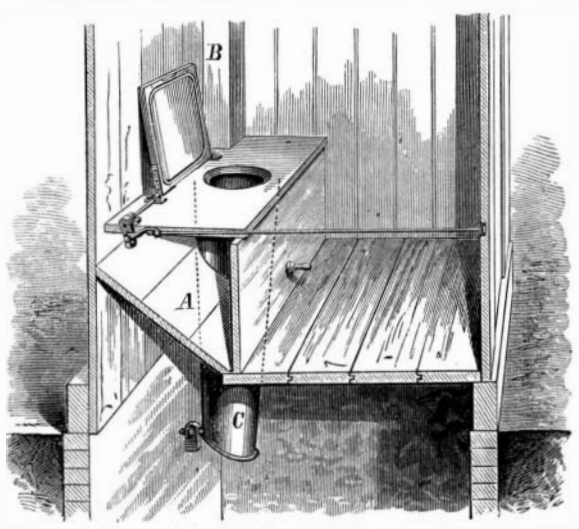
THE CATTLE OF THELEMARK, NORWAY.

We find in an interesting report by Mr. H. M. Jenkins, on the agriculture of Sweden and Norway, a description of a remarkable breed of cattle indigenous to Norway, which, even in these days of cross breeding and improvement, is still found in its original purity. We select the engraving from the *Journal of the Royal Agricultural Society of England*, Mr. Jenkins being commissioned by the Society to make the report. The cattle, as will be seen, are small, full grown cows seldom attaining a greater weight than 700 or 800 lbs.; they are a mountain race, and their diminutive size may be fairly attributed to the poverty of their food and the rough weather and long winters of their habitat. They are good milkers, the best in this particular of many breeds kept at the royal farm at Ladegaardsoen having been of this race. Moreover, the care and good living bestowed on the race at the farm have somewhat increased the stature and weight of the animals. One cow milked, in 1868, 646¾ gallons, in 1869, 720 gallons, in 1870, 689¼ gallons, or on an average of three years, 685½ gallons, with a living weight of about 790 lbs.; that is nearly 9 lbs. of milk for each 1 lb. living weight annually, a result which bears comparison with the best milking breeds. Usually the Thelemark cows do not milk highly immediately after calving, seldom more than 3½ gallons daily, but they maintain the yield evenly, and do not remain long dry. Like every other good milking breed, the Thelemark cows are very liable to milk fever; for which reason it is very important to keep them on a low diet for some time before and after calving.

THELEMARK CATTLE.

SELF-CLOSING CLOSET LID AND ANTI-NUISANCE CLOSET.

The invention represented herewith aims to exclude sewer or vault gases from yard closets, and to offer protection against the very injurious cold draft in these as well as in railroad car accommodations. The lid is provided with a self-closing device and elastic packing, which exclude the gases from all sorts of closets. The closet door is suitably connected with the lid, so that, when the former is opened for the exit of the user, the lid is shut invariably. A board apron, A, below the seat closes the vault, compelling the gases to pass out by the ventilator flue, B. A tube, C, attached to the lower side of the seat board and provided below by a



balanced valve or flap, passes through the apron, tightly fitted by packing. Anybody cognizant of the present unwholesome yard closets and railroad car accommodation, throughout the country, will readily appreciate the improvement.

Patented December 14, 1875. For further information, relative to sale of rights, etc., address R. d'Heureuse, P. O. box 395, New York city.

Packing Butter.

A well known dairy authority gives the following directions for packing butter so that it will keep sweet for 8 or 9 months: "Make a brine with a saturated solution of the purest salt you can get, using 1 lb. of saltpeter to about 20 lbs. of salt. Scald the brine by bringing it to a boiling heat, skim, and apply when sufficiently cool. The casks should be carefully prepared as well as the brine. If the gum and sap in the wood are not removed before the casks are used, they will work out into the brine and affect the butter. To remove the woody flavor from the casks, a thorough steaming with a high pressure is the quickest and best means. If soaked before the steam is applied, hot steam will cut the gum and woody flavor all out in a short time. If steam is not convenient, soak in brine a week or so, and then fill with boiling hot brine, and let it stand till it gets cool. By keeping the butter under the brine and the casks full and in a cool place, the butter can be kept safely. Some of the tin-lined packages which have recently been introduced, and which are easily hermetically sealed, would be much more convenient and probably fully as cheap as the oak casks and brine, and are claimed to be equally efficient in preserving."

Straightening and Bending Pipes.

In order to straighten lead pipe, if the bore of the pipe is 1 inch or more in diameter, dress out a wooden rod small enough to enter a hole the size of the bore; then point one end, grease the surface thoroughly, and work and drive the rod into the pipe. Draw the rod back and turn it a trifle at every blow. If the pipe is small, less than one inch in diameter, drive in a pointed iron rod, turning it at every blow, so that the rod may not stick so tightly that it cannot be withdrawn. To bend a lead pipe without forming kinks, fill the bore with dry sand. To bend an iron pipe, fill the bore with dry sand, stop the ends with stiff clay, heat the pipe where it is desirable to have the curve, and the pipe will bend readily without making kinks. If the dry sand will not run out, water will wash it out.

Annual Report of the Chief Signal Officer.

We are indebted to Brigadier-General Albert J. Myer, Chief Signal Officer, U. S. A., for a copy of his annual report, being for the year 1875. This book, of 475 pages, exhibits annual reports from the United States Signal Stations in every part of the United States, in the West Indies, Canada, and Alaska, showing the work done, the number of disasters averted, the improvements made, and the wide favor in which the signal service is held. It contains monthly weather reports for the year for all parts of the country, illustrating by numerous charts, the temperatures, barometric pressures, rainfall, humidity, and direction and force of winds. It is a record of all important electrical and optical phenomena, all general storms, and all marine disasters. It contains several large international weather maps, which illustrate the great meteorological changes in North America and Europe. The oscillations or variations of the tides, of the principal rivers in the United States, are recorded by diagrams. The records of miscellaneous phenomena are interesting and extensive, covering natural history, forests, polar lands, meteors, zodaical light, earthquakes, etc. The extensive, varied, and exact information contained in this report makes it a document of unusual scientific value. It is published at the government printing office, Washington, D. C.

Toning of Photo Transparencies on Glass.

This operation is scarcely necessary if the transparency should have been reinforced with acid silver, and is only required to be viewed by transmitted light. But silver as well as alkali-intensified films have generally a very disagreeable color by reflected light, and many amateurs object to this. The use of a weak solution of chloride of gold obviates this difficulty, but, unfortunately, the color thus given is too cold to suit many tastes. The best toning agent we have used is chloride of copper, followed by an application of alkaline pyro.; any tone by transmitted light is attainable, while the color of the deposit by reflected light is either black or a deep warm brown. On no account resort to any of the formerly recommended methods of toning by mercury; the colors, though beautiful to the eye, are evanescent, and sooner or later the picture becomes one shapeless blotch.—*British Journal of Photography.*

Fast Ocean Steaming.

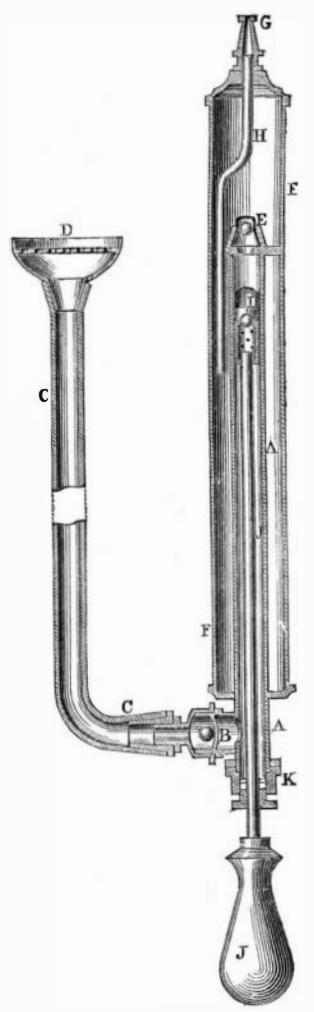
The Germanic, mean displacement 8,525 tuns, recently made the trip from New York to Queenstown, Ireland, 2,894 national miles or knots, in 7 days, 15 hours, 17 minutes, being an average of 15·8 knots per hour. This is the fastest time on record. The mean boiler pressure throughout the voyage was 63 lbs., mean vacuum pressure (condensers) 27 inches, revolutions of engine 55·57 per minute, indicated horse power, 5,434.

The Coming Fiber.

It is well known that with proper methods a certain percentage of fiber suitable for felting into a sheet which may be called paper can be produced from any plant that grows. This fact shuts the door in the face of the inventor in this line. It is possible to obtain letters patent in this country for a certain plant as a material for papermaking, but the value of such a patent is questionable. All who are interested in seeking new papermaking materials among the products of the vegetable kingdom must bear in mind the several absolutely essential elements which are necessary to any successful operation. A vegetable fiber, to compete rags or other leading material, must be such as will admit of yearly production either from its own root or from seed sown and cultivated, like jute or straw; it must grow in large quantities, and must not present great obstacles to ready and cheap harvesting; it must be grown in easy connection with cheap transportation lines; it should yield at least fifty per cent good fiber; and should not offer difficulties which the present improved systems of treating other vegetable fibers will not readily overcome. Failing to possess any or all of these attributes, any new candidate to the favor of the trade would undoubtedly meet with disfavor. As stated above, the vast majority of the so-called new fibers fail in one or more of these essential points, and people who are experimenting to-day with such materials will only have their labor for their pains. It may be truly said that this diligent search for new vegetable fibers is to-day unnecessary. Esparto, straw, and wood are the great substitutes for rags in foreign mills. In this country wood and straw have the field to themselves. With the present processes wood can only be made into the better grades of paper by chemical auxiliaries, which are expensive and can be worked profitably only by recovering the alkalies. Ground wood is the great cheapening element in paper manufacture at present, and it can only be used in the lower grades of paper. Straw therefore comes to the point as fulfilling more completely than any fiber the wants of the trade. If worked to better advantage, it alone, in addition to rags, would furnish all the papermaking material required.—*Paper Trade Journal.*

A NEW GARDEN PUMP.

M. Reynier, of Paris, France, is the inventor of a new garden pump, easily operated, and which gives a continuous, spray-like stream which may be accurately directed to the plants which it is desired to water, without necessitating the wetting of others. Water is drawn in at the flared orifice, D (which is provided with a sieve to prevent entrance of impurities), and passes through the tube, C, and ball valve, B, to the interior pipe, in which works the perforated and valved piston, I. When this piston is drawn back, the water, already in its rear, passes through it, the valve, I, opening. On being driven forward, the valve, I, shutting, and the valve, E, opening, the water is forced into the pump body, A, where it compresses the air, which, in turn, forces it out through the tube, H, and nozzle, G. At the same time, a fresh supply of water is drawn in through valve, B. The annexed engraving is extracted from the French *Bulletin du Société de l'Encouragement de l'Industrie.*



THE mucilage used by the government for postage stamps is composed of dextrin 2 ozs., acetic acid 1 oz., water 5 ozs., alcohol 1 oz.