

THE FELLING OF FACTORY STACKS.

BY OUR BERLIN CORRESPONDENT.

In connection with a contemplated extension of the plant of a boiler house, the central workshops of the Munich Central Railway Station recently intrusted Joseph Houzer with the erection of a new steam stack 164 feet in height, to be located between two existing stacks 105 feet in height, which latter thus became superfluous.

Mr. Houzer suggested, instead of dismantling these stacks, to fell them in bulk. This plan was adopted. The first stack was pulled down before the construction of the new one had been commenced, while the other was reserved until the new stack was completed.

The main difficulty encountered was to accurately fix the falling direction of the two stacks in a west-eastern line, and *vice versa*, the stacks being encircled both to the right and left by a closely crowded group of workshop buildings. The second stack was situated immediately in front of the new one.

The first operation consisted in carefully dismantling the base masonry in the direction of falling to about 2½ feet height, replacing it by convenient props. The props then were surrounded with kindling wood and oil-soaked rags. Kerosene was poured over this and ignited. The props burnt away rapidly. The mammoth stack, bending sideways, fell to the ground exactly in the prescribed direction. At this moment a huge cloud of dust and soot momentarily hid the stack from the numerous spectators. By far the greater part of the bricks were undamaged and even cleaned by atmospheric pressure.

As both stacks were situated in the immediate neighborhood of the boiler house, the use of explosives was quite out of the question.

The operation was carried out without any hitch, and in a minimum of time, viz., in the case of the second stack in four minutes from the lighting of the wood until the moment of falling.

A New Theory of the Origin of Earthquakes Developed by Prof. T. J. J. See.

The Proceedings of the American Philosophical Society at Philadelphia, March, 1907, contain an exhaustive investigation on earthquakes by Prof. T. J. J. See, U. S. N. The paper is 140 pages in length, and the subject is treated in the most comprehensive manner. Prof. See is in charge of the Naval Observatory at Mare Island, Cal., and was thus in the midst of the great earthquake which destroyed San Francisco. As the outcome of his studies he shows that earthquakes of the world-shaking class are caused by the explosion of lava from beneath the bed of the sea, by the explosive power of steam which develops beneath the earth's crust by the secular leakage of the ocean bottom. He shows that the pressure of the deep sea upon the bed of the ocean is so great that water is driven down through the rocks of the earth's crust, and at a depth of fifteen or twenty miles it comes into contact with molten rock at a temperature of about 2,000 deg. Steam is thus formed beneath the crust, and it finally acquires such power that the rocks are shaken, and lava expelled from beneath the sea toward the land.

One of the most remarkable re-

sults of Prof. See's researches is the development of a new theory of mountain formation.

It has been customary for about eighty years to explain the mountains by the supposed shrinkage of the earth. Now comes the new theory of the earthquake work, and it proves that mountains, too, are formed by the sea; when lava is expelled from beneath the sea by earthquakes, the crust is broken and

vice-presidents. It is reported that he had just finished his mathematical researches on the physical constitution of the sun and planets when the earthquake occurred, and it became necessary to come down to the study of the phenomena of the earth.

The earthquakes in Valparaiso and Kingston illustrate the new theory, and show that steam within the earth is the cause. All great earthquakes occur along the seacoast or on islands in the sea.

The most significant tendency which an observer of educational progress sees to-day is that of specialization. The time is fast approaching when it will be recognized that merely a general education, whether on classical or scientific lines, is not alone a suitable preparation for life. Not that culture is less desirable than formerly, rather it is more desirable, but above this general substructure must be placed a technical education which will give that special application to some calling which the coming age will demand. Colleges which devote their attention solely to general cultural training will become of less importance. The institutions now known by the various titles of technical colleges, institutes of technology, and polytechnic institutes, are the colleges of the twentieth century which will do most for their students, which will be in closest touch with the needs of civilization, which will provide at once the most cultural, the most rational, and the most scientific instruction. These institutions, by whatsoever name designated, will be the important colleges of the future, because they will give that perfect unity of thought and action, that harmony of theory and practice, which the needs of the future demand.



Fig. 1.—Just Before the Fire Was Lighted.

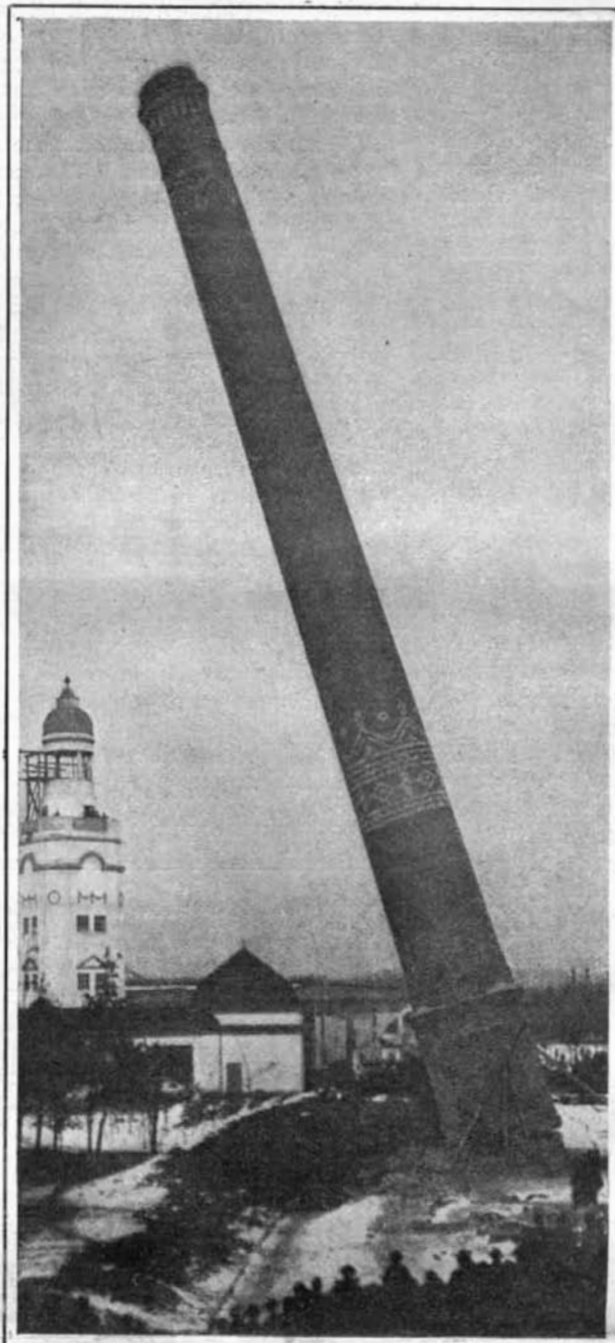


Fig. 2.—After the Props Burnt Away the Stack Toppled.



Fig. 3.—As It Fell the Stack Slid From Its Pedestal and Broke Into Several Parts.

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