

100 to 1. A London firm employed to print stamps for the Government, is in the habit of using raised copper surfaces for the purpose, no less than 125,000,000 impressions have been taken from one of their plates. The density of the copper used in the manufacture of type is considerably increased by the compression which it undergoes by the machinery of M. Petit. The machine produces thirty-two types per minute; and it would be difficult to exceed the typographic neatness of the character. Specimens of the type and printing were distributed among those present.

Lond. Athen., June 2, 1849.

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*Quantity of Ammonia in Atmospheric Air.*

By a series of well-conducted experiments, M. Fresenius has determined that 1,000,000 parts of atmospheric air contains during the day 0.098 parts of ammonia, equal to 0.283 parts of carbonate of ammonia. During the night the same amount of air contains 0.169 ammonia, equal to 0.474 carbonate of ammonia. These results are known to be slightly in error, there being actually more ammonia in the air; they are, however, the closest approximations which have been made.

Ibid. June 23, 1849.

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For the Journal of the Franklin Institute.

It being the intention of persons in the direction of the construction of water works, to add a considerable expense in placing the pumps under the surface of the water to be raised, the writer is desirous of knowing what advantages will accrue in this arrangement, theoretical or practical, over the operation of pumps placed say five feet above the surface.

If any of the scientific readers of the Journal will be kind enough to give their opinion and reasons, and, if possible, data proving advantages, they will confer a favor upon a learner.

A. B.

*Philadelphia, August 25, 1849.*

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FRANKLIN INSTITUTE.

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COMMITTEE ON SCIENCE AND THE ARTS.

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*Report on M. Villeroi's New Surveying Instrument.*

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania, for the Promotion of the Mechanic Arts, to whom was referred for examination—"A new Surveying Instrument," invented by M. Villeroi—

REPORT:—

That this instrument is intended to give the distances between the stations by means of a single observation through the instrument, without the necessity of using a chain or any other measuring apparatus.