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- tions Distribution of Power in a Woolen Mill.—An analysis of the power actually used in driving the machinery in a mill in Central Ohio

RECENTLY PROPOSED PATENT LEGISLATION.

In many cases, improperly drawn specifications, with various kinds of dress goods made out of silk. drawings not acceptable under the Patent Office rules, have been forwarded to the Commissioner of Patents. accompanied by the preliminary fee of fifteen dollars. Of such applications, some have gone no farther, the statement have forwarded the preliminary fee of fifteen doned after such payment. Sometimes the entire fee cation, which is subsequently abandoned. Hitherto, excess by the Commissioner cannot by law be returned. Much injustice is apparent in these transactions. Money is received by the government, and retained by it, for which no equivalent is given. There are now home of the industry, Southern France. many thousands of dollars in the Treasury received from these sources. It seems clear that it is a case for to its intrinsic commercial importance, makes it worthy legal relief.

by B. Thomas introduced a bill designed to remedy the country. the evil. In general terms, it authorized the Commissioner of Patents to refund these fees where possible, and in all cases to make efforts to do so by writing to the applicants, The bill was twice read, and referred to the Committee on Patents, who reported a substitute sioner of Patents to notify the class of applicants in particularly interesting. question that their fees are subject to their order. It classifies the fees, 1st, as those sent to the Patent Office with applications which have never been completed or placed in condition for examination, and have become abandoned by lapse of time; 2d, as final fees of ture approached the magnet, but was not in contact. twenty dollars paid on applications which have never been patented, and which have become abandoned.

In all such cases, the Commissioner of Patents is to the sum in question, and stating that the amount will be forwarded to him on his written request for it. When the request is received, the Commissioner is directed to return the money, under such rules as may receipts of the office.

enimently just ones. The fees of thirty-five dollars re- ty had assumed commercial importance, it was found ceived by the Patent Office are intended to pay for the that ordinary conversation could be heard as readily cost of searching for novelty, for clerical expenses, as musical notes. printing, lithographing, and the like. There was never any idea of making them a source of profit or of gen- receiver was devised which consisted of a flexible iron eral revenue to the government. Under equitable diaphragm supported at its sides, and replacing the management, the amounts received by the office should armature of an electro-magnet-a receiver, in fact, be spent upon forwarding its business, and expediting which differed in no way from that now in use. In 1879, the issuing of patents. When, therefore, through error the possibility of its use as a telephone was also demonor otherwise, fees are paid for which no return is given strated, and though 'intended originally for a disconin the way of a search for novelty, and other work involved in the completion of the application, or for ous one. The apparatus used in these early experiwhich, as in the case of final fees, no issuing of a patent | ments is now in the possession of the Institute of has been effected, it seems unjust for the government Technology. to retain the amounts so received. A large surplus exists to-day in the Treasury of the United States to the credit of the Patent Office. Much of it has been⁴ derived from the sources described. The repayment Cornell University, in his lecture before the graduatof as many inventors as could be found would not, we ing class of the Rose Polytechnic Institute, at Terre would be only equitable and just to submit to such re- and without those periods of darkness and distress money maker, and should receive no fees that it is not The solution of this problem he finds in education, the justly entitled to.

***** PROGRESS OF SILK CULTURE IN THIS COUNTRY. **~**'11

A recent feature in the work of the Association has been its management of the Government Experimental Station in silk culture. A filature, or silk reeling station, was established in Philadelphia, and a line of necessary alterations and amendments not having been shafting was introduced, with arrangements for six made. In other cases, inventors, ignorant of the laws reels. Early in June, 1885, three American reels were relating to patents, have sent to the Commissioner a put into operation. A market was soon found for all simple statement to the effect that they proposed to; the reeled silk produced, and also for all the waste, so take out a patent for certain inventions, and with this that the undertaking may be said to rest on a business footing. The small quantity of cocoons produced, and dollars. Again, it often happens that the final fee of the lack of experience in their culture, coupled with twenty dollars is paid in, and the application aban- the high price of expertreelers, have been serious drawbacks to the financial success of the enterprise. But of thirty-five dollars is sent in advance with the appli- these are accidental circumstances, and will be dispelled, it is believed, by the results of the next two or and at present, in such cases the amount received in three years. It is pleasant to record the fact that the three reels made in Philadelphia are pronounced by experts to be superior to any of those imported, not excepting the improved forms brought from the very

There is one aspect of silk culture which, in addition of particular attention. And this is the employment On the 22d of March of the present year, Mr. Orms- it affords to women and children whose homes are in

PROF. PICKERING'S EARLY EXPERIMENTS IN TELE-GRAPHING SOUND.

In 1870, Prof. E. C. Pickering, then of the Massachusetts Institute of Technology, illustrated to an audience (H. R. bill No. 9,474) on the 16th of June. It is for the transmission of sound by electricity in an experithe purpose of authorizing and directing the Commis- ment which the present telephone controversy makes

His first receiver consisted of a powerful electromagnet attached to the bottom of a wooden box, the cover of which was replaced by a tin plate, having a soft iron armature attached to its center. The arma-The transmitter was a sonometer, around the wire of which a short wire was wound, dipping into mercury. An electric current was passed through both wires, the ordered to mail to the last known post office address of mercury, and the magnet. When the main wire of the the person entitled thereto, informing him of his right sonometer was made to vibrate, the current at each vibration was broken at the surface of the mercury. When the circuit was made, the magnet drew the plate down; and when broken, the elasticity of the plate drew it back. A loud sound was thus produced, the be required to efficiently and safely carry out the pro- pitch of which could be varied by changing the length visions of the proposed law. In order to prevent any or tension of the wire of the sonometer. This experifurther accumulation of fees paid by mistake, the ment was shown to the American Association for the Commissioner is authorized to refund them, for the fu- Advancement of Science, at its annual meeting, and ture, as soon as received, drawing upon the current was repeated in the course of several lectures. On again repeating this experiment in 1879, when the sub-The provisions of the bill above summarized seem ject of the transmission of sound by means of electrici-

> From this it will be seen that as far back as 1870 a tinuous current, it was equally suitable for a continu-

THE NATION'S GREAT PROBLEM.

Prof. R. H. Thurston, Director of Sibley College, are convinced, seriously deplete this idle amount. For Haute, Ind., took for his subject the nation's great the future, if the revenues were somewhat reduced, it problem, the possibility of progress without revolution duction. The government should in no sense be a which have heretofore been its recording milestones. careful, moral cultivation of the people at large. There are, it is said, two distinct systems of education, the old or gymnastic, and the new or technical; but a on of the intellectual life she erpretati

sion, absorption of gases and liquids, diffusion, vaporization, and surface tension.—14 figures	From the Sixth Annual Report of the Women's Silk deeper interpretation of the intellectual life shows no
V. MARINE ARCHITECTURE AND ENGINEERINGBritish Life-	Culture Association of the United States, it appears such distinction. However better adapted the new
boats.—The details of the lifeboat intended to be stationed at	that while the present outlook for the industry is not education may be to our present wants, it has at its
Lytham, at the mouth of the Ribble, and now at the Liverpool Ex- hibiton -7 figures	as bright as it might be, there is still much to encour- foundation the elements of the old. The technical edu-
bibiton.—7 figures	age its advocates in believing that it will one day win cation, which is now beginning to receive proper recog-
	age its advocates in believing that it will one day will eatin, which is now beginning to correct proper tools
Compressed Air for Lieboats.—The many advantages possessed	for itself an important place among the industrial nition in our systems of culture, is simply the supple-
exercise	enterprises of America. The number of those engaged ment to our older, incomplete academic training. In
The Raising of a wrecked Steamsnip.—The system employed by	the second se
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its use in dyeing	provement in both the quality and quality of the
its use in dyeing. 5788 New Element of the Blood.—The third histological element, the "plaquer" announced by Mr. Geo. T. Kemp	product. The methods of converting the cocoons into garded as a finality, but simply as a means to an end,
VII. SANITARY ENGINEERING.—The Purification of Water by	commercial raw slik have also been improved, and the and that end is the statistic statistics in a statistic statistics in the statistics in the statistic statistics in the statistics in the statistic statistics in the statistics in the statistics in the statistics in the statistic statistics in the statistic statistics in the statistics in the statistic statistics in the statistics in
Alum.—By Prof. P. T. AUSTEN.—Its particular application to local- ities where purification of the water is only necessary at certain	prices are somewhat higher than formerly. That there Some years ago, in tracing the history of the develop-
seasons of the year, and where the expense of large pumps and	is an immense field for the silk culturist in this coun- ment of the modern steam engine, Prof. Thurston
The Plumber as a Sanitarian.—His preventive virtues	try, if only the industry can once be established upon divided its growth into three periods-speculation, ap-
Cremation of GarbageBy JOHN ZELLWEGLE. C.EThe con- struction of furnaces for carrying out this method of disposal5	a commercial basis, is shown by a glance at the custom plication in several distinct forms, and, finally, a period
figures	a commercial basis, is shown by a glance at the custom phration in several distinct forms, and, many, a period
VIII. TECHNOLOGY.—Refrigerating and Ice Making Machinery and Appliances.—By T. IJGHTFOOT.—Apparatus for abstracting heat	house statistics. Not infrequently the monthly im- of refinement.
by the rapid melting of a solid, and by the evaporation of a more or	ports of silk and silk goods amount to as much as five In the growth of our educational systems, we have
less volatile liquid.—Machinery for compressing and cooling a gas. First paper	million dollars. Or perhaps it is even better appre- reached this third stage, the period of refinement, in
The Prevention of Naphthalene Deposits.—An apparatus for use	ciated when one studies the attire of any American which, the elements of the complete system being pres-
in the manufacture of muminating gas1 ngure	Manuel wheth one suddress and manuely and substantial and examples of the sumption of the