

It seems by no means difficult to calculate from the above tables what the pure premium should be to insure at any of the ages mentioned a given sum at death at the various rates of interest from 3 to 6 per cent.

In England the average rate of interest to be relied upon in the long run is about 3 per cent. The expectation of life at 22 is, as will be seen by the table, about 40 years. An annual premium of \$1 would in that time, as shewn by the other table, amount to over \$75 at 3 per cent. compound interest. It follows then that an annual pure premium of \$1 would, under such circumstances, be necessary at the age of 22, to insure the payment of \$75 at death, according to the Carlisle 3 per cent. table; to insure \$1000 at death, it would be necessary to increase the premium in like proportion, as thus, dividing 1000 by 75 and we get 13.33, which would be the pure premium necessary to insure for \$1000 a life 22 years old.

In America, however, 6 per cent. interest is as easily obtainable as 3 is in England, and we shall now see the immense effect which this apparently trifling fact has upon the amount of pure premium necessary. Making a similar calculation we find from the interest table that at 6 per cent. a premium of \$1 would increase to \$154 (disregarding fractions), that is to more than double what it would be at 3 per cent., so that at 6 per cent. in order to insure a life aged 22 for \$1000, the pure premium necessary would be only 5.49.

The calculations, however, are by no means so simple as the above, which are based upon the presumption that an equal number of persons die at each given age, which of course is not the fact, for though at the age of 22 the expectation is 40 years, one-half dying before and the other half after that time, yet it is found that of the latter half a far larger proportion die at the ages immediately following the expiration of the 40 years than of the former half, immediately following the age of 22; and that consequently the loss of premiums and compound interest in the former half is not fully compensated or brought up to the average by the excess in the latter. It is therefore the practice to make allowance for this fact by taking into account the numbers who die at the different ages. On this basis the pure premiums are larger than given by the above figures, especially at the higher rates of interest. The mathematical calculations by which they are fixed are too abstruse to be given here, but we shall in our next give a table of pure premiums, shewing the results of them.

It will be quite apparent from the above figures that Insurances should be effected upon much better terms in America than in England.

We have now disposed of two of the elements entering into the question of premiums. The other elements are the average working ex-

penses, and the contingencies arising from uncertainty of life, and of investments and from the actual working expenses being greater than expected. To provide for these it is necessary to increase the amount of premium considerably, which as thus increased is called the *loaded* premium. In England the loading usually amounts to 20 or 30 per cent, but it has been found that in the earlier years of a company this is insufficient to cover the expenses, which at that time inevitably bear a larger proportion to the premiums than afterwards, and in consequence very few strictly mutual companies are started there now, the larger number, probably nine-tenths, being of the mixed class, the greater ratio of expenses at the commencement being borne by a paid up capital.

We find that we have not space to enter into the premium note question this week, but hope to do so in our next.

CHEESE AND CHEESE MAKERS.

Within a couple of years the article of cheese has assumed such importance in our trade as to justify some notice of the proceedings of an assemblage of cheese makers held at Ingersoll a few days since. At that convention, which we presume was a fair representation of this particular interest, a great variety of matters were discussed bearing upon the production and sale of cheese, and the development of this industry in Canada. A good deal of time was spent, and very properly, on the point of quality, and how to make better cheese. We have to say in reference to this, that if the resolutions of the convention, any or all of them, shall bring about a reform in this respect, the time and wisdom of the association will have been usefully applied. Though some good cheese is made, a large portion of our product is relatively bad, and the sooner this is understood the better. Every cheese maker no doubt thinks he does it "brown," and wonders why he cannot get the top price for his product; but an inspection of the lots offered in this market unmistakeably show that we are far behind American makers as a whole. Another point upon which discussion was evoked was—the best market to ship to, and how to realize the highest price.

The idea was gravely advocated of "fixing the price" from one season to another, and a general grumble indulged in that Canadian cheese does not realize a fair price in foreign markets, and that it is not yet fully introduced and appreciated. Our advice to the association is to abandon this kind of nonsense as soon as possible. The price is not fixed, and cannot be by any or all of the cheese makers of Canada, supposing they were thoroughly united; nay, it could not even be influenced by them. It is fixed by the wants of the millions of mouths that consume it in Europe; or in other words, by the demands of the Liverpool market. There the question of quality is also settled. There it has to meet and compete with the cheese

of the United States and every country which produces a surplus. When contrasted with American cheese, the defects of the Canadian article become plain to the most casual observer. If the cheese-trade of the past year has been unsatisfactory to makers, it has not been less so to shippers. The tone of the conventionists implies a charge that exporters will not pay them a fair price, and that they make too much profit. All belief in this assumption would soon disappear on reference to some of the account-sales which we have seen. Prominent houses inform us that most of their shipments of home-made cheese showed a balance on the wrong side, while shipments of fine qualities of New York State make netted handsomely. The same idea above mentioned was, we believe, not without its influence in inducing some makers, even when liberal offers were made, to hold for higher bids. As high as 94c. on the spot was tendered in repeated instances and refused, and a large portion of the same cheese is still in first hands. The idea of fixing an arbitrary price upon this or any other article of commerce is a mistake. That must always be regulated by the demand and the supply; and makers should note this fact, that so soon as there is a margin on a exportation there will be plenty of exporters, and the competition among them will keep the market at the highest figure. Let holders keep themselves thoroughly aware of the position of foreign markets, and they will have no difficulty in forming an opinion as to what a fair quotation would be. For nearly the entire season past buyers could do better in the American market, owing to the tenacity which our makers evinced in sticking to a certain figure, regardless of the relation it bore to the prices current in foreign countries.

At the convention held in the same place last summer it was urged with surprising unanimity that a special agent should be sent to Liverpool to represent and act in the interests of the association. That an assemblage of business men should entertain such an idea is to us a matter of astonishment, and indicates an absence of sound information on the principles that govern commercial transactions. A little experience of it would convince the gentlemen of this association that it is better to recognize the existing division of labor which lies at the basis of political economy, and teach them what most people already understand, that the employment of a middleman is an advantage to both producer and consumer. If he at times makes enviable profits he also makes heavy losses, and considering the risk he runs, should receive the small average gains he realizes without a grudge.

NORTHERN RAILWAY.

The annual meeting of this company was held at their offices in this city, on Wednesday, the 12th. We are compelled to defer the publication of the report till next week.