MIRAMICHI TRADE.

Mr. J. B. Snowball's Miramichi wood trade circular for the year 1884 reviews the wood trade during the past year as follows:—

In common with all other branches of business we have to report another year of extreme depression and actual loss for some one on almost every cargo handled.

While exporters had the worst of the business for several years past the operators in the forests, through a combination of circumstances, not only held their own, but, in some instances, accumulated considerable profits. This year, however, the losses have fallen with severity on the operators, the shippers refusing to follow the losing game further.

This has naturally resulted in reducing the production in this vicinity to a minimum, and and the current season's output will, it is estimated, not exceed 75 per cent. of last year's, which was 27% less than that of the year previous and about 15% less than the average for the past 10 years.

The Nova Scotia export, as well as that of New Brunswick, shows a fair decrease, and this must apply to all spruce ports, as this wood cannot be produced at the prices it has sold for for years past.

The stocks of wood being wintered are estimated at 26 millions superficial feet, against 40 millions last year and 45 millions in 1882. This stock is largely in first hands, and shippers naturally refuse to buy beyond present requirements of stock that could only be handled at a loss.

The extremely low freights ruling during the entire season enabled outports to obtain all the tonnage they required—consequently the stock held over at these places is supposed to be almost nil.

The shipments for the past five years from this port were as follows:—

1880—155	Millions	superficial	feet.
1881—128	"	"	"
1882—117	"	"	"
1883—149	"	"	"
1884—108	"	"	"

The export of deals, etc., from this port for 10 years, viz., from 1885 to 1884 inclusive, was 1,247 Millions super feet, or an average of 124 7-10 Millions per year.

Among other details of shipments from port of Miramichi, N. B., for season of 1884, the following are given:—

R. A. & J. Stewart, vessels, 52; tonnage, 20,846; sup. ft. deals, etc., 26,680,000; palings, 7,000; Birch, 441; Pine, 630. J. B. Snowball, vessels, 43; tonnage, 27,448; sup. ft. deals, etc., 21,392,083; palings, 1,884,000; birch, 376; pine, 1,070. Guy, Bevan & Co., vessels, 41; tonnage, 26,359; sup. ft. deals, 22,558,765; palings, 168,000. George McLeod, vessels, 43; tonnage, 25,170; sup. ft. deals, etc., 22,580,238. D. & J. Ritchie & Co., vessels, 19; tonnage, 10,073; sup. ft. deals, etc., 9,166,000; palings, 107,000; birch, 115; pine, 172. Alex. Morrison, vessels, 8; tonnage, 5,173; sup. ft. deals, etc., 4,511,178; birch, 487; pine, 83. George Burchill & Sons, vessels, 1; tonnage, 684; sup. ft. deals, etc., 612,000. Wm. McCorkell, vessels, 1; tonnage, 340; sup. ft. deals, etc., 481,584. Totals: vessels, 213; tonnage, 126,293; sup. ft. deals, etc., 107,982,849, palings, 2,160,000; birch, 1,419; pine, 2,555.

FLOORS FOR SUSTAINING WEIGHT.

The designer of a certain warehouse in Germany, unable to find definite data of the resistance of such floors, resolved to make trials for his own information, and incidentally for that of his professional brethren. The warehouse was of immense size, covering nearly an acre of ground, and was intended for the storage, among other things of heavy pieces of metal, the handling of which often involved considerable shocks to the floors. The whole building was fireproof, part of the flooring being of brick arches in cement between iron beams, and part of concrete slabs supported in the same way. Five trial floor arches were built, each 44 in. in span, of which the first consisted of concrete, made with one part Portland cement to five parts of gravel, while the second was of hard bricks in Portland cement mixed with three parts of sand, and was covered with a coat of asphalt three-quarters of an inch thick; the third was of softer brick, in mortar, containing one-half as much lime as cement, and four parts sand; and the fifth was of the same brick, in equal parts of lime and cement, and five parts sand; and the fifth was of the same brick, in cement with four parts sand. These last floors were finished with a coat of cement three-quarters of an inch thick or more.

Fifty-four days after their completion each floor was loaded with pig-iron to the amount of 200 pounds to the square foot. This weight had no effect and two days later the concrete arch was tested by letting fall upon it an iron ball of 99 pounds weight. This, dropped from a height of five feet, did no harm, and another ball of 135 pounds weight was let fall from the same height. The first blow produced no effect, but by dropping the ball repeatedly on the same spot a crack was started at the fourth blow, and the eighth broke a hole entirely through the floor, the opening being four inches in diameter at the top and 24 inches at the under side.

Thirty days later the same test was applied to another part of the floor, and a hole of the same size and shape was broken through at the ninth blow of the ball. The thickness of the concrete in the middle of the span was 4 in. Trials were made of the same way. The first of hard brick in strong cement mortar, stood 48 blows of the heavy ball before it was pierced; the second, of softer brick, with lime added to the mortar, gave way at the tenth blow; the third, at the seventh blow; and the last, of soft brick in sandy cement mortar, without lime at the tenth. In all these cases the hole broken through was much larger at the intrados than at the extrados. A new floor was then built of soft brick, in mortar made with two parts lime to three of cement, and ten of sand, and covered with a layer of concrete, of equal parts of cement and sand, and 2 inch thick. After this had set, the floor required 71 blows of the 135 pound weight to break it through. This protective effect of the thick layer of concrete over bricks is very curious, but aside from this the result of the tests was decidedly in favor of the brick arching.—*Timber Trades Journal.*

LEATHER BELTING.

It is not all good material that makes the best appearance; in the largest belts the material may look and handle all right, but their use involves a loss of energy and power. Leather to be placed on the sole of a boot or shoe need not necessarily possess more than two distinctive characteristics, namely flexibility sufficient to permit its bending to the motion of the foot without unnecessary pain to the wearer, or breaking its attachment to the upper, and its interstices filled with foreign matters in the tanning processes, that the entire mass will be of a homogeneous character, enabling it to resist to a certain extent the contact of hard substances as grit and pavements. With belt leather, however, other and additional distinctive features are needed.

If a leather belt lacks pliability unequal contact on wheels, drums and pulleys is a result, which means not only a great loss of power, but unequal wear of belts, shafting out of true, machinery unevenly worn, and sad demoralization throughout the shop. We have seen on many occasions boilers and engines of a certain power or capacity utterly refuse to work and stop with a thug in doing work requiring less than three-fourths their estimated capacity, and in instances not a few the belt or belts were to blame for it all. One instance which happened in Louisville only a short time ago was shown that a hard inflexible ridge in the belt caused it all, while the belt, when new was considered the finest on exhibition at the exposition held in that city during the season of 1883. As all know, when a new belt is put on it is subjected to a much greater strain than an old one, inasmuch as the natural expansion of the leather has to be exhausted before the ullimate energy and power of the belt can be attained. In the case mentioned the belt expanded its entire length evenly, excepting this small portion, which happily in this instance ran entirely across, and after being cut out and replaced with a new piece the boilers and engines do the work according to their estimated capacity; this little strip presented a singular appearance, seemingly it had no more expansion and flexibility than a piece of burnt leather, at the same time it presented a good tensile strength. The hide out of which this particular piece of leather was made was doubtless of an animal that some time during its life had received personal injury, and the healing of the wound had resulted in the closing of all the pores, and the tanner's manipulation failed to soften the solidified gelatine, hence it was nothing more or less than a piece of preserved, hardened animal tissue. Had the streak of dead leather extended only partially across, the entire belt would have been virtually ruined by the same tension which ruins belts when used on shafting, pulleys, and drums sadly out of true.

Again, belts must not be too full of open pores, this gives them the property of absorbing moisture in the form of the hot vapors about the engine room, and as water and oil refuse to live in unity, all the lubricating substances of the belt are driven away, and their place occupied by water and some foreign matter which soon causes inflexibility and probably cracking. It is possible that leather, or rather hides naturally spongy, may be filled with substances known to the secrets of tanning that will render a comparatively inferior quality of leather a fair material out of which to construct belting. This, however, opens a way temptation among unprincipled parties to use a really poor quality of fulled leather in the manufacture of belts for heavy work. Indeed, we saw in St. Louis a large fifty-two inch belt that was made of very poor stock, which to all intents and purposes in so far as appearance and handling was concerned was a superior belt, but when a section was subjected to test it was found inferior to ordinary belts half the size, but the ordinary observer would have given the large inferior belt the perfence of purchase.

Then, again, belts should be made of such material that there is a limit to this expansion, if not much loss ensues by means of its tendency to become longer at the expense of thickness and breadth, besides belts so expanding are apt to contract when not in use and the greatest of all leaks or losses of power follows, namley the slipping of belts. Physically speaking much better results are obtained by making belts in short sections cut tranverse with the hide, for, viewed by means of the microscope, the hide cut across will stand a greater tension than a piece cut lengthwise, inasmuch as the network seems to be composed of larger fibre around the body of the animal than from head to tail.

In conclusion, when belts are joined the fibre ought never be cut, for this reason a punch which cuts out the small hole should never be used, for the strength of the belt is weakened to the same extent as the proportion removed, whereas if an awl or some such instrument be used it penetrates between these fibres without cutting, on the same hypothesis that a hole made through a bit of cloth with a bit of sharpened bone will not cut either warp or woof, while if a fine knife be used for making a hole of the same size the strength of the fabric is partially destroyed. If the lace holes are thus made, and a good quality of lace leather used, the tension and contractibility of the leather will act as a holder for the lacing, so much so that with good materials every other lace may be cut on one side and the belt will not separate at the joint; the holes being filled with the lace contract and nearly resemble one piece of solid leather. A freshly cut section of belting so laced sent to this laboratory a short time ago has such perfect joints that considerable force is required to punch out the lacing stubbs that plug up the holes made by means of an awl.—*Lumber Trade Journal.*

LUMBER IN MEXICO.

United States Consul Winslow, of Guerrero, writes that the amount of timber useful for manufacturing purposes in Northern and Central Mexico is very limited. The mesquite, the principle native product, although it is a very hard wood, and capable of taking a fine polish, is not suitable for generally manufacturing purposes as the trunk and branches are very crooked, and a straight piece of over two yards long seldom occurs. It is used, however, for making doors, door frames, for railroad ties, and for the heavy beams placed over the doors to support the stone walls, and for a number other articles for which long lumber is not required. Its hardness, color, susceptibility of taking a fine polish recommend it as useful for veneering for making clocks, sewing machines, tool handles, and some articles of furniture.

There is, and will be, a demand for lumber, especially pine lumber, at those points reached by the Mexican Central, National, and International railroads, as new towns are being built along these roads; and, besides, large quantities of lumber are used in the mines and in the construction of bridges. All this lumber must come from the United States, but then the demand is not so great as may be supposed, as the manner in which Mexican houses are built must be taken into consideration. The houses, with but few exception, are of one story, some twenty feet high, and from twelve to fifteen wide, with flat roofs; built of blocks of stone, with walls two feet thick. The floors are made of a concrete, consisting of lime, sand, small stones, and water mixed together. The ground having been leveled where the floor is to be made, this composition is spread evenly over the surface, is allowed to dry somewhat, and is then beaten down by heavy wooden pestles, and afterwards when nearly dry is smoothed down and polished by rubbing it over with round blue limestone. This requires considerable time and patience. The floor when thus made is smooth, glossy and hard, and will last twenty years. Wood floors are not suitable for this country, as they are liable to be eaten by insects, and afford a hiding place for vermin. The walls are plastered inside and outside, and whitewashed. The roof is made by extending joists from one wall to another, so that the joists show inside, and on the principal joist is painted date of building and some religious or political motto. Over the joists is nailed a flooring of boards, so that the flooring of a Mexican house is really on the roof. Over the roof is spread a composition, similar to that of the floor, which is also beaten down, so that the house becomes perfectly watertight and fireproof, and will easily last one hundred years. For example, the house in which the Consul lives was built in 1778. The roofing is of Sabine and the doors of mesquite, and they are still sound. The houses consist generally of one room, some ten or twelve yards long, with sometimes another attached, as a kitchen; but the kitchen is most frequently made of adobe, and thatched with straw, and is in the back yard, retired from the house. The houses of the poorer class are made of adobe, or of sticks stuck in the ground and plastered with mud. The kind of lumber best to ship to Mexico are joists, two by twelve inches and sixteen by twenty feet long; pine and cypress boarding, one inch thick and twelve inches wide, scantling, two inches thick and four inches wide; double doors, one and three-quarters of an inch thick, six and a half feet high, one foot and a half wide; Venetian blinds for doors: shingles; oak, hickory, and ash lumber, three to four inches thick and ten to twelve feet long; materials for making carts; cart and carriage wheels, etc.—*Lumber World.*