Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors.

PUBLISHED WEEKLY AT
NO. 37 PARK ROW, NEW YORK.

O. D. MUNN. A. E. BEACH.

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VOL. XXXIX., No. 13. [NEW SERIES.] *Thirty-third Year.*

NEW YORK, SATURDAY, SEPTEMBER 28, 1878.

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(Illustrated articles are marked with an asterisk.)

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THE SCIENTIFIC AMERICAN SUPPLEMENT

No. 148,

For the Week ending September 28, 1878.

Price 10 cents. For sale by all newsdealers.

POCKET LIFE BUOYS.

On the evening of September 3, the excursion steamer Princess Alice, which was returning from Gravesend to London with about 800 passengers, largely women and children, was run into by a screw collier and quickly sank. The collision occurred off Barking, a town on the Thames, about seven miles from London. The loss of life was terrible, the estimates ranging from 500 to 650. The captain and nearly all the crew of the Princess Alice were drowned. "There was no time to lower boats," the report runs, and "there were but few life buoys on the steamer." Hundreds of women and children perished in consequence.

Such a disaster could scarcely occur in American waters for the want of life buoys, though an occasion for testing their efficiency is possible any day, among the scores of crowded excursion steamers that throng our harbors. So far as our observation has gone the provision of cork floats on our excursion and passenger steamers has been abundant and fairly accessible. Whether the majority of excursionists, in the confusion following a collision, would have the coolness and knowledge required to make proper use of the buoys, is less certain. Probably not ten women in a hundred on any steamer would be able to put on a cork jacket properly in time of peril, much less attach them to her children so that they would neither slip off the moment of striking the water, nor become misplaced so as to insure the holding of the children's heads under water.

Our purpose in speaking so plainly is not to create needless alarm, but to secure two practical ends: first, to convince all persons, women especially, of the need of becoming practically familiar with the construction and use of the life buoys provided on our steamers; second, to call the attention of the ingenious to the crying need of a cheap, portable life preserver—something that the hawkers might sell at the piers for twenty-five or fifty cents; something that could be carried in the pocket without inconvenience, easily and securely attached to the trunk or shoulders, and inflated, if need be, after the wearer is in the water; something that could be attached to a child instantly, or to the largest sized adult with equal facility. A circlet of waterproof cells, each provided with an automatic valve, so as to be easily inflated, and yet have all so independent of each other that the bursting of one would not affect the rest, would probably be as simple and efficient a device as could be asked for.

The conditions to be met are few—simplicity, lightness, portability, buoyancy, and cheapness. If these were fairly well met the single city of New York would furnish a market for thousands every summer. The inventor could not fail of an ample reward financially, in addition to the gratitude of the entire community.

THE HEROES OF THE PESTILENCE.

The old sentimental cry against the alleged materialistic and ultra practical tendency of scientific habits of mind—the charge that our busy, utilitarian modern life is essentially unheroic and fatal to the highest development of humanity—does not receive much support in times of public calamity and peril. The spirit of practical charity, of openhearted self-sacrifice for humanity's sake alone, never prevailed more generally or showed results more praiseworthy than where the objurgated modern spirit most prevails. And it is a notable circumstance that the heartiest and most liberal responses to the call for help from the afflicted usually come from the busy marts of trade.

The record of the last few weeks, in connection with the plague smitten valley of the lower Mississippi, will compare favorably with that of the most heroic days of the unscientific past. And not the least noble of the grand army of workers for humanity, from Hickman to New Orleans, must be numbered many whose callings fall under the ban of scientific character and practical utility. At such a time invidious distinctions would be as cruel as uncalled for; yet, without detracting in the least from the credit due to the clergy who have not deserted their flocks, or to the sisters of charity and other volunteer nurses who have shrunk from no labor or peril in the disheartening work of nursing the sick and burying the dead, we may say that the votaries of utilitarian science have not stood last in the public demonstration of true heroism. Among these we must number the scientific physicians who have periled their lives or sacrificed them outright in their unpaid work among strangers; and we must not forget the obscurer yet not less generous heroes who have stayed to keep up communication with the outer world, and to study the climatic condition and changes, the mastery of which may some day make the spread of pestilence impossible. The telegraph operators, who have stuck to their posts, or who have volunteered to take the places made vacant by death, are proof enough that the sentimentalists are wrong. No more splendid heroism was ever displayed than by young Redding of Grenada, and others like him in every fever smitten town. To labor as they have had to in the midst of peril, while kindred and friends are fleeing or dying, passively enduring privation, exposure to the disease, ceaseless emotional strain, and the prospects of a sudden and terrible death, that the afflicted may not be deprived of means for making known their condition and want, calls for more patient and sterling heroism than is required even in the watchers in the chambers of death.

And of the sergeants of the Signal Service—a calling still more scientific in scope and aim—not less must be said. Several have already been struck down, yet the perilous work of observing goes on, fresh volunteers stepping forward to fill up the broken ranks. It is of these that a contemporary has eloquently and justly said that they deserve all the more honor because their work apparently has but a remote bearing in checking the disease.

"The physician, the Howard nurse, the clergyman, who remain faithful to their work in that dreadful valley of death, are at the bedsides of the sick and dying. They can see and feel the good results of the tremendous sacrifice they make. But the Signal Service officer gives his life to set down observations on rain and wind. Science, with the material he accumulates, may stay the march of the pestilence hereafter; but he does not know that. Nobody knows him, or the nurse who falls at his post. The papers have ceased to name them in the haste of the wholesale slaughter. 'What good, then, to the world did Priscus do, who was but a single person and unknown? Why, what good doth the purple to the garment? To make it royal and beautiful?'"

It is true that the dominant spirit of the age is scientific, and science is essentially utilitarian in its character and results. But the utility it seeks is the highest—truth, and human well-being, founded on real knowledge and right action, re enforced by the largest attainable command of the useful materials and forces of nature. If it fails to develop the highest traits of humanity, as the anti-scientific have so often asserted, then the records of the past must have been strangely falsified, to say the least. Certainly no other age, no other phase of civilization, ever outshone the present in those traits of humanity which go to enhance the essential nobility of man.

SILVER MINING HERE AND ABROAD.

Each week's reports bring additional evidence that the constantly increasing and usually profitable production of our mines is generally accepted as proof that the better knowledge of the sciences of mining and reduction of the ores arrived at by managers and superintendents has reduced the risks in this business to nearly if not quite the measure of those of ordinary commercial transactions.

And not only with us, but in other countries as well, are idle capital and labor being turned in this direction; everywhere there seems to be an increasing inclination for new fields of enterprise.

According to the *South Pacific Times* of Peru the great works in progress at Catapilco have effectually aroused people to a belief in the auriferous wealth of Chili, so long despised, and there is delving and digging all over the republic. In localities where profitable mining has been carried on on a reduced scale for years, additional capital is being invested, and there seems to be good reason to believe that this long neglected branch of industry will now receive proper stimulus.

Government engineers are now examining the different routes in the province of Carabaya, one of the richest though most inaccessible parts of Peru. It contains immense alluvial gold deposits which were profitably worked by the Spaniards until 1767, when the Indians drove them out.

A wise policy now actuates these governments to afford proper facilities and safeguards to the miner.

We learn, too, that there is now every prospect of prosperity in the mining interests of Sonora, which have so long been affected by incessant political disturbances; one mine there, the San Marcel, yielded over $1,000,000 of silver in a short time, but came to grief through the most extravagant and reckless working; but such occurrences are not likely to be so common in the future; they are now the exceptions where formerly they were the rule.

With us, even in San Francisco, the increasing distrust of speculative mining companies is a most welcome and healthy indication; their chances for successful imposition are rapidly growing less, and with their suppression comes the opportunity of making legitimate mining one of the most profitable as well as one of the safest businesses of the country.

Nothing new is reported respecting the Canadian or Australian gold fields; the former, indeed, are rather a matter of the past.

The investment of English capital in our mines is still on the increase, drawn hither, it would seem, rather by the promise of permanent investment than because of promise of profit, if we are to judge from the many prominent instances of the peculiarities of English mine management here.

The Richmond mine of Nevada, owned in England, continues to make good returns of bullion, but the inevitable quarrels of the stockholders with each other, and about the management of the property are not unlikely to result in their throwing away the mine for the pleasure of convincing themselves that they have been swindled by somebody.

The other companies of the Comstock lode are making every effort to find the rich vein which has been struck by the Ophir and Sierra Nevada, and which is supposed to underlie them all. Their future prosperity depends, apparently, upon their success.

Though Arizona accounts are still of rich mines and new discoveries, the general complaint of scarcity of water for mining purposes grows louder. The richest ores are transported to San Francisco for treatment, a proceeding which must greatly reduce mining profits.

An instance of good management which is daily becoming more common is that of the Idaho mine of Grass Valley, with a capital of $300,000. It has paid in dividends since 1869, $2,500,000, without calling an assessment, and is now increasing its working capacity.