Nov. 10, 1925. 1,560,878

J. J. TATUM

SYSTEM FOR REPAIRING RAILROAD CARS

Filed Dec. 31, 1923 4 Sheets-Sheet 1

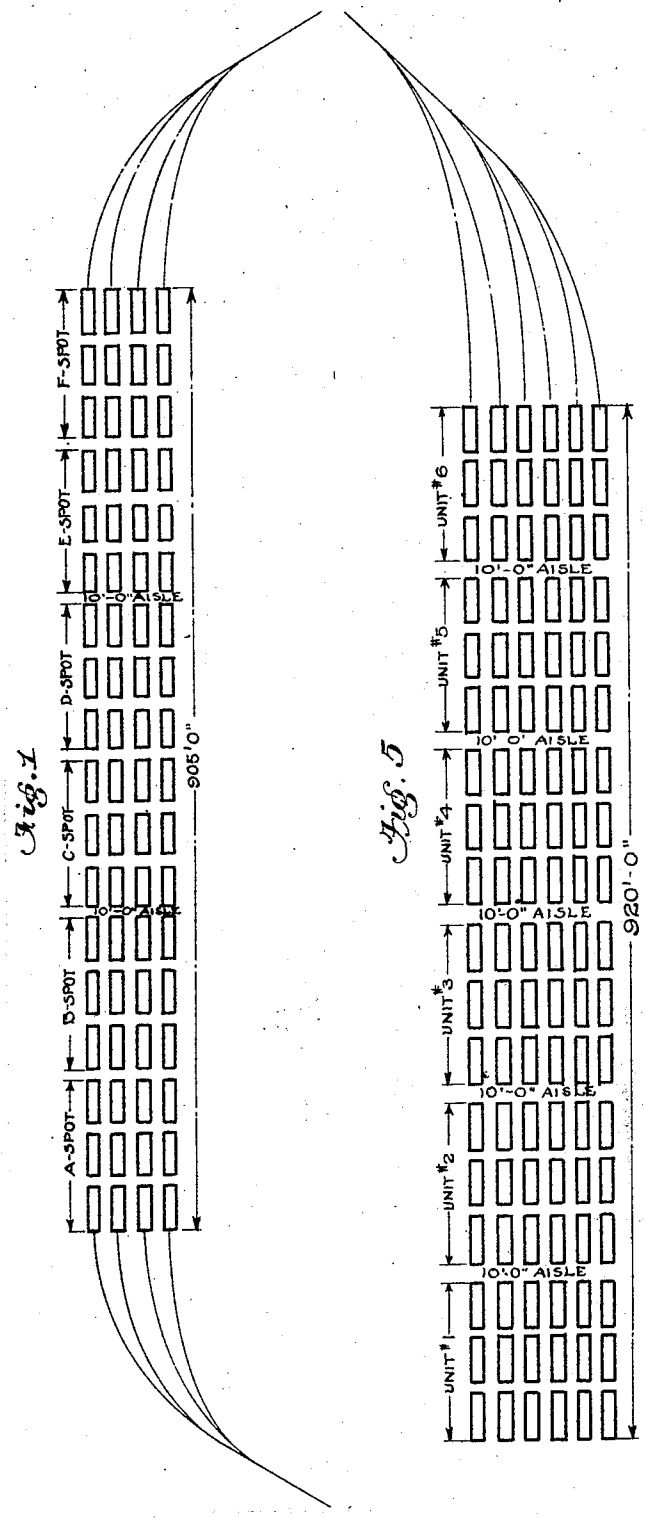


Fig. 1

Fig. 5

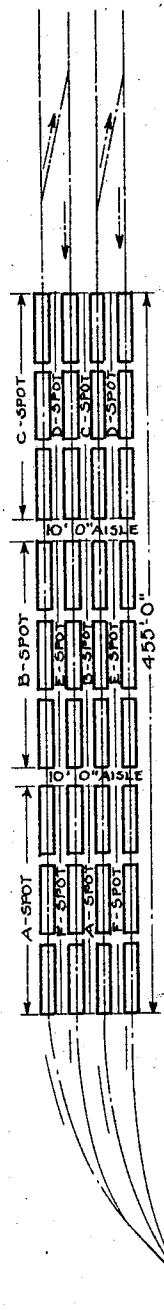


Fig. 4

Inventor

John J Tatum

By Edwin S Clarke

Attorney

Nov. 10, 1925. 1,560,878

J. J. TATUM

SYSTEM FOR REPAIRING RAILROAD CARS

Filed Dec. 31, 1923 4 Sheets-Sheet 2

Fig. 6

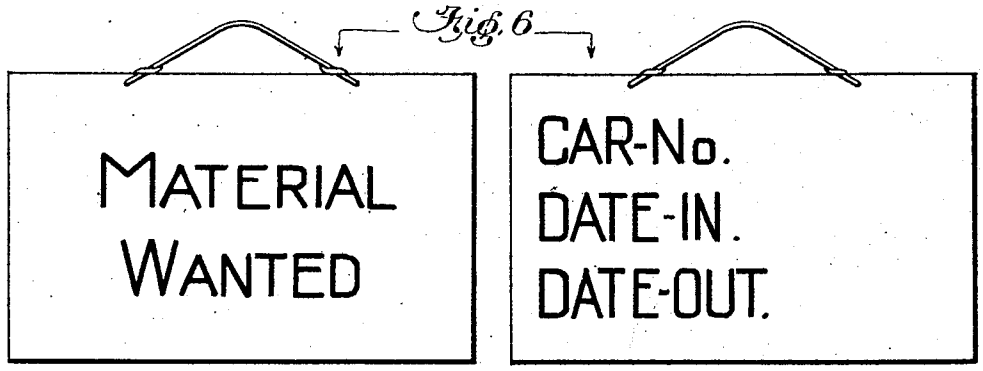
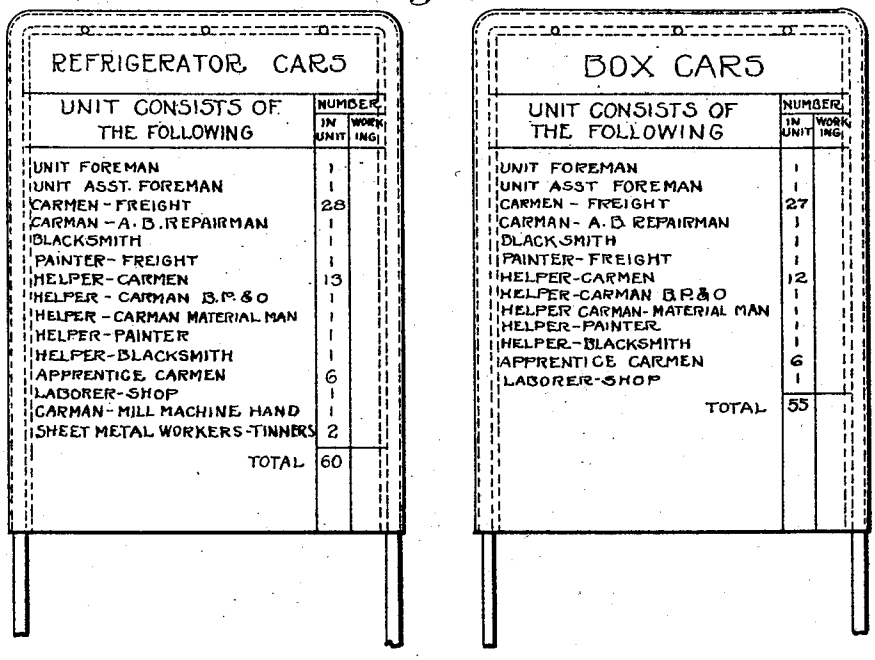


Fig. 2



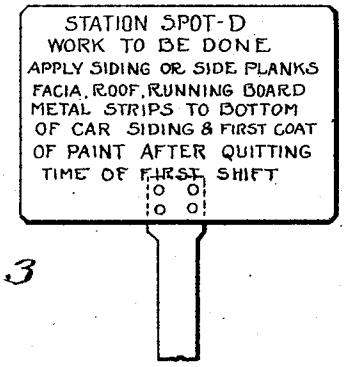


Fig. 3

Inventor
John J Tatum
By Edwin S Clarkson
Attorney

Nov. 10, 1925. 1,560,878

J. J. TATUM

SYSTEM FOR REPAIRING RAILROAD CARS

Filed Dec. 31, 1923 4 Sheets-Sheet 3

Fig. 7

DAILY REPORT ON SEGREGATED FORCES AUTHORIZED TO BE ASSIGNED EXCLUSIVELY TO SPOT SYSTEM FREIGHT CARS REPAIRED. DATE ___ 192 ___

UNIT NO. _____ KIND OF CAR _____ STATION _____

CONSISTS OF UNIT					MEN OF AUTHORIZED UNIT ACTUALLY WORKING ON CLASS OF CAR FOR WHICH AUTHORIZED			NO. MEN OF AUTHORIZED UNITS WORKING ON OTHER THAN WORK FOR WHICH AUTHORIZED
OCCUPATION	ACTUALLY WORKING	NUMBER OF MEN ABSENT	POSITIONS VACANT	TOTAL	NO.	TOTAL ONE MAN HOURS WORKED	NO. OF MEN REDUCED TO BASIS OF 8 HRS. PER MAN	
UNIT FOREMAN								
" ASST.								
HELPER-MATL-MAN								
LABORER								
BLACKSMITH								
HELPER-B.S.								
BOX PACKER & O.								
PAINTER								
HELPER PAINTER								
AIR BRAKE REPR.								
CARMEN								
HELPER CARMEN								
APPRENTICE "								
TINNER								
HELPER TINNER								
TOTALS								

STATE HERE KIND OF WORK FOR MEN WORKING ON OTHER THAN AUTHORIZED WORK TOGETHER WITH AUTHORITY FOR SAME _____

STATE HERE INDIVIDUAL NUMBER AND KIND OF CARS REPAIRED AND TURNED OUT OF SHOP TODAY

KIND OF CAR	NUMBER

CARS REPORTED REPAIRED SHOULD INCLUDE ONLY CARS PASSING OVER THE SPOT SYSTEM

CORRECT _____
UNIT FOREMAN

Inventor

John J. Tatum

By Edwin S. Clarkson

Attorney

Nov. 10, 1925. 1,560,878

J. J. TATUM

SYSTEM FOR REPAIRING RAILROAD CARS

Filed Dec. 31, 1923 4 Sheets-Sheet 4

Fig. 8

DAILY REPORT ON SEGREGATED FORCES AUTHORIZED TO BE ASSIGNED EXCLUSIVELY TO SPOT SYSTEM FREIGHT CAR REPAIRS

STATION _____ DATE _____ 192____

CLASS OF CARS	AUTHORIZED NUMBER OF MEN: NUMBER OF UNITS	ACTUALLY WORKING TODAY	ABSENT TODAY	POSITIONS VACANT TODAY	TOTAL	MEN OF AUTHORIZED UNITS ACTUALLY WORKING ON CLASS OF CAR FOR WHICH AUTHORIZED: NO.	TOTAL ONE MAN HOURS WORKED	NO. OF MEN REDUCED TO BASIS OF 8 HRS. PER MAN	NO. MEN OF AUTHORIZED UNITS WORKING ON OTHER THAN WORK FOR WHICH AUTHORIZED	NUMBER OF CARS REPAIRED AND TURNED OUT OF SHOP TO DAY
BOX										
OPEN TOP										
REFRIG.										
W-1 COKE										
MILL GOND										
CABOOSE										

STATE HERE KIND OF WORK FOR MEN WORKING ON OTHER THAN AUTHORIZED WORK TOGETHER WITH AUTHORITY FOR SAME

_____

_____

_____

_____

STATE HERE INDIVIDUAL NUMBERS OF CARS REPAIRED AND TURNED OUT OF SHOP TODAY

BOX	OPEN TOP	REFRIGERATOR	W-1 COKE	MILL GOND	CABOOSE

CARS REPORTED REPAIRED SHOULD INCLUDE ONLY CARS PASSING OVER THE SPOT SYSTEM

CORRECT _____

CAR FOREMAN

Inventor

John J. Tatum

By Edwin S. Clarke

Attorney

Patented Nov. 10, 1925. 1,560,878

UNITED STATES PATENT OFFICE.

JOHN J. TATUM, OF BALTIMORE, MARYLAND.

SYSTEM FOR REPAIRING RAILROAD CARS.

Application filed December 31, 1923. Serial No. 683,827.

To all whom it may concern:

Be it known that I, JOHN J. TATUM, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Systems for Repairing Railroad Cars, of which the following is a specification.

I have designated my system of repairing freight cars as a spot system, and in accordance with my system certain repairs to a car will be performed at designated spots on designated repair tracks in shops, or in shop yards, whereby heavy or rebuilding repairs are made. Unit organization with spot system is worked in different ways which are as follows:

1st. When repair tracks or shop tracks are sufficient in length to have placed on each track 18 cars, each track having switch connections on both ends so that cars can be started in on one end at the stripping spot to be stripped, and then moved from spot to spot at the close of each day over the track to its other end, when it should be completed ready for service, the force on such track should be so worked with the track divided up into 6 spots, each spot sufficient in length to hold 3 cars, so that all cars can be moved up one spot at the close of each working day until completed. Such system insures completion of repairs to a car within 6 days from the time it entered the first spot to be stripped until it is repaired and returned to service. See Figures 1, 3, 6.

2nd. When repair tracks or shop tracks are not sufficient in length to hold 18 cars then, 18 cars can be spotted on 2 adjacent tracks sufficient in length to have 3 spots on each track sufficient in length to hold 3 cars in each spot, or a total of 18 cars on 2 adjacent tracks. Cars placed for repairs on such tracks will be first placed on the stripping spot, which is located on the entering end of the track, and the cars will be moved at the close of each day from spot to spot over one track and down on the other to the end of the adjacent track. On such tracks one unit of force will be worked on 2 tracks in place of one track as above. See Figures 4, 2, 3.

3rd. When repair tracks or shop tracks have a stub end on one end and switch connecting up tracks on the opposite end, see Figure 5, there should be a minimum of 6 tracks in such shop or shop yards, and such tracks should hold a minimum of 3 cars each. Such facilities will provide for one unit of force to be worked on the spot system across the shop or shop yard.

If each one of the 6 tracks will hold 6 cars on each track it will provide 2 spots on each track with 3 cars in each spot, where 2 units of force can be worked across such shops.

If each one of the 6 tracks will hold 9 cars on each track it will provide 3 spots with 3 cars in each spot, where 3 units of force can be worked across such shop, etc. Such shop will be worked in accordance with Figures 2, 3, 5.

Each unit of force worked will be assigned to certain track or tracks in a shop or shop yard and worked in accordance with Figures 1, 4, 5, 2, 3.

At the first spot of each unit of force there will be placed a bulletin board as shown in Figure 2 bearing the names of the unit foreman in charge and the assistant unit foreman, and will show the kind of workman assigned to the unit foreman in charge by the shop foreman.

There are two columns provided on this bulletin board, one to show the number of each kind of workmen composing the unit, and the other will be filled in with chalk immediately after the starting to work hour each day by the unit foreman in charge, showing the number of such workmen reporting for work.

In the drawings:

Figure 1 is a diagrammatic plan view of repair tracks, or shop tracks, divided into spots, the cars being conventionally shown.

Figure 2 is a front elevation of sign boards for designated types of cars.

Figure 3 is an elevation of a "spot" sign board.

Figure 4 is a view similar to Figure 1 designed to be used with an open end track.

Figure 5 is a view similar to Figure 1 with the system shown for use in connection with a stub end shop, or track.

Figure 6 is a front elevation of an indication card to be attached to the car.

Figures 7 and 8 are views of a daily report form.

On the side of the corner of each car will be placed a bulletin as shown in Figure 6, which is painted black on one side and bright red on the opposite side. The black side will show the date the car was placed on the first spot for repairs in shop or on shop

tracks, and the date it will be completely repaired and returned to service. The bright red side will show the words in white letters, "Material wanted." This side of the bulletin is placed out when material cannot be obtained to repair cars with and to show the car is passing through the spot system needing material to repair it which could not be obtained.

Cars of the same kind and class when possible should be worked through the spots of each unit to insure maximum output so as to unify the work and material all possible on cars being repaired by each unit. Repairing cars in this manner will insure more satisfactory output and better work than if cars of a mixed class and kind are allowed to pass through the spots together of each unit.

At shops where more than one kind of cars are being repaired the units repairing each kind of cars should be segregated to themselves as much as possible,—for example: If a shop is repairing both house cars and open top cars, on one side of the shop should be worked open top cars and on the other side of the shop house cars. This will prove more satisfactory than to mix cars indiscriminately, as it will better separate the force and material used to repair the cars.

At the beginning of each spot there should be placed a bulletin designating the work to be done at the spot, and it should be painted the color by which the spot will be known as required by Figure 3.

Work to be done at station spots on unit system of freight car repairs.

Station spot "A" (to be designated in red). Work to be done.—Stripping car for repairs by removing all defective parts that are to be renewed or repaired.

Station spot "B" (to be designated in white). Work to be done.—Repair trucks, underframe, draft gear, and attachments.

Station spot "C" (to be designated in blue). Work to be done.—Steel cars—Fitting and lacing up all parts to place for riveters, including floors, cross ridge sheets, side hoppers, longitudinal hoods, doors, etc. House cars—Repairing and fitting to place all framing above underframe preparatory to application of siding, and apply inside lining, floor and bevel strips.

Station spot "D" (to be designated in green). Work to be done.—All steel cars—Rivet up parts of car above underframe, and apply one coat of paint after quitting time of first shift. Wood cars—Apply siding or side plants, fascia, roof, running board, metal strips to bottom of car siding, and first coat of paint after quitting time of first shift.

Station spot "E" (to be designated in yellow). Work to be done.—Apply all safety appliances, hang and adjust doors, repair airbrake and hand brake equipment, and apply second coat of paint after quitting time of first shift.

Station spot "F" (to be designated in black). Work to be done.—Final inspection of cars, test and adjust brakes, stencil and ship cars.

Note:—Metal strips applied at the bottom of siding and metal roofs shown applied at spot "D" may be applied at spot "E."

Advantages to be had for both employer and employes by working unit organization and spot system of work in the car department and why they both prefer working the unit organization and spot system of repairing cars over that of other systems that have been made use of are as follows:

The possible elimination of all general, doubtful, and imaginary grievances, such as have heretofore existed between management and workmen. Should grievances occur with this organization they are "necessarily restricted and confined to the working spots of each unit," as the responsibility of both unit foreman and assistant foreman is so defined, as well as the workman's, the elimination of general, doubtful, and imaginary grievances is possible.

The further object of unit organization and spot system of work is for the special purpose of providing the most pleasing and likeable conditions under which men care to work, and to insure their happiness and comfort by reducing to a minimum difficult and laborious methods of doing work over that now existing with other systems. This is done by definitely locating the men at a spot to perform one kind of work only, and by providing for them at each spot to which they are assigned the necessary tools to perform the work they are to do, and the proper kind and supply of material needed for use placed at the spot where needed.

This enables the workman to work with more comfort, vim, and satisfaction, than when he is required to do various kinds of work requiring different kinds of tools, facilities and material.

It further insures the workman giving his employer his maximum production of output each day with a reasonable effort of labor on his part, so that at the close of the day after his day's work is done his employer will be satisfied with his production, and the workman will not be worried or tired out because of having been required to work hard all day with improper facilities, improper tools and an inadequate supply of material, resulting in an unsatisfactory days work to himself as well as to his employer.

Unit organization and spot system pro-

vides safety, cleanliness and happiness for men to work in, as defective parts of cars are removed from the cars at designated spots, and such defective material is disposed of by the proper workmen as promptly as it is removed from the cars, which insures cleanliness in each spot throughout that part of the plant the workman is required to work in.

Unit organization and spot system insures for the employer the following:

Happiness and satisfaction among his workmen with a maximum production of output from each man each day and a minimum loss of material due to damage and waste, and it further provides a production from each man commensurate with the wages paid him.

It further provides supervision that is both pleasing to the workman and productive to the employer, because when advice is needed by the men it is promptly obtainable, making conditions under which the employee is working satisfactory.

It provides maximum safety for the workman, because his work is done at a designated spot where the required facilities and material are placed, making it unnecessary for him to collect his own material and tools from scattered points in the plant, which may subject him to all the hazardness that might exist on the entire property.

It provides for maximum conservation of material because material suitable for work to be done at each spot is removed from the car and reused at the spot where it is removed, or when new material is needed it is placed at the spot for use by designated material men.

It provides a maximum production from each workman for the reason that he is stationed at a specified spot where material and facilities needed are furnished for him to make use of.

Unit organization and spot system encourage the employer to provide steady employment for his employees for the reason that it makes production cheaper than can be obtained through any other means, and provides for the happiness of his employés, because they are better able to produce satisfactorily, thus encouraging the employer to provide steady employment for his men.

Daily reports will be made by unit foreman to car foremen on Form Figure 7.

Daily reports will be made by car foreman to superintendent car department on Form Figure 8.

What I claim is:

1. A system for performing a series of operations on cars which consists in providing trackage space for the cars, a space adjacent to the cars divided into spots or zones of different colors designating the particular character of operations in each spot or zone, placing a bulletin board in each zone as the same color as its zone, indicating on said board repairs to be done in said zone, and then placing the necessary material in each zone.

2. A system for repairing cars which consists in arranging a number of car tracks parallel with each other and of sufficient length to store thereon a predetermined number of cars, each track having switch connectors at both ends so that cars can be started on one end of the tracks and then moved progressively from one position to another on its track at the close of each day, and performing specified work in each position to the other end of the track, the car at which point is ready for service.

3. A system for repairing cars which consists in arranging a number of car tracks parallel with each other and of sufficient length to store thereon a predetermined number of cars, each track having switch connections at both ends so that the cars can be started in on one end of the tracks and then moved progressively from one position to another on its track at the close of each day until it reaches the other end of the track at which point the car is ready for service, dividing the space adjacent the tracks into spots or zones designating each of said zones to indicate the character of work to be done in each zone.

4. The system of repairing cars which consists in stripping the cars for repair by removing all defective parts, then moving the car to another position and repair trucks, underframes, draft gears and attachments, then move car to another position and repair and fit to place all framing above underframe preparatory to application of siding, and apply inside lining floor and bevel strips, then move car to another position and apply siding or side flanks, facia, roof, running boards, metal strips to bottom of car siding, and apply first coat of paint, then move car to another position, apply all safety appliance, hang and adjust doors, repair air brake and hand brake equipment, apply second coat of paint, then shift car to another position and inspect and test cars and equipment and stencil and ship cars.

In testimony whereof I affix my signature.

JOHN J. TATUM.