

The Cause of the Seawanhaka Disaster.

An important clew to the cause of the disastrous fire on the steamer Seawanhaka, last June, has been disclosed in the breaking up of the metallic skeleton of the wreck. What was left of the steamer, as it lay on the sunken meadow off Randall's Island, East River, was purchased by Mr. Matthew H. Gregory, of Red Bank, N. J., who is now engaged in recovering the iron and copper. In pursuance of this work the shell of the starboard boiler has been stripped off, disclosing the fact that the outermost of the eight large circular flues of the boiler had burst at the point where it joined the back flue sheet. A *Herald* reporter, who had visited the wreck in company with Mr. Gregory, says that the quality of the iron of that part of the boiler was evidently very poor.

"Originally the iron of the flue was three-sixteenths of an inch thick, but in some places near the break it is not now more than one-sixteenth of an inch. The break gave every indication of an explosion. The force which broke it was evidently from the inside of the flue, since the jagged edges turn outward. A few inches from the place of the break the flue has at some time been patched, a fact which has not been developed by the official examinations. The patch is riveted to the flue, and covers a space of about half a foot. Until some better reason is put forward the presence of that patch will be taken as an argument for the weakness of the iron.

"The hole above described was not more than eight inches from the patch, and the wearing out process must have been going on for a considerable time. Mr. Gregory could not say how much the break had to do with the accident, but an expert could easily determine. If the break occurred before the fire, it certainly is large enough to have admitted the water and caused a back draught. That a back draught created the fire is the opinion of four-fifths of the experts who have testified since the catastrophe."

A New Military Telegraph Line.

The signal service has just completed a telegraph line across the northwestern territories from Bismarck, Dakota, to Dayton, Washington Territory, crossing the Rocky Mountains by the Sohon Pass. For the transaction of commercial business it has offices open at the following points: Bismarck, Rapid City, and Deadwood, Dakota; Bozeman, Helena, and Deer Lodge, Montana; Spokane Falls, Colfax, Almota, Pomeroy, and Dayton, Washington; and Lewiston, Idaho.

Chicago Manufactures.

Few people have any idea of the rapidity with which Chicago is becoming a great manufacturing center. The statistics gathered by the Secretary of the Board of Trade for the forthcoming census report show 3,752 manufactories in the city, giving employment to 113,507 operatives, and representing a capital of over \$80,000,000. The value of the output annually is \$249,000,000; value of material used \$178,000,000; wages paid, \$37,000,000.

NEW NURSING BOTTLE.

The body of the bottle shown in the annexed engraving is made in two parts, one fitting into the other at their junction, the external one being provided with an internal flange for receiving the packing ring, against which the edge of the inserted part rests. Upon one part of the bottle is formed a bead which runs around it spirally, forming a screw thread which is engaged by a metallic ring fitted over an external flange formed on the other part and capable of drawing the two parts firmly together against the packing ring.

The stopper through which the tube passes is inserted from the inside of the bottle and cannot therefore be drawn out accidentally. The nipple, as will be seen by reference to the small sectional view, is held in place by the shield which is slipped over the portion of the nipple bulged out by the bead formed around the end of the neck of the tube. This forms a very secure fastening for the nipple.

The body of the bottle has an inwardly projecting ridge which insures the greatest possible depth of milk for the inner end of the tube.

This bottle may be readily taken apart for cleaning, and avoids the imperfections found in other bottles.

For further information address the inventor and patentee, Mr. E. A. Barton, 348 Notre Dame street, Montreal, Canada.

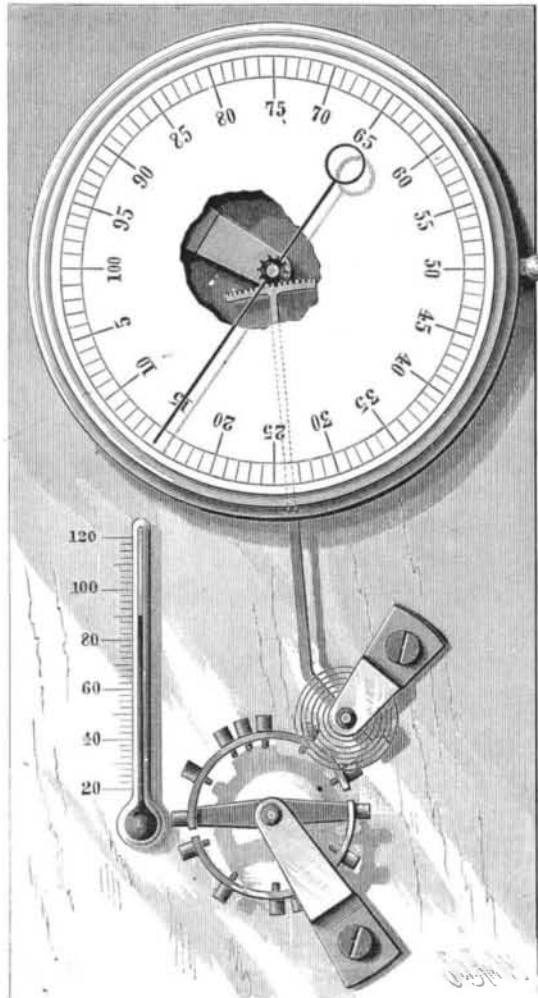
Plan for Catching the Express Trains.

M. Hanrez, of Paris, is the author of a method of taking up carriages by a train *en route*, in order to avoid stopping trains at stations to take passengers up. A "waiting carriage," fitted with a steam engine with special gear and space for passengers and luggage, is placed on a siding at the station, and picked up by the train as it goes past. The latter, by means of a hook on its last carriage, catches a ring supported on a post, and connected with a cable wound on a drum in the waiting carriage. Thereupon the drum

begins to unwind, and in doing so compresses a system of springs, while the carriage is moved at a rate gradually increasing to that of the train. The engine of the carriage then winds in the cable, the train and carriage are connected, passengers are transferred from the joined carriage to the train, and *vice versa*, then the two are disconnected, and the engine of the carriage working on the wheels brings it back to the station whence it was taken.

APPARATUS FOR ADJUSTING BALANCE WHEELS OF WATCHES.

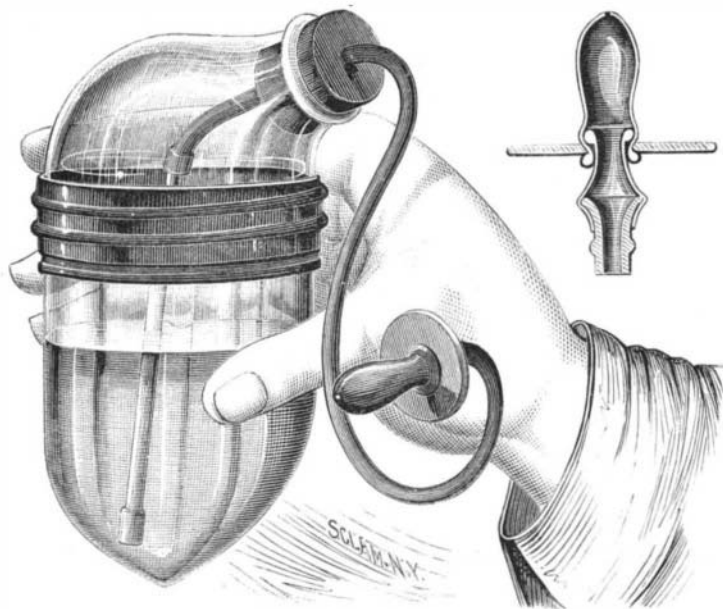
The engraving shows a device for indicating any alteration



IDE'S APPARATUS FOR ADJUSTING BALANCE WHEELS OF WATCHES.

in the form of the balance wheels of watches, chronometers, and other horological instruments by changes of temperature. The invention consists of a holder for the balance wheel, a multiplying lever, and an index actuated by the lever. The short arm of the lever touches the periphery of the balance wheel, and the longer end carries a curved rack which engages a pinion on the arbor of the index.

By means of this mechanism the slightest change in the



IMPROVED NURSING BOTTLE.

form of the balance wheel is indicated by a movement of the index. A thermometer is mounted on the instrument, so that its indications may be readily compared with those of the index.

The inventor proposes to make the instrument double, so as to test both sides of the balance wheel simultaneously.

This invention was recently patented by Mr. F. F. Ide, of Springfield, Ill.

SOME one has said, what thousands have observed, that there is nothing keeps longer than a middling fortune, and nothing melts away sooner than a great one. Poverty treads upon the heels of great and unexpected riches.

The American Apple Crop.

It is gratifying to be able to record that, notwithstanding the failure of the crop of apples in this country, we are to have abundant supplies from America. Accounts from Boston report the crops to be the largest for many years, perhaps to the extent of 40 or 50 per cent. Up to June 30, 1880, the shipments from Boston to England amounted to 173,379 barrels, of a money value equal to over £70,000. It is expected that with the heavy crop this season the exports for the current year will nearly double those figures. Already large supplies are coming to hand from New York, the Anchor Line steamers arriving at Glasgow last week having over 5,000 barrels, which were sold at moderate prices for the early time of the year. The fruit, as a rule, is of excellent quality, and when it arrives in good sound condition will keep for a considerable time.

Many grocers consider it advantageous to add green fruit to their general stock, and the public begin to find out that they can purchase from the grocer at a cheaper rate than from the fruit merchant. In these times when the grocer is beset on every side by opposition from "stores" and "wholesale retailers," etc., it behooves them to look around for fresh articles for sale whereby they may recoup their loss. To those who have not already done so we would say: Add the green fruit business to your trade, and we are of opinion that you will not have any cause to regret it, provided the business be conducted with care and discrimination, and only such articles purchased as are found to be in demand in their respective localities.—*London Grocer.*

Fast Horses.

The standard trotter is one that can cover a mile in 2:30. It is said that less than 600 of all the horses raised and trained in the United States have this record. The number that can trot in 2:50 bear the ratio of 1 to 2,383 horses raised. As a business the breeding of fast horses is therefore very much of a lottery; and when we recall the fact that the high prices which famous colts have brought have rarely been received by the men who raised them, the prizes in breeding and training trotters are few and uncertain.

MECHANICAL INVENTIONS.

Mr. Eugene H. Angamar, of New Orleans, La., has patented a simple and effective apparatus for freeing railroad tracks from snow and ice by heat, more especially street railroads; and the invention consists in a truck fitted for running on the track and supported on hollow wheels, which are fitted with grates for burning fuel, and perforated so that the wheels may be highly heated.

Mr. Hilliard B. Smith, of Stephenville, Texas, has patented an improvement in wind wheels which consists in a novel arrangement and combination of wings or gates in a casing outside and independent of the wheel, whereby provision is made for adjusting the position of the wings, and consequently regulating the speed of the wheel, according to the force of the wind.

An improvement in rotary blowers has been patented by Mr. Charles A. Smith, of Philadelphia, Pa. This invention consists in certain novel details of construction and arrangement of parts which cannot be readily described without an engraving.

Messrs. Conrad Eimbeck and Fritz Wehrmann, of New Haven, Mo., have patented an improved coupling for connecting the forward axles and the bodies of buggies, buckboard wagons, and other vehicles, so constructed as to give the axle a free vertical and horizontal play, and thus better adapt the vehicles for use upon rough, uneven, and sideling roads.

An improved machine for framing timber has been patented by Mr. Richard H. Watson, of Leadville, Col. This machine is intended to accomplish by power the work of framing timber used in mines, shafts, tunnels, and similar underground works. The inventor makes use of a suspended carriage or frame fitted for movement in vertical guides and carrying two horizontal saw arbors fitted at right angles. This is combined with a bed carrying adjustable head and tail blocks for holding the timber and presenting it properly to the saws. A winding drum and friction pulleys feed the saws, and devices of novel character center and clamp the timber.

An improvement in that class of windmills in which the wheel is inclosed in a cowl, has been patented by Mr. Albert S. Dimock, of Hutchinson, Kan.

An improved lifting jack has been patented by Mr. John Paar, of New York city. The object of this invention is to construct a jack that can be made to press both upward and downward at the same time, or to operate either upward or downward, as may be desired.

Wintering Flower Roots.

The roots of many useful and ornamental plants, such as cannas, dahlias, and gladiolus, may be safely wintered in dry soil by means of external coverings. But as they do not require light during the winter it is safer to lift and store them in a dry cellar or building from which frost is excluded. We find them to keep best, says an agricultural writer, packed in a soil just moist enough to keep the roots from swelling.