

sketch of Jim Butler would furnish a story which would interest and entertain your readers, as Butler is unmistakably one of the most picturesque characters the West has produced.

In reviewing the many events which have passed since the discovery of the now famous Mizpah Ledge, I almost hesitate in a task which is truly worthy of the pen of the romancer. For the history of Tonopah and its original discovery reads more like a fabled tale of old than a stern narration of a modern quest for gold.

Glancing backward over the five years which have passed since Jim Butler, a picturesque type of the Western prospector, through the sheer caprice of fortune stumbled on the golden ledge, I can scarcely realize that the few open cuts, which marked the first development work, should to-day be the open ways to a mine whose visible ore is far into the millions, and a camp whose fame will in time exceed that of Virginia City, Placerville, or Nevada City, of the generations that have passed.

I doubt very much if the outside world realizes that in these mines, developed in a brief period of five years, there is very nearly two hundred million dollars' worth of high-grade ore in sight. During the leasing period of the one mine, which continued for one year from January, 1901, the camp produced in the neighborhood of five million dollars in ore. Many men were made rich, and the foundation of my own fortune came with the operation of Lease No. 19, the first worked on the Mizpah Ledge.

Correspondence.

The Scientific American Wrappers.

To the Editor of the SCIENTIFIC AMERICAN:

I was pleased to note to-day that my paper came enclosed in a wrapper. As I have had more or less trouble in receiving the paper torn and slightly soiled on account of its not being in a wrapper, I can appreciate the change.

This paper I prize highly and strive to keep in a neat and clean condition, as at each year's end I have it nicely bound into a volume, therefore we subscribers who value our paper cannot help but appreciate the new idea.

ERNEST C. CHESWELL.

Malden, Mass., September 1, 1905.

[We note with pleasure the comment of our subscriber, and we would be pleased to have other expressions of opinion. We have installed a Belknap Rapid Addressing machine which prints the address on and cuts the wrapper off from a continuous web of paper. This will add to the certainty of the subscriber's receiving his paper in good order. The speed of operation, 60,000 a day, will also insure its prompt delivery.—EDITOR.]

Is the Mosquito the Only Cause of Yellow Fever?

To the Editor of the SCIENTIFIC AMERICAN:

Just at this time, when the mosquito theory of yellow fever transmission is undergoing its first real test in our country, many persons are asking themselves the question, Does this theory account for all known cases of yellow fever? In many instances it apparently does not, e. g., where the disease has followed the reception of a lock of hair from a dead yellow-fever patient by persons at a distance from the place of the epidemic, or the handling of clothing, goods, etc., from infected districts. These instances are too well authenticated to be doubted; but, so far as the writer knows, they have not been explained under the mosquito theory, and for this reason the theory has not been wholly accepted by many.

In reading of the brilliant Cuban demonstration of the theory, it seems to me there is a gap in the series of experiments wherein may lie a suggestion, if not an explanation, of the cause of infection in cases like those alluded to. It is stated that the *Stegomyia fasciata* does not feed upon yellow-fever fomites and that the said fomites cannot directly transmit the disease. But I have nowhere read that uninfected mosquitoes and non-immune persons were shut up with yellow-fever fomites for two weeks, or any other length of time. No matter what may be the opinion in regard to the mosquito's feeding upon fomites, it seems reasonable from a scientific point of view that an experiment of this kind should have been made. Perhaps, it was made, but, if so, it has not been mentioned, so far as my knowledge goes.

If a mosquito can be infected by fomites, cases such as have been mentioned might be explained under the mosquito theory. If the mosquito cannot be infected by fomites and fomites cannot directly transmit the disease, how are such cases to be accounted for under the theory?

C. H. CARSON, JR.

Savannah, Ga., August 31, 1905.

Improvement of Fog Horns.

To the Editor of the SCIENTIFIC AMERICAN:

The numerous collisions which occur between vessels at sea during the prevalence of fog, and the narrow escapes which we occasionally hear of, but which are

generally kept discreetly quiet by captains and vessel owners, would seem to show that the system of fog horns as at present in use is by no means perfect or satisfactory. One defect in them is that, although the sound of a fog horn may be heard by the crew of another ship, there is no means of telling in what direction the vessel on which it is sounded is going, or even where it is, because fog renders futile all reliable calculations as to distance and direction. And again, all or nearly all fog horns, I believe, whether on vessels or on dangerous points of land, are pitched on the same note, which is also conducive to errors, which in some cases end disastrously, as, for instance, when the captain of the steamer "Montreal," lying in the Straits of Belle Isle in a fog some years ago, mistook the fog horn of the steamer "Lake Erie" for that of the fog horn on Cape Ball, and steaming north to avoid the supposed danger of the Newfoundland coast crashed on to Belle Isle, when the boat became a total wreck—fortunately, without loss of life.

Now, why should not vessel fog horns be built with a musical scale of not less than five notes, and more, if necessary. Taking the scale of C major, the notes would be C, D, E, F, G. To avoid confusion with light-house and shore fog horns, a vessel should never use less than two notes, and the order in which these notes are sounded should serve to show in what direction the ship is moving. As an example of what could be arranged:

The notes C, D would mean "Going due north."

The notes D, C would mean "Going due south."

The notes C, E would mean "Going due east."

The notes E, C would mean "Going due west."

The notes C, D, E would mean "Going due northeast."

The notes C, E, G would mean "Going due northwest."

The notes E, D, C would mean "Going due southeast."

The notes G, E, C would mean "Going due southwest."

The intermediate points of the compass, such as NNE, SSW, etc., could all be indicated by adding another note or two to the scale. This is based on all vessels going north and east using the ascending scale, and those going south and west the descending scale.

There would be a little difficulty, of course, as regarding sailing vessels that had no steam for sounding their fog horns, and it would necessitate their carrying a supply of horns pitched on different keys to be used by the blower in their proper order.

Such, in brief, are the suggestions I would make, and should these ideas or similar ones be utilized with the result of making sea-travel safer and freer from the risks which now attend it, these few lines will not have been written in vain.

G. DE W. GREEN.

Toronto, Canada, August 30, 1905.

Automobile Notes.

A number of serious accidents to autos racing on the track—accidents in which several well-known drivers have been maimed for life—have well nigh put a stop to track racing. The risks run are too great, and the gains to the makers of the cars practically nil save for the advertising value of a fast car. The speeds reached are too great for any short, curved course to be traversed in safety, even if it were dustless, which is generally anything but the case. Track racing is poor sport at the best, as close finishes are rare, and generally only about half the cars entered compete. If the energy which has been spent in the promotion of race meets is now diverted into the perfecting of the regular road machines, there is every reason to believe that the greatest good of the greatest number will be reached thereby.

Although a halt has been called to track racing, road racing both here and abroad continues to be more or less popular. The second contest for the Vanderbilt trophy will be run over a 28.3-mile course on Long Island, on October 14, the course being encircled ten times by each contestant, and there being no controls. Five Italian, French, German, and American cars will compete. The American cars will be selected in an eliminating trial on the 23d. instant. The Richard-Brazier cars, which won the Bennett cup the last two years, will not compete, but a car of the same make that won the Vanderbilt trophy last year, viz., Panhard, as well as a Renault, De Dietrich, Darracq, and Hotchkiss, are entered.

A record 200-mile run was made recently from Paris to Havre in 4 hours by a 40-horse-power Mercedes car. Two well-known New York ladies missed the boat train, but, securing an automobile and two chauffeurs, they followed it over the roads. Although the roads were very slippery from rain, the car succeeded in making Havre in time to catch the steamer, it having made but one stop for fuel during the entire distance. If it is possible to do so well on roads, how much better time could be made on rails. It would seem as if the railway companies would have several automobiles adapted to run on their tracks, always ready for use in case of just such emergencies.

The high-speed motor car has at last had a road test in which it served a practical purpose, viz., the delivery of the Paris edition of the New York Herald

at the seaside resorts of Trouville and Dieppe some five hours earlier than it was possible to deliver it by trains, owing to improper facilities. The newspaper was delivered an entire week at each resort, and the 129 miles between Paris and Trouville were covered one day in 2 hours and 10 minutes. The papers left Paris at 4 A. M., and by 6:30 they were on sale at the watering place. High-powered Mercedes and Bollée machines were used in the two services, and both ran perfectly and made very fast time. The latter especially made a splendid performance under adverse weather conditions.

An 820-mile French reliability test took place recently in the south of France and through the Pyrenees Mountains. Marks were awarded on average speed between controls, fuel consumption per ton-kilometer, speed on the level and on hills, brakes, ease of starting, elegance and comfort, the mechanism and the chauffeur's management of it, and the condition of the car at the finish. Some 50 cars, among which were some new French makes and a Spanish car, went through the test successfully, and showed themselves to be very reliable, despite the fact that heavy rains made the roads very slippery a considerable part of the journey. One car, which was driven too fast around a turn, smashed into a parapet and killed its owner.

A long-distance tour for a trophy offered, designed, and executed by Prof. Von Herkimer was recently run off in Germany. A total distance of 573½ miles was covered in 3 days, the longest stage being from Munich to Baden Baden—222¼ miles. The second day Nuremberg was reached, and the third brought the tourists back to their starting point. Although supposedly a tour, this event degenerated into a road race, the contestants being enveloped in clouds of dust and having scarcely any pleasure. Despite unnecessarily fast driving, 69 cars finished the tour out of 79 that started and 34 of these had no tire or mechanical troubles whatever. A 40-horse-power Mercedes won the trophy with only 25 marks against it, and a 40-horse-power and 60-horse-power Mercedes were respectively second and third. Five English Daimler cars competed and made a good showing, one of them being driven by a lady. Had tire trouble not counted, there would have been a good many more perfect scores.

The motor bicycle has been receiving a good deal of attention lately in America, France, and England. In SUPPLEMENT 1546 we described a motorcycle race that was held some months ago in France. Last month the Federation of American Motorcyclists conducted an endurance contest from New York to Waltham, Mass., in which, out of 44 starters, 34 finished, 28 of them with perfect scores. An average speed of 15 miles an hour was maintained, and not allowed to be exceeded by the winners. Among the successful contestants were 3 Curtis, 3 Wagner, 4 Thoroughbred, 3 Metz, 3 Yale-California, 11 Indian, and 1 each Tribune and Reliance machines. No less than 23 machines arrived exactly at 7:20 P. M.—the earliest minute at which they were allowed to finish. The roads were good most of the way, but between Springfield and Worcester they were very sandy, and caused all but the most expert riders considerable difficulty in traveling over them. A number of riders dropped out because of bad falls, and not from troubles with their machines. At the meet of the Federation, G. H. Curtis (whose two-cylinder machine we illustrated in our February 20, 1904, issue) won a 25-mile road race in 34 minutes, 21.15 seconds; and F. C. Hoyt, on a 1¾-horse-power Indian bicycle, covered 31 miles on the Waltham cement cycle track with a fuel consumption of 1 pint of gasoline. A six-day motorcycle reliability test over a 767-mile course was also held in England last month. Out of 32 machines that started, 22 finished, some 16 of them with perfect scores. The test included the climbing of several long grades and a "surprise" stop and start on a hill. Besides the motor bicycles, several light tri-cars went through the run successfully.

New Land in the Arctic Regions.

News received from Reikjavik from a member of the Duke of Orleans's Greenland party, says the expedition discovered a new and unknown land, which was named Terre de France, and also discovered that Cape Bismarck is part of a large island, and not on the mainland, as hitherto assumed.

After reaching 78 degrees 16 minutes north, the "Belgica," with the French expedition on board, headed in a southeasterly direction.

Discovery of a "Nova" at Harvard.

A new star, a "nova," was discovered at the Harvard Observatory August 31 by Mrs. W. P. Fleming in the constellation Aquila, which at 8 P. M. just now is about on the meridian and half way from the southern horizon to the zenith. A "nova" is not a common thing in astronomy, though among the most interesting and suggestive of phenomena. According to Prof. Pickering, only eleven of them have been discovered since 1848, and none at all had been noted in the 178 years preceding that date.