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## the labeest yet.

We print this week two edreans of the SCIENTipic AMERICAN, the combined isone of which reaches the large number of One Hundred and Ninety Thousand coples. The quantity of paper required for the two oditions is Five Hundred and Thirty Reams, and the weight, Thirty-Nine Thousand Seven Hundred and Fint Pounds-onjittle less than Twenty Tuns. We belleve this to be the largest clrculation of any paper of its elass ever issued in a single week.

## PUBLISHERS' CARD

With this issue, the tine for which a large number of our subscribers have prepaid, expires. In order that our readers may experience no stoppage in the receipt of the journal, and that we may not miscalculate the quantity of the paper to print at the commencement of a new volume, we hope our friends will signify their intention to continue the paper by early remittances.
The plan of discontinuing the paper when the time expires for which it is prepaid, we think preferable to the course, adopted by many publishers, of continuing their paper indefinitely and collecting afterwards. The latter course is too much like having a bill presented for a suit of clothes after it is worn out. We shall be gratified to have every old subscriber renew, and doubly grateful if each will send one or nore new names with his own.

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## another needed ambinmert of the patent law

By the present law, the grantee of any interest in a paten has ninety days within which to file his conveyance for record. If he complies with that rule, his rights are determined by the date of his deed. This furnishes abundant and unnecessary opportunity for fraud; and often imposes great hardships on innocent and careful purchasers.
He who after full examination finds the title of a paten complete and unencumbered often feels safe in paying his money therefor, and in making extensive arrangements fo engaging in the manufacture thereof. Ninety days thereafte
he may learn that an assignment one day older than his has less. This ought not so to be.
In some of the States of the Union, the registry laws relative to the conveyance of real estate have had a like provision, but experience has shown the inexpediency of such a rule. Priority of right is now generally given to the purchaser who first files his deed for record. This is a wise regulation; for if some one must suffer wrong, good policy as well as justice dictates that it should be the negligent rather than the vigilant. Is not this an equally sound maxim as applied to the sale of a patent?
At all events, the ninety days now allowed to the purchase of a patent is much too great. No great mischief would result from allowing such a purchaser hardly time enough to send his deed to the Patent Office. If he failed to do this, his rights should be postponed to those of any other bona fide purchaser whose deed was first on record. A rule of vigilance similar to that which is olserved in order to charge the in dorser of a protested promissory note might best protect the just rights of both purchasers, and would furnish little room for injury of the kind above referred to.
But there is a still more crying evil of a similar character A license under our present law need not be recorded at all A bona fide purchaser, who has waited ninety days before pay ing the purchase money or doing any other irrevocable act may afterwards find, to his dismay, that there are licenses in existence, running the entire lifetime of his patent and cov ering the whole scope of his conveyance, which is thus ren dered wholly valueless. Opportunities for successful wrong are here presented, for which there is no excuse. They are
unworthy of the intelligence of the age and country. The unworthy of the intelligence of the age and country.
hand of reform should be applied here without delay.

## GOVERNRENT MONOPOLY OF THE TELEGRAPH LINES.

The argument of Mr. G. P. Lowery, before the Congres ional Committee, in opposition to the Hubbard Postal Telegraph bill, contains much forcible reasoning. Whether or not Congress has the right to make telegraphic intercom munication a government monopoly is clearly a constitu tional question, based upon the interpretation of the sections which confer upon the national legislature the power to establish post offices and post roads, and to regulate commerce. The advocates of the scheme hold that, under these provisions, Congress has the necessary power, and urge that the telegraph must be regarded in similar light as the mails f the government has the right to monopolize the dissemin ation of information through the carriage of missives in the
latter case, it has the same right through the transmission latter case, it has the same right through the transmission of
gigeth in the fermer. The opponents of the bilt, including gigath in the efrere. The opponents of the bilt, including above premises, and draw a wide margin of difference between the establishment of the post offices and roads and that of the telegraph. They maintain that the post office is simply the medium through which the government tenders itself to carry parcels of a limited weight for a limited price, and this entirely regardless as to the contents of the parcels, whether the same be a means of transferring ideas from one person to another, or a mere mass of material substance. The tele graph, on the other hand, is per se amedium for transmitting information, and nothing else.
Mr. Lowery elaborates these views with much ingenuity and cogency in his argument. He points out that the post office is an agency, the original design or motive of which was, doubtless, to favor the transmission of intelligence, public or private, between the people : its function is the carrying of packages which may contain information. Because this possibility exists, and Congress controls the means of conveyance, therefore it is urged by the advocates of the plan that Congress should control another medium which conveys nothing, but merely transmits information as sucha clearly illogical sequence.
To borrow Mr. Lowery's illustration: Suppose A and B are talking together a couple of feet apart. A crosses the street, and the conversation is still maintained by raising the roices; or one person may go to the garret and the other to the cellar of a house, and yet converse through a speaking tube. They may separate by a wider interval and talk by pre-arranged signals made with their arms; or lastly, they may place an interval of a thousand miles between them, and still continue their remarks by the aid of the telegraphic wire. A's mind meets that of $B$ just as instantly through the telegraphic signals as through the medium of oral words. In the one case a conducting wire, through which a current passes, is the means; in theother, sound conducting air, through which certain vibrations are transmitted, serves the same purpose. The extension of the telegraph, then, from between A and B between every individual in the United States and where else, virtually places all the people within the sound o each other's voices. If such were literally possible, then-if
the government has the right to control batteries and wires the government has the right to control batteries and wires
in the one case-it has equally power to control the vocal cords and air in the other: in other words, to prevent people talking to each other save on the payment of tax-a reductio ad abourdum too palpable to need further demonstration. Of course the power once in the hands of any government to
control interchange of information between the people con. verts that government into a despotism very different from that contemplated by the Constitution. That instrument however, is a rigid one; and as it distinctly says " establish post offlces and post roads" and "regulate commerce," and transmitted); it may be taken as reasonably certain that no judicial interpretation would discover in the plain provisions above

## telegraph lines.

There are many, however, who would be willing to yield a point of right, if the expediency of the change were great. That is, if, by suppressing the private corporations and placing the telegraph under government control, the whole country would be manifestly benefited, not many would be found to oppose any legal means, if such could be reached, found to oppose any legal means, it such coin we are met by for accomplishing the object. But here again we are of considerations and facts which demonstrate the project to be plainly inespedient. The latest reports of European government telegraphs show clearly that, instead of being a source of revenue to the countries where the system has been adopted, they are a source of expense. Statistics for 1873 show for the German Empire a deficit of $\$ 661,727$. France has a very slight surplus; but taking the aggregate receipts of seven countries-Germany, Hungary, Belgium, Denmerk France, Holland and Switzeland-the expendi enmark, Foud to for England, the London Railcay Nerrs, of late date, admits for England, the London Razheay this, of lincreasing.
deficiency of $\$ 5,000$ a week, and this increasing.
In adverting to this subject before, we pointed out that a
In adverting the British tariff with our own, taking into consideration the enormous distances between points in this country, shows in the end that our rates could gain little in cheapness supposing our government to run the telegraph at once as efficiently as that of England now does. Again, the English post office carries letters for a penny, and makes five illion dollo a ing to Pote Jevell' report, there is a deficit of elght illi dor Poll asert million dollars. The Postmaster General may well assert his intention to try and make the receipts and expenditures of the Department bear some proper relation to each other; and we may justly doubt even the accomplishment of this task for some time to come. It is absurd, however, to suppose that, beside this, a postal telegraph could be made into a paying enterprise, and not an additional burden on the taxpayers. There are other objections to the postal telegraph which we have not space here to detail. A government censorship of news is not to be desired in these days of high party feeling; nor is the saddling of the country with an immense lost of new officials an inviting prospect-particularly when appoint ments will probably, as is the case now in other political posithe, be governed by every other consideration save tha of fitness for the work. The imposition of another tax is also objectionable. The telegraph is not employed loy a grea mase of the population. As it is now, it costs this class no thing ; as it would be, they would be obliged to contribute to its support.
Postmaster Jewell's report, to all appearances, gives the ootal telegraph echeme. ita practical quietus for this session but as the project is nevertheless likely to te brought up and discussed, it is, perhaps, well that the public should under tand wherein it fails both in law and in expediency. If the government chooses to erect or acquire telegraph lines for it own use and benefit, it certainly has the right to do so; but that it should compel the people to employ only those lines, by legiarting the great telegraphic corporations out of exist ence and securing to itself the monopoly, we decidedly dis believe.

## the trandit of venus.

Cable despatches fron three of the American expeditions or the observation of the transit of Venus, respectively stationed in Japan, Siberia, and Tasmania, and from the British parties in India, China, and Egypt, announce the re sults thus far obtained. Professor E. Hall, telegraphing from Vladivostock, reports that, as the planet advanced and touched the sun's limb, the moment was signaled with accuracy; but owing to the drifting of haze and clouds between, it was impossible to obtain good photographs of the contacts. After Venus had crept half way across the sun's disk, however, thirteen good negatives were secured, so that it will be possible to map the planet's track on the photographic image of the sun after the observers return home. Professor Davidson, at Nagasaki, was also troubled with cloudy weather. The first contact could not be recorded, but the time of the second one was obtained excellently. A large number of accurate measurements were secured, however, and sixty clear photographs. The astronomers of this party were remarkably fortunate, as almost immediately after the occurrence of the phenomenon the sky became thickly clouded.
Messages from the British parties to the Astronomer Royal tate that at Thebes, Egypt, numerous fine photographs were taken; and at Cairo and Suez, the closing stages of the transit were viewed under favorable auspices. The reports from Shanghai, China, are discouraging, and announce complete failure of all attempts, owing to the cloudy weather. The Indian observations seem to have been the most s:cceessful, upwards of one hundred negatives of the planet's position on the sun's disk being secured. The details of the micrometric measurements and of the instants of contact, it is also stated, were obtained with precisiou.
Professor Harkness, from Hobart Town, Tasmania, announces bad weather, but good results, in the shape of one hundred and thirteen photographs.
Altogether the reports are encouraging, and point to generally fair success. The despatches of Professors Harkness and Hall are the moat important, owing to their stations being far north and far south of the Equator, and hence giving the moat trostworthy data.
In this connection we notice a letter, from Mr. Lewis M. Rutherford, to the Times, in which he recommends the use of a short telescope and enlargement of the image by the intervention of an enlarging lens between the- objective and the

