

it is very evident that they are not sufficient to account for the more violent explosions described. Either the energy stored in the water has been, in such cases, thus effective, or other sources of energy must be sought. These calculations, therefore, may, on the whole, be taken as strong evidence, if not absolute proof, of the correctness of the Colburn Theory of Steam Boiler Explosions.

TABLE III.—*Stored Energy in the Steam Space of Boilers.**

Type.	Energy total.	Stored in steam. Per pound of boiler.	Height of projection.	Initial velocity.
1 Plain cylinder.....	676,693	271 ft. lbs.	271	132
2 Cornish.....	709,310	42 "	42	52
3 Two-flue cylinder.....	2,377,351	351 "	351	150
4 Plain tubular.....	1,622,731	168 "	83	33
5 Locomotive.....	1,483,896	76 "	76	69
6 "	2,135,802	85 "	85	74
7 "	1,766,447	86 "	86	74
8 "	1,302,431	107 "	107	33
9 Scotch marine.....	1,462,430	54 "	54	59
10 " "	2,316,392	61 "	61	62
11 Flue and return tube.....	1,570,517	28 "	28	42
12 " "	1,643,854	29 "	29	43
13 Water tube.....	2,103,110	61 "	61	59
14 " "	3,513,830	79 "	79	71
15 " "	1,311,377	24 "	24	39

* Table III and related text were not ready at the time of printing the preceding part, and did not therefore appear in copies then distributed.

INFRA-RED RAYS AND BANDS.—H. Becquerel was led, by his examination of incandescent metallic vapors, to apply his methods to the solar spectrum. He publishes a table of wave lengths for the infra-red lines and bands, ranging between 760 and 1,880 millionths of a millimetre. His results show that the phosphorographic method, when the phosphorescent substances are suitably chosen, enables us to explore the lower regions of the spectrum as completely as the thermoscopic methods, and more thoroughly than chemical actions. The method has the advantage of giving instantaneous indications, and of presenting an image of the whole region which is explored.—*Comptes Rendus*, Sept. 1, 1884. C.