

Eureka Roller Bearings.

In calling the attention of our readers to the advertisement of the Eureka Roller Bearings Co., in another column of this issue, we believe that we are bringing to their notice one of the greatest inventions of this, the age of great inventions. It has always been the aim of inventors to overcome friction in the working parts of their machines as far as possible, and to accomplish this, lubricants are used and bearings babbitted. For some lighter machines and vehicles ball bearings have proved a great advantage. To reduce friction to a minimum in the bearings of bicycles and sulkies means to attain the maximum of speed. The lowering of records resulting upon the use of "bike" sulkies is due to the ball-bearing axle and the pneumatic tire.

The roller bearing for sulkies now placed on the market by the Eureka Company is as far in advance of the ball bearing, as the ball-bearing is ahead of the old-fashioned axle. It is the ideal bearing, being absolutely frictionless; it does not wear out. It requires no oil nor care and cannot easily be tempered with. The latest pattern of roller bearings manufactured by this company for sulkies weighs no more than ball bearings. They are made of hardened steel, every part being mathematically accurate in construction, highly finished and working perfectly. Ball bearings for sulky axles are a very delicate piece of machinery, the wearing surfaces of the balls being very small, they soon cut into the adjacent part. The balls are made of chilled steel and it does not take them very long to wear the surfaces of the grooves irregularly when the bearings run nearly as hard as the old-fashioned bearings. One principal advantage of the roller bearing is that the surfaces that take the weight are large, and all parts of the bearing moving in the same direction, there is no wear nor friction.

The following letters addressed to Mr. A. T. Hatch, President of the Company, speak very highly of these bearings as applied to sulkies:

LOS ANGELES, November 4, 1893. MR. A. T. HATCH—Dear Sir: I would like to say that I have used your roller-bearing sulky, and like it better than any other that I ever used. McKinney trotted in 2:11 1/4 at Stockton to one of your roller-bearing sulkies, which is faster than he ever trotted to any other sulky. I will cheerfully recommend it to all horsemen. Yours, etc., C. A. DURFEE.

LOS ANGELES, October 17, 1893. MR. A. T. HATCH, San Francisco—Dear Sir: I sent your sulky to Oakland by Mr. Keating. I used it at Santa Ana, and gave Bet Madison a record of 2:31 and Almo J. a record of 2:19, and at Los Angeles gave Regina a record of 2:20 in the three-minute class. Mr. Durfee gave McKinney his record of 2:11 1/4 in it. Every one that used it said that it was the best running sulky they had ever tried. I like it better than any I have used; it had no jerks like the rest of the bikes; the shafts were as steady as the old-fashion wheels. I will be in San Francisco next month, and would like to talk with you about the sulky. Yours truly, WALTER MABEN.

SAN FRANCISCO, November 27, 1893. MR. A. T. HATCH—Dear Sir: Yours of the 25th at hand and contents noted. I would say in regard to the roller bearings, such as was used in your sulky the past season, that in my experience as a sulky repairer, I found it to be a first-class bearing in every respect. It is dust proof, needs no lubrication or adjusting, the three qualifications necessary for a perfect sulky bearing. Yours truly, W. J. KENNEY, 517 Valencia Street (bike repairer).

The field for the use of these bearings is by no means limited to sulkies and bicycles, as they can be made any size and advantageously applied to any journal, from a roller skate to a propeller shaft in an ocean steamer. In large machines the reduction in the friction and consequent gain in power would represent an immense item of profit, and the saving in wear, power and oil that would result from using these bearings on all kinds of rolling stock, would soon pay the difference in cost over the old style, and as many acci-

dents are due to hot boxes in car journals (which would be impossible with the roller bearings), it would in many instances be the saving of life as well as money.

The principal of these bearings is most ingenious, every part of the bearing moving so there is no friction. It consists of two series of rollers, one bearing on the shaft and casing, the other bearing only on the bearing rollers to keep the latter separate, a ring bearing on its inner side on small journals of the separating rollers, and essentially a ring interposed between said journals at its periphery, and small journals of the bearing rollers at its inner side to keep the orbit of the separating rollers concentric with the shaft, all of the parts rolling without slip or sliding friction. They have been so successfully tried by some of the cable railway companies within the past few years, and in every instance have given the utmost satisfaction, standing the most severe tests and lasting many times as long as any other style of bearing. On the Piedmont cable road, Oakland, a carrier pulley fitted with these bearings ran continually from February 10, 1891, until January 2, 1893, 690 days at a speed of 312 revolutions per minute, equaling 374,000 revolutions per day, making, consequently, 258,721,400 revolutions in the 690 days, which would be equal to running 138,000 miles.

A passenger car wheel doing this work, making the same number of revolutions, would be equal to running 138 trips from San Francisco to New York, estimating the distance at 3,000 miles, and this without oiling or attention. Had the shaft spoken of in this pulley been made of hard steel instead of soft steel, no doubt it would be good yet and for years to come. During all this time the boxes containing the bearings were never opened, and received no attention whatever, and were sometimes wholly under water in winter and covered with dust in summer. On the Powell street road one of these depression pulleys ran one year and twenty-five days under great pressure, making over 234,000,000 revolutions in that period. The shaft was renewed at the end of this time, but even then not because it needed to be renewed, but for the purpose of putting in a differently constructed shaft as an experiment. The Eureka Roller Bearings Co. has a contract with the Powell street road to furnish it with depression pulleys as fast as the old-style bearings are used up at a monthly rental of much less than the monthly cost of the old ones.

A pair of skates fitted with the roller bearings at the last skating rink season in this city ran about 500 miles, and were used in beating the best previous records. The speed for these bearings were about 4,000 revolutions per minute, and the bearings are good for thousands of miles more. Any one interested in mechanics would do well to call at the office of the Company, 605 Clay street, where the workings of these bearings for journals of different sizes can be seen.

Sale of the Needham Stock.

C. E. Needham, of Bellota, has returned from the East well pleased with the public sale of his string of eleven trotters, but he hoped to receive more than \$3,100 for Steve Whipple. The string brought Mr. Needham \$8,000, a better average than any stockraiser has made for a long time. The next day after Steve Whipple was sold an Austrian cabled to offer \$5,000 for the horse, but the new owner would not sell him. Needham's Whipple, a two-year-old by Steve, sold for \$950, and the next day he changed owners for \$1,250. On the following Monday the colt was bought by the present owner of Director's Flower for \$1,500.

Mr. Needham has a stable of seventy-five trotters left, and he is as full of enthusiasm in looking for world-beaters as he was years ago. In the stable he has a lot of fine Whipple stock that promise well, and some of the youngsters are be-

lieved to be as speedy as the ones that are gone. The king of the stable will be a young horse by old Director, his dam being the dam of Steve Whipple. She was Twist, by Whipple's Hambletonian, and her dam was a Black Hawk mare, brought to this State from Vermont by Mr. Needham.—Stockton Mail.

Payments in Stanford Stakes Made January 1, 1894.

STANFORD STAKES FOR 1894, THIRD PAYMENTS.

Palo Alto Stock Farm's b c Speedwell, by Electioneer—Columbus, by A. W. Richmond; b f Sweet Rose, by Electioneer—Rosemont; by Planet; b c Rio Alto, by Palo Alto—Elsie, by General Benton; b f Aria, by Bernal—Ashby, by General Benton.

Oakwood Park Stock Farm's b c Amphion, by Steinway—Inex, by Sweepstakes; b c Warner Wiley, by Prince Red—Katy G., by Electioneer.

La Siesta Ranch's b c Rosswood, by Eros—Maggie E., by Nutwood.

H. G. Cox, San Jose, b s John D. Evans, by Antinous—Alta, by Almoon.

STANFORD STAKES FOR 1895, SECOND PAYMENTS.

Palo Alto Stock Farm's blk c Day Bell, by Palo Alto—Beautiful Bells, by The Moor; b c Glubar, by Electricity—Jennie Benton, by General Benton; gr f Nordica, by Advertiser—Sallie Benton, by General Benton; blk f Cressida, by Palo Alto—Clarabel, by Abdallah Star; b f Navida, by Palo Alto—Lulaneer, by Electioneer; b f Zella, by Palo Alto—Viola, by General Benton; b c Rustan, by Azmoor—Rosemont, by Piedmont; b f Mary Osborne (formerly Erac), by Azmoor—Elsie, by General Benton; b f Emir, by Advertiser—Emma Robson, by Woodburn.

Vendome Stock Farm's b c Iran Alta (formerly Iran), by Palo Alto—Elaine, by Messenger Duroc.

J. B. Iverson's br c Wilhelm, by Whips—Wilhelmine, by Messenger Duroc.

R. S. Brown's blk c Select, by Secretary—Elmorine, by Elmo; b f Demerrara, by Electric—Debonair, by Sultan.

W. O. Bowers' b c Worthwood, by Cornelius—Belle Mc, by Ensign Goldust Jr.

La Siesta Ranch's Algonita, by Eros—Algonetta, by Algonita.

H. W. Crabb's br s Tokalon, by Grandissimo—Whip, by Whipleton.

Estate D. J. Murphy's b c Gogo, by Soudan—Mollie T., by Rifleman.

Oakwood Park Stock Farm's b c Geo. Wiley, by Prince Red—Calyppo, by Steinway; b c Our Jack, by Steinway—Inex, by Sweepstakes; b c Uncle Dan, by Chas. Deiby—Nannie Smith, by Red Wilkes.

Jos. Cairn Simpson's br c Viva La, by Whips—Joe Viva, by Joe Hooker; b s Santa Rita, by Whips—Santa Cruz, by Double Cross.

Jesse D. Carr's blk f Rosita (formerly Lady Salinas), by Eros—Bertha, by Carr's Mambrino.

Our esteemed contemporary, the Iowa Trotter, which has heretofore appeared as a semi-monthly, commenced the new year by announcing that on and after February 1st it will be published weekly. We congratulate Pbil S. Kelly on the success he has made with this valuable publication.

THE champion yearling trotter was bred in Kansas, the two-year-old in California, the three-year-old in New York and the four-year-old in California.

BREEDER AND SPORTSMAN RACING INDEX

BAY DISTRICT COURSE, JANUARY 5, 1894.—Fifth day of the meeting of the California Jockey Club. Weather cold and clear; track sticky and muddy.

Table 256: FIRST RACE.—Selling; purse \$400. Five furlongs. Time, 1:08 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Straggling start at third break. Won galloping. Winner Ocean View Stable's b f by Imp. Cheviot—Lady Elizabeth. Winner trained by James Brown.

Table 257: SECOND RACE.—Selling, purse \$400. About six furlongs. Time, 1:20 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Good start. Won easily. Winner Mose Gust's b g by Imp. Cheviot—Lurline. Trained by M. J. Kelly.

Table 258: THIRD RACE.—Handicap; purse \$500. One mile. Time, 1:53. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Excellent start at first break. Won in a big romp. Winner Garden City Stables' b c by Argyle—Friska. Trained by W. Donohuan.

Table 259: FOURTH RACE.—Selling, purse \$500. Seven furlongs. Time, 1:36. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Fair start at first break. Won easily. Winner Etno Stable's c b by Duke of Norfolk—Edua K. Trained by Orville Appleby.

260 FIFTH RACE.—Selling; purse \$400. Five furlongs. Time, 1:08. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Table 260: FIFTH RACE.—Selling; purse \$400. Five furlongs. Time, 1:08. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Fair start at fifteenth break. Won driving. Winner Walter & Dagen's b m by Joe Rand—Ansel. Trained by Dagen.

261 FIRST RACE.—Selling, purse \$100. Eleven-sixteenths of a mile. Time, 1:12 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Table 261: FIRST RACE.—Selling, purse \$100. Eleven-sixteenths of a mile. Time, 1:12 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Good start. Won easily. Winner B. Schreiber's ch m by Imp. London—Luella. Trained by J. Robbins.

BAY DISTRICT COURSE, JANUARY 6, 1894.—Sixth day of the meeting of the California Jockey Club. Weather clear and cold; track heavy.

Table 262: SECOND RACE.—Selling; purse \$400. Eleven-sixteenths of a mile. Time, 1:12 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Poor start. Won easily. Winner B. Schreiber's ch g by Versailles—Cousin Kate. Trained by J. Robbins.

Table 263: THIRD RACE.—Handicap; purse \$600. One mile. Time, 1:46 3/4. Includes columns for Index, Starters, Weight, Wt. on, Wt. off, Start, 1/4 pole, 1/2 pole, Last 3/8, Last 1/8, Finish, Jockeys, Opening, Closing.

Good start. Won easily. Winner S. G. Reed's br m by Imp. Darebin—Iris. Trained by H. Byrnes.