

UNCLE SAM FILES ON WEBER WATERS

Engineer of Reclamation Survey
Puts in Claim for 1,000
Second Feet.

100-MILE CANAL TO BE BUILT.

From Devil's Gate to Two Storage
Points from Which Water
Will be Irrigated.

Prof. Swenson, engineer in charge of the reclamation survey, filed yesterday afternoon, with the state engineer, claims for 1,000 second feet of water from the Weber river, for 365 days in the year, from Jan. 1 to Dec. 31 following, to be taken out at Devil's Gate, in section 29, township 5 north, range 1 east, S. 1, T. 5, R. 1, & M. The diverting works will be a dam with headgates, and a canal 10,500 feet long, 80 feet wide and 8 feet deep, for power, irrigation or any other purpose desired. The indicated power is to be 18,000 horse power, for pumping, swamp draining and other purposes in Weber, Davis and Salt Lake counties.

The reclamation engineer has also made a second filing for 1,000 second feet of water, to be diverted near Devil's Gate, in section 29, and with a canal 10,500 feet long, 80 feet wide and 8 feet deep. There are to be two storage points, one a dam at the point of diversion, and the other to be a dam on the Weber at Lost Creek.

All this is part of the government scheme for establishment of reservoirs and the enlargement of the irrigated area in Weber, Davis and Salt Lake counties.

Missouri Four Per Cents.

New York, Dec. 8.—The greater part of the \$25,000,000 of Missouri Pacific railroad 4 per cent bonds purchased by Kuhn, Loeb & Co. will be marketed today. It is expected that the bonds will be sold at a premium of 100 to 105. The proceeds will be used to reimburse the Missouri Pacific treasury for improvements already made on that road, as well as on the St. Louis and Mountain View Southern railway, which is an important part of the Missouri Pacific system. A considerable sum will be devoted to betterments on the main line of the Missouri Pacific. Reports that part of the \$25,000,000 is to be used in the construction of the Western Pacific railway are authoritatively denied.

NEAFIE & LEVY.

Philadelphia Shipbuilding Concern Makes Assignment.

Philadelphia, Dec. 8.—The Neafie & Levy shipbuilding company, one of the oldest concerns of the kind in the country, made an assignment today. The company recently completed the cruiser Denver for the government, and is now constructing the projected cruiser St. Louis. The latter is about 60 per cent completed. It is the latest and largest shipbuilding concern in the country, and its assignment is a serious blow to the government's plans for the construction of the new fleet.

SCIENTIFIC MISCELLANY.

The rich copper mines of Chile have been little worked on account of the scarcity of fuel and the cost of transporting the ore. Water-power is abundant, and for several years an electrician has been employed in Paris to devise an electric furnace for smelting the ore at the mines. This has been the quantity of material to be carried. After making and demolishing 98 furnaces, Imbert de Vauoy, who has had charge of the work, believes he has provided a practical type. He uses two arcs between two pairs of four-inch carbons, obtaining an easily-regulated heat up to 2,000 C., and the mixture of ore and flux is brought under the action of the heat without direct contact with the electrodes. Two feeders empty buckets of the mixture into hoppers at the ends of the furnace, while the fused copper matte is drawn off into ingots about once an hour. For a ton of mixed ore and flux, a current of 110 volts and 2,000 amperes is needed, and the cost of treating this amount per hour is less than \$2. The furnace is expected to work less than a year before wearing out.

The proposed bore-hole 12 miles deep has brought out the objection that the great pressure of 40 tons per square inch would cause a viscous flow of rock material making the feat impossible. The Hon. C. A. Parsons replies that this idea can be tested by subjecting a piece of quartz rock to a pressure of 100 tons per square inch in a case fitting cylinder having a small hole through its center. This pressure is that expected at a depth of 35 miles.

The perfection of pharmaceutical products and the prevention of the waste of food materials are the two lines which J. P. Moulton, F. R. S., finds the chemical invention of the day to be following.

A marked influence of the moon on the weather is easily shown. In the opinion of G. Lamprochi, a German astronomer, when rainfall is considered in relation to the moon's phase at herges. In his investigation he has used the monthly data of rainfall at 40 north German stations for the years 1871 to 1894 and of about 95 stations in Java and Madeira for 1870 to 1892, and it appears that a dry period is likely to result when the moon and sun are upon the same side of the earth as the moon's nearest approach. That is, in both North Germany and Java a drought has appeared when perigee was nearer to new moon than to full moon. The rule applies to all countries where the greatest rainfall occurs with the highest position of the sun. New moon last July fell near perigee, and dry weather was predicted, the forecast proving remarkably accurate.

An extraordinary use of the same material quarters by diurnal and nocturnal animals is recorded by a naturalist of Cayenne, Barbados. The house is situated 35 miles south of Colombia, is shaded by day by fruit bats or flying foxes and at night by crows, and the curious spectacle of two immense flocks flying in opposite directions across the straight separating the island from the mainland, the flying foxes at a greater elevation than the crows. The cross migration, lasting about half an hour, is attended by great chattering of flying foxes and cawing of crows.

The idea that moss grows thickest on the north or east side of trees seems to have been disproved. A French botanist, Leon Hedei, now concludes that mosses prefer the parts of the tree that retain most moisture, being thus more abundant on rough or cracked parts, on the upper part of a branch or inclined trunk in knots or bosses, at the fork or branches, and at the base of the trunk.

The cat, besides its liking for valerian, has shown a taste for caffeine, which brings painful and fatal results.

Electricity is now made to serve the

fisherman by showing the presence and extent of shoals of fishes. The apparatus is the subject of a German patent, and it consists of a microphone, which is enclosed in a water tight case and connected with an electric battery and telephone. As long as the microphone hangs free on a line lowered into the water, no sound is heard. When fishes strike against the case, however, their presence is revealed by tapping, and the length of the rope supporting the microphone gives the exact depth at which the shoal is encountered.

The novel automobile of a Russian engineer is a combination of sleigh and boat. It is in the form of a boat with two bars or runners beneath, and it is intended for the use of Prince Khilkoff in crossing Lake Balkal. A gasoline motor supplies power. A wheel with points to grip on the ice propels the sleigh and when the boat is in water a clutch connects the motor to a propeller.

Licentite, the new substitute for gutta percha, is a mixture of asphaltum, petroleum and gum. Dissolved in turpentine, it is used for insulating electric wires, and costs less than a twentieth as much as gutta percha. It can be mixed with either caoutchouc or gutta percha. The material is expected to serve important uses, but its durability in exposed places remains to be shown.

The ordinary burglar alarm is liable to be thrown out of action by cutting the wires. In the new wireless system of English makers, any tampering with a safe puts in action a small transmitter, which emits Hertzian waves sufficient to operate coherer-controlled alarms in any part of the building.

BRIDES' HEADDRESSES IN FOREIGN COUNTRIES.

The German village maiden goes to the wedding ceremony wearing a curious crimson erection upon her head. This is generally covered with tinsel, gold and silver coins and dangling chains and is rather an ugly kind of headdress. But a wreath of myrtle, rosemary and white roses makes it look very much prettier, and it is no wonder that the happy bride is particularly proud of this part of her wedding costume.

Spanish girls generally choose carnations or pink and white roses for their wedding flowers, which are most becoming to their dark complexions. Many a bride adorns her hair with garlands made of gold or silver leaves instead of natural flowers. Of course these are not nearly so pretty and are often much more costly, but then, that does not matter if the custom of their native land demands it. Besides, they never fade, and if they are expensive to begin with, they can be handed down from one generation to another. In Norway they have a convenient way of overcoming the difficulty. It is always possible to hire a handsome silver wreath from the church for the sum of \$5.

SUMMONS.

In the District Court of the Third Judicial District of the State of Utah, County of Salt Lake, Jean M. Turner, Plaintiff, vs. George A. S. Turner, Defendant. The State of Utah, to the said defendant: You are hereby summoned to appear within twenty days after the service of this summons upon you, if served within the county in which this action is brought, otherwise, within thirty days after service, and defend the above entitled action; and in case of your failure so to do, judgment will be rendered against you according to the demand of the complaint, a copy of which is herewith served upon you.

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DELINQUENT NOTICE.