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PUBLISHERS' NOTICE TO MAIL SUBSCRIBERS.

Mail subscribers will observe on the printed address of each paper the time for which they have prepaid. Before the time indicated expires, to insure a continuity of numbers, subscribers should remit for another year. For the convenience of the mail clerks, they will please also state when their subscriptions expire.

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OUR NATIONAL TRIAL AND ITS RESULTS.

The four months beginning November 7th, 1876, and ending on the 4th of March, 1877, will long be remembered as a period not only of severe trial to our national institutions, but also to the material interests of the country. The crisis has been passed, and there can be no question but that the new start is taken under better auspices than have obtained for many a year.

We believe that the revival in business activity is one that is going to make itself rapidly felt. Material for manufacturing purposes is comparatively cheap, building can be much more inexpensively carried on necessaries of life and wages are down, and altogether conditions are favorable for the undertaking by capitalists of enterprises contemplated, but long delayed, and for the investment of a vast amount of capital which hitherto has been closely guarded.

We are beginning to learn, moreover, that, after all, the hard times have not been destitute of good. As soon as the first effects of the blow had passed, manufacturers began to adjust their business to the new order of things. Cotton fell in value, and old stocks were, as already noted, cleared out under enforced liquidation. Meanwhile in the production of cotton goods we made numerous valuable improvements, and all this tended toward rendering us consumers of fabrics produced at home, rather than purchasers from England, as we had been to a large extent before. The same is true, though in smaller ratio, of woolen and worsted goods. The decline in our imports from England during the five years from 1871 to 1876 is shown in the following figures: Cotton goods from 129,700,000 yards to 55,000,000 yards, woolens from 5,391,000 yards to 1,478,000 yards, and worsted from 86,682,000 yards to 41,079,000 yards. Not only, however, is the market here for English fabrics substantially lost, but our manufacturers are entering into competition with British producers on their own soil. We have already a considerable trade in Manchester (the home of English cotton weaving) in cotton calico cloths. Our cotton mills have large South American orders on hand; and it is well known that we are now making worsted goods of better quality than the foreign fabrics we have hitherto imported.

On the other hand, during all the long period of depression, our exports have been steadily increasing. Fresh American meat, which bids fair to be the staple of a great foreign trade, is now sold throughout Great Britain at 16 cents and less per pound, or one quarter less than English meat. More than forty-four per cent of the foreign wheat required by England to eke out her home supply, we furnish. The shipment abroad of American lobsters and oleo-margarin oil are two new experimental additions recently made to our export list, both of which are promising. Our butter and cheese exports are exceedingly large and still growing. In brief, and without entering into further detail, our export trade (we quote figures obtained by the New York *Sun*, and embodied in a very carefully prepared article) for December, 1876, was by far larger than ever was known in one month, and the lessons of thrift and frugality which the business stringency has enforced are known by their fruits in the statement that the exports of 1876 exceeded those of 1872 by $171,000,000, while the excess of exports over imports for 1874, 1875, and 1876 amounts to the grand showing of $314,884,000.

We have before us a large number of reports from various sections of the country, all of the most encouraging nature. In New England, mill after mill is resuming full work in the iron trade of Pennsylvania, where the greatest stagnation has reigned, there are good signs of improving business; the shoe and leather merchants announce better sales; and altogether, look where we may, either the actual opening of augmented trade or good prospects of activity near at hand are clearly apparent. Even the blue glass mania has contributed its share to the general revival, as it has brought large business to our glass works, and has caused the production of a variety of glass which hitherto we have imported almost wholly from Europe. In fine, we have passed through the fire, not unscathed, it is true, but strengthened and chastened. The future opens hopefully. The characteristic energy of our people may be relied upon to render its years those of plenty, prosperity, and peace.

THE ASHTABULA VERDICT.

The verdict of the coroner's jury, relative to the terrible accident at Ashtabula bridge, accords with the popular verdict reached some time ago. The substance of the finding, which is based on investigations conducted with great thoroughness and by a body of men well versed in the technical subjects laid before them, is: First, that the bridge fell because of its own inherent defects, and second, that the subsequent burning of the train was owing to neglect to comply with the Ohio State law which provides that railroad cars shall be so heated that the fires shall be extinguished if the cars leave the track. This obviously places the whole responsibility on the shoulders of the railroad company; and it remains to be seen whether the fact of the latter's being a corporation is sufficient to shield it from the punishment deserved.

The bridge was unsafe, it appears, for eleven years. The man who designed it is dead, and the engineer in charge, who ought to have found out the defects, has perished by his own hand. Criticism of the direct agents is therefore silent. As regards the railroad company, the absence of the necessary precautions against fire can only be attributed to that spirit of parsimony which is altogether too prevalent among corporations when the question of using or not using the improved devices, which are constantly being invented, comes before them. It is the same spirit which causes steamship companies to send vessels to sea without proper life-saving apparatus—the same that begrudges the room in public buildings necessary for the construction of broad and ample staircases and other ready means of escape in time of danger. It is a peculiar phase of human nature, doubtless, that prevents the necessary outlay for such purposes; and people will keep on in the same course as long as they think they make money by thus saving, which is questionable policy when life is at stake.

IRON FRONT BUILDINGS.

A fire recently occurred in this city in a magnificent-looking building, which left the edifice a total wreck and resulted in the destruction of over a million dollars' worth of property. The structure was quite lately built, and had an ornate iron front, which gave it an exterior appearance of stability and solidity of construction.

There has been a predilection for exactly this species of building in New York and other cities, of late years, because it affords a great deal of show for little money. We do not doubt but that excellent materials are used by excellent architects in their construction. The difficulty lies not so much in the structures themselves as in the law which permits their existence, for it is not to be expected that while a handsome building can be cheaply erected without infringement of law, and readily insured, landlords will subject themselves to any extra expense in the matter. The question is one for the legislators, and it certainly seems to us that either laws forbidding the construction of any but really fireproof buildings in cities should be enacted, or else that existing statutes should be so modified as to prevent the erection of edifices which are so easily burned as the kind to which we have reference. We can recall over a dozen structures even larger than the one now destroyed, the progress of construction of which we have watched with apprehension lest they might tumble before completed. We have seen the thinnest brick walls erected to support a wilderness of wooden beams and partitions, the whole run up so quickly that the structures, before the façades were in place, reminded one of gigantic birdcages. Then the ornate cast iron fronts were added, bit by bit; and in an incredibly short space of time the birdcages were hidden, and elegant architectural creations, with richly decorated columns and ornamental window caps and cornices, and finally dazzling with gilding and paint in many colors, presented themselves to the admiration of all who did not know how frail was the backing of these gaudy exteriors. To make matters worse, there is a mistaken, though none the less prevalent, idea that an iron building is necessarily fireproof. An edifice wholly of iron of course would not burn; but we doubt if even such a structure would maintain its integrity long with a fire among combustible materials, like cotton and other fabrics common in our drygoods stores, on one of its floors; and this for the reason that iron speedily expands and warps with the heat. But buildings wholly of iron are few; and what is generally understood by an iron building in these days is one with cast iron front and iron columns supporting wooden beams inside. The beams and the contents of the structure burn readily; and the iron columns, as soon as they are heated, bend out of shape, and release the wooden beams, which tumble in a mass and, with the burning goods, increase the conflagration, while the plates on the front curl up like shavings.

We would not make a sweeping condemnation of iron fronts in general, because we believe that they may serve an admirable purpose in spreading good architectural designs at moderate cost; but it is the poor and inadequate material behind these ornamental fronts, which their beauty conceals and renders deceptive, which we condemn. Back an iron front with good and well laid brick and stone, and a substantial structure is accomplished.

THE THEORIES OF LIGHT.

Among the generally received theories of light, there are only two which possess any degree of probability: the corpuscular theory of Newton and the undulatory theory of Huyghens. The idea of the ancients that, in seeing, something goes out of the eye to the object seen, and the theory of Euler (who, by the way, was blind) that we see by induction, and that visibility is transmitted without the necessity of any intervening medium, in the same way as gravitation, are so imaginary and so thoroughly disproved by facts that they do not deserve any consideration.

Newton's theory, as is well known, consists in the assump-