

CONCURRENT ELECTRIC REPORTS OF RACES.

The illustration and diagram on this page show the method of working of an electrical system by means of which new electro-mechanical results are obtained which are novel and interesting from the electrician's standpoint. This system has been worked out by Mr. S. D. Mott, of Passaic, N. J., whose system of bulletining baseball games was described in the SCIENTIFIC AMERICAN of January 24, 1891.

The dial of this instrument may represent anything in the nature of a race. In this case a horse race is shown. Referring to Fig. 2, the transmitting part of the apparatus is shown at A, which consists of a positive and negative key, the operator's index and a battery. In the line at the receiver is the neutral relay, *n*, and the polarized relay, *n'*, one giving a uniform step by step motion to hand cylinders or disks controlled by ratchets, *rr'*, actuated by magnets, *mm'*, etc. The other relay selects the magnet in the instrument to show, in this case that of a horse race, the number of the races, as at *a*, to start horses and at the same time tap a bell, as at *b*, to show the winners in colors marked on bristol board disks, as at *c*, or acting to accelerate by magnets, *dd*, etc., or to retard, by means of a neutralizing coil on *mm'*, etc., any contestant selected by the operator at A, through the medium of the selector, C, and polar magnet, *n'*. This diagram for convenience shows only two contestants, with their respective magnets, but it will be readily understood that more may be added in the full line circuit, *e*, and that they may be placed in series as shown, or in parallel. The resistance, *t*, will equal the sum of the resistance of all the actuating magnets less one. This equalizes the magnetizing and demagnetizing current from the battery, neutralizing its effect on *m* for instance when the current is split at *s*. There is no need of synchronism as ordinarily understood; the fact that the contestants all come together and stop on the scratch after each event insures identity of action in all instruments for all practical purposes.

Fig. 1 is an ornamental dial showing the relative positions of the horses in a race from start to finish. A bulletin is supplied with the day's entries, and when so supplied will play any race when connected electrically with the track or course.

The horses' names are generally printed in colors to correspond with dummies on dial; upon the entry card may also appear any information, such as sweepstake or handicap, the purses, the ages, best records, names of jockeys, etc. The dummies are also colored so that in each race the identification of the dummy is complete. At the opening in the dial above the figure 6, which is the number of the race being run, are disks indicating the winners. When the race starts, a bell is tapped or a music box may be set playing to attract attention. The horses all come in in the proper order, ready for the next race. The dial is now exhibiting a race taking place at Morris Park, Thursday, June 5, 1890. The winner of the first race was Linda, 2d Chaos, 3d Atlas, 4th Castaway, 5th Fairplay; the sixth is just ending with Vindex the winner and Eclipse 2d. It will be apparent that the dummy horses may be replaced by colored arrow heads or even letters or figures for

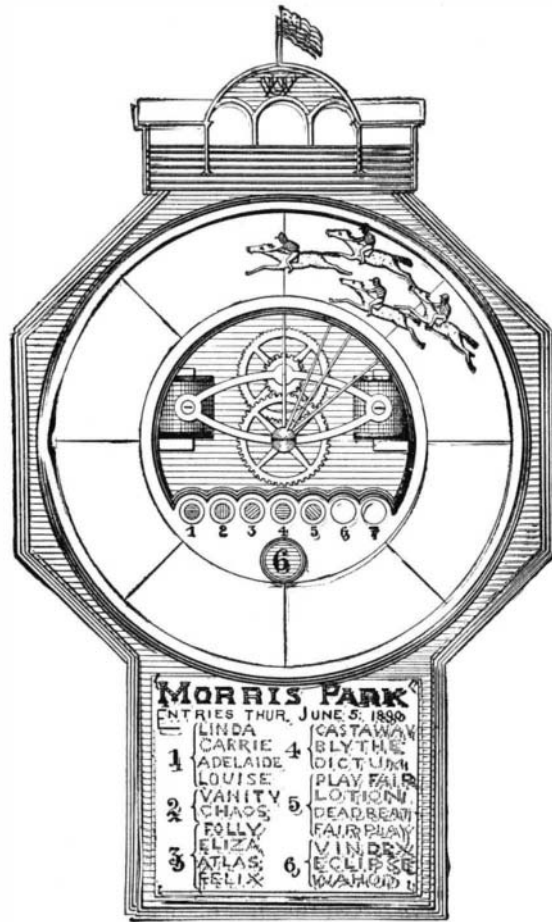


Fig. 1.—THE DIAL.

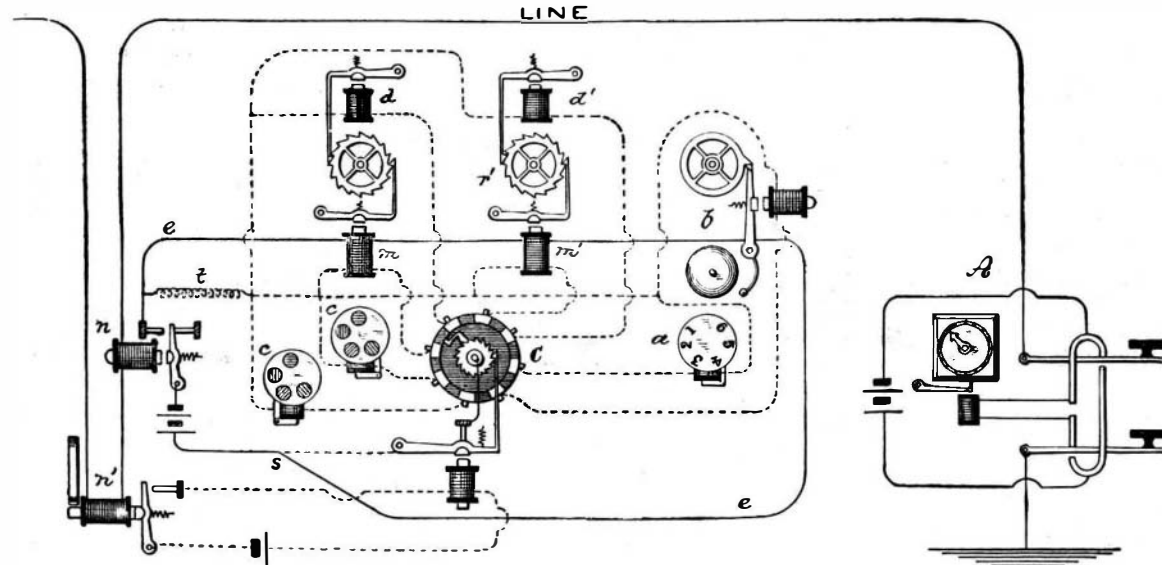


Fig. 2.—CONCURRENT ELECTRIC REPORT OF RACES.

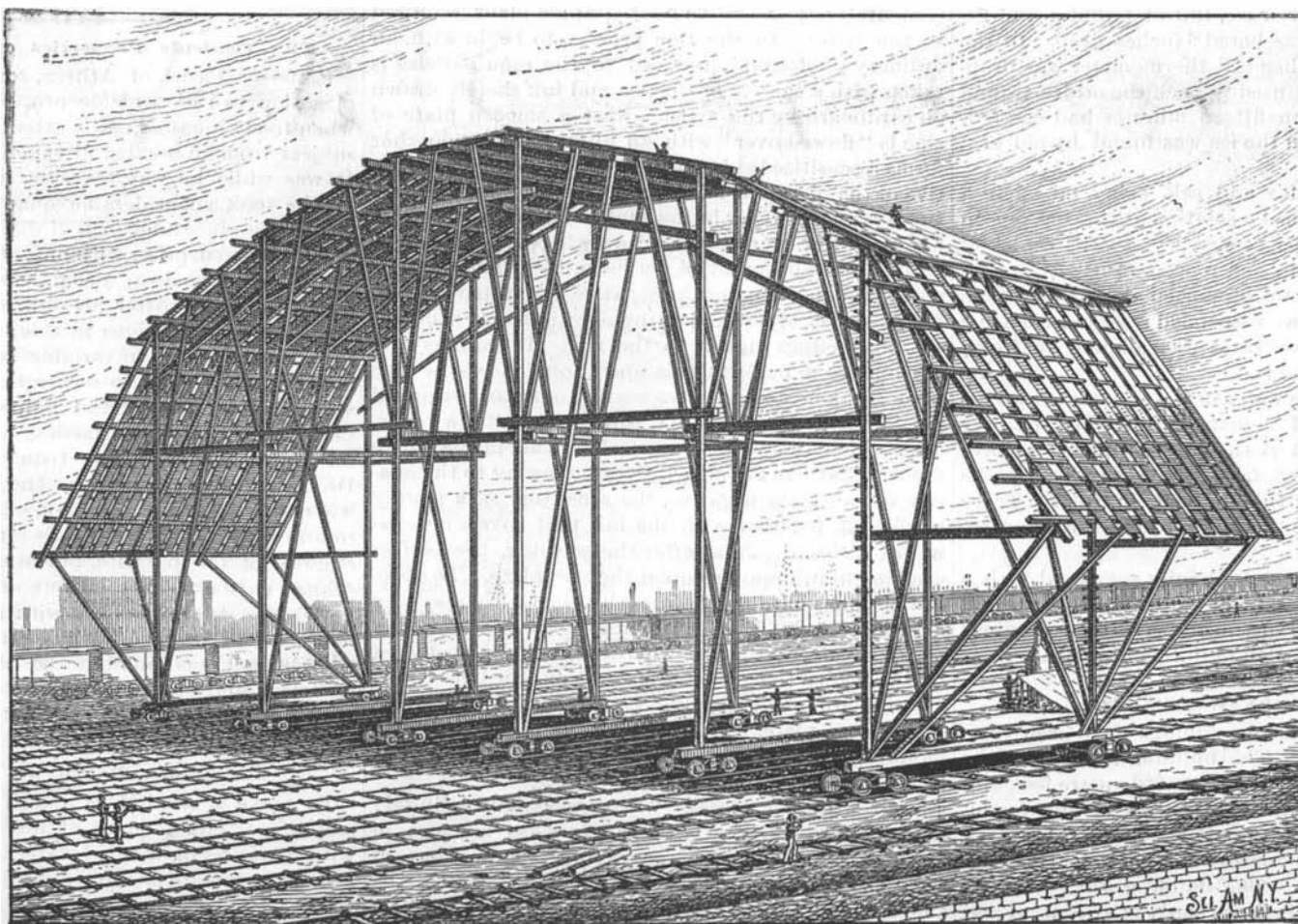
other races, such as yacht, boat or foot races. The advantages of this system from an economic standpoint, and quite apart from its popular and attractive aspect,

are that no receiving operator is necessary; the dials name and publish the event at one and the same operation, one operator taking the place of 100 operators when a game or race is being reported from the grounds to 100 different localities. In comparison with the stock ticker, it is much cheaper to make, simpler in mechanism, and by no means as liable to derangement or error in working. It can be operated over single line circuits to greater distance than any ticker, needing no attention, such as supplying with tape, winding, etc., only an occasional inspection by those having them in charge. An important point in connection with this invention is its capacity of being relayed or operated over long lines, operated from New York to Chicago for instance. Instruments used at Cleveland could be actuated by relays interpolated in the line. The same is true for other intermediate points. Signals are wholly unintelligible if the line is tapped.

NEW DEPOT OF THE PENNSYLVANIA RAILROAD.

Very few people appreciate the great work of reconstruction that has been begun at the eastern terminus of the Pennsylvania Railroad system at New York and Jersey City. The present accommodation for trains and for passengers has been found to be inadequate, and active operations have been begun for remedying the evils of the old system. Among these evils are the delay and dangers attendant upon the running trains through the streets of Jersey City on the road level. This is to be altered, and the tracks all through the city are being elevated upon the most substantial sort of substructure, one that can carry the heaviest express trains at full speed. The saving in time will be considerable, besides relieving the railroad company from many suits for loss of life and limb. The necessity for this is apparent. Jersey City has become too important a municipality to endure any more the ceaseless passage of trains through her streets and across her thoroughfares. The Pennsylvania Railroad is the largest road entering the city limits, and the city will be greatly benefited by this disposal of its trains. The Pennsylvania Railroad will reap the benefit of an exclusive track free of all crossings, upon which trains can freely run at high speed directly into the terminal station.

This elevated viaduct will operate in perfect harmony with the double deck ferryboat system which is soon to be put into active operation on the lines across the Hudson River, connecting Jersey City and New York. The passengers will be transferred directly from the platform of the depot to the upper deck of the ferryboat, while the local traffic will be confined to the lower deck of the boat. This relieves the ferryboats from the great overcrowding which formerly took place during the busy portions of the day. A ferry house with a double landing will also be provided at the New York shore, and the passengers on the two decks will disembark on separate platforms of the ferry house. The upper platform on the New York side connects with a bridge extending across West Street, which enables passengers to reach the foot of Cortlandt Street without having to wade through the mud which is almost always to be found in these overcrowded thoroughfares. The



TRAVELING SCAFFOLD USED IN ERECTING THE TRUSSES OF THE PENNSYLVANIA R.R. DEPOT IN JERSEY CITY, N. J.