

# SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. XXXV. No. 5.  
[NEW SERIES.]

NEW YORK, JULY 29, 1876.

\$3.20 per Annum.  
[POSTAGE PREPAID.]

## AEROTHERAPY.

Judging from the multiplicity of novel remedies brought before the public now, there must be an enormous increase in the ailments which afflict the human family, or else the more nervous organization arising from civilization and progress imagines diseases to which the more vigorous barbarians of past ages were utterly indifferent. There is an establishment on the Rhine where the grape cure is practised, where invalids are fed chiefly on grapes, and where the physician's advice merely changes the diet from one kind of grapes to another, according to the needs of the case. And Hans Breitmann sells us of "a beer cure man from Munich," who claimed that he was able to eradicate disease by selecting the quality and controlling the quantity of the national beverage of the Teutons.

We now hear of a new course of treatment practised in Milan, Italy, wherein the patient is subjected to compressed air, and our engraving represents the mode of application. The invalid is seen seated in a comfortably furnished apartment, into which air, chemically purified and maintained at a uniform temperature, is forced by steam power and kept at a pressure somewhat above that of the open atmosphere. Dr. Carlo Forlanini is the discoverer and advocate of this treatment; and his explanation of the theory may be summarized as follows: By increasing the pressure the air is forced into the minutest passages of the lungs, and a much greater oxygenation of the blood is ensured; and obstructions of the lung passages, which occur in many diseases, are removed sooner or later. And if the muscles which expand the chest are weakened, the higher tension of the air assists their action; and it remedies deficient respiration, whatever may be the cause thereof. The Doctor asserts that blood diseases, such as scrofula, can be cured by this treatment, the oxygenation being so complete as to remove all foreign matter from the blood.

The institution at Milan is stated to be elaborately arranged and furnished with every means of ascertaining the nature and extent of the disease, and for administering the air at the proper pressure for each case. If we hear shortly of any great number of cures of pulmonary complaints at

this establishment, we must add another function at the list of the capabilities of the steam engine, that of converting, not only heat into pressure, but also pressure into health.

## Facts about Potato Beetles.

"The potato beetle remains in the ground all winter, emerges from it in the spring in a perfect state, fully grown and ready for procreation. During the day, it remains upon the potato plant and does not fly till night, when it traverses whole fields and whole sections of country, the males in search of the females, and *vice versa*. The beetle does not eat, and so does no immediate harm. The eggs are laid on the under side of the leaves, in patches about an inch square, and are a golden yellow color. In a few days the young soft grubs are hatched, are ravenously hungry, have but slight hold of the foliage, and are easily knocked off. They have but slight ability to travel on the surface of the soil, and never descend to it voluntarily, until they have reached the perfect slug state, when their natural instinct prompts them to seek the earth, into which they burrow, form a cocoon, and in due time emerge full-grown beetles, ready to begin a new colony. This series of changes takes place from two to four times in a season, controlled by its length, warmth, etc. In the last change they remain dormant through the winter, merely because the temperature is too low to perfect the insects. It is therefore probable that, if they ever reach a tropical climate, their transmigration will be uninterrupted.

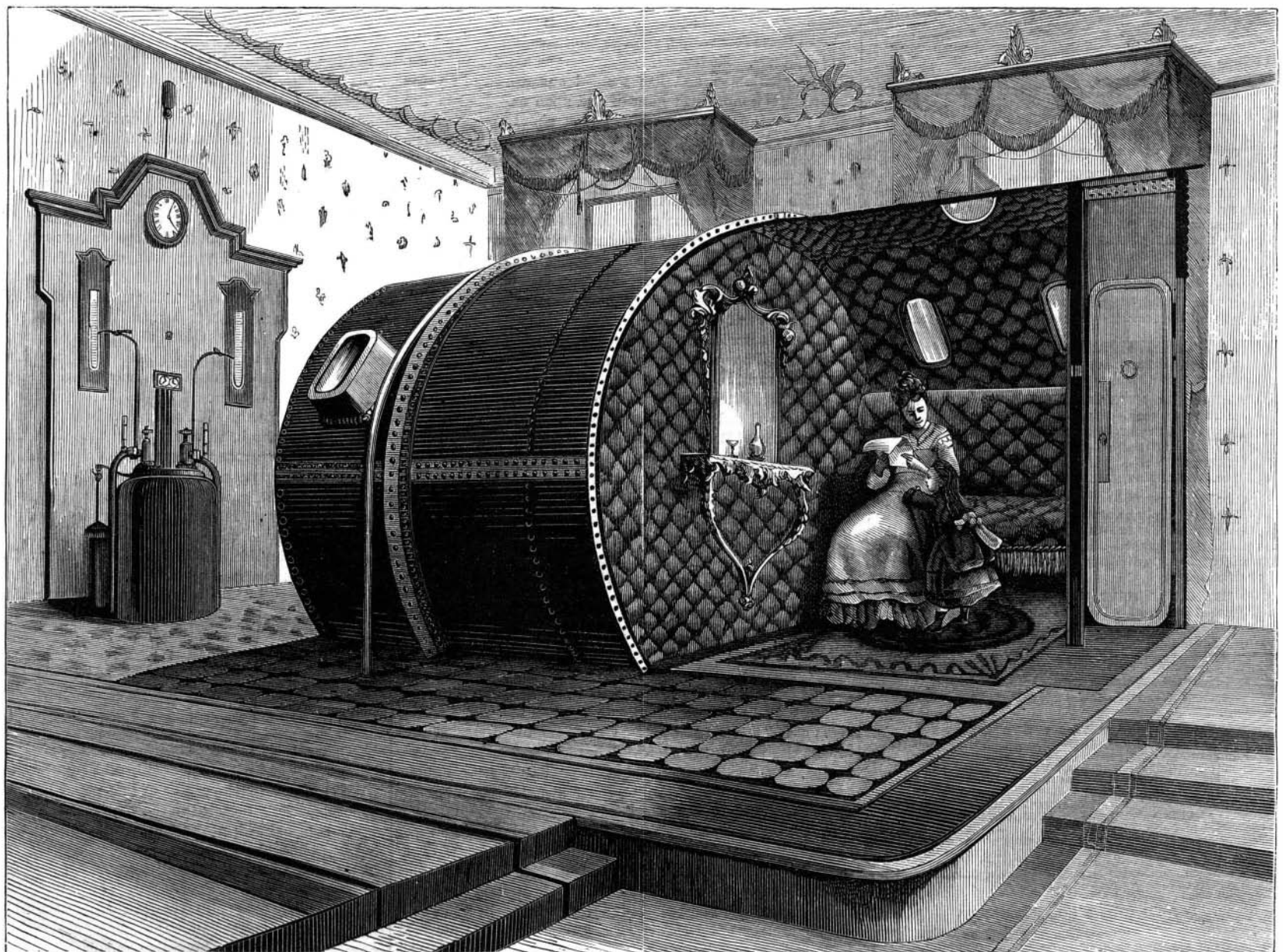
"Reasoning from these facts, we arrive at the following, which are borne out by actual experience: Any mode of destroying the beetle, practised by a farmer here and there, is only time lost, as the nightly flight of the sexes in search of each other is sure to supply local fields from the others in the neighborhood, the sense of smell being probably the insect's guide to the nearest plant, and to the general rendezvous. If extirpation of the beetle is determined upon, it must be general and simultaneous. The great difficulty of accomplishing this is insuperable. Therefore let the beetle alone. Beetles, however, produce slugs, and slugs in their turn produce beetles. Slugs do not migrate,

are easily dislodged, must eat, and are therefore at our mercy in at least two ways. If they are knocked off the plants in the middle of a dry hot day, and ground into the hot soil (say by a harrow or any similar means), they perish; and if the leaves are rendered, by any external application, unfit for their food, they starve.

"An experience of six years has satisfied me that the slug state is the only vulnerable one, and either of the two modes of warfare indicated above is probably successful. They feed indiscriminately on all the *solanaceae*. They are not poisonous, cannot bite or sting a human being, need not be a terror to any; and to conquer them, it is only necessary to attack them in a calm, cool, intelligent, business-like manner."—*S. R. M., in Scientific Farmer.*

## The Dublin Lioness.

In the report of the council of the Dublin Zoological Gardens, there is an account of the death of one of the lionesses, in which is noted a touching incident, worthy of being recorded. The large cats, when in health, have no objection to the presence of rats in their cages; on the contrary, they rather welcome them, as a relief to the monotony of existence, which constitutes the chief trial of a wild animal in confinement. Thus it is a common sight to see half a dozen rats gnawing the bones on which the lions have dined, while the satisfied carnivores look on contentedly, giving the poor rats an occasional wink with their sleepy eyes. In illness the case is different, for the ungrateful rats begin to nibble the toes of the lord of the forest before his death, and add considerably to his discomfort. "To save our lioness from this annoyance, we placed in her cage a fine little tan terrier, who was at first received with a sulky growl; but when the first rat appeared, and the lioness saw the little terrier toss him into the air, catching him with professional skill across the loins with a snap as he came down, she began to understand what the terrier was for. She coaxed him to her side, and each night the little terrier slept at the breast of the lioness, enfolded with her paws, and watching that his natural enemies did not disturb the rest of his mistress. The rats had a bad time during those six weeks."



THE PNEUMATIC HEALTH INSTITUTE, AT MILAN, ITALY.