

the forms of strange constellations joining at the horizon with those of the celestial vault.

Suddenly two luminous bars stretched themselves over the earth. They were the great pencils of light sent out by the two search-lights above my head. The two beams seem to feel their way into the night with sudden, eager movements, as if they were searching for something lost. I could not weary of their movements, so voluntary they seemed, and so anxious. Suddenly they met at right angles; for a moment against the black sky they formed a shining cross, the sign of pity and of prayer, a fitting crown for the great Tower.

M. De Vogue thus describes also the brilliant electric fountains which are so conspicuous a feature of these modern Expositions :

The people seek more and more this supreme feast of the eyes, which may be seen every evening; they even wait long hours in crowded ranks around the basins; and when the jets spout up, a cry arises from the crowd. No wonder, illuminated by the invisible fire, they blend in their changing combinations all the shades and tints of the prism, and form rainbows which raise themselves up into the air and fall back again shattered into cascades of pearls and diamonds.

I went to visit in their subterranean cave the brave workmen who make in the heat and in the darkness the preparations for this fairy scene. Like their brothers in coal mines, although with less hardships, they go to extract for other men the light and the joy which they themselves do not see. A bell is sounded; some orders in cipher are flashed across a signal board, directing the men in the use of the levers. Immediately in the funnel-formed reflectors rays of light appear and are seized in the chimneys by inclined mirrors which send them to the openings above. Plates of blue, red, yellow, all-coloured, glass glisten over our heads. One could easily imagine himself in the central forge of the earth, where the kobolds elaborate the precious stones and form the crystals. These workmen—the good gnomes of actual service—throw themselves upon their levers, and by their toil cause to spring up above that eruption of gems.

In leaving the underground work I stopped at the bell-turret of the commander. That musician gives his orders upon a table which resembles a piano having two key-boards. A line of electric buttons, coloured white, corresponds to

to the scale of coloured glass plates, and behind this a row of black buttons corresponds to the plugs of the jets of water. The present system which necessitates the transmission of the orders to the intermediate places under the basins marks the infancy of the art. With a few simplifications which will not surpass the genius of an ordinary mechanism, a single man will be able to work directly from his bell-turret the stop-cocks of the water-jets and the plates of glass.

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Edison is credited with this statement: "Collision at sea can easily be averted. If the builders of ships were to put in proper diaphragms at the bottom and sides of vessels, a man stationed on duty there could hear the approach of another vessel for a distance of eighteen miles. This has been demonstrated by the diving-bell. By the means of these diaphragms the danger of collisions at sea is entirely averted."

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Among the latest inventions which Yankee genius has given the world is a door-knob which renders a latch-key superfluous. By rotating the knob in the same manner as a safe-lock until the proper combination is secured, the door can be opened.

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The recently reported discovery made by Edison of a process by which cast iron may be given the tensile properties of malleable iron, will, if perfected, revolutionize the iron industry. Thousands of articles which are now forged or turned out on lathes or other machines by a slow and expensive process will be cast as readily as common cast-iron articles are now. Further than this, the new alloy will do away with the slow process of making malleable iron by producing at once from the melting furnace the desired articles, not only quickly and cheaply, but stronger and tougher than if malleableized.

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**PAPER BELTING.**—A new paper belting is being made in Germany. Manila hemp is used, and is made into tubes and strongly compressed, and then joined by threads. It is coated with a preparation which renders it proof against atmospheric changes, friction, slipping or lengthening, and in consequence of the electricity it develops, adheres thoroughly to the iron pulley. The advantages claimed for it are economy and durability.