pressure or to provide against them; the structure is gradually weakened by excessive speeds, by stress of weather, and by the original fault of the materials used, and the defects are very inadequately remedied by a superintendent imperfectly qualified for such a task; a gale of wind comes, a train on the bridge is exposed to it, and the whole structure gives way at it weakest point. It is very difficult to admit that such an assemblage of causes and effects is rightly to be called an accident."

MISCELLANEOUS INVENTIONS.

An improved horse collar has been patented by Mr. Fletcher C. Scott, of Fincastle, Va. This invention is an improvement in the class of horse collars in which the hames and collar proper are permanently attached to each other. The collar proper is formed of a soft stuffed inner portion and an outer leather plate, which is comparatively stiff, and forms the ornamental face of the collar, and also covers and protects the inner part. The collar is divided at top and bottom, and to each of the two parts thus formed is attached an iron hame, which is inserted and secured between the outer covering plate and the inner or stuffed portion. Both the hames and the parts of the divided collar proper are connected at top and bottom by means of straps, so that they may be adjusted together to adapt the collar as a whole to necks of animals of different sizes.

Mr. John McLeod, of 127 W. 26th st., N. Y. city, has invented an improved self-adjusting mast for boats and vessels. It is hung upon trunnions so that it may swing from side to side, and it carries at its lower end an arc which is preferably made tubular, and is armed with very strong springs which resist the lateral movement of the lower end of the mast. The mast is also provided at its foot or lower end with a heavy counterbalance weight which increases the inertia of the mast and answers as an automatically shifting ballast.

An improved weather strip has been patented by Mr. John M. Ceis, of Abilene, Kan. The object of this invention is to furnish weather strips for doors to prevent wind, snow, rain, and dust from entering the house beneath the lower edge of the door, and which is simple, effective, and durable.

Mr. Asa G. Golding, of New York city, has patented a double walled pitcher, so constructed that the inner wall or lining can be readily removed and replaced, and which will not allow the contents of the pitcher to pass through the joint between the inner wall and its support into the space between the walls.

An improved sewer gas trap has been patented by Mr. Albert F. Pflughaupt, Jr., of Brooklyn, N. Y. The object of this invention is to furnish devices for connecting the waste pipes of houses with sewers, which is so constructed as to prevent sewer gas from passing from sewers into houses through the waste pipes.

Mr. William Hadden, of New York city, has patented an improved duplex telegraph system for sending and receiving two sets of signals in the same direction on one wire at the same time. This invention cannot be clearly described without diagrams.

Messrs. Edward C. Smith and Leroy S. Winters, of Lincoln, Neb., have patented an improved carpet stretcher, of simple construction, which will stretch carpets and hold any desired portion of the edge thereof while being nailed to the floor

Mr. Charles H. Brazeal, of Tye River Depot, Va., has invented a device adapted for use in connection with harness, for the purpose of enabling a horse to be detached from a vehicle. The device consists mainly of a buckle having a sliding tongue to which is attached a strap that is held by or is accessible to the driver, and which being pulled will retract said tongue and allow disconnection of portions of the harness, so that the horse may go free.

Mr. Sanford Bray, of Charlestown, Mass., has patented an improved target which may be thrown into the air without the aid of a trap, and whose broad tail pieces or wings shall be so attached to the body of the target as to be broken off or detached from the body of the target when struck by a ball or by shot.

Mr. George O. Sanborn, of Boston, Mass., has patented an improved cover or top for wooden vessels designed to contain pickles, preserves, etc., and to be used for shipping such goods. The invention consists, first, in providing the wooden cover proper of the vessel with a central opening, and in closing the latter with a thin transparent glass plate, which is secured by cement applied and held in an undercut groove. The wooden cover proper forms a strong, stiff, and durable integral portion of vessel, while the glass plate enables the contents to be easily inspected without allowing ingress of air, and it is adapted to be easily detached whenever it becomes requisite to have access to or to remove the contents.

Messrs. Theodore Phillips and Harley Phillips, of Winchester, Iowa, have patented an improvement in washing machines, which consists of a tank having a set of parallel strips in the bottom with rigid vertical bars at the end, and with inclined and notched upper edges forming a washboard, an oscillating beater consisting of a series of fingers passing between the parallel strips of the washboard and connected to the lower end of a horizontally pivoted lever handle, and a set of fingers fixed to a rock shaft and adapted to pass between the vertical bars rising from the ends of the washboard.

An improvement in heating stoves has been patented by Mr. John H. Shimmons, of Lawrence, Kan. This is an improvement in heating stoves of that class in which a set of pipes lead the air through the fire chamber into an air chamber above, from which air chamber pipes conduct the heated air through a drum placed above the air chamber, which drum receives the products of combustion, which further heat the air as it passes through the pipes.

An improved harness maker's sewing-horse has been patented by Mr. Joseph B. Underwood, of Fayetteville, N. C. This invention relates to a machine for harness makers' use, known as the "sewing-horse." It is an improvement upon that form of sewing-horse for which letters patent No. 221,373 were granted to the same inventor, November 4, 1879.

Mr. Stephen M. Hoye, of Mount Carmel, Conn., has patented an improved die for swaging carriage-clips. Dies of the ordinary construction have no side or end stops to confine the metal in its proper place. It escapes at both sides and ends of the dies. The clip, therefore, has a rough edge and requires to be trimmed, which is done in a trimming-press. From such press the clip is placed under a trip-hammer, for the purpose of rounding and pointing the shank. The improved die produces a perfect clip at one operation.

An improved screw-tap has been patented by Mr. Timothy A. Fleming, of Hoosick Falls, N. Y. The object of this invention is to cut a right and left hand thread in the same machine without reversing the motion, as is customary, by additional shafting and pulleys. The inventor accomplishes this by a change in the form of the machine-tap. Two taps are used—the ordinary right hand tap, together with the new left hand tap. It is equally applicable to vertical and horizontal tapping-machines, either single or in gangs.

Mr. Thomas J. F. Regan, of Brooklyn, N. Y., has patented an improved process for making illuminating gas which consists, essentially, in placing in a closed receiver a quantity of caustic lime and pouring upon it as much naphtha or other light hydrocarbon as it will absorb, and then drawing from the receiver by suitable means the gas arising from the saturated lime and forcing it into a gasometer. The lime absorbs a small quantity of water from the hydrocarbon, and also a small quantity of condensed petroleum or petroleum oil. The gas drawn off by the exhauster is permanent, and will remain uncondensed in the gasometer. This gas answers every requirement for illuminating and heating purposes, and may be produced at much less expense than ordinary coal gas.

An improved magazine stove has been patented by Mr. Carlton Seaver, of Traer, Iowa. The object of this invention is to construct a stove so that the smoke and other products of combustion shall pass downward through the bottom thereof into a pipe that leads under the floor of the room in which the stove is placed and into the chimney, while the heat and light of the fire shall warm and light the room in which the stove is.

Mr. George H. Brown, of Mount Vernon, N. Y., has patented a support for pictures so constructed that it may be put up and taken down without marring the wall, will allow the positions of the pictures to be readily changed, and will prevent the pictures from being accidentally detached.

A Gold Bearing Newspaper.

A correspondent of the San Francisco *Call* writes to that paper as follows: "I had observed, previous to last February, that the *Call* often contained golden nuggets, but from the 6th of that month to the end it was rare to have a number without its golden show. From the paper of the 6th I took fifty-six pieces of gold, the thickness of the *Call*, and varying in size from that of a small pin head to nearly the size of a three cent piece. I think I have more than a hundred pieces of gold taken from the paper that month. All left a hole when removed, as the thin film of paper on the inside was rendered brittle by the hard pressure which the calender rolls gave as they flattened out the golden deposits. In addition to the gold, I got platinum, silver, iron, tin, and some lead."

The explanation of the discovery is that in the manufacture of the paper pulp water is used that has been passed through a flume in which miners have washed dirt containing all kinds of precious metals. The gold is what is known as "float gold," and escapes the miners who still follow the primitive methods of washing. Some of the water used is taken from artesian wells. The manufacturers say that they have often noticed a substance that glistened in the water, but that they supposed it to be mica, as the wells were bored through mica deposits.

How to Make Fern Pictures.

There are two ways—the mechanical and the photographical. For the first, take a sheet of strong white paper, and with an atomizer pass over it a spray of very diluted mucilage, so as to obtain a very thin and slightly sticking film, which will make the ferns adhere of which it is desired to make the picture. The ferns and leaves must have been first pressed in a book, and after arranging them to suit your taste, cause them to lie as closely to the paper as possible; fill an atomizer with very diluted India ink, and blow a spray over the ferns, more or less in proportion as you want a darker or lighter shade. It is well to do this with intermissions, letting it dry a little, so as to avoid excess of moisture and possibility of running the liquid into drops. When nearly dry, but still a little moist, remove the ferns, which may be used over again several times. For the photographic method, cover a sheet of paper with a weak solution of salt in water and some white of an egg, well beaten; after it is dry, take it into a dark room, and with a tuft of cotton pass over it a solution of nitrate of silver (50 grains to an ounce of water); dry it in the dark, and the coat of chloride of silver formed on its surface will receive the impression. Then arrange your ferns between two plates of glass, and cut the paper to the same size as the glass plates; place it under them and expose to the sun, in the same way as a photographer prints a portrait. Watch it until dark enough, and before removing the paper from the glass take it into a dark room. Here place the picture in a solution of hyposulphite of soda, which will dissolve the chloride of silver, but leave the decomposed material (finely divided black silver) which forms the black background, while the shadow of the leaves will be white.—*Chemist and Druggist.*

A Remarkable Surgical Operation.

For about a year a little girl, ten years of age, has been a patient in the County Hospital, Chicago, suffering from a burn so extensive that the ordinary treatment by skin grafting hopelessly failed to effect a cure. It was therefore decided to try the experiment of transplanting a large section of skin partially detached from a healthy subject, the girl's twelve year old brother consenting to be flayed for his sister's sake. Drs. Lee and Feuger conducted the operation, which is described as follows by a reporter of the Chicago *Tribune:* A curious box had been constructed under the supervision of Dr. Murphy. It resembled nothing more than a pair of scissors opened out, except that one part was about four inches higher than the other. On one face of the cross the little girl was laid face downwards. On the other the boy lay on his side so that his leg crossed his sister, the part of the thigh from which the skin was to be taken being just over the burn on the girl. The children were kept unconscious during the entire operation by the use of ether, and two assistants constantly directed the vapor of carbolic acid on the wounds of both the boy and the girl. The surgeons then cut from the boy's thigh a leaf of skin four inches wide, five inches long, leaving it attached by the under side. The wound of the girl was then cleared of its decaying matter. The flap of the boy's skin was then laid on the wound and stitched to the outer edge of the skin about the wound, without cutting the edge, which rendered it still a part of the boy's fleshy covering. This was done to secure the vitality of the boy for the skin which is expected to grow to be a part of his exhausted sister. The boy's wound was ugly in appearance, but the skin had been separated, or dissected, so neatly that it will be easy to heal over by the usual process of grafting. The children, as they lay in this position, were so bandaged that they cannot possibly tear the flap of skin or move from their position. Thus their dual existence was begun, which will last for about three weeks. By that time the success of the operation may be known. During that length of time the boy's vital forces will be in a measure transferred to the assistance of his sister, and, at the end of that time, it is hoped that the transplanting will be complete and the skin firmly grown on the burned portion. The flap is not quite large enough, and, before the skin is finally severed from the boy, a still further portion will be dissected and applied to the remainder of the wound. The little girl's pulse dropped considerably toward the close of the operation, but she was revived by the application to the nostrils of a cloth dipped in brandy. The operation was a success as far as it went, and, if nature takes hold in the manner expected, the brave boy can congratulate himself on having saved his sister's life.

The Driven Well for Fire Purposes.

The *Firemen's Journal*, in an appreciative article on this subject, recommends the general adoption of the driven well for fire purposes, and for all small country places, where there is no large and constant water supply, we should think the suggestion an eminently practical one. In the SCIENTIFIC AMERICAN, of March 13, we gave some account of this system of obtaining water, and what was being done under it in New York city, where it is now largely used to save the expense attendant upon a large use of water from the city reservoirs. To obtain a supply sufficient for the usual form of fire engines in use in country places it might be necessary to put down two or three of these driven wells near each other, and connect them, so that the suction pipe of an engine being attached, water might be drawn from all the wells at the same time. Of course, these wells, working on the principle that the water is drawn from the ground around them by making a vacuum in the tube, will supply much more water than an ordinary open well, and they are not ordinarily so expensive to put down. An abundant supply of water can usually be obtained at distances varying from twenty to fifty feet from the surface, but, in each case where a well is put down, it should be at once thoroughly tested, to determine the probable permanent yield of the water-giving strata when it is driven.

The Texas Cattle Drive.

The Omaha *Republican* gives a detailed statement of this year's cattle drive, the total reaching 301,000. Of this number about 50,000 head will be driven to the Union Pacific. The cattle are in good condition, fully up to the standard of previous years, and are mostly one, two, and three years old, very few being beef cattle. The drive to Nebraska would have been larger had it not been for the drought making a scarcity of grass along the road. About 25,000 horses are being driven up from Texas this season, of which number about 5,000 go to Nebraska.

An Early Plan to Improve the Mouth of the Mississippi by Jetties.

The New Orleans *Times* finds on page 357 of the first volume of Gayarre's "History of Louisiana" the following notice of an early proposition to deepen the mouth of the Mississippi River by means of jetties. The author says:

"The necessity of deepening the mouth of the Mississippi had attracted the attention of the French Government at the earliest period of the establishment of the colony, and the engineer Pauger made, in this year, 1723, a very interesting report on the practicability of arriving at this desired result. He represented that it was easy and not expensive to *fix* (fixer) or to control the current of the Mississippi so as to make it subservient to the plan of operating upon the sand banks which obstructed the several mouths of the river, and so as to give admittance to the largest ships, whatever might be the depth of water they drew; that, if necessary, a fine artificial harbor with quays might be created at the Balize, with the numerous resources which the nature of the locality offered, and that it might be effectually protected by such fortifications as he indicated. He recommended *to shut up all the mouths of the river except one,* in order to force a greater volume of water into the remaining channel, which would consequently acquire more depth."

It detracts nothing from the merit of Captain Eads' work that the idea of the system he adopted was not original with him. He never claimed that. It is to his credit, nevertheless, that he was able not only to appreciate the system, but was willing to risk fame and fortune in carrying it out in the face of strong professional opposition.

Our Trade in Foreign Fruits.

The seventh annual report of the foreign fruit trade of New York, just completed by U. S. Inspector of Customs J. H. Bostwick, contains much interesting information. The principal statistics for the year 1879 are as follows:

The importation of Mediterranean fruit at the port of New York during the year 1879 consisted of 108 cargoes by steamers and 54 by sailing vessels, and comprised 880,729 boxes and cases of oranges and 900,505 of lemons, showing an increase of 26 cargoes by steamers and 24 by sailing vessels, and of 525,732 boxes and cases over the importations of 1878. The number of oranges was 239,751,255, of which it is asserted 119,875,627 perished on the voyage, a loss of 50 per cent. The number of lemons was 315,176,750, of which it is asserted 113,463,620 perished on the voyage, a loss of 36 per cent. Total number of oranges and lemons, 554,927,975; boxes and cases of oranges and lemons, 1,781,234. There were 44,365 barrels and 56,721 half barrels of grapes imported last year, at a loss of 25 per cent, a slight decrease compared with the imports of the preceding year.

The trade in Mediterranean fruit during the past year has been disastrous to the parties engaged in it, especially to the producers. The price of box fruit was as a rule very low, particularly in the case of oranges imported from Catania and Palermo. These were seriously affected by a parasite which greatly impaired their value. A large proportion of the fruit arrived in bad order.

The importations of oranges from the West Indies consisted of 16 cargoes and several parts of cargoes by sailing vessels; also 33,736 barrels of oranges per steamers. Of the above, 21,286 barrels were from Kingston, Jamaica, and 7,450,100 oranges, of which 3,352,545 perished on the voyage. There were 15 cargoes and 665 barrels imported from Mayaguez, comprising 4,388,045 oranges, of which 1,912,195 perished on the voyage; from Havana, 7,212 barrels, comprising 2,307,735 oranges, of which 1,038,480 perished; from Nassau, 2,734 barrels, comprising 919,659 oranges, of which 299,249 perished; from Montego Bay, 1,389 barrels, comprising 771,665 oranges, of which 347,249 perished; from Trinidad, 445 barrels, comprising 285,917 oranges, of which 214,438 perished; from Abaco, 1 cargo, comprising 190,000 oranges, of which 17,000 perished; from Baracoa, parts of cargoes, comprising 84,900 oranges, of which 35,950 perished; from Guyanilla, 4 barrels, comprising 1,400 oranges, of which 600 perished. The above shows a grand total of 16,399,421 oranges, of which 7,217,706 perished, an average loss of 44 per cent. An increase is shown of two cargoes and 7,610 barrels of oranges over the imports of the preceding year.

The importation of bananas from the West Indies the past year consisted of 105 cargoes by sailing vessels. Of these there were 90 cargoes from Baracoa, comprising 191,888 bunches, and 15 cargoes from Port Antonio, comprising 28,823 bunches; from Kingston, per steamers, 47,965 bunches; from Montego Bay, per steamers, 36,134 bunches; from Trinidad, 284 bunches. Total number bunches of bananas imported from the West Indies, 305,094, of which 79,518 perished on the voyage, an average loss of 26 per cent. There were also imported from Aspinwall, per 55 steamers, 240,000 bunches of bananas, of which 38,000 bunches perished on the voyage, an average loss of 17½ per cent. There was an excess of 40,000 bunches of bananas over the imports of the previous year, and a decrease in loss of 22½ per cent.

The importations of pineapples consisted of 53 cargoes, of which 8 cargoes were from Eleuthera, 11 from Cat Island, 8 from Governor's Harbor, 9 from Nassau, 5 from Abaco, 3 from Rock Sound, 3 from Harbor Island, 1 from Tampum Bay, 1 from Rum Key, 2 from Mayaguez, part cargo from Antigua, and comprised 2,558,833 pineapples. There were also imported, per steamers from Havana, 143,555 pineapples; from Kingston, 21,148; and from Montego Bay, 16,466. The total number of pineapples imported from the places above named was 2,740,002, of which 712,391 perished on the voyage, showing average loss of 26 per cent. A comparison of the above with the imports of the preceding year shows an increase of about 40,000 pineapples.

Cocoanuts were imported from the following named places during the past year, viz.: Baracoa, 3,112,006; San Andreas, 1,540,863; Aspinwall (per steamers), 560,602; Carthagena, 374,492; Falmouth, 245,000; Ruatan, 217,500; Montego Bay (per steamers), 158,863; Honduras, 139,800; Port Antonio, 132,704; Port Maria, 100,000; Kingston (per steamers), 55,000; Gilarie, 38,800; St. Jago, 21,600; Mayaguez (part cargoes), 10,430; San Ann's Bay, 8,200; San Domingo (per steamer), 7,000; Maracaybo, 3,000; making a grand total of 8,205,578 cocoanuts, which comprised the cargoes and parts of cargoes of 114 vessels, exclusive of steamers. Of the above, 662,249 cocoanuts perished on the voyage, a loss of 8 per cent. A comparison of the above with the imports of 1878, the result shows a decrease of 981,307 cocoanuts.

The importation of limes comprised 988 barrels, on which there was a loss of 33 per cent; 126,000 grape fruit, loss 10 per cent; 5,144 shaddocks, loss 33 per cent; 9,000 plantains, loss 25 per cent; 28,000 mangoes, loss 80 per cent. There were also imported in small quantities of each, mandarins, cantaloupes, sapodillas, alligator pears, manma apples, and watermelons, on which there was a loss of 25 per cent. The countries and places whence the foregoing varieties of fruit were imported are the United States of Colombia, Mexico, Central and South America, Venezuela, British West Indies, French West Indies, Cuba, Porto Rico, England, Scotland, France, Spain, Portugal, and Italy. The value of green fruit entered for consumption at the port of New York from January 1, 1879, to December 31, 1879, is exhibited in the following table:

Varieties of Fruit.	Value.	Duty.
Oranges and lemons, 20 per cent.	$2,919,003	$583,800.60
Grapes, 20 per cent.	227,014	45,402.80
Pineapples, 20 per cent.	105,297	21,059.40
Bananas, 10 per cent.	382,473	38,247.30
Limes, grape-fruit, shaddocks, plantains, mangoes, mandarins, cantaloupes, melons, sapodillas, alligator pears, manma apples, and watermelons, 10 per cent.	9,315	931.50
Cocoanuts, free	213,438	
Total	$3,856,540	$689,441.60

A comparison of the value of green fruit imported in 1879 with that of 1878 shows an increase in value of $121,490, and of duty, $23,425.

RECENT DECISIONS RELATING TO PATENTS.

United States Circuit Court—Western District of Pennsylvania.—Acheson, J.

STROBRIDGE *vs.* LINDSAY, STERRITT & CO.—COFFEE MILL PATENT.

1. The first claim of reissued letters patent No. 7,583, granted to Turner Strobridge, March 27, 1877, for an improvement in coffee mills, is valid.

2. The mere fact that the device of the defendants has a function additional to that accomplished by the patented invention will not justify the defendants in the use of the latter without liability.

3. Letters patent themselves *prima facie* establish the fact that patentable invention is embraced thereby, and strongly confirmatory of this will be evidence tending to show the favorable acceptance by the public of the improvement and its recognition by the trade as something new and meritorious.

Messrs. Bakewell & Kerr for the complainant.

Mr. B. F. Thurston for the respondents.

United States Circuit Court.—Western District of Pennsylvania.—Strong, J.

ROBERTS *et al. vs.* SCHREIBER.—OIL WELL TORPEDO PATENT.

1. Reissued letters patent No. 6,258, granted to E. A. L. Roberts, January 6, 1875, the claim in which is for "the method or process of increasing or restoring the productiveness of oil wells by causing an explosion of gunpowder or its equivalent at or near the oil-bearing point, in connection with superincumbent fluid tamping, substantially as described," declared to be for the same invention as his original patent dated May 20, 1866, and sustained.

2. The decision in the case of *Roberts vs. Dickey*, 4 Fisher, 532, construing the true meaning and scope of such original patent, approved.

3. The application of a blast in a bore hole sunk in an ordinary well is not an anticipation of a process by which a torpedo may be exploded many hundred feet below the surface of the ground and below the top of the rock through which an artesian well has been sunk, and at the exact point in the well where the effect of such explosion is desired, with a water tamping sufficient to confine the effect to the vicinity of its location.

4. Unsuccessful and abandoned experiments cannot avail to invalidate a patent to an inventor who has disclosed to the public an invention the utility of which has been demonstrated by its general adoption.

5. The cause that works successful results cannot be the same as that exhibited in abandoned experiments, and holding the latter up as anticipations of the former is but an illustration of what is very common—an attempt to defeat a meritorious invention by proof that something similar had been previously known, though it had never been perfected, and had never been any useful contribution to human knowledge or convenience.

6. The process invented by Roberts, as disclosed by his specification, does not require that the superincumbent fluid tamping should fill the well, but that there should be a sufficient column of fluid to confine the effect of the blast.

7. Letters patent No. 47,458, granted to E. A. L. Roberts, April 25, 1865, for improvements in apparatus for exploding gunpowder or other explosive material in artesian or other similar wells, construed and sustained.

By the Commissioner of Patents.—Marble, Commissioner.

EX PARTE MCDOUGALL.—PATENT OIL CAKES.

1. The rule that several distinct inventions cannot be included in a single application is alike applicable whether such inventions be improvements in processes or machinery, and the mere circumstance that several processes pertain to the same subject matter will no more warrant their joinder in a single application than will the bare fact that two machines are in the same class of invention warrant the issue of one patent for the two.

2. Although each of the several "acts" of the "series of acts" constituting a process may be capable of performing separately its own peculiar function, and may be used independently of the others, yet if they all contribute in producing the final result they may be joined in a single application, and a claim may be made to the entire process, and separate claims can also be made to the sub-processes which go to make up the same.

3. Where one has discovered that a desired result can be attained by a process consisting of a series of steps, and that certain of the steps in such process can be replaced by others which will operate in an equivalent manner, a broad or generic claim can be made including all the modifications, and a more limited and specific claim can be made to any one of the modifications.

4. Where in several processes the order in which the several steps follow each is different, as are also the final results attained, the processes cannot be said to be modifications each of the other.

5. Alternative claims and claims for modifications condemned. The mere fact that courts, in order to save a patent, have sustained such claims is no warrant for the Office to shirk its duty in requiring that the claims shall be framed in the clearest and best form, and shall not embrace distinct inventions.

New Varieties of Tea.

An English consul reports the discovery of two curious varieties of tea on the western frontier of China. In the monasteries on Mount Omi (or Ngomi) he was given an infusion of tea which is naturally sweet, tasting like coarse congou with a plentiful addition of brown sugar. It is only grown by the monks on the slopes of the mountain, and two days' further west its existence was unknown. The other variety, odd as it may appear, has the natural flavor of milk, or, perhaps, more exactly of butter. What is most interesting is the fact that it is wild tea, growing in its native elevated *habitat*, without cultivation.

This wild tea is found in the uninhabited wilderness west of Kiating and south of Yachow, at heights of 6,000 feet and upward, and is a leafy shrub 15 feet high, with a stem 4 inches thick. Every part of the plant, except the root, is used for making the infusion; the wood is chopped up and put into a kettle of water with the dried leaves and twigs and being boiled yields a strongly colored but weak tea, possessing a buttery flavor, which gives it some resemblance to the Thibetan preparation.

Cold Air Fruit Curing.

The California *Mountain Messenger* reports an interesting experiment in fruit curing lately made at a Placerville foundry. About a peck of sliced apples were placed in a sieve and subjected to a cold air blast for three and a half hours in the cupola furnace of the foundry, and the fruit is reported to have been completely and beautifully cured by the treatment, remaining soft and without the slightest discoloration. The cured fruit showed none of the harsh, stiff dryness which results from hot curing, the cold blast completely freeing the fruit from excess of moisture, with no possibility of burning or shriveling it. The *Messenger* says: "Compared with our sun drying, it effects a great saving of expense, attention, and risk. Anybody who can command or devise a strong blast of cold air, can dry fruit in a superior—we might say perfect—manner, without being dependent on the weather and waiting on the slow process of sun drying, and without the most expensive resort to fuel and the risk of overheating."

Old-fashion Flowers.

The editor of the *Rural New Yorker* recently visited what he terms an old-fashioned garden, in which were growing and blossoming luxuriantly white herbaceous pæonies, *Pæonia tenuifolia* (single), tree pæonies, larkspurs, Canterbury bells, fox-gloves, June and hybrid roses, and many other good old things, now seldom seen except at some old country home. Are we not, pertinently asks the editor, making a mistake in neglecting these fine old plants? At some future time we may wish for them in vain.

Benjamin D. Frost.

Benjamin D. Frost, civil engineer, under whose supervision the Hoosac Tunnel was constructed, died at St. Louis, Mo., July 19. Mr. Frost was a resident of Massachusetts, but had been in the West several months prosecuting surveys for the improvement of the Mississippi River, in which work he was actively engaged to the end. He was within a few years of completing his fiftieth year.