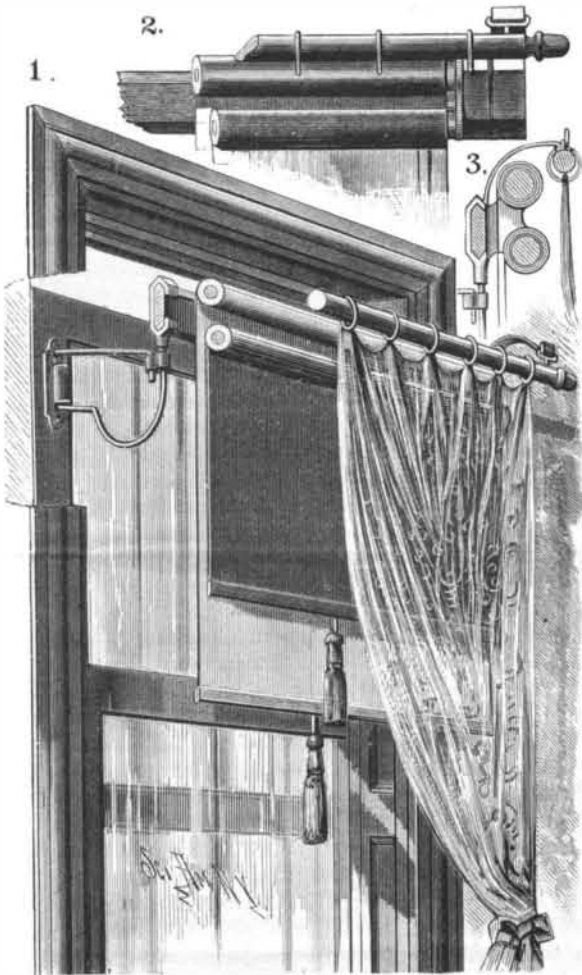


SHADE AND CURTAIN FIXTURE.

On the inner surface of each side bar of the upper sash is fastened a metal plate, from which projects a lug that is provided with a vertical screw threaded aperture extending from top to bottom, and in which screws the end of a wire arm. This arm projects horizontally a short distance from the socket, and is then curved downward and outward, so that its free end projects beyond the plane of the window casing. In the upper part of the plate is held one end of a thin wire, which serves to put a strain on the arm and keep it from vibrating. The upper end of the wire arm passes through a sleeve, which is provided with an additional aperture for receiving the bent end of the thin wire. The sleeve is provided with a binding screw having a beveled end, which passes between the two wires so as to hold them firmly in place. On the upper end of the arm is held a clamp that is provided at the top and bottom with a V-shaped prong between which fits a bar extending transversely across the window frame. Held on this bar are similarly shaped clamps, from which project brackets provided with notches for receiving the end pivots of the shade rollers. If curtains are to be held in front of the bar, the curtain rod or window cornice from which the curtains are to be suspended is hung on the ends of hooks. (The arrangement of these parts is clearly shown in Fig. 2, which is a front elevation, and in the sectional view, Fig. 3.) The curtain rollers, the shade, and all the appliances are thus suspended from two or more arms. This construction is applicable in all cases where the window has a square top, or in windows having



INGALLS' SHADE AND CURTAIN FIXTURE.

a curved or arched top in which it is not desired to have the fanlight part covered by the shade; but if the fanlight is to be covered, and this shaded part is to be raised and lowered with the sash, a pointed or arched frame is used, on which the fanlight shade is secured.

Shades hung in accordance with this plan possess many advantages for ventilating both public and private rooms, and are especially adapted to sleeping rooms, sick rooms, and offices. By this means two or more shades can be used—a light one to admit light and cut off intrusive observation, a dark one to exclude light, or a colored shade to give such a tint to the light as may be desired. The fixtures are easily adjusted to windows of different widths and depth of jambs, and are applicable to bay windows, narrow face casings, mullioned windows with narrow mullions. By being attached to the sash they save the face casings from being injured.

This invention has been patented by Mr. John C. Ingalls, of Marquette, Mich.

Sheep's Horn for Horseshoes.

A new horseshoe has lately been experimented with at Lyons, France. The shoe is made entirely of sheep's horn, and is found particularly adapted to horses employed in towns and known not to have a steady foot on the pavement. The results of the experiments have proved very satisfactory, as horses thus shod have been driven at a rapid pace on the pavement without slipping. Besides this advantage, the new shoe is very durable, and though a little more expensive than the ordinary one, seems destined sooner or later to replace the iron shoe, particularly for horses employed in large cities, where, besides the pavement, the streets are intersected by tramway rails, which from their slipperiness constitute a source of permanent danger.

Hudson's Bay as a Grain Route.

The Newfoundland sealing steamship Neptune—the same which two years ago was sent in search of Lieut. Greely—sailed from Halifax, N. S., July 22, in command of Lieut. A. R. Gordon, of the Canadian meteorological service, for the purpose of establishing stations for scientific observations in Hudson's Bay. The stations are to be located in the following places, six on the strait and one on the west shore of the bay:

No. 1 at Cape Chudley, at the southeast entrance to Hudson strait. No. 2 on Resolution Island, at the northeast entrance to the strait, and about 45 miles across from station one. No. 3 at Cape Hope, or on the south side of about the center of the strait, and about 250 miles from stations one and two. This will be the chief point of observation. No. 4 will be located directly north of No. 3 on the north bluff of one of the islands close by, according to circumstances. No. 5 on the southeast end of Nottingham Island, about 200 miles from station four. No. 6 on the north side of Mansfield Island, some 150 miles from station five. Observations of the northern part of the bay will be made from this point. No. 7 at Fort Churchill, at the mouth of the Churchill River, on the west shore of the bay and about 600 miles from station six.

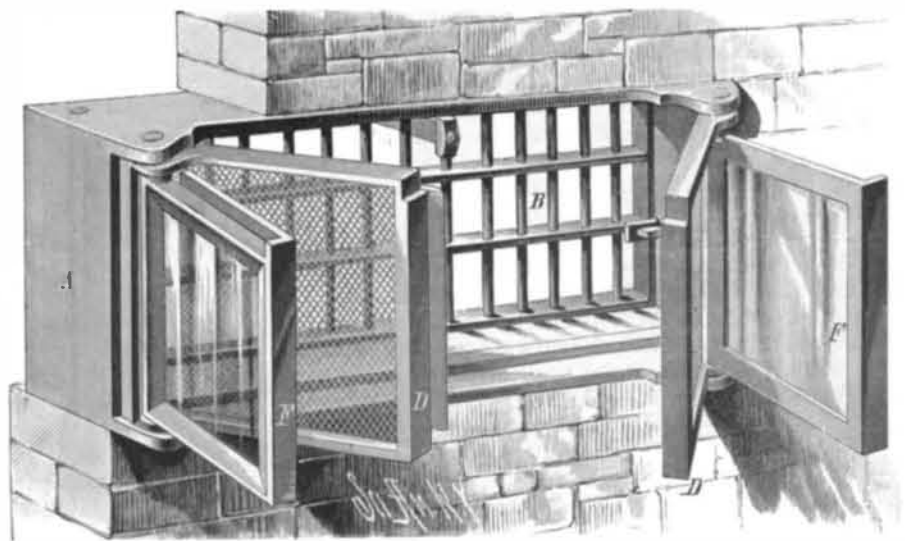
At all the stations the usual meteorological observations will be made; heavy tides will be measured; the drift of water will be noticed, and the conditions and state of the ice. Each station party will consist of two men and an Esquimaux interpreter, besides the officer in charge, and sufficient provisions and fuel for fifteen months will be supplied. The observatories are made in sections, and will be taken out by the steamer, and put up on the sites selected by the commander as the vessel progresses through the strait. Next year these stations will be revisited, and other parties left in charge. The most important work the parties will be called upon to perform will be to carefully watch and note the breaking up of the ice, the tides, and all other characteristics pertinent to navigation.

The sum of \$70,000 has been appropriated by the Canadian Government to make these explorations, but the immediate end in view is practical rather than scientific. It is thought that, notwithstanding all the unfavorable reports so far received, it may be found that Hudson Strait is open a sufficiently long period in the late summer and early fall of each year to make it profitable to ship grain by that way to Liverpool from the Winnipeg Valley, which is directly connected with the western shore of Hudson's Bay by the Nelson and Churchill rivers. Lieut. Gorringer investigated this question about three years ago, on behalf of the Northern Pacific Railroad Company, but he reported that any successful trade in this way was impracticable, on account of the fogs as well as the ice, which would hardly leave an average period of six weeks for tolerably safe navigation, while even this period varied with the season, and during such time navigation was often interrupted. The Manitobans are not yet convinced, however, and the recent rapid growth of that province has induced the Dominion government to send out this expedition to make a more thorough investigation.

COMBINATION CELLAR GRATE.

An invention recently patented by Mr. L. N. Byar relates to gratings that are used for cellar windows, the object being to combine an inner door or screen with the outer frame and grating without employing the usual wooden frame. At each end of the inside of the frame, A, are pivoted the frames, D and F, the former being provided with screens and the latter with panes of glass. When either or both of the frames are closed, they are held by a single turn buckle. By this means the window opening may be tightly closed by the glazed frames, or upon opening these proper ventilation will be effected through the screens without permitting the entrance of insects, and by opening the screens a still freer flow of air will take place.

In hanging the frames, the usual outer wooden frames are dispensed with. On the frame, A, and on each of the screen frames are formed ears, openings being made in both sets. On the frames, F, are pins, the upper pin being longer than the lower one, and the upper bars of these frames have a recess formed adjacent to the pin. In fitting the parts together, the frame, D, is first adjusted in place, when the upper pin is passed through the openings as far as the recess will allow. The lower pin can then be swung over the openings in the ears, so that on depressing the frame the pivoting will be effected. When coal, wood, etc., are to be put in the cellar, the outside grate is unlocked and swung outward. The many advantages of these gratings, which are being manufactured at the foundry and machine works of Byar & Bro., of Pottstown, Pa., will be readily perceived.



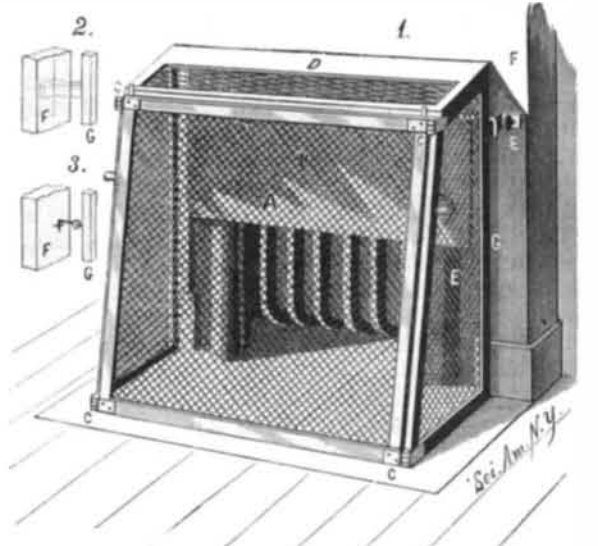
BYAR'S COMBINATION CELLAR GRATE.

stockings weighs about 2 to 2½ ounces, the antimony would represent an appreciable though minute quantity, the effect of which is a question, it is remarked, for medical experts to decide.

EMIGRATION from Italy to foreign countries is yearly increasing; in 1883 it reached, according to official statistics, 169,101, mostly peasants and the lowest lazzaroni. The two Americas receive a little over a third of all the emigrants, and latterly a drift from the Buenos Ayres coast to the United States has been noticeable.

FOLDING FIREPLACE FENDER.

The front, A, and side panels, E, are of woven wire stretched on suitable frames, the sides being inclined backward from the bottom upward on the front edge. The sides and front are hinged together for holding the fender together when put away and for extending it to be put in use. The top panel, D, which may be partly of wire and partly of sheet metal or wholly of wire, is retained by studs projecting upward from the top of the front. On the bars of the side panels next to the fireplace front and at a suitable distance below the top are clasps, F, to connect with the front plate



SHOEMAKER'S FOLDING FIREPLACE FENDER.

of the fireplace by thumbscrews, as shown in Fig. 1, or by spring clasps, as shown in Fig. 2, to hook behind the edge of the plate. To act as a blower to increase the draught when necessary, there is a sheet metal back plate, K, having a lug at each end, which drops down behind the fender and the fireplace. Screw eyes may be attached to wood mantels for connecting the fender by hooks, as in Fig. 3. Attached to the side frames are handle studs that afford a convenient means of lifting the fender when it is to be taken from the fireplace or replaced. When not in use the fender can be folded compactly, and when in place it presents a neat appearance, and owing to the sloping point is not in the way and is not liable to catch the clothes of persons near it.

This invention has been patented by Mr. I. W. Shoemaker, of Rosston, Pa.

Antimony in Clothing.

The *Centralblatt für Textil Industrie* records the fact that antimony is to be found in cotton yarn which has been dyed with aniline colors, and remarks that unless great care has been taken in the cleansing of the yarn, it is possible for such a quantity to remain as to be injurious to the skin. Experiments made on different classes of yarn produced results varying according to the nature of the dyeing substance. The samples in which hot water acted as a solvent showed only a small proportion of antimony, the highest proportion being found 0.014 per cent. The proportions of antimony which were soluble in muriatic acid varied from 0.036 to 0.31 per cent of the weight of the yarn. Of course, practically speaking, only the portion soluble in water comes under consideration, but as a pair of long