ALBANY INSPECTION.

This was originally divided into five qualities, viz., Clear, Fourths, Box or Selects, Common and Culls, Clear, or Three Uppers, was subdivided into three grades: First, Second, and Third.

First Grade.—A First Clear board shall be perfect in all respects, free from wane, knot, rot, shake or check, not less than twelve feet long and eight inches wide, (in any case) unless a very wide and thick piece, when a minimum length of ten feet may be allowed.

Second Grade.—Not less than twelve feet in length, unless very wide and thick with not more than two defects, *i. e.*, two sound knots which could be covered by a York shilling (dime), or sap equal to one inch on one side, or one knot and one sap; not less than ten inches wide, well manufactured, and free from rot, shake or check.

Third Grade.—Not less than twelve feet long, unless very wide and thick, and ten inches wide, free from rot, shake or check, when three defects might be allowed; either three knots which a York shilling would cover, or two saps an inch wide, with one small knot. If very wide, the defects might be allowed slightly to increase, but not so as to injure the general character of the piece. These three grades are included in one and designated Clear or Good.

Fourths.—Not less than twelve feet long and twelve inches wide, with not exceeding four defects at that width, viz., if free from sap, four sound knots on the heart side, not larger than a dime; if free from knots, two saps which must not exceed two inches on each edge, and must be bright. At the minimum width, one face must be perfect; with increasing width latitude may be allowed to the extent of the sap.

*Select Box.**—Not less than twelve feet in length and eight inches in width in any case. Must, if narrow, have one perfect face, and may have small knots, not exceeding five, in a width of fourteen inches or more. Sap may meet on one end for not more than one-fifth the length, or two saps may be allowed on sap side, but must have at least three inches of heartwood between, sap must be bright, must be free from rot, shakes and checks.

Box or Common.—All sound lumber free from loose knots, shaky hearts, rot, shake and worm holes, which is below the grades before named shall be classed as Box or Common.

Pickings.—A grade of common which in its general character will dress one side clear, or has no great number of small knots, but is suitable for finishing lumber. (A mighty good fine common, but indifferent select.)

Culls.—Will not hold water, shaky, rotten, coarse knots, black and mouldy sap. If very rotten, embracing more than one-eighth of the board, it becomes a scoot, refuse or mill cull. Market culls must be good enough to make hog pens, board fences or roof boards.

Scoots, Refuse or Mill Culls.—Lumber that is not worth removing from the mill, and is fit only to be burned.

*In the early days of the trade, the grade Select was known as Box, while Sound Common was known as Merchantable.

Remarkable Locomotive Explosion

On the night of the 23rd of January 1881, a freight engine on the Philadelphia and Reading road was sent out from Palo Alto, Pa., to bring in a train of loaded coal cars from a siding. An hour later the engine was found a mile beyond the siding with all the crew—engineer, conductor, and two brakemen—dead and terribly mutilated. The boiler had exploded, tearing the engine to pieces and killing all the men As the explosion occurred in a very lonely place and all the men were killed, no details are known.—*Railway Gazette.*

Wood Freights.

The London *Shipping and Mercantile Gazette*, of February 24th, says: Three Rivers to Liverpool, 65s.; Quebec to London, 62s. 6d.; Shediac or Miramichi to direct United Kingdom or French Atlantic port, 60s.; Saguenay or Mills, River St. Lawrence, to direct port United Kingdom, 57s. 6d.; Richibucto to direct port W. C., 62s. 6d.; Nova Scotia ports to direct W. C. port, 57s. 6d. A sailing ship has been chartered in the Mersey to load timber at Quebec for Limerick at 26s.

LIVERPOOL.

Though our business has continued quiet, there has been a visible increase in the quantity of orders in the market, though they have been more numerous than large. Of course there is nothing doing in the mining districts, where all trade is standing still, and is likely to continue so until the disputes between the miners and the proprietors are settled. This, however, does not appear near at hand, and the whole district is in a more or less disturbed state; and so long as this condition lasts there is little chance of any business being done in this quarter. This will materially affect the Norwegian pitwood trade, and should act as a check upon the exporters, seeing that it is by no means unlikely that the strike will extend far beyond its present boundaries.

Producers of Norwegian goods are apparently ready sellers, especially of flooring, which is being pressed upon the market at lower prices than those current last year, but buyers are somewhat reticent in making purchases, after the experience of last year, when contracts were made early in the season at good prices, and other cargoes were subsequently shipped upon the open market, to find a purchaser at any price. The season of import for New Brunswick deals, etc., is now about over, and prices have dropped until they cannot be expected to go lower, as all the yarded stock of the port has been imported at higher rates than those now current. At the same time producers abroad must be prepared to suffer a still further reduction if they persist, in the face of the large stocks here and in other ports, in getting out large quantities of logs for deal-cutting.

There is little doubt that at the present time the stocks of deals in the shipping ports of New Brunswick and Nova Scotia are moderate, but that fact should have very little weight with shippers when they fully appreciate the fact that the stocks are heavy here, and must be worked down considerably before they can hope to get paying prices again.

Freights will, in all probability, rule low for the opening of the navigation, both for the deal producing ports and Quebec. For the latter we hear that about 24s. is the prevailing idea, as the rate offering to Liverpool; this will leave little, if any, margin of profit to the shipowner. The common qualities of yellow pine timber, say from good fair average and downwards, are becoming year by year much less valuable than they were formerly, owing to the competition they meet with in pitch pine, as the latter can be obtained, not only of longer lengths and better sizes, even in sawn timber, but, what is now-a-days of greater importance, at a much lower rate than is asked for the Canadian production.

A large proportion of the stock on hand consists of this description, and it appears most difficult to sell. We cannot help thinking that the Canadians are putting far too high a value upon their productions, especially for the medium and lower qualities of pine timber and deals, and in fact of nearly all their timber, when not of really first-class quality.

LIVERPOOL TIMBER SALES,

On the 11th Feb. Messrs. Alfred Dobell & Co. offered a cargo of Norway spars, poles, etc., which realized fair prices, viz.:—

Masts, 6½ in diameter, 12d per cub'c foot.
Spars, 4 to 6 in. diameter, 1½d. to 1¾d. per lineal ft.
Poles, 30 ft. long and upwards, 1¾d. per lineal ft.
" 29 ft. and under, 1d. per lineal ft.

On the same day Messrs Duncan, Ewing & Co., sold a parcel of 724 logs St. John birch timber, as under:—

13½	to 14½	in.,	14½d. per ft.
14½	" 15	"	14¾d. "
15	" 15½	"	14¾d. "
16	" 16½	"	15¼d. "
17½	" 18	"	16¾d. to 18d. per ft.
18	" 18½	"	17¼d. " 18¾d. "
19	" 20	"	19¾ " 23¾d. "
Maple, plain,			15¾d. per ft.
Ash,		"	18¾d. "

The Advantages of Sawdust as a Filtering Material.

On the 27th ult. Mr. Henry Chapman read a paper before the Institution of Mechanical Engineers on the Farquhar Filtering Apparatus, in the course of which he remarked that, in addition to water and sewage, this automatic self-cleansing process may be expected to effect a revolution in all kinds of filtration, and will prove of great benefit to sugar-makers, distillers, brewers, vinegar-makers, and others who require pure, rapid, continuous, and economic filtration. It entirely supersedes and dispenses with the use of cloths or bags which entail a considerable annual outlay, and which do not produce an average pure filtration. For brewers and distillers it would be specially useful in filtering the refuse, which at present contains a very large amount of good liquid that is practically wasted owing to the inability of any existing system to filter it continuously.

Taking bulk for bulk it has been found that the following great advantages are in favour of sawdust and against sand, &c.:—

1. It is a cheaper commodity.
2. Its cost of conveyance is not a serious item as it is with sand.
3. Much less manual labour is required in washing sawdust, chiefly on account of its lightness and portability,
4. It produces far purer filtration, because the grains of sawdust, when saturated, pack closely together, and the greater the pressure employed the tighter the grains become knit together, which cannot take place with sand.
5. More than three times the volume of liquid is filtered in a given time through sawdust than through the same bulk of fine sand by this process. The reason is that the solid impurities are arrested immediately on the top surface of the sawdust, and are therefore instantly removed by the cutter, so that rapid and continuous filtration ensues; whereas with sand the impurities always penetrate some distance below the top surface, owing to the impossibility of making grains of sand pack close enough together, even under great pressure. In fact, the grains of sawdust tightly overlap each other under pressure being thus equivalent to a number of pressed layers of fine cloths or blotting paper, and the sawdust bed is thus impervious to anything but pure liquid.

The question naturally arises whether sawdust imparts any flavour to the filtered liquid, which with sugar, &c., might be a disadvantage. The answer is that, after the liquid with which the sawdust has been saturated previous to filtration has been expelled, no flavour from the sawdust can be detected in the filtered liquid. The reason is that the liquid with which the sawdust was saturated is thoroughly absorbed into the loose grains of the sawdust like a sponge, and that the whole of this liquid is, under pressure, squeezed out of the grains, carrying with it the greater part of the flavour in the sawdust. The sawdust being then in a compressed state, the filtered liquid is prevented from entering into the interior of the grains, and in its rapid passage between the grains it does not carry with it any flavour therefrom.

In all cases the sawdust must be saturated with some clear liquid prior to making the filter-bed, in order to create capillary attraction equally in all directions, so that the filtered liquid shall flow equally through the whole of the bed.

Repeated tests have been made to ascertain if the liquid to be filtered dryes before it the whole of the liquid used in the saturation of the bed prior to filtration. This has always been proved to be the case, by the following test. The amount of water used in saturating the bed has been carefully measured. So soon as this quantity had been extracted, and not till then, did the filtered sewage, or sugar juice, &c., pass out of the machine.

Experiment with Gate Posts.

Fourteen years ago a Mr. Sterling, of Monroe, Michigan, placed two gate posts of white oak in front of his residence. When they were set he bored into the top of each with an inch and a half auger a hole three inches deep, filled it with common salt, tightly plugged it, and coppered the posts. Having occasion recently to change the location of the posts, he found them as sound from top to bottom as the day they were planted.

Exhausting the Pine Forests.

The Chicago Lumbermen's Exchange held its annual meeting in that city on Monday, March 7th. The President's address contains the startling statement that it will take only twenty years to exhaust the great pine forests of the country if the present rate of depletion continues. The receipts of lumber of all kinds at this port last year were 1,564,000,000 feet.

MIDWINTER MALARIA.

The last number of the *Scientific American* contains the following sensible sanitary advice which should be read by all classes:—

From some cause or combination of causes the present winter has been remarkable for a widely extended and marked increase in diphtheria and scarlet fever, which have invaded homes in which the highest attainable skill has been exercised and the most approved appliances have been employed to render them as healthy as possible. In some cases the immediate causes of these disorders are undiscoverable, but in the light of sanitary science the class of agents which either initiate or greatly increase the virulence of these complaints is no longer problematical. Decaying organic matters, more particularly animal excretions, give rise to a subtle blood poison, which, though it yet evades chemical analysis, is now conceded on all hands to be a positive deadly fact. When this poison invades a dwelling, no matter whether from exterior or interior sources, in sufficient quantity, the lives of the inmates are jeopardized as positively as though they were compelled to breathe a mephitic gas. The effect may not be so prompt or fatal, but the danger is a fact no longer disputed by any intelligent physician.

It is, therefore, not sufficient to guard against interior sources of diseases; the peril may be in a neighbor's house or outbuildings, in the emanations of a compost heap or a filthy street or hidden cesspool, which if they find an avenue may enter sleeping apartments, find a *nidus* in clothing, carpets, and drapery, and bring in their train the swift destruction of all that is most cherished.

A case in point has occurred in a neighboring village. Five cases of diphtheria appeared in a household where the utmost care had been taken with the plumbing. The obvious inference was that the causes of the complaint were exterior to the dwelling. It was found that the mouth of the air-box through which exterior air entered to supply the heating furnaces was on a level with the top of a cemented pit on the adjoining premises, in which accumulations of kitchen refuse, animal, vegetable and barn manure were promiscuously stored and allowed to rot for fertilizing purposes. The foul air from this pit was drawn into the house through this one avenue, and the poisoning of its unfortunate inhabitants, four of whom died in quick succession, was the result. It seems that disease may prevade a house with deadly result where the cause is least suspected; it therefore devolves upon every housekeeper, whether resident of the city, village, or on a farm, to be constantly watchful, not only of his own, but also of his neighbor's premises, that none of the obvious causes of disease be permitted.

New Method of Inlaying Wood.

A new method of inlaying wood has been contrived by a furniture manufacturing house, the process of which is as follows.—A veneer of the same wood as that of which the design to be inlaid consists—say sycamore—is glued entirely over the surface of any hard wood, such as American walnut, and allowed to dry thoroughly. The design is then cut out of a zinc plate about one-twentieth of an inch in thickness, and placed upon the veneer. The whole is now subjected to the action of steam, and made to travel between two powerful cast-iron rollers of 8 inches in diameter, by 2 feet long, two above and two below, which may be brought within any distance of each other by screws. The enormous pressure to which the zinc plate is subjected forces it completely into the veneer, and the veneer into the solid wood beneath it, while the zinc curls up out of the matrix it has thus formed, and comes away easily. All that now remains to be done is to plane down the veneer left untouched by the zinc until a thin shaving is taken off the portion forced into the walnut, when, the surface being perfectly smooth, the operation will be completed. It might be supposed that the result of this forcible compression of the two woods would leave a ragged edge, but this is not the case, the joint being so singularly perfect as to be unappreciable to the touch: indeed, the inlaid wood fits more accurately than by the process of fitting, matching, and filling up with glue, as is practised in the ordinary mode of inlaying.