

## PRACTICAL SCIENCE

UNITED STATES Chief-Engineer Isherwood contends that no useful effect is derived by using steam expansively. Steam-engine drivers who thus use it, find great economy in fuel thereby.

Hon. Thomas Ewbank, ex-Commissioner of Patents and author of "Ewbank's Hydraulics" (a compiled history of pumps), publishes the startling discovery that there is no more available power in high than in low-pressure steam; that the power of a measured quantity, or weight of steam, is the same, "whether it be compressed into a thimble or expanded to a hogshead;" and that the atomic force exerted in its colapsion into water, may be mechanically employed by the use of some new-fangled engine recently invented in England. Both science and common sense teach us that high steam can only become low steam by parting with a portion of its force; also, that atomic force must be converted into mechanical force before it can, through machinery, do mechanical work.

Some enterprising ex-professor of a college has discovered that electricity is the cause of steam-boiler explosions, and proposes to make the water harmless by piercing it with lightning rods. As the boiler and its connections are of themselves electrical conductors, comment is unnecessary.

The *Scientific American*, a journal celebrated for its years rather than for its exposition of science, denies and ridicules demonstrations of fact and geometrical problems. It first refuses to adopt Euclid as a basis for the settlement of a mathematical problem, and then supposes two geographical points connected by four routes, one route to be a *straight* line, and three to be *curved* lines, "the actual length of each being the same." Again, in referring to a diagram showing two wheels of equal size and weight, as rolling, the one on the convex, and the other on the concave side of the same arc of a circle, the diameter of which admits the outer wheel to roll its entire mass through a distance of six inches, and the inner wheel but one and a half inches, the editor says, "as the wheels start together, roll together, and reach the opposite position together, it is obvious that both wheels have done exactly the same duty and made the same number of turns on their axes." See *Scientific American* of March 21, page 181.

Could such men "argue an invidious change of employment" if, like Shallum of old, they were to attend the family wardrobe and allow women possessed of philosophical minds to occupy and fill their present positions?

A.

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