JUNE 16, 1900.

THE HERRESHOFF 70-FOOT YACHT "MINEOLA." Although there will be no race this season for the America cup, the enterprise of a few of our leading yachtsmen will be responsible for a remarkably interesting series of races, which will form a connecting link between the America cup races of the season of

1899 and those which are destined to take place in 1901.

The 70-foot yacht "Mineola" is the first of four identical sloops which have been constructed this spring by the Herreshoffs at their Bristol yard. She was also the first of the four to spread her canvas, and the accompanying illustration shows this beautiful craft as she appeared dur ing her trial trip. The other three yachts are "Rainbow," owned by Cornelius Vanderbilt; "Virginia," built for W. K. Vanderbilt, Jr.; and a yacht for H. P. Whitney, which has yet to be named. The four yachts are so completely identical that the illustration of the "Mineola " will stand equally well for any one of the other three.

The general dimensions of the "Mineola" are: length on water line, 70 feet; length over all, 106 feet; beam, Scientific American

the bowsprit and main boom do not project relatively so far outboard. The four vessels afford an excellent school for practice, and will serve to keep our skippers and crews, both professional and amateur, in trim for the international season of 1901, which promises to be most exciting in the history of the America cup. II." making a much bolder bid for the cup than the lighter and more costly Fife creation. It will be interesting to see what the designer of the "Valkyries" can do when he is given a free hand as to materials and cost. That he can match the best efforts of Herreshoff we do not believe; but that he can come much nearer

to it than Fife is quite probable.

373

ELECTRIC HEAD LIGHT EFFECTS.

BY D. ALLEN WILLEY. The electric headlight, whose brilliant illumination is well portraved in the remarkable group of photographs herewith reproduced, is in extensive use in some of the Southern States, and is being freely adopted in the West. Among the railroad companies which have favored it are the Central of Georgia and the. Cincinnati, New Orleans and Texas Pacific. In many portions of the Southern and Western States the railroad tracks are not separated from the adjoining fields and grazing lands by fences, and it is a common practice for the farmers to allow their live stock to run at large. As a result the railroad companies are compelled to pay large sums annually for cattle and hogs



Newport, R. I. One of Four Identical Boats Built by Herreshoff for the Season of 1900. THE 70-F00T XACHT "MINEOLA," OWNED BY AUGUST BELMONT.

19 feet 8 inches; and draught, 14 feet. Although she so greatly resembles the American champion of last season that she might well be mistaken at a distance for the larger yacht, her construction is neither so light nor so costly, and there are differences in sail plan which will readily be noticed by the yachting "sharp." As a matter of fact, she is a compromise between the racing cruiser and the out-and-out racer, possessing the comfort and handiness of the one with something of the speed of the other. Hence we do

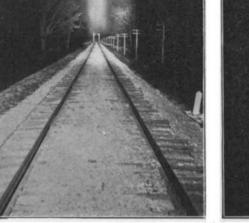
not find the extreme features of the hollow mast and spars, metal plating or exaggerated sail plan of the highly developed racing machine. The vessel is of composite build, the frames and deck beams being formed of nickelsteel bulb angles, and the deck planking and sheathing being of wood. The mast is 78 feet long; topmast, 47 feet; main boom, 75 feet; gaff, 42 feet 9 inches; spinnaker pole, 58 feet; while the bowsprit measures 18 feet outboard. The sail area, as measured for racing, will total some 6,000 square feet. It will be noticed from the illustration that the sails are to be of the cross-cut pattern, which has been used almost exclusively of late years on American yachts. As compared with the "Columbia," the "Mineola" has the same long overhangs, graceful shear, rising to a somewhat lofty bow, and characteristic beauty of lines. Under water the lateral plane has not been cut into quite so far, and the body is somewhat fuller. The mast also is set further aft, and

The latest information from Glasgow is to the effect that Watson, the designer of the "Thistle" and the "Valkyries," will be given the next opportunity to draw the lines of an America cup-challenger. The "Shamrock" is to be somewhat remodeled and used as a trial boat for the new boat, performing in this respect the duties which were so well carried out by "Defender" during the preliminary tuning up of "Columbia." All things considered, the Watson boats were more successful than the "Shamrock," "Valkyrie which have been killed by passenger and freight trains, and a number of serious accidents have occurred, due to derailment. The Central of Georgia Railway traverses a very large area of low-level country, and until the adoption of the electric headlight the engineers were obliged to use the greatest caution in running at night, and on some occasions it has been necessary to stop the trains and send men ahead to drive live stock from the track. Engineers were under orders to run trains slowly through the grazing districts, as on a dark night

> they could see but a few hundred feet of the track ahead, the oil headlight being of very limited range.

By using the electric headlight the length of vision has been greatly increased, objects being plainly perceptible at a distance of over half a mile under favorable conditions of the atmosphere. As will be noted by the accompanying photographs, such small objects as bridge warnings, posts, etc., along the right of way are distinctly visible at a distance of several hundred yards, so intense is the illumination: while a broken rail or a displaced switch would be visible in time to mitigate, if not entirely avert disaster. The photographs reproduced were taken by the light of the electric headlight along the line of the Peoria, Decatur and Evansville Railway. The negatives were exposed for about forty minutes. The light furnished is of the arc type, requiring carbon burners. The electricity is generated by an ordinary dynamo, oper-ated by a Pyle compound







These photographs were taken with locomotive at 1,000 and 2,500 feet from bridge. ELECTRIC HEADLIGHT PHOTOGRAPHS-EXPOSURE, 40 WINUTES.