

GRAY'S BEND.

Sacramento Will Find No Relief From That Source.

The Flood Waters of the Sacramento River and the Tule Basin of Yolo County.

Eds. RECORD-UNION: As an old resident of Sacramento, and one who never has and never will lose his affection for his interest in her great growth and prosperity, I desire to talk with your readers "as a man talketh to his own friend." At intervals there is a revival of discussion of certain local questions in every city or town. Public thought is directed to the subject, public discussion enlightens opinion and opinion crystallizes into judgment, and the subject for a time ceases to be a topic of conversation, until uninformed opinion revivifies it.

Whoever looks at the map of the rivers in the vicinity of Sacramento, including the Feather, the Yuba and the American, with their catchment areas, will see a creek in the Sacramento, above its confluence with the Feather, which indicates that the fall from a point west of Gray's Bend to the mouth of the Feather River is directly, or almost directly, to the east; in fact a little northeast. When the Sacramento is low and the flood waters of the Yuba and the Feather strike the river there is a current up the Sacramento even beyond Gray's Bend. All steamboat men know this.

The rivers of California are torrential; the Sacramento and the San Joaquin least so. The American River rises into fine original sources are 5,000 feet above the level of the sea, and all this fall must be distributed to its channel in a distance of fifty, certainly not to exceed sixty, miles.

The catchment area from Folsom eastward is precipitous as the roof of a house. The extent of the catchment area is not all the factors to be considered in estimating the flood maximum or flood variations of a river. The precipitous character of the catchment area must be considered. All you people in Sacramento know how precipitous the catchment areas of the American River, the Feather, the Feather rivers are east of the point at which they debouch into the valley. There is a fall in the American River of some 200 feet in a distance of only twenty, but the fall from the headwaters of the Sacramento at Suisun to Redding is enormous, and the catchment area under the tremendous rainfall in the region of Delta is as precipitous as the roof of a Gothic church. Phenomenal rainfalls of five inches in a few hours are frequently reported, and yet a cross section of the Sacramento River at its highest floods immediately below Delta is very small, but the river with but little accession becomes a broad, navigable stream at Red Bluff and below. But I repeat, whoever has examined a map of these rivers and has seen the Delta, and the mouth of Gray's Bend, has had the suggestion come to the mind that a canal from Gray's Bend through the basin of the tule would deliver the surplus water of the Sacramento and lower their maximum. This is not true.

All the water escaping from Gray's Bend into the tule basin, and the floods of the Sacramento—that is, when the great floods come down from its upper sources—is a detriment to the Sacramento River at Sacramento. It is a detriment to the Sacramento River at Sacramento. Let this be simply and plainly illustrated. The tule basin, lying west of the city of Sacramento, is intersected on the south by the Cache and Putah Creeks, which are fed by the waters of two enormous streams—enormous at flood tide. Cache Creek carries the catchment area of all of the Cache and Putah Colusa Counties. It has a fall from Ramsey, at the head of Capay Valley, to where it delivers its water into the basin of the tule of 450 feet, a distance of about three miles, or ten feet to the mile. Putah Creek rises away westward, from a point at which it descends its water into the basin, a distance of 125 miles.

When heavy precipitation occurs on the headwaters of Cache and Putah Creeks, the steep grade of their channels delivers a volume of water equal to the Sacramento at ordinary stages. This water flows directly against the Montezuma Hills, where it is turned eastward with a strong current, crossing the Sacramento and the islands at its mouth. When the Cache and Putah Creeks are at their flood stage, a flood in the Sacramento River, breaking out at Gray's Bend, crosses the line of the tule basin and strikes the Montezuma Hills in about one-fourth of the time it would take the same point if it followed the Sacramento channel by the mouth of the Feather River and by way of the city of Sacramento. It is a fact that the Sacramento River breaking over at Gray's Bend, or the surplus flood waters of the river being permitted to flow into the tule basin, releases the water from the island, opposite Walnut Grove, long before the flood in the Sacramento reaches it by the regular channel of the river. It does this because it is a direct line, and because it is always reinforced by high waters in Cache and Putah Creeks.

The floods which cross the tule in this manner strike the Montezuma Hills and are thrown to the eastward. They find the equivalent of a dam thrown across the current of the Sacramento. In 1878, I think it was, when a flood of this kind over-topped the levees of Grand Island. Shortly after its subsidence I visited Walnut Grove, and the people of that village described to me the great cataract which flowed over the levee on the east side of the island into the tule basin, before the levee itself yielded to the eroding force of the current. It is, in short, a great river, greater than the Feather or the American at their medium stages, and in the instance cited must have been greater than either of these rivers at their maximum flood, since it crossed the Sacramento and crossed the island with a depth greater than the height of the levee.

These facts were pointed out to me many years ago by such men as the Hon. Christopher Green, William F. Knox, Jerome Davis, R. S. Carey, General Thomas H. Williams and General T. W. Sheehan. They present the real facts of the situation. If the tule basin west of the Sacramento opened into Suisun Bay through the Montezuma Hills with an adequate channel, you would have a wholly different set of fixtures to deal with; but all the water that flows into the basin, whether delivered from Gray's Bend or from Cache and Putah Creeks, or from any other point returns to the Sacramento with a cross-current thrown into it by the intercepting force of the Montezuma Hills. In the instance cited, Captain Pool, I think it was, at all events the Captain of one of the Sacramento River steamers, said that from the vicinity of Steamboat Blough to within ten miles of Sacramento he had come up on a

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From the State University—E. W. Hilgard, Professor of Agriculture; S. B. Christy, Professor of Mining; Frank Soule, Professor of Civil Engineering, and Professor A. C. Lawson of Mineralogy.

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To a RECORD-UNION reporter the following outlines of the work in hand was given: ORIGIN OF THE MOVEMENT. An important movement for good maps has been inaugurated in the United States in recent years in the direction of securing good topographic maps of the various States of the Union. In 1884 the Massachusetts Legislature passed a resolution to this effect: That the Governor, with the advice and consent of the Senate, and is hereby authorized to appoint a commission, to consist of three persons of the commonwealth, qualified by education and experience in topographical science, to confer with the Director or representative of the United States Geological Survey, and to accept its cooperation with the commonwealth in the preparation and completion of a contour topographical survey and map of this commonwealth, hereby authorized to be made.

Pursuant to this Act, and under arrangement with the commission thus created, a topographic survey of Massachusetts was begun, the work being carried by a corps of topographers of the United States Geological Survey. Half the expense of the proposed survey of the State, the work was completed in three years, and the result was a complete and exceedingly useful topographic map of the State on a scale of 62,500 to one.

Following the example thus set, similar steps were taken by the neighboring States of Rhode Island, Connecticut and New Jersey, and in the latter State have complete and satisfactory topographic maps on the same scale, and for a comparatively small outlay. Last year New York State adopted the same plan and spent \$100,000 as a preliminary measure to inaugurate the work, and the State Engineer now expects to arrange for a negative grant of \$25,000 annually for ten years as the State's share in the cost of a survey of New York.

These maps are appreciated by the people as they are by the State. In February 1st to October 1st of the present year the sales of the completed topographical sheets of Massachusetts (sold at cost) amounted to \$800,000. The cost of the survey to that State was \$400,000, the total cost being \$2,000,000. It is now proposed to secure for California, by the method adopted by the above mentioned States.

A CONTOUR TOPOGRAPHIC MAP. Of our valley areas, foothills and lower hill ranges. That the possession of such a map is a political and a social necessity is a fact that needs no argument. The development of the country goes without saying. The cartography of a country may, indeed, be taken as a measure of its material progress, and the lines of modern civilization. The most advanced nations of Europe are those which have undertaken the most extensive surveys, and the most perfect maps.

The industrial, commercial and intellectual advance of a people is proportionate to the advantage which is derived from the possession of such maps, which they are environed. These conditions are always carefully scrutinized by the originators of those enterprises, the individual success of which make for the general welfare of the community.

The first radical preliminary in such a survey is the physical and the environment is a map of some kind; and, the better the map, the more nearly correct will be the conclusions arrived at. Wherever there has been progress.

THE NEED OF MAPS. It has been said that in every civilized country there has been a continuous evolution of maps; survey has been added to survey, and old surveys have been replaced by new ones, and in general the last map is better than all which preceded it. But from the unsystematic way in which these surveys have been made, and the want of uniformity in their construction, the earlier maps of all countries have been very defective.

In the general advance of science in recent years, however, map-making has not lagged behind, and the modern methods of surveying have produced maps capable of affording faithful representations of the natural surface of the earth, of such a character as to be practically correct, save for the occasional variation of new culture. The benefits accruing from such a map are manifold, and these will be multiplied in proportion as shall be the progress in the development of our resources.

If the thickly settled countries of Europe, where the character of the land is such that it is necessary to have a map to lead to any price, how much more useful would they prove to us in sparsely populated California, practically the beginning of our material development as a people? A few of the more important benefits arising from topographic maps may be thus enumerated:

First—Irrigation and water supply: They will aid in the proper understanding and solution of the many complex problems of irrigation and water supply which confront the people of this State, and in the preliminary planning of works.

Second—Agriculture: They will serve for intelligent representation of many different soils of the State, and the relation of these soils to the slopes of the land; for the representation of the hypsometric curves, and the distribution of plants useful to man; and in the study of forestry problems.

Third—Mining: They will hasten the just solution of the hydraulic debris problem.

AN ESCAPE CAPTURED.

Officer Talbot says He Has a San Francisco Burglar. Officer Talbot yesterday evening arrested a man giving his name as James McFarland, but whose proper name is known to be Doyle.

Talbot says he is confident the man is an escape from the jail in San Francisco, where he was being held to answer upon two charges of burglary and other crimes. He said to have made his escape by answering to the name of another prisoner, who was to have been released, but Doyle impersonated the man and thus gained his liberty.

Both the method and results when Syrup of Figs is taken; it is pleasant and refreshing to the taste, and acts gently yet promptly on the Kidneys, Liver and Bowels, cleanses the system effectually, dispels colds, headaches and fevers and cures habitual constipation. Syrup of Figs is the only remedy of its kind ever produced, pleasing to the taste and acceptable to the stomach, prompt in its action and truly beneficial in its effects, prepared only from the most healthy and agreeable substances, its many excellent qualities commend it to all and have made it the most popular remedy known.

Syrup of Figs is for sale in 50c and \$1.00 bottles by all leading druggists. Any reliable druggist who may not have it on hand will procure it promptly for any one who wishes to try it. Do not accept any substitute.

CALIFORNIA FIG SYRUP CO. SAN FRANCISCO, CAL. COLUMBIA, MO. NEW YORK, N.Y. Auctions. DISTRIBUTION SALE OF Real Estate AUCTION! BY AGREEMENT BETWEEN THE HEIRS OF GRACIANO SMITH, deceased, I am authorized to sell at the Courthouse door, Sacramento, Cal., Saturday, December 10th,

At 10 A. M., the Northeast Quarter of Section 18 and the Southeast Quarter of Section 7, in Township No. 23 North, Range 4 West, Tehama County, 320 acres of good farming land, with a never-failing spring of fine water, a creek running through one of the quarter sections; home, barn, fences, etc., etc. TERMS CASH—10 per cent. payable at time of sale, balance after 5 days for examination of abstract. Deed at purchaser's expense. Title perfect or deposit refunded.

WILLIAM F. HERRICK, Auctioneer. W. H. HERRICK, Auctioneer. WILBER F. HERRICK and HOLT & DENN, Attorneys for Heirs. AUCTION SALE CROWELL & LAMBERT WILL SELL— At Salesroom, 927 K Street, Opposite State House Hotel, Saturday, December 10th,

At 10 o'clock A. M., Brussels Carpets, Fine Parlor Stoves, Bedroom Sets, Parlor Suits, extra Parlor Chairs, Lounges, Tables, Chairs, Spring and Top Mattresses, Pillows, Bedding, Carpets, Bedsteads, Locks, Keys, Desk, Letter Press, Books, also, Horses, Wagons, Buggies, Carts and Harness. These goods must be sold to make room. Everything said will have to be borne by the State of California, which, spread over ten years, would be \$25,000 annually.

It is believed to be superior to any other in the United States, and one of which California might justly be proud. COURT NOTES Harry Beeler and Joe Sullivan Sentenced to Folsom Prison. Judge Johnson yesterday overruled the demurrer of George P. Royce, to the complaint of George P. Royce, and in doing so indulged in some rather caustic remarks concerning the custom of attorneys in filing demurrers that are without merit.

May Belle McCord has begun suit for divorce against her husband, W. O. McCord, for failing to provide for her. Yesterday Assistant District Attorney Buesley went to Isleton to conduct the prosecution in the case of the People vs. Henry Beeler, Lot 403, who was charged with assault with a deadly weapon.

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GIVEN AWAY TO-DAY

To each customer (a present for the little one) a Fancy Embossed Parchment Note Book, 4 1/2 x 3, 8 pages of silica slate. Also, a Toy Tin Horse, mounted on four wheels.

TO-DAY

Saturday's General Sale

SPECIAL DRIVES.

One lot of Men's \$15 Dark Pin Check and Silk-mixed Sack Suits for \$10. One lot of Men's All-wool \$14 Brown Cheviot Sack Suits for \$9 75. One lot of Men's All-wool \$10 Suits, in medium dark brown colors, extra good, for \$6 75. One lot of Men's \$1 25 Australian Wool Shirts and Drawers for 75c per garment. One lot of Men's Natural Gray \$1 50 Wool Shirts and Drawers at \$1 per garment. Men's 50c Dark Wool Mitts for 15c. Boys' \$1 80 Stylish Derby Hats, dark colors, for 50c. Men's \$2 50 Wool Cardigan Jackets, finished seams, assorted colors, for \$1 45. Men's \$2 25 Wool Cardigan Jackets for \$1 25. Lot of Men's White \$1 Dress Shirts for 65c.

A FINE CHRISTMAS PRESENT.

American Waltham Watch Company's Screw Case Ore Silver Watch, warranted time keepers, for \$5 95. American Waltham Watch Company's 14-karat Filled Case Gold Watch, warranted for 10 years, \$20. American Waltham Watch Company's 14-karat Filled Gold Watch, chased case, warranted for 10 years, \$17 50.

TOYS ON SALE TO-DAY.

Dolls, 5c to \$1 80.....China Tea Sets, 10c to \$1 25..... Drums, 5c to \$1 50.....Willow Doll Cradles, 65, 75 and 85c.....Scrap Albums, 10c to \$1.....Tool Chests, 50c to \$1..... Juvenile Picture Books, 5c to \$1.....Building Blocks, 20c Garden Sets, 25c to 50c.....Call Bells, 20c.....Iron Banks, 25 and 50c.....Domingos, 10 and 25c.....Picture Blocks, 15 and 20c.....Jumping Jacks, 5 and 10c.....Magic Lanterns, 50c, 75c and \$1.....Story Books, 25c and up.....Willow Doll Carriages and Cradles, 50c, 90c and \$1 75.....Toy Stairs and Stools, 25c and up.....Surprise Boxes, 10 and 25c.....Fish Bait, 25c, 25 and 50c.....Embossed Spelling Books, 25 and 50c.

Boys' Rubber Boots, 11 to 2, for \$1 25. Men's Fancy Holiday Slippers, 95c and up.

TO-DAY

Special Sale of Ladies' Trimmed Hats. 500 different styles and shapes. All go at cut prices. A lot of Velvet Toques, nicely trimmed with Prince of Wales pompons, ribbon and tips, at \$3 75. Large Velvet Hats, trimmed with butterfly bows, \$3 75. Large Velvet Hats, trimmed with ribbons, tips and neppithoses, Price, \$4 50. Ladies', Misses' and Children's Felt Hats of all kinds, new winter styles. Prices ranging from 95c to \$5. The Boston Duds Hats, all colors, 75c. The Boston Dudes in beaver, \$1 45. Corduroy Yatching Caps, in all colors, 85c. Prince of Wales Pompons, in black and colors, 45c and up.

RELY HOUSE,

714 and 716 J Street.

A MESSAGE FROM SANTA CLAUS.

HEADQUARTERS OF SANTA CLAUS, December 6, 1892. MR. H. MARKS, Mechanical Clothing Store, 414 and 416 K Street, Sacramento.—Dear Sir: I will arrive at your store in a couple of weeks, and with a large and varied stock of useful articles for all your customers. My assortment this year is far ahead of any previous season, and you can truthfully state that your display will be unequalled elsewhere.

Watch for further announcements for the Holidays. In the meantime bear in mind that our prices on all goods are the lowest. READ! READ!

SUITS. Men's Worsteds Suits.....\$ 3 45 from.....\$3 50 to \$ 6 00 Union Cassimere Pants, 1 48

OVERCOATS. Chinchilla, from.....\$5 to \$20

SHIRTS. Also, large line of Winter Shirts from 25c up to \$4.

BOOTS AND SHOES. Lace and Congress, from \$1, \$1 25, \$1 80, \$1 75, \$1 85, \$2, \$2 25, \$2 50, \$2 75, \$3, \$3 50 and \$4.

FUR HATS. At great cut, from 10 cents upward.

Mechanical Store, 414-416 K Street,

H. MARKS, PROPRIETOR

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THE KING IS HERE. THE STEINWAY is King among Pianos. It is the pianist's favorite and the dealer's best. E. G. ALLEN'S Famous Emerson and Popular Peace Upright Pianos in rosewood, walnut or oak cases. Sold on instalments—\$10 per month. See them before buying. ESTEY and PACKARD ORGANS, Guitars, Violins, Mandolins, Banjos and all other String and Band Instruments. Ten Cent Sheet Music a Specialty.

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