

MISCELLANEOUS SUMMARY.

**AN EXTRAORDINARY PHENOMENON.**—A telegraphic item comes from California stating that a waterspout burst in the sparsely settled portion of Los Angeles county on the 18th of August, fifty miles from the ocean, filling the long ravine with water fourteen feet deep. A man and woman riding in a carriage were caught in the flood, and the woman and horses drowned. The man floated more than a mile to a place of safety.

It is perhaps not generally known that black pepper is a poison for many insects. The following simple mixture is said to be a good destroyer of the common house fly:—Take equal proportions of fine black pepper, fresh ground and sugar, say enough of each to cover a ten-cent piece; moisten and mix well with a spoonful of milk; keep that in your room and it will keep down the flies. The flies seek the air, and never die in the house when the windows are open.

**THE Buffalo, N. Y., Commercial** states that an order has been received in that city from three merchants in London for 10,000 barrels of refined petroleum, to be delivered in six months. The value of this order is over \$152,000. Another order came from Liverpool for three hundred gallons of Pease's improved engine oil, and from London for three hundred gallons of Pease's extra lard oil.

**THE English steamer Warrior**, launched in 1860, is 400 feet long, 58 feet beam, 41½ feet depth, 6,177 tons, builder's measurement, engines 1,250 nominal horse power. Her sides, amidships, are 22 inches thick of wood, covered with 4½-inch iron plates, the bow and stern not being so thickly plated. She carries thirty-two guns, mainly 68 pounders and smooth bore.

**THE London Times**, of August 1st, says:—The prospects of the operatives, so far as regards the amount of labor they are likely to obtain, are becoming darker every week. At Blackburn, out of a population of 63,000, 24,085 operatives, and 2,355 others in the different departments are wholly unemployed, owing to the scarcity of American cotton.

**BUCKWHEAT** when sown on rich ground will kill grass effectually. It must be sown as soon as the ground is ploughed. Buckwheat seems to be poison to other plants, and it is even known to destroy insects. It does this probably by destroying the roots of the grasses and herbs on which they feed. No insect touches buckwheat in the ground.

**HALF** a dozen iron vessels make up the British navy, and there are but two or three docks in which a first class frigate like the *Warrior* can be placed to refit. So says the *London Saturday Review*. But for some unexplained reason, British papers, we have noticed, are more given to underrate than overrate the English navy.

Two **NEW** iron-clad river boats have been commenced by Tomlinson, Hartup and Co., Pittsburgh, Pa. Considerable delay is caused in the construction of such iron-clads, owing to the difficulty of obtaining plates as fast as the builders can put them on the vessels.

**THE** force of Darius at the battle of Arbela numbered more than 1,000,000. The Persians lost 90,000 men in this battle; Alexander the Great about 500. So says Diodorus.

**THE** rebel account of the battle of Baton Rouge, announced the death of Colonel Alexander H. Todd, a brother of Mrs. Lincoln. He was on Brigadier General Holme's Staff, and was instantly killed.

It is stated that wool is now higher than it has been for forty-four years. This is owing to the large demand for army goods, and to the advanced price of cotton.

How Prize Money is Distributed.

Prize money, belonging to officers and men in the navy, is distributed in the following manner:—The commanding officer of a fleet or squadron receives one-twentieth part of the prize money awarded to a vessel or vessels under his command; the commander of a single ship one-tenth part, if such ship, at the time of making the capture, was under the immediate command of the commanding officer of the fleet or squadron, and three-twentieths if his ship was acting independently of such superior officer. The

share of the commander of the fleet and of the commander of the ship being deducted, the residue is distributed among all others doing duty on board, according to their respective rates of pay in the service. The law provides that if one or more vessels in the navy shall be within signal distance of another in making a prize, all shall share in the prize, and the money be distributed among the officers and crew of both. Commanders of fleets or squadrons are not entitled to receive any share of prizes taken by vessels not under their immediate command, nor of such vessels, nor of such prizes as may have been taken by ships or vessels intended to be placed under his command before they have acted under his immediate orders. The question has been asked whether the officers and crews of armed vessels not belonging to the navy, are entitled to prize money. The law says that they are, and it provides for its distribution in the same manner as among the officers and seamen in the navy. It is generally supposed that the fees of the United States Marshal are excessive in prize cases; but a recent act provides that the annual salaries of the District Attorneys, Prize Commissioners and Marshal shall in no case be so increased under the several acts for compensation in prizes, as to exceed in the aggregate the following sums:—District Attorney, \$6,000; Prize Commissioner, \$3,000; Marsbal, \$6,000.

RECENT FOREIGN INVENTIONS.

**Nitrate of Soda Gunpowder.**—The nitrate of potash, which is employed in the manufacture of gunpowder, is the most expensive and difficult material to obtain during periods of war. Nitrate of soda would answer just as well for gunpowder were it not deliquescent. As it is very abundant, and comparatively cheap, it is proposed to correct its tendency to become moist in gunpowder, by mixing some of the anhydrous sulphates of soda and magnesia with it. A patent has been taken out by T. Roberts and J. Dale, of Manchester, England, for powder made of such a mixture. The gunpowder is made in the usual manner with charcoal, sulphur, and the nitrate of soda mixed with anhydrous sulphate of magnesia, as a substitute for the common saltpeter. Gunpowder so made may become efflorescent, it is stated, but not deliquescent.

**Refining Petroleum.**—L. Martin, of Paris, has taken out a patent for a method of treating petroleum and for a mixture of it with rape seed oil, to burn in common lamps. Supposing a tun of petroleum is to be operated upon, about eight per cent weight of caustic soda dissolved in water is added to the petroleum in a large vat, and the whole agitated for about six hours, after which about ten per cent of tepid water is added, stirred, and the whole allowed to rest for four hours. A precipitate falls to the bottom of the vessel, and the clear is then drawn off with a syphon and placed in a still. It is now distilled at a temperature of 248° Fah., steam heat being used for this purpose. A light eupion oil passes over at this heat, and 35 per cent of rape-seed oil is added to it and makes a good burning oil for common lamps. The remainder of the petroleum in the retort is now subjected to heat of from 437° to 600° Fah., when heavier oils are distilled. They are mixed with ten per cent of rape-seed oil for the lightest variety, and five per cent the heaviest. This heavy oil he also sometimes submits to another purification, by agitating it with very dilute sulphuric acid, then with a weak brine of common salt, and afterward washing with tepid water.

**Lubricating Compounds.**—A patent has been taken out by C. Hill, of Kidwelly, England, for a lubricating compound for machinery, consisting of the jelly made from boiled carrageen moss, 14 parts, by weight; yellow soap, 1 part; tallow, 1½ parts; palm oil, 1 part; soap stone dust, 3 parts, and black lead ½ a part. These ingredients are placed together in a kettle over a fire and thoroughly mixed, when about the same quantity of wheat flour as the moss jelly is added and incorporated, and the whole strained through a sieve. A heated mixture of 12 parts of lard oil, 4 of rape seed oil, and about ½ a part of caustic potash are added, and the whole thoroughly stirred and cooled. This forms the new lubricating compound, which is said to be good and cheap for heavy machinery.

**Composition to Prevent Rust.**—To prevent bright steel and other polished metallic surfaces from becoming

tarnished and oxydized, T. and E. Myers, of London, have prepared and patented the following composition:—Take gutta percha, 10 lbs.; mutton suet, 20 lbs.; beef suet, 30 lbs.; neat's foot oil, 2 gallons, and oil of thyme, 1 gallon. These ingredients are mixed together at a moderate heat in a kettle, and when cold the mixture is ready to be applied to the steel or other metallic article.

**Boiler Scale Preventor.**—J. H. Johnson, of London, has taken out a patent for a compound consisting of carbonate of potash, 8 parts, by weight; molasses, 6 parts, well mixed together and thinned with water. It is fed into a steam boiler through the feed pump, and is said to be capable of removing old scale and preventing the formation of new incrustations.

**Runaway Horse Arrestor.**—M. A. F. Mennons (a prolific inventor), of Paris, has taken out a patent for checking the course of runaway, headstrong horses, by employing electric shocks. A pair of flexible conductors, formed of copper wire, are inserted in the reins of the bridle, and each of the forward extremities is connected with a piece of moistened sponge, so attached to the jaw bands as to press, when in position, against each side of a horse's head a short distance below the eye. The opposite extremities of these conductors are prolonged beyond the grasp of the reins, and are fitted with a metallic attachment to connect them with the poles of an induction coil by the driver, should the animal become restless. By such an arrangement an electric shock, sufficient to make any runaway horse see starlight and pause in his mad career, is proposed to be given.

**Compound for Ships' Bottoms.**—A new compound for protecting the hulls of iron vessels from sea weed and barnacles, has been patented by R. Johnson, of Liverpool. It consists of 2 lbs. of mercurial ointment (mercury mixed with lard); 2 lbs. of powdered arsenic, and 6 lbs. of black lead in powder, the whole being mixed up in a gallon of tar. These are the proportions for any quantity. Before being applied, the hull of the iron vessel should first receive two coats of asphalt varnish, each allowed to become dry before the other is applied.

Glass Manufacture in Pittsburgh.

The *Pittsburgh Post* gives some interesting particulars of the progress of glass manufacture in that city.

There are over forty glass factories in operation, employing some twenty-two hundred hands, whose annual wages are over \$1,000,000. These factories consume material to the amount of \$1,378,500—divided, in round numbers as follows:—

Soda Ash.....	\$550,000	Fire and com'n brick.....	\$4,000
Sand.....	150,000	Fire clay.....	7,500
Lead.....	100,000	Coal.....	18,500
Saltpeter.....	75,000	Lime.....	56,000
Lumber.....	100,000	Salt.....	8,500
Nails.....	12,000	Pearls.....	80,000
Iron.....	10,000	Straw.....	16,000
German clay.....	3,000	Castings.....	3,000
Coal.....	170,000	Willows.....	15,000

The amount of capital invested, exceeds \$1,000,000, and the annual product of all the factories is over \$3,000,000. This is divided among the several branches as follows:—

Flint glass.....	\$1,300,000
Window glass.....	1,270,000
Vials, bottles and druggists' ware.....	390,000
Demijohns and black ware.....	40,000

Besides the regular glass factories, there are also in Pittsburgh and vicinity several glass staining and looking glass establishments, which add materially to the value of the glass produced there.

Turbine Water Wheels.

Turbine water wheels possess an advantage over undershot, breast and overshot wheels, in not being prevented from running in back water. They run under water just as well as out of the water. As they run at a high velocity they do not generally require so much intermediate gearing as overshot and breast wheels. On a high fall, an overshot is a very expensive wheel, whereas a turbine is comparatively cheap. Where the quantity of water in a stream, however, is very variable, the overshot is the best wheel for giving out the power of the water, because the bucket openings are of the same size in turbines for the lesser, as well as the maximum quantities of water. Adjustable buckets on turbines afford a remedy for this defect, but although we have seen several wheels constructed with such buckets, we understand they have proved troublesome, and have ceased to be used.