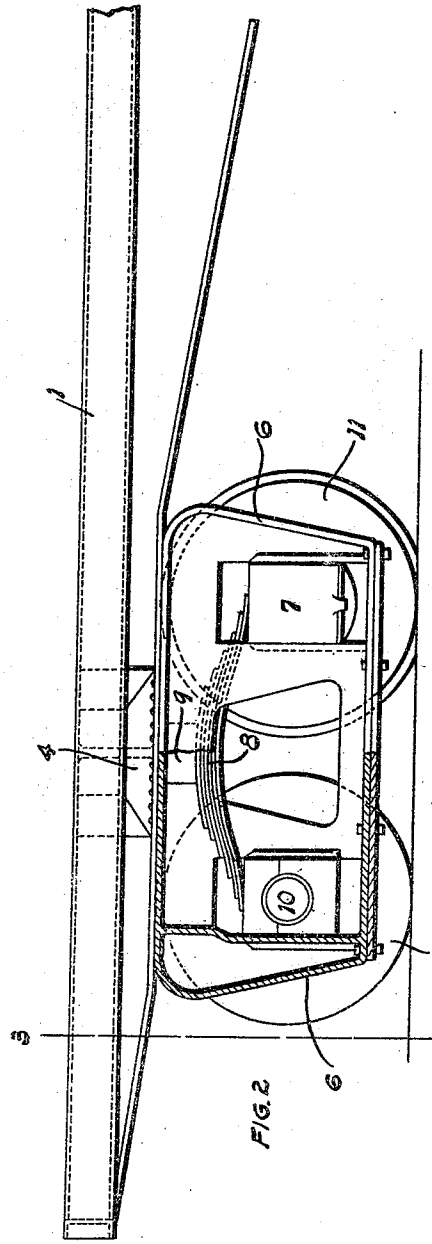

FIG. 2.

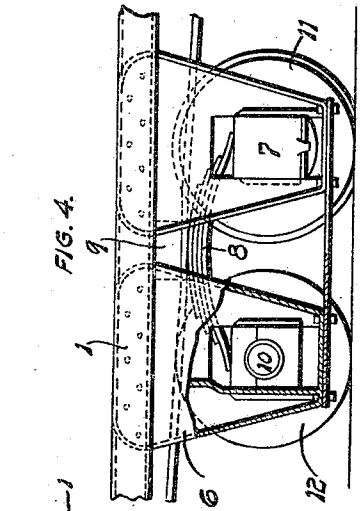

FIG. 4.

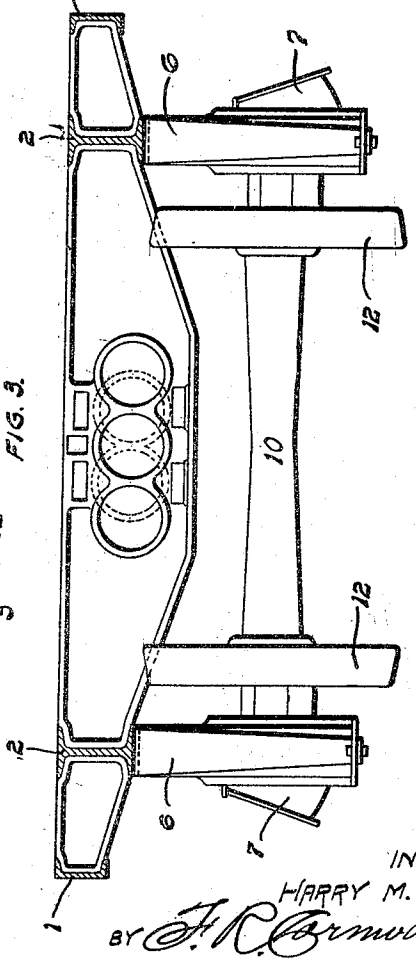

FIG. 3.

WITNESSES

Jno. Janns.

W. P. Smith.

INVENTOR

HARRY M. PFLAGER

BY F. R. Cornwall. ATT'Y.

UNITED STATES PATENT OFFICE.

HARRY M. PFLAGER, OF ST. LOUIS, MISSOURI.

CAR CONSTRUCTION.

999,253. Specification of Letters Patent. Patented Aug. 1, 1911.

Application filed December 16, 1910. Serial No. 597,669.

To all whom it may concern:

Be it known that I, HARRY M. PFLAGER, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car Construction, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a part of the underframe of my improved car construction. Fig. 2 is a side elevation of my improved car construction, with parts thereof in vertical section. Fig. 3 is an enlarged cross section taken on the line 3—3 of Fig. 2. Fig. 4 is a side elevation, partly in section, of a modified form of my improved construction.

This invention relates generally to car construction, and more particularly to the car wheels and axles and the means for mounting the same beneath the ends of the underframe or car body.

The principal objects of my invention are to construct a car wherein the expensive, heavy, swiveled trucks are done away with, thereby materially reducing the first cost of building the car, the cost of maintenance and the dead weight of the car, and further, to produce a car that will readily traverse short curves and pass over switches and crossings without creating undue friction between the flanges of the car wheels and the track rails.

A further object of my invention is to arrange two pairs of wheels beneath each end of the car body and to locate the wheels of each pair very close to one another, thereby producing an extremely narrow wheel base, one pair of which wheels is devoid of the usual flanges in order to entirely obviate all resistance and consequent friction while the car is traversing a sharp curve.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates the side sills of a car underframe, 2 the intermediate sills, 3 the cross bearers, 4 the body bolster, and 5 the draw bar, all of these parts being of ordinary construction.

6 designate pedestals arranged in pairs, and as shown in Fig. 2, two pairs of these pedestals are cast integral, thereby forming practically a short side frame, the upper portion of which is rigidly fixed in any suitable manner to the under side of the underframe, and preferably to the intermediate sills 2.

Arranged in the usual manner in the openings between each pair of pedestals are journal boxes 7, and bearing on the tops thereof are the ends of a leaf spring 8, the central portion of which bears against a block 9 arranged in the upper portion of the short side frame formed by the pairs of pedestals. The ends of the car axles 10 are journaled in the boxes 7 in the usual manner, and carried by the inner one of the car axles is a pair of ordinary flanged car wheels 11. The wheels 12 carried by the outer axle are devoid of the usual flanges, and thus when a car of my improved construction is traversing a short curve, the inner pair of wheels at each end act as pivots for the ends of the car, while the outer pair of wheels, which are "bald" or flangeless, shift laterally upon the balls of the track rails without developing resistance or friction. The outer wheels could, however, be flanged and the inner wheels made flangeless, if desired, the result being substantially the same.

In Fig. 4 I have shown the pedestals formed in pairs and each pair is individually fixed to the under side of the underframe. In all instances, the pairs of pedestals are arranged as closely together as is practicable so as to shorten up the wheel base or the distance from center to center of the axles. By utilizing a pair of wheels without flanges on the outer axles, the car can traverse curves having an extremely short radius, and the only friction or resistance developed between the wheels of the trucks and the track rails occurs between the flanged pair of wheels which are acting as pivots for the ends of the car.

By my improved construction, a considerable saving is effected in the first cost of building cars and in repairs thereto, inasmuch as a large number of parts which are essential in swiveled truck construction are entirely done away with. A very strong and rigid construction is provided where the pairs of pedestals, either independent, or in the form of a short side frame, are attached directly to the underframe, and owing to the absence of a swiveling motion of the trucks,

there are no side bearings required. The danger of derailment of wheels of my improved construction in traversing curves is small as compared to ordinary swiveled trucks having long wheel bases, for where cars are equipped with swiveled trucks of ordinary construction and the car is taking a short curve, derailment is practically a certainty when the car body is bearing down hard upon the side bearings, thereby preventing the swiveled truck from swinging upon its king pin.

I am aware that in England the so-called "wagons" have been mounted upon one pair of wheels at each end, the journals of which wheels are arranged in boxes carried by the ends of the car, but such construction is intended for use on cars of light carrying capacity and will not meet the conditions existing in this country, where it is desirable to carry great loads and bulk in cars, and it is still desirable to further increase the carrying capacity of the cars.

It will be readily understood that minor changes may be made in the construction, arrangement and combination of the various parts of my improved car construction, without departing from the nature and principle of my invention.

I claim:

1. In car construction, the combination with an underframe, of two pairs of wheels under each end of the car, the wheels at each end being arranged closely together and having narrow wheel bases, which wheels are so mounted as to be horizontally immovable with respect to the under frame, the outer pair of each set of wheels being devoid of flanges.

2. In car construction, the combination with an underframe, of two pairs of wheels arranged under each end of the car, the outer pair of each set of wheels being devoid of flanges.

3. In car construction, the combination with an underframe, of two pairs of pedestals fixed to and depending from the under side of the underframe at or near the ends thereof, journal boxes yieldingly arranged between the pairs of pedestals, axles having their ends arranged in the journal boxes, flanged wheels on the inner axle of each pair, and flangeless wheels on the outer axle of each pair.

4. In car construction, the combination with an underframe, of short side frames rigidly fixed to and depending from the under side of the underframe at each end thereof, journal boxes yieldingly arranged in the side frames, a pair of axles having their ends journaled in the boxes, a pair of flanged wheels on one of the axles of each pair, and a pair of flangeless wheels on the other axle of each pair.

5. In car construction, the combination of an under frame, side truck frames rigidly fastened thereto, each of said side truck frames having two journal box openings, journal boxes guided vertically in said openings and semi-elliptic leaf springs bearing at their centers against the under frame and at each end upon the journal boxes.

6. In car construction the combination of an underframe, two pairs of journal box guides rigidly fastened thereto at each end of the car and providing transversely alined journal box openings, journal boxes guided vertically in said openings, and semielliptic leaf springs bearing at their centers against the underframe and at each end on said journal boxes.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 14th day of December, 1910.

HARRY M. PFLAGER.

Witnesses:

M. P. SMITH,

B. S. REID.