

started business. Of the 23,311 members in 1878, some 5,473 have forfeited their membership against 2,874 in the previous year. No less than 3,270 of these were from the United Brethren, of whose members, now reduced to 13,826, the deaths were 256, or \$18.51 per \$1,000. Six of the societies paid only \$6,162 between them to 37 widows, which averages \$166 each. One widow received \$90.00, two others \$75.00, and a third only \$21.00.

And the above, as in the case of the companies, was for deaths alone, without counting expenses. But everybody knows that business cannot be done without some expense; and though we sometimes hear of officers of such societies working nights for the good of the cause, especially if the society is connected with some benevolent order, yet the sworn statements of these fifteen associations show very heavy expenses. During the four years, they paid for death claims a total of \$1,185,858, and the cost of doing the business was \$474,887, or \$40 for each \$100 (not \$1,000) disbursed to widows and orphans. In one year it was as high as \$64.20 per \$100 of death claims paid. Adding the expenses to the death cost upon each \$1,000 insured, we have the following as the real current cost for each year, without providing for any reserve:

	At risk.	Cost.
During 1874, each \$1,000	\$12.28.	
" 1875, " 1,000	19 35.	
" 1876, " 1,000	16.36.	
" 1877, " 1,000	21 35.	

An increase in four years from \$12.28 up to \$21.35, does not give much assurance that it will take thirty-five years for a co-operative's mortality to grow up to \$4.87 for \$500, as Mr. Hurst represented in his prospectuses, and as the respectable gentlemen named by Mr. McCormick, in our last issue, seem to have unwittingly endorsed.

At the age of 25, the net cost (that is, assuming that working expenses are provided for in some other way) of a term policy, running ten years, is \$65.50 paid down in one sum, and kept invested at 4½ per cent. per annum. At age 55, it is \$220.78; and at 65, the required sum is \$381.16. A difference of 40 years in the age, therefore, increases the net cost by six times.

All of which illustrates how sadly the public may be misled by depending upon the respectability of the names of the business men sometimes paraded in connection with these delusive schemes; also the care which ought to be exercised by men of good repute in obtaining competent actuarial advice before lending the weight of their character to plausible devices for furnishing life insurance at less than half its average cost price.

MANITOBA HALF-BREED LANDS.

The manner in which lands in Manitoba have been allotted to half-breeds has given rise to many complications in the titles to the lands allotted. The half-breeds were first given an interest in common in all the lands without any particular portion being allotted to any one.

While this was the case they commenced to sell their interests, which were bought up by speculators. With a view of preventing the half-breeds from squandering their lands, an Act was passed in 1874 enacting that no verbal or written agreement made before the issue of his patent by any half-breed to convey lands to any person after the issue of a patent should be binding on the half-breed, nor should any damages be recoverable against him for a refusal to carry out any such agreement. It appears to be still an open question whether this applies to present conveyances as well as to agreements to convey. Another statute was afterwards passed, being 40 Vic. cap. 5, meant apparently to modify to some extent the former law, but it does not appear to have simplified it in any degree, whatever the modification may have been.

An important case, in which the effect of these statutes and of the Registry Laws had to be considered, came up recently for decision before His Lordship Chief Justice Wood, who gave his judgment a few weeks ago. The suit was brought by Hugh Sutherland against one W. B. Thibaudeau and his wife and one Elias G. Conklin, to set aside two conveyances as fraudulent. It appears that a half-breed named John Bird in July, 1877, before the issue of a patent and before any allotment had been made, conveyed his interest in the lands reserved to one A. G. B. Bannatyne in consideration of \$100. The plaintiff Sutherland purchased from Bannatyne. Afterwards certain lands were allotted to Mr. Bird, and the defendant Thibaudeau, though knowing of the conveyance to Bannatyne, succeeded in obtaining from Bird a conveyance to himself of the lands so allotted, assuring Bird, it is said, that he would arrange matters with Bannatyne. This conveyance was made in August, 1878, and on the 29th of October of the same year Thibaudeau and his wife sold the lands in question to the defendant Conklin for \$2,000. The conveyances to Thibaudeau and Conklin were both registered. The conveyance from Bannatyne to the plaintiff was made on the 26th of October, but was not registered until the 30th of the month after the registration of both the other conveyances.

The learned judge, after an elaborate view of the law, decided that Sutherland's title to the land was good, and that the conveyance to Thibaudeau was fraudulent. The deeds to Thibaudeau and Conklin were ordered to be cancelled, and the lands directed to be conveyed to the plaintiff, and the defendants were ordered to pay the costs.

WEIGHTS AND MEASURES.—The recent changes in the law respecting weights and measures are calculated to reduce expense, both to the government and the trade which is subject to its operations. The new Act also does what was undoubtedly necessary, by limiting the power of the Governor General in Council in making regulations, and it increases the general efficiency of the system by fixing absolutely the measures to be used in trade.

The *Montreal Gazette* says that under the new law manufacturers and dealers in weights, measures and weighing machines have been carefully considered. Formerly they were required to have every article on their shelves stamped, and the cost was considerable. Now they are only required to have them stamped before they leave their premises to be used in trade. This is an important change, and is an evidence of the desire of the Government, while protecting the public, to make the burdens upon the trade as light as possible. A change which is certain to be popular is that relating to the inspectors. The position of deputy-inspectors is to be abolished, and the officers, greatly reduced in number, will be known as inspectors and assistant-inspectors, their districts being made by the grouping of counties together. It is estimated that by this change a saving of about forty thousand dollars will be effected, without lessening in any way the efficiency of the service. The inspectors and their assistants are permitted to adjust weights only, doing so under special regulations and charging according to a tariff to be fixed by Order-in-Council. "The object of this change is to lessen the cost to which the trade have been subjected under the old law in the cost of stamping and adjusting weights and measures and weighing machines. And one admirable feature of the law is that which omits the power formerly given to the Governor-General in Council to enforce penalties other than those mentioned in the Act."

THE UTILIZATION OF SAWDUST.—In this country, where so many logs are sawed into planks, boards and deals, the quantity of sawdust produced is an item the utilization of which may well create interest. The accumulation of it is an eyesore and a source of trouble around steam sawmills; and from the water-power mills it finds its way into the rivers, where it forms bars, and destroys or drives away fish. Efforts have been already made, notably on the Ottawa, to prevent the emptying of it into that stream. The subject of how to utilize this waste material has been dealt with in a letter to the *Scientific Canadian* from Mr. W. H. Munson. That gentleman estimates that the "cut" of the common gang-saw amounts to ¼-inch waste in dust for every time the saw passes through the log. In sawing a plank 12 feet long and 12 inches wide, the waste would thus amount to 432 cubic inches; so that the actual loss on four planks of that size would be equal to a board of the same length and width one inch thick. Hence the loss in cutting a squared log of 24 inches cube and twelve feet in length is 3 solid feet, or 6¼ per cent.; and if to this be added the cuts to square the said stick from a 34-inch log, the loss in sawdust will be equal by calculation to 10.41 per cent. So great a waste, if it cannot be avoided, should at least stimulate attention to modes of making use of the waste product. Several possible uses have been mentioned: making it into paper pulp is one, but the soda or potash needed to neutralize the woody oil is too costly; compress-