Directors pledge themselves to do their best to resuscitate the bank

Mr. Hendrie seconded Mr Martin's motion, but, upon its being put to the vote, it was lost by an overwhelming majority.

Mr Irving moved, seconded by Mr McMillan, that the proposition of the Bank of Commerce and the Bank of Montreal, now before the shareholders, be subjected to a vote of the shareholders, and that the scrutineers be Messrs. Stanton, Counsell, and Chittenden. The motion was carried.

About two hours were occupied with the taking of the poll, at the close of which it was ascertained that for amalgamation with the Bank of Commerce there were 1,498 votes.

With the Bank of Montreal.....423 "

Majority for Bank of Commerce..1,075 "

The following further resolution was carried:—

Resolved,—That although the offer of the Bank of Montreal has not been accepted, yet the shareholders present, before separating, desire to express their thanks to Mr. King for his attendance at this meeting, and hereby record their sense of the obligations under which they have been placed by the assistance rendered to the Gore Bank by him and the Bank of Montreal on former occasions, and the shareholders further direct the Cashier to transmit to Mr. King a copy of this resolution.

CLOSE OF THE COTTON YEAR—PROSPECTS OF PRICES.

THE close of the cotton year, on Sept. 1, leaves the question of the probable yield of the staple during the year ending that date unusually uncertain. There are the most conflicting views of the product of the new crop, and it is not probable that anything definite can be known for several weeks to come. This uncertainty arises from the unexpected occurrence of the drought, and the difficulty of obtaining reliable returns from the widely extended area of cultivation. In some localities the effects of the dry weather on the crop have been most disastrous, while in other places the consequences have been mitigated. As a general rule, the crop has escaped serious damage in low lands, and in the vicinity of water courses; but in high lands the injury has been severe. For instance, we hear that the crop will be good in the Sea Islands and in Louisiana, while in the midland counties of South Carolina, in central and northern Georgia, Tennessee, and in some portions of Alabama and Mississippi, the yield will fall considerably below the average acreage under cultivation. In these places the staple has suffered from rust and premature shedding, caused by the want of water. In many favoured localities, however, the crop was sufficiently advanced before the occurrence of the drought to prevent any injurious results.

But, in spite of every drawback, we come to the conclusion, after a careful comparison and collation of the most reliable data obtainable from public and private sources of information, that the marketable crop for the year just closed will reach 3,000,000 bales. At one time we were justified in anticipating a crop of 250,000 bales in excess of this estimate, but the unexpected contingency of prolonged dry weather, at the most critical point in the crop, compels the adoption of the lower estimate. In some quarters a crop of 3,000,000 bales is now looked upon as out of the question. But in support of the more favourable view, the conditions affecting the cultivation of the new crop should be allowed due weight. In the first place the quantity of land planted this year is largely in excess of any year since the famous crop of 1860-61. This excess may be safely estimated as equal to the production in case of favorable weather—of nearly 1,000,000 bales in excess of last year's crop. We hear comparatively little of damage done by caterpillars. Then, again, it is to be remembered that this year improved methods of cultivation, an extensive and scientific system of natural and artificial manuring, and improved machinery, have been brought into requisition, almost for the first time. More actual reproductive capital has been applied to the cultivation of the staple than ever before. The Southern people strained every nerve to produce the largest possible supply of cotton, and the result will be a crop which in money value—if not in quantity—will exceed that of all former years.

This discrepancy between the value of the new crop and its actual yield constitutes one of the most important commercial problems of the day. Taking into view the known facts respecting the world's supply of, and demand for cotton, there is not only no reason to believe that there will be any important reduction of present quotations, but there is a strong probability of a still further advance. The increasing steadiness of the cotton market, at a period when the advent of the new crop usually causes a decline, is indicative of an opinion on the part of the trade in Europe and America that the product of the crop in the counties during the cotton year ending Sept 1, 1869, will fall below the demand. This view is sufficiently deducible from the returns of the stock on hand in this country and in England at the close of August last, as compared with corresponding periods in previous years. The following are the returns of cotton movements, to the latest dates, in the various shipping ports in the

UNITED STATES.

	Bales
Cotton crop of 1867-68	2,420,892
Cotton crop of 1866-67	1,951,928
Receipts from September 1, 1868, to latest dates	2,368,000
Receipts same time preceding year	2,247,000
Exports from September 1st, 1868, to latest dates, 1869	1,443,000
Exports year ending September 1, 1868	1,657,015
Stock on hand August 24, 1869	12,000
Stock on hand August 28, 1868	44,000
Stock on hand August 28, 1867	80,288

In England the deficiency in the stock of cotton is rapidly increasing, the margin between supplies and consumption exhibiting a constantly widening discrepancy. The following is a statement of the total stock on hand in Liverpool and London, and afloat at the dates named, respectively:—

	Bales.
August 1, 1869	1,003,000
August 1, 1868	1,289,000
August 1, 1867	1,639,000
August 1, 1866	1,697,000

The stock on hand at all the American shipping ports, at the close of Sept. 1, 1869, was only about 12,000 bales, against 43,000 bales at the same period last year, showing a reduction of 31,000 bales in round numbers. Of the limited stock of the old crop at date, probably the bulk of it is consigned directly to Eastern manufacturers, thus leaving only a very slight proportion for exportation. The new crop cannot be available for American consumption until October, and for European until November. These figures are very remarkable, and show that the supply of cotton now in the world is only one half of what existed at the close of 1865. They also explain the cause of the steady increase in the price of cotton. At the close of the cotton year for 1869, the increase averaged from 21 to 40 per cent. over the quotations at the same period last year.

A review of the whole cotton trade justifies the planters in anticipating large profits on their new crops. The supply of cotton, from all parts of the world, is plainly not equal to the requirements for consumption. The English papers consider that the supply from India will not equal previous anticipations. In consequence the competition for the American staple, on both sides of the Atlantic, is likely to sustain present quotations, or at least prevent any material reduction. Many of our Eastern manufacturers have been compelled to abridge or suspend operation, in consequence of the difficulty of obtaining supplies. It is the same in England and perhaps to a larger extent. The extraordinary efforts of the Manchester manufacturers to stimulate production in India are based upon real apprehensions of insufficient supplies. The effects of these efforts upon American producers are somewhat remote. The gradual and steady increase of cotton production in the United States since the close of the civil war is not equal to the universally increasing demand for consumption. For a series of years to come it is probable that cotton will constitute the most profitable, if not the largest, feature of American industry.—*United States Economist.*

TOWING BY FIXED WIRE ROPE AND CLIP DRUM.

AT the meeting of the Institution of Mechanical Engineers, at Newcastle-on-Tyne, on Wednesday, the secretary read a paper by Mr. Max Eyth, of Leeds, "On towing boats on canals and rivers by a fixed wire rope and clip drum." The writer stated that in the application of steam power to river and canal navigation, the greatest obstacle to be encountered has been the loss of power inseparable from the ordinary methods of propulsion by paddle wheels or screw propeller. As the receding water here forms the fulcrum upon which the bearing is taken for propelling the vessel, a great quantity of water is put in motion and a considerable amount of power exerted without any useful effect being produced. Thus, even when working on a broad sheet of deep water, the ordinary propellers lose from 40 to 50 per cent. of the power applied, and on rivers and canals their useful effect is frequently reduced to less than 25 per cent. The writer described the difficulties arising from locks, the small sections of water and the swell produced by the increased speed of the boats, and said that on rivers, in addition to shallow places and small sections of the navigable channel, the principal impediments to steam navigation are the varying currents by which the effect of the paddle-wheels or screw is reduced sometimes to a mere nominal amount. Under all circumstances, in navigation, especially on rivers and canals, a dead pull from a fixed point must be a more effective mode of applying power than any method depending upon the resistance of the water as the fulcrum; and this principle has been adopted as the basis of the system described in the paper. The wire rope is laid in the bed of the canal or river from end to end, being anchored only at its extremities, and an engine fixed upon the tug takes hold of the rope by means of a clip drum, round which the rope is passed. The clip drum, being put in motion by the engine, winds itself along the rope, lifting it up from the bottom of the canal in front of the tug, and dropping it again into the water behind. The engine thus effects a direct pull upon the rope, which, in consequence of its weight and the friction upon the bed of the canal, does not materially alter its position. By this means nearly the whole of power applied to the clip drum is utilized in the propulsion of the boat, and the proportion of power utilized is independent of the currents of the water or the section of the channel. The cost is one-twentieth of a penny a ton per mile. This system of wire-rope towing places inland navigation in a similar relative position to that in which the road traffic was placed by the introduction of railway and the locomotive. By the clip drum, the tug obtains a hold upon the flexible rope laid in the water course, precisely in the same way as the driving wheel of the locomotive takes hold of the rigid rail upon which it runs, and the great advantages of steam power may, therefore, be similarly brought to bear on the movement of vessels in water, leaving the railways all their superiority in regard to speed, but restoring to rivers and canals their advantage in reduction of traction. On the motion of the president, a vote of thanks was given to Mr. Eyth for his paper.—*Iron Trade Circular.*

COAL MINE EXPLOSIONS.

To the Editor of The Times.

SIR,—The frequent recurrence of these deplorable coal mine explosions, and the fearful sacrifice of human life which they entail, call loudly for improvements in the present imperfect system of working these mines, and I doubt not, if scientific men would turn their attention to the subject, that means would be found to render the working of a coal pit as safe from explosions as the ordinary working of a stone quarry.

It is true we have the safety-lamp, its feeble light too frequently induces the miner to open it and use the naked light. What he wants is a more powerful light, and one that he can have no access to, and also a system of ventilation that would bring to the required spot an abundant supply of cool air.

I have frequently observed that many of the most urgent requirements of modern arts and manufactures are supplied by simple adaptations of means already known and employed for totally different purposes, so different, in fact, as to present to ordinary minds not the slightest analogy. I will give you an example of this, as it bears strongly on the question of coal mining, and affords, I believe, a means of preventing the possibility of explosion where gunpowder is not used.

In explanation of this remark, I may mention that I am at the present time busily engaged in investigating the action of combustion under excessive pressure in furnaces where the flame is bottled up (so to speak) like steam in a boiler, by which means the heat is intensified in the ratio of the pressure employed, so that the most refractory substances known to man may be fused or dissipated in vapour with the same quickness and facility with which our most easily fusible substances are melted. In one modification of these furnaces the workmen operate in a large iron room, where the pressure of the atmosphere is greater than it would be at a depth of ten miles below the surface of the earth, and where the temperature, under ordinary circumstances, would be such that no attendant of a Turkish bath could endure it for a single hour. Yet these men, and the furnace they tend, may by a simple arrangement of apparatus be supplied with thousands of cubic feet of air per minute, as cool, or if necessary, much cooler than the surrounding atmosphere.

It may be said these facts, interesting enough in themselves, have no interest for the coal miner; they apparently offer no security to him; he has no need of a source of heat so intense as to liquify the most refractory metals as rapidly as wax melts in a common fire. All this is quite true; but the miner, enclosed all day between black masses of coal above and around him, requires a powerful light to see what he is doing—a light that never fails, that never goes out, that never requires trimming, and, above all, a light that effectually prevents the mixture of air and gas which pervades all coal mines from entering the flame and becoming ignited. Now, these are precisely the conditions obtained by combustion under pressure, which offers to the miner a source of the most brilliant light wholly inaccessible to the inflammable air of the mine. As a simple illustration of the fact, let us suppose a small iron box, a little larger than a policeman's lantern, having a thick plate glass, or a bull's-eye, on one side of it, in the lower part is a common gas-burner, supplied by a pipe from a gasometer above ground, the supply of air to support combustion is arranged in a similar manner, and supplied under pressure from above ground; a small aperture is made in the top of the lantern for the escape of the products of combustion. Now, if the air and gas are supplied to this light under a pressure of, say, 1 lb. per square inch, the light would be brilliant, and the escape from the orifice at this pressure or even far less, would prevent the possibility of any external gases entering and becoming ignited. In this way every gallery in a mine may be lighted like a workshop, to the great comfort and cheerfulness of those whose lives are spent in the cheerless gloom of these dangerous workings.

The mode of advancing the light as the work progresses, and its direction by the use of reflectors, and other necessary details of the system, are simple enough, and need not be here entered into.

I only hope, for humanity's sake, that my suggestion may be put in operation by some of our large coal proprietors, as its success would afford me the greatest gratification, for I am convinced that the thorough lighting of a coal pit and its ventilation so as to ensure health and safety to the miners are purely a question of £. s. d. There is no lack of scientific knowledge or the practical skill necessary for such a purpose, and probably a cost of 2d. per ton on coal would accomplish all that could be desired, and I feel assured that this would be cheerfully paid by every one to secure the mines from these terrible disasters, and ourselves from the moral responsibility and discredit of the present system.

I am, Sir, your obedient servant,

Somerset Club, Aug. 31. E. BESSEMER.