the draft gear, could be reduced to 25 per cent. by the use of a continuous-draft gear used in connection with buffer blocks. Mr. Clark described the draft gear illustrated on page 370 of our issue of December, 1900. This design brought the center line of draft at the lower face of the center sills, and by turning the end sill on its side the draft was brought nearly where it should be without cutting the end sills. Mr. Rhodes believed that the committee should take the initiative by outlining tests. Mr. Canfield spoke of the large amount of equipment now in service which required improvement, and this could not be done by changing the height of floors Longer draft timbers extending beyond the bolsters were necessary. Several speakers thought it advisable to urge the transportation officers to insist on more considerate handling of cars. Formerly merely draft rigging was broken in the yards; now ends of cars are torn out entire because of rough treatment. Mr. Brazier stated that the New York Central was obliged to replace 3,000 couplers and 1,500 knuckles per month. The association, for some reason, failed to open the great question in the subject, viz., the necessity for increased capacity because of the increased capacity of locomotives and cars. The principles of draft gear, except that of "continuous" gear, were not presented. The committee was continued as stated.

Topical Discussions.

Mr. Rhodes presented an able argument in favor of greater care in the selection of car inspectors.

The practice of rolling or burnishing journals was adversely criticised by Messrs. Canfield and Brazier. The roller was used to press down the roughness left by the lathe tool, leaving it smooth. If in the first trip of the car the axle turned in the direction in which its axle turned while being rolled, all was well; but if it turned in the opposite direction the fibers were raised, and heating commenced. Mr. Hennessey's experience was, however, entirely favorable to the rolling process.

Mr. Pfleger, of the Pullman Company, exhibited a splice in a car sill which had been in use under a Pullman car for nineteen years. It was a convincing argument in favor of splicing sills in passenger-car construction. Splicing permitted the use of the best timber because of the difficulty in securing satisfactory timber of sufficient length for continuous sills. The practice of splicing sills was generally indorsed by several speakers, with no adverse criticism. This subject was referred to a committee for report next year.

Election of Officers.

President, J. J. Hennessey; First Vice-President, J. W. Marden; Second Vice-President, F. W. Brazier; Third Vice-President, W. P. Appleyard; Executive Committee, T. W. Demarest, W. Renshaw, J. T. Chamberlain; Treasurer, J. Kirby; Secretary, J. W. Taylor.

Stationary engine practice has reached a high stage in the 8,000 h.p. Allis units for the Manhattan Railway of New York. The builders guarantee that the amount which a point on the circumference of the armature will lag behind the point of uniform rotation, plus the amount which it forges ahead of that point shall not exceed three-fifths of one degree of the circumference. This uniformity will be a result of the cylinder arrangement whereby the shaft will receive eight impulses per revolution. The speed of a point in the circumference of the armature, running at 75 revolutions per minute will be 1.4 miles per minute. The crank pins of these interesting engines are 18 by 18 in., and the main journals are 34 in. in diameter by 60 in. long. An economy of 13 lbs. of dry steam per indicated horse-power per hour is guaranteed. The engines occupy 2,000 sq. ft. of floor space and stand 38.3 ft. high above the floor level. Eight of these units were provided for in the original installation and the number will be increased to twelve. They are the largest stationary engines ever built. These and other details of the construction are noted in the June issue of "Power."

THE NEW PENNSYLVANIA RAILROAD STANDARD PULLMAN PARLOR CAR.

New Pullman Parlor Cars are now being placed in the service of the Pennsylvania Railroad between Philadelphia and New York. They have been constructed upon designs furnished by the Pennsylvania Railroad officials, and will be known as the Pennsylvania Standard Pullman Parlor Car. The cars are 70 ft. long, and their exterior presents the well-known Pennsylvania Railroad color—Tuscan red, with gold trimmings. They have wide vestibules. The interior is finished in highly burnished light mahogany, decorated in marquetry. The main windows are very wide; they are protected by shades, and the absence of any drapery about the windows or in the interior is a noticeable improvement. The upper deck of the roof is very wide, thus giving a significant appearance of unusual size to the interior and at the same time aiding materially in the ventilation. Thirty handsomely, yet comfortably, upholstered armchairs supply the seating accommodations. Lady travelers will appreciate the enlarged provision for their comfort in the addition of a dressing room fitted with mirrors and toilet requisites, in communication with the usual toilet room. At the other end of the car there are two toilet rooms for men, instead of one, as is usual. The entire decorative scheme of the interior lends a brightness and an effect of roominess to the car, which carries with it a suggestion of coolness in summer days.

Compressed air has in its comparatively short career sprung into many places of usefulness, not only as a power for operating shop and foundry tools of all descriptions, for construction and building work, but as a motive power. For this purpose it has been used successfully on streets cars in France for a number of years, and in New York and Chicago for the past two years. The United States Government, after some careful investigations and trials of compressed air locomotives, are now using them very successfully for handling ammunition about the larger magazines. Many of the manufacturers of powder use compressed air as a motive power owing to the absence of fire and its entire independence under a charge of air to run at will. Such cars or locomotives are in themselves a complete unit and can be operated as cheaply as with electricity or steam, and cheaper when the cost of special installation and maintenance is considered, for they can run on tracks of any desired gauge.

The amount of moisture in steam generated by a locomotive boiler is probably not as great as is generally believed. Experiments recently described in the American Engineer and Railroad Journal, January, 1901, page 28, indicate that the amount is usually much less than 1.5 per cent., when the locomotive is running under nearly uniform conditions. Readings taken from a calorimeter placed on one of the branch pipes in the smokebox, midway between the saddle and T-head, show less moisture than when read immediately at the steam dome of the boiler. In the latter case the amount of moisture determined from a series of 35 tests made on the boiler of the Purdue Locomotive in 1895 ranged from 0.49 to 1.62 per cent. A series of 19 tests made at an earlier date upon the same boiler operated under more constant conditions, and at lighter power. gave an average of 0.95 per cent. of moisture. These readings were taken from a calorimeter attached to one of the branch pipes. It was found that the steam in passing through the branch pipe absorbs heat from the smokebox and is delivered to the calorimeter about 0.25 of 1 per cent. dryer than at the boiler. This correction added to .95 per cent. makes the average amount of moisture in the steam for this series of tests 1.2 per cent. And this amount would seem to increase very slightly as the rate of evaporation is increased. There are conditions where considerable water passes the throttle with the steam, but this is because the water-level in the boiler is kept too high, or too sudden a demand is made upon the steam, which causes some spray to pass the throttle.