

Correspondence.

The Vienna Patent Congress.

To the Editor of the Scientific American:

Upon my return from Vienna, I have been shown an article in your paper, of September 27, 1873, in regard to the Patent Congress in that city, stating that "it adopted as its final resolution the absurd proposition that inventors ought not to be allowed to sell their patent rights, except at such rates as government officers might dictate."

Accepting this extraordinary statement at second hand as a fact, you naturally characterize those who are said to have supported it as "incompetent." As you have taken the liberty of using my name as one of these, I beg the opportunity of making a brief statement of the objects and course of the Patent Congress, whose work, moreover, cannot fail to be a matter of interest to your readers; and if my action there seems objectionable, you will then, at least, have the facts at first hand, on which to make criticism.

No one knows better than you that the condition of patents in Continental Europe is very unsatisfactory, and that the present practice is wholly opposed to the interest of inventors. To bring about a better condition of things was the great object of those who devised the Patent Congress. It was felt that the first thing to be done was to get together experts, so to speak, from different countries, leading manufacturers, scientific men, and patent authorities, who should produce a concise and forcible argument in favor of patent protection, and should also prepare a brief statement of the fundamental principles upon which such protection should be founded; so that in asking of the continental governments a change in the patent laws, those applying should be able to say precisely what they desired. In the Patent Congress such a set of men were brought together. It included leading authorities from various parts of the world; and in spite of the determination of the Austrian government not to recognize it officially, it comprised unaccredited, but regularly appointed, delegates from nearly all the leading nations. In this way, the United States, England, Belgium, Bavaria, Sweden, Prussia, Switzerland, Greece, Hungary, Italy, Roumania, and even Austria herself, were represented by regular delegates sent for the purpose. A declaration and argument of the strongest kind, was presented by Mr. Barnard Siemens, and adopted by the convention in favor of patent protection as a stimulus to invention and to manufacturing industry; and the Congress then proceeded to the preparation of a statement of the fundamental principles upon which such patent protection should rest. This work proceeded most harmoniously till a clause was reached, which, as nearly as it can be translated, reads thus:

"It is desirable to devise regulations under which a patentee shall be held to grant licenses to responsible applicants in consideration of adequate compensation."

Upon this a great discussion arose; the Germans represented that it was vital to their prospects that something like this should be passed, that the great argument of the conservatives, who were opposed to patents, was that they were monopolists, giving power to individuals to shut up inventions which should be made public. The English, with Mr. Webster, the distinguished patent lawyer, at the head, took the same ground, representing that they were laboring for a reform in patent law in England, and that a cardinal point in any reformed code must be something which would protect the public against the growing tendency of rich and powerful combinations to control valuable patents in an unreasonable oppressive manner. The Americans, on the other hand, took strong ground in favor of the free control by inventors of their own inventions, and the undersigned stood with these. The matter was debated for a day and a half. At last it became evident that some mean must be found on which differing interests could combine, and the writer proposed that, as the conditions varied in different countries, the clause in question should be replaced by one which declared that the matter should be left to the different States to decide for themselves. This was rejected by the Germans and English. However, on the morning of the next day, they proposed that the objectionable clause should be amended so that it should declare that it would be desirable that patentees should be held to grant licenses for an adequate consideration when the public interest demands it.

The Congress was tired of the question. Those who sustained the original proposition had a large majority, and nothing but their feeling that they needed the moral support of the Americans had prevented them from passing the clause long before. It seemed to me that (as in practice, it must rest with each nation to determine when, if at all, the public interest demanded interference between the inventor and the public) it came to the same point as the proposition made by me the day before; and I stated to the convention that this was my view, and, with this understanding, I would agree to the clause as modified. No objection was made to this, and the clause was passed with this understanding by a nearly unanimous vote, including many Americans. The convention went on to a harmonious conclusion, and, at its end, there was a general feeling expressed that it had done all, and more than all, that could be expected of it.

In conclusion, the writer was in a position to know the sentiments of our official representatives, and of the liberal members of the Austrian Government, and also of prominent persons among the German liberal party; and in their opinion the harmonious and united action of the Patent Congress was worth a thousandfold to the interest of Americans beyond anything which could have been gained by

carrying the dispute further upon a point which, as modified, had ceased to be vital.

I believe the judgment of all sober and reasonable men will bear out this opinion.

Boston, Mass.

HAMILTON A. HILL.

REMARKS:—We give place to the foregoing with pleasure, since it is only fair that both sides should be heard. The unprejudiced reader will, we think, conclude with us that the statement published in the SCIENTIFIC AMERICAN, to which Mr. Hill takes exception, is substantially confirmed by his own showing.

Echoes in Buildings.

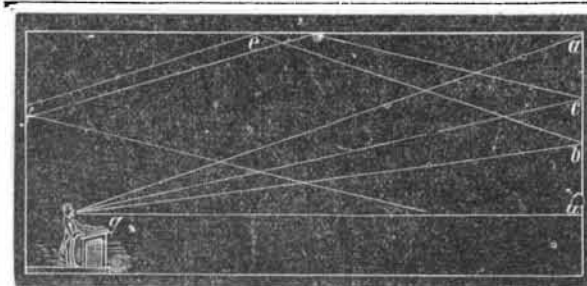
To the Editor of the Scientific American:

The Presbyterian church building of Tiffin, Ohio, echoes. The dimensions of the audience room are 63 × 50 feet; from the floor to the ceiling is 27½ feet. The minister's desk or stand is 12 feet from the wall. The floor is carpeted, with exception of the space beneath the pews, which is not covered, nor are the pews upholstered. The ceiling and side walls are flat and without interruption. There are no galleries in the church. The floor of the pulpit is 20 inches above the floor of church, and the speaker is 5 feet 7 inches tall. There is a great modification of the echo when the room is full: indeed when the room is filled to its capacity, there is scarcely any echo. The angle of the ceiling to the sides is a right angle, without any cove.

Tiffin, O.

J. T. POLLOCK.

REMARKS BY THE EDITOR.—The echo is probably caused by the rebound of the waves of sound from the front wall, as shown in the sketch. All the vibrations of air that strike on said wall above the line, *g d*, are reflected to the ceiling



and to the rear wall above the speaker's head. Those that strike between the points, *a b*, are reflected to the ceiling, thence to the rear wall, and then back into the ears of the auditors, arriving a moment later than the direct sound, and thus producing confusion. The erection of a front gallery would have a tendency to prevent the echo. In some late experiments in England, it has been found that wires stretched across the space, at about 6 inches apart, have broken the vibrations. This might be tried in this case by running them horizontally, at that distance apart, in a series extending from *a* to *b*. Painting them the color of the wall would conceal them.—EDS.

SUBJECTS FOR ENGINEERING PAPERS.

The Council of the Institution of Civil Engineers, London, invite communications dealing in a complete and comprehensive manner with any of the subjects included in the following list, and other papers treating on analogous questions:

a. Account of the progress of any work in civil engineering, as far as absolutely executed (Smeaton's narrative of the building of the Eddystone Lighthouse may be taken as an example).

b. Descriptions of distinct classes of engines and machines of various kinds.

c. Practical essays on subjects allied to engineering, as for instance, metallurgy; and

d. Particulars of experiments and observations connected with engineering science and practice.

List.

1. On the application of graphic methods in the solution of engineering problems, and in the reduction of experimental observations.

2. On the elasticity, or resistance to deflection, of masonry, brickwork and concrete, with observations on the deflection of bridge piers, caused by the unequal loading of the arches abutting on them.

3. On the use of concrete, or *béton*, in large masses, for harbour works and for monolithic structures.

4. On the manufacture of iron and steel as now practised; on the effect on the strength and tenacity of the metal by the admixture of substances with the ore; on the various experimental tests by which the quality may be ascertained; and on the effects of low temperature on metals.

5. On the results of experience in the recently extended use of steel in mechanism and in works of engineering.

6. On the theory and practical design of retaining walls for sustaining earth or water, and on experimental tests of the accuracy of the various theories.

7. On modern methods of constructing the foundations of bridges, and on bridges of large span, considered with reference to examples; including an account of the testing, and of the effects produced by variations of temperature.

8. On the different systems of swing, lifting and other opening bridges, with existing examples; and on the application of machinery in working them.

9. On the proportions and details of construction of lock gates, and on the application of machinery for moving them.

10. On the appliances and methods for rock-boring and

blasting in this country and abroad, and on the results obtained.

11. On the systems of signaling on railways, and on the comparative advantages of the absolute or permissive use of the block system.

12. On the constant use of water supply, with special reference to its introduction into the metropolis in substitution for the intermittent system; and on the waste of water and the best apparatus for its prevention.

13. On the various modes of dealing with sewage, either for its disposal or its utilization.

14. On the separate system of sewerage towns, with a detailed description of the works in a town to which this system has been wholly or partially applied, and particulars as to its results.

15. On the ventilation of sewers, with a *résumé* of the experiments as to the motion, pressure, etc., of gas in the sewers.

16. On the relative value of upland and of tidal waters in maintaining rivers, estuaries, and harbors.

17. On the construction of sluices for the expeditious filling and emptying of locks of large size on navigable canals.

18. On the maintenance by sluices of the harbors on the coasts of France, Belgium and Holland.

19. On the sea works at the mouths of the rivers Adour and Maas, and on the effects produced thereby.

20. On recent improvements in the construction of steam boilers adapted for very high pressures.

21. On the best practical use of steam in steam engines, and on the effects of the various modes of producing condensation.

22. On the modern construction of marine engines, having reference to economy of the working expenses, by superheating, surface condensing, high pressure, great expansion, etc.

23. On modern locomotive engines, designed with a view to economy, durability, and facility of repair, including particulars of the duty performed, of the cost of repairs, etc.

24. On the application of steam as a motive power for pumping water or sewage, with a comparison of the advantages of the different classes of engines, and details of the cost of working for long periods.

25. On the various descriptions of pumps employed for raising water or sewage, and their relative efficiency; and on the employment of water as a motive power for pumping by means of water wheels, turbines, water pressure engines, or other machines.

26. On the employment of steam power in agriculture.

27. On the methods of transmitting force to distant points; and on the details of the existing system of rope transmission.

28. On the present state of science in regard to the manufacture of gas for illumination; and on the materials most suited for the purpose.

29. On the manufacture of mineral oils and the lamps best adapted for their consumption in dwellings and light-houses.

30. On the out put of coal in the United Kingdom, as compared with that of other countries, illustrated by statistical tables, plans, diagrams, showing where coal is produced, and where and how it is consumed.

31. On mechanical apparatus at present in use in getting coal.

32. On modifications necessary in future coal-mining operations, suggested (or indicated) by the working of deep coal fields.

33. On turf (or peat) cutting, macerating, and pressing machinery, with experiments as to its heating power and expense as a fuel, as compared with coal.

34. On the various methods of draining distant isolated sections of mines.

35. On compressed air as a motive power for machinery in mines, with some account of its application on the continent.

36. On the use of diving apparatus in mines, especially in Westphalia and in Germany.

For approved original communications, the Council will be prepared to award the premiums arising out of special funds devoted for the purpose. They will not, however, consider themselves bound to make any award should there not be any communication of adequate merit; but, on the other hand, more than one premium will be given, if there are several deserving memoirs on the same subject. It is to be understood that, in this matter, no distinction will be made between essays received from a member or an associate of the Institution, or from any other person, whether a native or a foreigner.

The communication should be written in the impersonal pronoun, and be legibly transcribed on foolscap paper, on the one side only, having a sufficient margin on the left side in order that the sheets may be bound. A concise abstract must accompany every paper.

The drawings should be on mounted paper, and with as many details as may be necessary to illustrate the subject. Enlarged diagrams, to such a scale that they may be clearly visible when suspended in the theater of the Institution should be sent for the illustration of particular portions.

Papers which have been read at the meetings of the societies, or have been published in any form, cannot be read at a meeting of the Institution, nor be admitted to competition for the premiums.

The communications must be forwarded on or before the 31st of January, 1874, to the house of the Institution, 2 Great George street, Westminster, S. W., London, where further information may be obtained.