

Communications.

Our Washington Correspondence.

To the Editor of the Scientific American:

The amount of cash receipts at the Patent Office would seem to indicate that business was reviving there as well as elsewhere—the money received on Friday of last week being over five thousand dollars, the largest amount, with one exception, ever realized in any one day since the establishment of the Office.

A few days since there was a report in the papers that Secretary Schurz would soon hear charges made against Commissioner Spear by J. McCleary Perkins, which was followed by this paragraph in the *Republican*:

"The statement that Secretary Schurz was to hear the evidence on certain charges made by one J. McCleary Perkins against Commissioner Spear, of the Patent Office, had no foundation in fact. There are several charges now pending against Perkins which may, when the Secretary finds time to examine them, result in barring Perkins from practicing before the Department, and which will doubtless be heard before any charges preferred by Perkins against any officer of the Government."

From this, it would appear that Mr. J. McCleary Perkins does not get along quite as well with the present Commissioner as he did for a time with the last one. Shortly after Mr. Duell took his seat, Mr. Perkins, having much more time on his hands than clients to occupy it, undertook to oversee the business of the Office. For a time, it seemed, from the authority he assumed, that he considered himself as Acting Commissioner, or at least Assistant Commissioner, and actually took possession of and occupied a desk in one of the rooms for his own private business, until Mr. Duell got tired of his officiousness, and he was refused its further use, since which time he has become what one of our papers calls him—"a chronic grumbler."

There has been a vacancy for some time past in the Board of Appeals, owing to the inability of Mr. Marble to take the position on it to which he had been appointed, as he was filling another office; and having now been appointed Assistant Attorney General, he has formally declined the position. It having been determined to fill the vacant office by a competitive examination, the Commissioner, Assistant Commissioner, and Assistant Attorney General were appointed as an examining board, before whom the following gentlemen who competed for the position were examined: Messrs. Fox, Wilkinson, Dyrenforth, Burke, Bartlett, Hedrick, Tilden, Durnall, Bates, Wilber, Catlin, Bowen, and Antisell, all of whom are members of the examining corps, except Dr. Antisell, who formerly served in that capacity, but resigned many years since. The examination is said to have been entirely practical, and to have reference to office work only. The board will examine the papers as soon as they can spare time from their current work, and report the three last to the Secretary, who will then nominate one to the President for appointment.

Application having been made by a printing firm in your city to register as a label a print representing a race course, without any descriptive matter thereon, the intention being to sell the print to customers to ornament their goods, the examiner rejected it on the ground that it should be registered as a trade mark, if registered at all; but the Assistant Commissioner on appeal decided that such a print does not meet the requirement of a trade mark or copyright, and that it should therefore be properly registered as a label, as it is not to be considered as a work of art, but is to be used for "other articles of manufacture."

Reports from nearly nine hundred counties in which winter wheat is raised have been received by the Agricultural Department, of which about one quarter are unfavorable; but in the remainder the yield promises to be from average to superior. Of three hundred and twenty counties in the Ohio basin, only forty-five report below the average. Grasshopper ravages are reported in twenty-two counties of Kansas, and the wheat-growing districts of Texas are said to be alive with these insects. There is, however, an increase of the area of wheat in the latter State, and the prospects are favorable in other respects. In the other cotton States, a dry autumn and variable winter have depressed the condition of wheat below the average.

The sixth report of the Government Inspector of the works for the improvement of the South Pass of the Mississippi is just received; from which it appears that, since November 18, 1876, about 16,000 cubic yards of material have been dredged at points where the channel was the worst. A part of the west jetty has been raised by mattresses and a layer of stone, until it is of a height of from six inches to two feet above the average flood tide; and one hundred and sixty-seven additional piles have been driven. A table accompanying the report shows that the depth between the jetties has gradually deepened from nine and two tenths feet in June, 1875, to twenty and a half feet in March of this year. At the head of the passes, the west T head has been extended up the stream, and its upper part made a solid dyke; a line of mattresses has been carried from the east T head down to the head of Goat Island; a solid mattress dam has been built across the old east entrance to the South Pass; and about 30,000 cubic yards of digging has been done. The rising of the river caused a sharp scour between the T heads, so that near twenty-four feet could be taken from the Mississippi into the South Pass on March 7, 1877.

The National Academy of Sciences is now holding its fifteenth annual session, at the Smithsonian Institute in this

city. The following papers have been read up to the time of writing this:

"On a new measuring instrument, the vernier microscope," by Professor A. M. Mayer. "On systematic errors in star declination," by Professor E. C. Pickering. "On the young stages of osseous fishes," by Professor Alexander Agassiz. "On critical periods in the history of the earth, and their relations to evolutions, and on the quaternary at such a period," by Professor Joseph LeConte, of San Francisco; read by Dr. John L. LeConte. "On the progressive motions of storms," by Professor Wm. Ferrel. "On the effect produced by mixing white with colored light," by Professor O. N. Rood. "On Newton's use of the term 'indigo,' with reference to a color of the spectrum," by Professor O. N. Rood. "Improved method of obtaining metallic spectra," by Professor G. F. Barker. "On the internal structure of the earth as affecting the phenomena of precision and mutation," by General J. G. Barnard, U. S. A. "On a proposed new method of solar spectrum analysis," by Professor S. P. Langley, director of the Alleghany Observatory. "On complex inorganic acids," by Professor Wolcott Gibbs. "On a micrometer level and topographical camera," by Professor E. C. Pickering. "On the determination of the co-efficient of expansion of solids," by Professor A. M. Mayer. "On the results of deep sea dredgings," by Professor A. Agassiz. "On a new detached gravity escapement, invented by Professor Young," by Professor Barnard. "On the laws ruling the vibrations of tuning forks," by Professor A. M. Mayer.

Many of these papers and the discussions that followed were deeply interesting; and as the session will continue a day or two more, it is probable that other equally interesting subjects will be discussed. The following gentlemen were elected members: Dr. John W. Draper, of New York; Dr. Scudder, of Cambridge; Dr. Elliott Cones, Dr. Henry Draper, of New York; and Mr. C. S. Pierce, of the Coast Survey.

The War Department will, it is said, at the coming extra session of Congress, call for an appropriation for the manufacture of improved arms, so that their accumulation might place the government in readiness for any emergency. It is stated that there will not be more than about 8,000 arms of the improved patterns on hand at the close of the present year; and that if the States should draw all they are entitled to, the stock of improved arms held in reserve would be exhausted. The style of gun now being manufactured is that known as the Springfield breech-loading rifle, and it is argued that these guns should be manufactured in sufficient quantities to render a gradual accumulation of them in store a certainty, as otherwise the government may find itself without arms at a time when they may be wanted very badly. The ordnance officers are also complaining about the meagre means of defense on our coasts and harbors, asserting that we have little or no means of operating against the heavily armored ships that the European powers could bring against us, excepting the torpedo boats, which are as yet but in the experimental state. It is stated that several experimental guns have been made; but they cannot be tested, as no money has been appropriated by Congress for that purpose.

In consequence of a recent decision of the Supreme Court respecting the eight hour law, Secretary Sherman is about to issue an order that hereafter no officer shall pay ten hours' wages for eight hours' work, thus practically reversing the order of General Grant constituting eight hours a day's work.

One of our street railroads has received permission to try the dummy engines now successfully used in Philadelphia, and will shortly introduce them on both their lines, if on trial they meet with approval.

Washington, D. C.

OCCASIONAL.

Letter from the Oldest Locomotive Engineer now Living.

To the Editor of the Scientific American:

I am probably the oldest living locomotive engineer in the United States, possibly in the world. In the year 1832, I think, the Schenectady and Saratoga railroad went into operation, and in that year imported a locomotive engine from England, made by George Stephenson, and named after him; an engineer named Turner came with it and ran it for some months; but as he was a man in poor health, I frequently was called upon to fill his place, as I was then superintendent of Clute & Bailey's machine shop and foundry, where the work for that road was generally done. The engine above mentioned, I think, was the first in the United States placed and run upon any railroad. The Mohawk and Hudson was the first railroad built in the State, but was operated by horse power for several years, with stationary engines at both ends for hauling up and letting down the passenger cars on the inclined planes at Albany and Schenectady. I saw a short article in some paper a few years since, saying that the locomotive engine above mentioned was still in the city of Schenectady, laid up as a curiosity in some establishment there, for I assure you it was a curiosity, when compared with those of the present day.

I have never followed the occupation of an engineer either on a steamer or locomotive regularly, having always preferred that of a machinist, so as to be at home with my family at night, although in my younger days I have frequently operated on both when necessity required it. I am now 77 years old, and for the last 35 years have been living on my farm in the mountains of Georgia, enjoying good health; I

am hearty and active, and can do as good work as I ever did, and can mount a horse as spry as when 45 years old. I presume you have had a description or descriptions of the locomotive alluded to, or I would send it, as well as my recollection serves me.

Clarksville, Ga.

J. VAN BUREN.

Remarkable Explosions.

To the Editor of the Scientific American:

In the year 1873, some parties in this city conceived the idea of pulverizing brimstone, which was done successfully. The product very closely resembles flowers of sulphur, and many tons of it have been sold, the greater part to sheep farmers. At the time of the first attempt, we had pulverized about a hundred tons, and were just about stopping the machinery when a terrible explosion took place; and in a few minutes the mill building was all in flames and completely destroyed. The mill at the time was full of fine dust of sulphur, especially the upper story, where it was floating thick in the air. The explosion seemed to be mainly in the upper story. There was no fire in the building, nor was there any person smoking, and the affair seemed a mystery to everybody. Many who pretended to be chemists and experts said there was nothing to be feared from grinding sulphur; but I maintained that either sulphuretted hydrogen was generated in some way by the attrition, or that the impalpable dust, mixed with the air, was the cause of the explosion. I told the mill owner that it would explode again if the attempt was repeated; but he did not mind me, and when he rebuilt the mill he tried it again. When we were just about stopping after finishing a lot of seventy tons, on July 25, 1874, another terrible explosion took place, with the same circumstances attending it as on the previous occasion. The mill was burnt to the ground. Since then the owner of the mill never tried sulphur grinding again.

San Francisco, Cal.

J. W. MORRISSEY.

Pneumatic Transmission of Time.

To the Editor of the Scientific American:

In your issue of April 21, 1877, is an article on the transmission of correct time in Vienna, Austria. Allow me to state that the transmission of time by a pneumatic system has been in use in San Francisco since February, 1874, where, in the London and San Francisco Bank Building, one regulator transmits the time to 14 dials. This invention (of Mr. H. Wenzel, of San Francisco) was patented in July, 1873, and is so satisfactory that it has been also introduced in the Nevada Bank Building, with 26 dials; in the San Francisco Club House, with 8 dials; in Baldwin's Hotel, with 62 dials, and into a number of private houses. One of these clocks, with a most ingenious, original improvement on the escapement, termed "force constant," and connected with several dials, to which any number of dials in the same or adjacent buildings may be added, is now in operation, and can be seen at Mr. C. W. Schumann's office, 24 John St., this city.

New York city.

L. BECKERS.

Stream Power and its Utilization.

To the Editor of the Scientific American:

An article appeared in the SCIENTIFIC AMERICAN of April 28, 1877, under the above heading, for which you credit the *Millstone*. I know not to what the *Millstone* gave credit for the article; but I am sure that it ought to have given credit for the article to the SCIENTIFIC AMERICAN of January 14, 1871. If you will refer to that number of your journal, I think that you will acknowledge that no one can be more positive as to the origin of that article than your humble servant. It is one of the weaknesses of humanity to be pleased with due thanks for one's fugitive ideas and compositions.

Worcester, Mass.

F. G. WOODWARD.

American Inventive Progress.

"Under the above heading the SCIENTIFIC AMERICAN of May 7th has a long and interesting article, from which we make the following extracts:

"To show with what rapidity inventors made improvements on inventions embodying original principles," says the writer, "it may be noted that, in the early days of the sewing machine, 116 patents were granted for improvements thereon in a single year; and out of the 2,910 patents issued in the year 1857, 152 were for improved cotton gins and presses, 164 for improvements on the steam engine, and 198 for novel devices relating to railroads and improvements in the rolling stock. In the year 1848, three years after the publication of this paper was commenced, but 660 patents were granted; but under the stimulus of publishing these inventions as they were patented, ten years later, in 1858, the number had increased sixfold, reaching 3,710, while up to January 1, 1850, as already stated, the aggregate of patents issued amounted to 17,467; since that time and up to the present period the total is 181,015.

"And curiosity here leads us (adds the editor) to review our own work, extending back, say, twenty years, or to 1857, a period during which 170,745 patents have been issued. We find, by actual count, that 62,062 applications have been made through the Scientific American Patent Agency for patents in the United States and abroad. This averages almost ten applications per day, Sundays excluded, over the entire period, and bears the relation of more than one quarter to the total number of patents issued in this country up to the time of writing."—*Philadelphia Evening Bulletin*.