

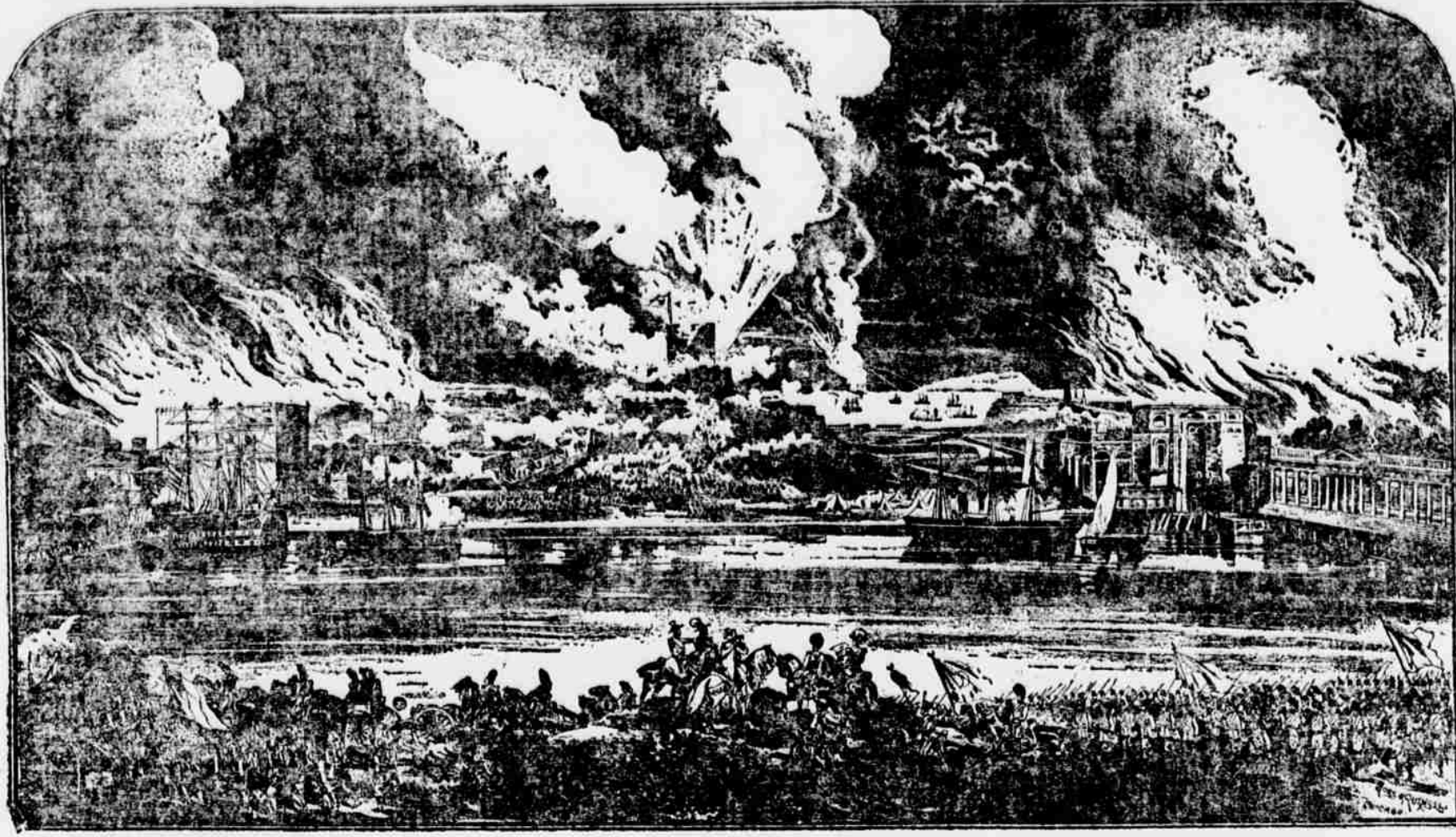
SEBASTOPOL AMPHITHEATER,

16th St. Between Binney & Wirt. Seating Capacity, 10,000 People.

PAIN'S GORGEOUS MILITARY SPECTACLE,

SIEGE OF SEBASTOPOL.

THE SIEGE OF SEBASTOPOL



Every Night During Fair Week!

350 People Take Part in This Never-to-be-Forgotten Performance.

ADMISSION, 50c. RESERVED SEATS, 25c EXTRA

Special trains from Union Depot to Grounds, stopping at 10th, Davenport, 12th and Locust Streets.

Cossack Drills, Intricate Marches, Novel Pyrotechnic Effects.

Colossal Scenery, covering 10,000 square yards, Representing the City and Forts of Sebastopol, before and after their Destruction by the Allied Armies and Fleets, as given with the greatest success at Manhattan Beach, New York, the entire season of 1887.

Monster Military Band, Wonderful Feats by Clever Acrobats, Nubar Hassan, The Frisky Arabian, in his performances on the slack wire, Maj. McGuire, the champion British Swordsman.

\$1,000 Display of Pain's Manhattan Beach Fireworks every performance. Specially engaged for this production,

The Omaha Guards in Their Unique Drills

Correctly costumed and drilled Russian Troops, Cossacks, Sardinians, Turks, French, English and Scotch Soldiers and Marines.

WONDERFUL TIMES COMING.

When the Expectations of Science are Accomplished.

RECENT SCIENTIFIC PROGRESS

Limiting the Progress of the Waves—An Interesting Medley of Scientific Information—Texts for the Thinkers.

Much in Little.

A method proposed for preventing the encroachment of the ocean upon the shores at watering places and elsewhere, is to make a submerged bar some little distance from the shore and running parallel therewith. The top of the bar comes very near the surface of the water at low tide. The force of the waves is spent upon the side of the bar and the waves, which are laden with sand when they strike it, drop that sand upon or very near the bar, so that instead of washing away the shore they protect it. There are several hundred feet of such bar opposite the Manhattan Beach hotel at Coney Island, and anyone can see for himself that the beach in front of that hotel has not been washed away for some time, while that in front of the hotels to the east and west of the Manhattan are cut into. In fact, one in the hotels has had to be moved back this spring. "The proof of the pudding is in the eating." The Tay bridge is over two miles long and has eighty piers. The Natal government has decided upon extending the railway along the coast to Zululand. Taming Zululand by a railway, as the Merv Turcomans were tamed by the Transcaspian line, would be a cheap investment. There are said to be more persons killed by falling out of windows than in railway accidents. This is, however, no argument against providing increased appliances for safety on railways. Several of the French steamers which are required to have high speed have been greatly helped in this by bronze screws. Forced draft is being tried, but so far not adapted by reason of certain complications.

The new "steam turbine" runs at only 18,000 revolutions per minute. It would be at least as much trouble to gear such an engine to ordinary high speed machinery as to gear our ordinary steam engine up to running the same machines. There has been considerable improvement in floating elevators for grain in bulk. The elevating machinery is carried by a pontoon moored alongside of the vessel to be unloaded, and can be carried along the pontoon upon a railway, so as to serve various hatches with but one elevator. Rubber-making machinery has been improved by an automatic mixer for the compounding.

The Japanese admiralty have decided to coat the buttons of all ships with a material much like the ordinary lacquer which we know on furniture and cabinet work.

There is a good solder produced for aluminum, there will be more use in having the metal cheap. Anyone who has ever tried to cast it or to forge it, to weld it or to turn it in a lathe, knows that there will be many troubles attending its use, even if it is produced cheaply. There is a field for someone to put upon the market a writing fluid which shall be black when written and

shall be permanent and not corrode the pen. Some of the substances used for making the dye for silk have should prove useful in this connection. The "imitation leathers" which are put upon the market are made of tough stock, sometimes rope only and sometimes with the admixture of a little leather scrap, and the surface is got by passing them between the rollers, one of which (the one in contact with the face of the artificial skin) has a surface made by taking an electrolyte of a real skin of the kind desired to imitate—morocco, alligator, etc. There is yet room for some one to invent a process for the cheap and rapid production of pure copper castings. To get this would be of more importance than the re-discovery of the long-lost art of hardening copper. While melinite has about the same explosive force as gun-cotton, weight for weight, it is much stronger, volume for volume. The risk of shells loaded with high explosives bursting in the bore of the gun has been overcome by some means not made public. Shells filled with high explosives burst in going through the side of a ship, and thus tear away a large portion of its armor, while those filled with gunpowder go through the armor and burst inside the vessel, causing less damage. On the other hand it does not take a very heavy armor to break up the high explosive shells. A new German dynamite gun has been tried at Kiel. It is twelve inches in bore and seventy-five feet long. Firing it at an old hull 2,111 yards from the muzzle, two shells each containing 500 pounds of nitro-glycerine, completely destroyed the vessel, breaking it in two. The new cast-iron gun which is being made at South Boston will be delivered to the government in the fall. It will be twelve inches bore with a steel tube and steel hoops. One of the principal troubles is to get a perfectly tight joint at the shoulder casting of the gun. There is said to be mounted upon foreign navies 120 guns, said to throw projectiles ten miles and upward, their calibre being 12 to 17 inches and their projectiles weighing up to 2,000 pounds each. This is more likely to "say so" than a fact. Thorough discussion of the question of torpedoes versus big guns puts the sentiment about as follows: That torpedo-boats advancing on have little to fear from the marine gun even in broad day; that the discharge must be below rather than alongside boats should be set to attack a single gun-ship instead of leaving it to one.

ELECTRIC EXECUTIONS.

For legal executions the alternating electric current is said to be more sudden and sure in its action than the common and the commercial current of the alternating current system in the field of lighting are making use of this statement to quite a considerable extent. A new incandescent lamp is said to have a duration of 2,000 hours without getting dark. Almost any good incandescent lamp would last about twenty as long if run at a voltage a little lower than its rated capacity, instead of, as is generally the case, a little above. Telephones are offered a new kind of electric bell signal, in which the usual battery is replaced by a magneto generator. There is a fortune for some one who will improve lithographic and copperplate presses to within anywhere near the perfection reached by those for letter press printing. The "wonders" in needle manufacture are now made into black pins, and prove to be very much better than the pins that are made for pins and never intended for anything else. A manufacturer of carpets said some time ago that the perfection of textile machinery had so kept pace with

the demand for adulteration of fabrics that the mills nowadays could spin almost anything but sand.

England pays \$3,000,000 a year for her foreign supply of eggs, while, thirty years ago it paid only \$250,000. There seems to be no reason why the Irish farmers should not furnish this large amount of staple merchandise. Russia is said to have several blast furnaces which employ petroleum as fuel. Sonoma wine growers are putting down artesian wells with great success. The temperature of water from wells five miles apart being the same—seventy-two degrees F. Australia is more bothered about the mouse pest than about the rabbits. Flammorian says that the temperature of the planet Mars is at least as high as that upon the earth and that the polar snows melt more rapidly than ours do. Reading, Pa., has had a cloud of moths, attracted by the electric light. Easton, Pa., has had about the same thing. A gigantic fossil discovered in Kansas is of an animal over 16 feet in length, the joints measuring 5 feet 8 inches long and the neck four to five feet. Natural gas is used in China for fuel. A new style of filter recently shown in Denmark is a well having a porous bottom composed of closely joined paving stones of terra cotta, and with walls of like material which has been treated with asphaltum to prevent the water near the surface from entering the well, which obtains its entire supply from the water percolating through the bottom.

Biting the finger nails is said to be a cause of so-called sore throat, by reason of the particles of nail lodging in the tonsils.

There are 324 claims in the great Kimberly diamond mine in Africa. The total production of diamonds at the four great African mines last year was 3,646,702 karats, of the declared value of \$4,033,332 sterling, or about \$20,000,000. To get this cost \$33 human lives. Coal is worked in Kilkeny within ten to twenty miles of three railways, but there is no branch railway to the mines.

He Does Not Try.

From the (alleged) Arizona Kicker: Our amiable and gentlemanly sheriff entered our office day before yesterday in his usual urbane manner, and announced that he must serve papers on us. It was a notice of a breach of promise suit against us by the Widow Clixby, who alleges that we have been toying with her heart-strings, and that it will take \$5,000 of her cash to settle her thoughts back in the old channel.

We first met the Widow Clixby twenty-eight days ago in Carter's grocery. She asked our opinion of herring, and we asked hers of soap. She invited us to call at the house and see some poetry she had written in the rice and fall of the mastodon. We complied. We called three or four times afterward, but only as a friend. On one occasion the widow showed us a clipping from an eastern newspaper to the effect that it was better for a man who had passed the age of twenty-three to marry a widow, if he was to marry, but we didn't bite.

We know our gait. If the Widow Clixby can prove to the world that we have toiled with her affections we'll cheerfully go to jail. We are not on the top. The widow will find us no jack-rabbit, and the enemies who have encouraged this new move may hear something drop before the trial is over.

A faith-cure catniping was held at Greenville, N. J., but its success was slight, owing, as Chief Exhorter Hancock explained, to the large and enthusiastic attendance of mosquitoes. Faith may move mountains, but it will not move a mosquito of the New Jersey breed unless something is the matter with its health.

TROTTER COURSE ARTISTS.

Western Men in the Grand Central Group.

FINANCIAL PECULIARITIES

Some Qualifications of a Successful Driver—Very Successful Collectors—Drivers and Trainers of the Flyers.

Noted Jockeys.

The grand central trotting circuit of 1888 is now in its glory, with the Albany meeting to begin on Tuesday and the Hartford week with its \$10,000 stake for the 2:20 class—"blue riband" of the trotting season—and two \$5,000 stakes to come a week later, and after that the richly pursued meeting at Hampden park, Springfield, Mass., and that of the New York driving club, says the Kansas City Times.

The grand circuit draws within its meetings each season the trotting cranks of the country as do the great running cranks the choicest blood and from among the thoroughbreds. Not so much money is won and lost on the trotters as on the thoroughbreds of course. But the grand circuit of 1888 cities with Detroit and Philadelphia added give \$275,000 in purses alone and about \$2,000,000 will have been bet upon the races in it by the time the Philadelphia meeting closes with September.

There are about one hundred and fifty crack trotters and pacers going down the 1888 line and the speed averages so far have been very much lower than those of previous years. Cleveland's speed average for forty heats was 2:19.4, Buffalo's 2:19.4, and Rochester's 2:19.4. Hartford may equal Rochester or Buffalo averages, but the Cleveland mark will hardly be equaled this year. Among the drivers of the one hundred and fifty great horses in the grand circuit parade about twenty stand out as artists in their line. This group is to the trotters what Barnes, Garrison, McLaughlin and Murphy are to the runners, a handicap on the rest of the party in a race with them. It is the purpose of this article to tersely touch upon the western men in this group and show their faces to the public, whose acquaintance with them is purely a newspaper one. Next week the eastern stars who drive the trotters will be similarly treated.

On the trotting track the driver is usually the trainer. He fits and oversees the work of his horse, and more often than not trots him on shaves with the owner. Some of the drivers have a novel way of making the division. They take the profits and the owner the losses. But the trotting-horse driver, no matter how financially peculiar he may be, is always with his stable in the season, very shrewd, very unburned, and deep in the mysteries of trotting-horse pedigrees, weights and rigging. Then, too, he must have an eye for the horse that has no pedigree, but has the speed and "sand" to get the money, like White Stockings, Knap and other such unfashionable bred ones, who are getting the money this season. Often the driver is an owner. "Knap" McCarthy and Orrin Hickok own most of their horses. Sometimes, like Millard Saunders and George Fuller, he is engaged to drive for an owner on a yearly salary, but in most cases he is a Span or a Pouter in

his business methods and shares with the owner. Some drivers excel simply in driving. Splan is the most notable example of this. Others, like Saunders, get along well enough with colts and horses of peculiar disposition, while the majority are a little less able than Dodge and Hickok, but are known as all round men, and can "fly" train and drive their horses. All are well able to collect their purses and pool tickets, though some—and Hickok is a notable example—have wonderful financial judgment. He can "size up" a race in which he is driving a horse, pick out the winner, even if he isn't driving him, and "place" the money for a syndicate shrewdly and wisely.

Budd Double leads all the drivers in social standing, ability and honesty and earnings. He is a Pennsylvanian, 46 years old, and is an all round horseman of the first class. In his stable this year are Oliver K, 2:16; Johnston, 2:18; The Pacing King (Charlie Hogan), 2:18; Jack, 2:20; Arrow, 2:13; the latest racing wonder, Editor, 2:22. Lady Clingstone has been turned over to him. He drove the Demon last Thursday against Prince Wilkes. With Double's fame that of Goldsmith Maid is associated. He managed and drove with consummate skill and returned her to her owner as sound as when she was foaled. No job or crooked race has ever been laid to Double's door. A leading driver once said of him: "If I had a horse and he was going to trot for my life, I should have him and John Splan drive my horse."

Next to Budd Double in point of all round ability comes Orrin A. Hickok. He is a northern Ohioan, forty-eight years old and a consummate renege, trainer and race accountant. This season so far he hasn't joined the line, being engaged with his stable in California. Hickok came from a race of horsemen and associated with his name are the successes of Lucy, 2:18; with whom he twice beat Goldsmith Maid, Judge Fullerton, St. Julien, Santa Claus, Arab, Hilton and Conde. He discovered St. Julien and was one of a group to pay \$20,000 for him. Hickok still owns half of Arab. "He is brainy and tricky, ready to win by any means, if he starts out to do so, but a wonderfully clever man." This is a turfman's summary of Orrin Hickok.

JOHN SPAN.

Third on the list of western drivers comes John Splan, now of Cleveland, the dare-devil and wit of the trotting turf. No such driver ever lived as Splan. He takes longer chances, has a finer and firmer hand and better balanced seat than any of his rivals and is as merciless as he is bold. Splan can "help" a horse better than any other man, and can "lift" a tired one better than the rest. Splan was a Utah newsboy and amassed his knowledge and wit in a thorough school. In his stable this season are Governor Hill 2:18, Jane 1:21.9, Arzyle 2:20.4, and Guy's full brother Protection 2:20.1. In 1886 Splan drove the Golden Cuyler lived away from his best days. He is in the list of western drivers. He is a careful and fine conditioner and one

of the best of drivers. Patron made him famous and he is now keying up the great son of Pancoast for another foray in the records.

KNAPSACK MCCARTHY.

In general ability, Knap McCarthy, so called because of soldiering in his youthful days, ranks close to Double and Hickok. He is an Elmira man, thirty-three years old and the hardest worker on the trotting turf. He learned his trade under Dan Mace and drove second to him. Knapsack is one of the best of trainers and a plucky driver of all kinds of horses. He owns an interest in most of the horses in his large stable. This season he has Geneva S., Rajah, Shamrock, Sir Archy and Mambrino Prince. His past successes were with Darby, Hopeful, Bonsetter, Little Brown Jug, Von Armin, Flora Belle, Zoe R., Felix and Riechbail. Knap McCarthy is a truthful, plain spoken fellow, who does business at times, but in the way he agrees to do it. His attention goes to his wife and his work, and until he "crossed" White Stockings at Pittsburgh this summer, his promise was good among his fellows.

MILLARD SANDERS.

One of the youngest drivers in the last company of the circuit is Millard Sanders, who controls the Gordon trotters. He is a Missourian, twenty-five years old, and earned his spurs last summer when he defeated Patron with Clingstone. This spring he surprised the trotting world by bringing out Guy, a horse thought to be useless on account of his nervous untamability. Only care and a deep study of the horse's peculiarities enabled Sanders to handle Guy. So far he has won two out of the four races in which he has started. Sanders is a good trainer, improves steadily with each race as a driver, and will make his mark in the ranks.

ED. BITHER.

No list of the leading western drivers would be complete without Ed Bither, the man, who as a new driver, gave Jay Eye See his mark of 2:10 and Phalaris his of 2:13. He is a Maine man, thirty-six years old. This season he is in the crowd with James G. and Brown, with whom, three weeks ago at Cleveland he established a new four-year-old record of 2:18. Bither is a good trainer and driver and shrewd watcher for financial chances. He expects Jay Eye See to come again.

FRANK VAN NESS.

Frank Van Ness, trainer and driver in the string of Sire Bros., New York, of which is Harry Wilkes, 2:13; Rosalie Wilkes, 2:13; Gossip, Jr., Gracie B. and David L., is one of the best men in his business in America. He is a New Yorker, but has done his best work in the west and among western trotters. He is thirty-four years old, and his work was begun at seventeen. His first bit was made with St. James, with whom in 1887 he won \$31,000. His other successes were Albemarle, Bonsetter, Little Brown Jug, Albert Franco and Sister Wilkes. Van Ness is an original man in his methods and as good a trainer as any man in the grand circuit procession. He makes mistakes in driving and gets into scrapes at odd times over his way of doing business, but he is a leader without.

Dressing Store Windows.

If there is one thing more than an other that is particularly attractive about New York retail stores it is the artistic manner in which their window are decked out to catch the eye of the transient customer. A Mail and Express reporter watched a clerk on Sixth avenue the other day who seemed to take particular pride in arranging the details of what turned out to be an ele-

gantly dressed button show. He began by laying several rough boards cut in circular shape on the bottom of the window, making a disk about 4 or 5 feet in diameter. He covered them with ordinary black cambric, while around the outer edge he drove a row of tacks far enough apart to allow each tack to come at the center of the end of a button. The next move was to drive another circle of tacks at a distance within the outside row equal to 1 inch less than the length of a card of buttons. After this still other circles were made in the same manner, and at the same distance apart, until the center was reached. Between these several rows of tacks cards of buttons of various descriptions and variegated hues were sprung; the ends of the various cards being slipped under the tack-heads. The effect thus given by the various cards of buttons, which took on a bulging appearance, as the space between the several rows of tacks was relatively shorter than the average length of the cards employed, thus giving the appearance of a novel wheel. The copious use of bright metallic buttons added very much to the appearance of the device, which upon closer examination was very attractive one. The rosette or centerpiece was formed of mother-of-pearl buttons and set off the well formed circle, which made it a thing of beauty, at least for the time being, even if a succeeding novel device destroyed it, thus to reign as a joy forever. In the opposite window a handsome young lady was no doubt following out the instruction given by her employer in arranging the new lines of ribbons which reach this market at this time of the year. In fact there is no line of goods carried in any of our New York stores that is more diversified in color, width and general effect than are ribbons. This very striking window was arranged by constructing of light boards a frame-work of six feet square, as this particular measurement happened to fit the identical window. Across this were drawn ribbons of various widths and colors in such order as made a solid bon of color, thus forming a handsome and attractive show card. The loose ends were pinned to the frame and the uncut ends so pinned as to stay in position and still not require cutting or separation from the roll. After this other contrasting colored ribbons were interlaced at right angles, which added very materially to the artistic appearance. The preparation of this window gave the tasteful young saleswoman a good opportunity to display her skill, and before she considered her task finished she had contrived to design numerous geometrical figures, which she considered as a reward to her ingenuity. She was evidently well pleased with this new creation of her handiwork as she stood on the sidewalk and smiled at her latest production. The increase in the receipts of this particular department will no doubt be the joint reward of the employer and his pretty little clerk.

Postal Item.

Texas Siftings: "This won't go for two cents," said a postal clerk in a country office, returning to an old negro a letter which he had passed through the delivery window.

"What's de matter wid it?"

"Too heavy."

"Jes 'bout like I spected. Dat letter wuz writ by my son, an' I told him he wuz er writin' too heaby a han', but he kep' on er bearin' down an' er bearin' down on his pen. I'll take it back, sah, an' git him to write it wid er pencil."

Had carriers in San Francisco want an increase in their wages of fifty cents per day, and have gone on a strike for it. At present their pay is \$3 per day.