A BANKING RULE.

From American Investments.

Bank depositors should be very careful to observe the following rule: In making deposits of currency *only*, at a time when the receiving teller requests that the bank book be left to be written up, make out two deposit slips, one to be left with the bank, the other to be O. Kd. by the teller and retained by the depositor. The necessity for the observance of this rule appears when there is any dispute about such a deposit. An unscrupulous teller could count the funds, find everything correct, ask that the book be left to be written up, fail to enter the deposit, destroy the deposit slip, pocket the cash, and no living mortal could prove a case against him in the absence of witnesses. Both the depositor's and bank's cash would be in perfect balance and still the discrepancy exist. We have known law suits to grow out of such transactions. Our plan would effectually prevent any misunderstanding.

MANAGEMENT OF COAL.

From the Boston Journal of Commerce.

A curious fact of practical importance is sometimes lost sight of in the management of coal, namely, that while hard and brown coal are both subject to explosion and ignition, the causes are different; the explosion being due to the liberation of gas known as fire damp, which follows on a decrease of atmospheric pressure, while ignition results solely from oxidation of iron pyrites contained in the coal, these pyrites being exposed to the action of oxygen and moisture. The finer the division of the coal the greater is the danger, and coal above ground is particularly liable to this. Numerous attempts to reduce this danger have been made, principally by ventilating the stacks, a plan which, however, has failed, on account of the increased amount of oxygen introduced into the interior of the mass. The practice of ventilating the coal bunkers of ships has not even up to the present time been abandoned, notwithstanding the unfavorable results liable to follow such a course.

A GLASS ETCHING DEVICE.

From Locomotive Engineering.

Devices for doing work with compressed air are brought to a state bordering closely on perfection at the Huntington paint shop; in fact, it may be said that there are few kinks with air that are unknown in that shop, as it is the policy to do everything possible by means of that useful agent. In glass ornamentation with air and sand, silver foil is used largely in transferring figures to the glass. The foil is first placed on the plain glass; a perforated pattern is then laid on the foil, and the latter is trimmed with a knife to the lines of the desired ornamentation. A coat of paraffine is then placed on the trimmed surface, and also on the silver foil; after which a second trimming is necessary to remove the paraffine outside of the pattern; this operation then leaves the glass bare outside of the required figures. The glass is then ready for the sandblast, and is placed in a box six feet long, three feet high and eighteen inches wide, which constitutes a part of the permanent sandblast outfit.

X-RAYS AND HARDWARE.

From The Hardware Trade Journal.

One of the most important—perhaps the most important – of the uses to which the Roentgen rays can be put is the detecting of flaws in iron or steel. It has been found possible to detect such flaws by means of the X-rays in comparatively thin layers of iron, and it is thought probable that by and bye the rays will be made to reveal the secrets of inch or two-inch iron. If this could be accomplished, a very large number of accidents which pass now as inevitable would become preventible. There is now no means whatever of preventing air bubbles or grit flaws in either iron or steel; no tests can give any security against them. There is a monotonous frequency of accidents to workmen and others through the breaking of chains and other gear, and such accidents are invariably alleged to occur through "latent flaws." If the Roentgen rays could be utilized for the examination of two-inch iron such a plea would in most instances be no longer available.

LEATHER IN GERMANY.

According to the *Echo*, of Berlin, an establishment is to be founded where the products of German tanneries will be submitted to scientific tests. The main purpose of this institution is to improve the processes of manufacture. Tanning is an industry which is constantly subjected to revolution from a technical point of view. Nearly every week new methods of tanning are invented, and it is in the interests of the tanners to establish an institution in the central part of Germany where tanning processes can be constantly studied. Such an institution will be useful to every one, and particularly to the military authorities, as each army corps has an equipment committee. The officers who are members of these committees inspect the leather as well as all other kinds of goods for army use. The tests of leather must be made by those specially qualified for the purpose. The institution will be of valuable assistance to the officers of such committees, as they can acquire the knowledge required to judge of the quality of the leather. It is thought that the Minister of War will be interested and assist in the realization of this plan.

THE DEVELOPMENT OF RUSSIAN INDUSTRY.

From The British Hardware Trade Journal.

The British consul at Moscow, in the course of a report on the Nijni Novgorod Exhibition last autumn, describes the industrial progress of Russia since the Moscow Exhibition of 1882 as very great. Every branch of manufacture, he says, every source of natural wealth, has been attacked simultaneously and successfully, The progress made in textiles is marvellous, and many of the silk and print exhibits equal led anything that Lyons or Manchester could produce. The machinery section was full of good work, but agricultural machinery left much to be desired. In the mines section there were some wonderful pieces of iron work, which would attract attention in any country; but although the constant remark was that every object was purely Russian, British and German foremen are largely employed in the iron works, Frenchmen in the silk and many of the print works; whilst British subjects have still very much to do with the cotton mills. The development of the natural wealth of the country is even greater than that of the manufactures. The production of coal has trebled in the last fifteen years, and though Baku yields increasing quantities of naphtha, new springs have been found near Vladikavkas. Cotton planting prospers in Taskent and Erivan, and the results in the new plantations at Kutais and Agdash, in the Southern Caucasus, are excellent. Costly experiments near Baku have produced a Russian tea, which is shown with much pride, and General Annenkoff is planting American vines in Turkestan; tobacco is also being grown from American seed near Samarkand. The increasing production of iron is no doubt due to the extensive construction of railways during the last ten years; but generally speaking, every branch of industry has improved, with the exception of agriculture, which grows worse year by year.

ZINC MINING.

From the Hardware Trade Journal.

Zinc mining is one of the most important industries in Poland. A late report of the French Consul at Warsaw contains some details of interest regarding Polish zinc mines and manufactures. In this report, it is stated that two companies share the monopoly of the working—namely, the Sosnovice Company, who obtained possession, in 1890, of the mines and workshops at Kramst, and the Derviz-Szevcov-Pomeranoff Company, to whom the Government granted a concession in 1891 for 60 years of the works in the basin of the Dombrova. The working of zinc ore is exclusively concentrated in the environs of the town of Olkusz. The ore which is found in the greatest abundance is calamine, which yields 7 to 30 per cent. of zinc. Zinc blende is also found, but in smaller quantities. The ore is carried either by carts or by the Ivangrod-Dombrova railway to the Bendrin and Pauline Works, a distance of about 16 English miles There are only two rolling mills in the kingdom—one at Sosnovice and the other at Slavkov. There is also a factory of oxide of zinc. A great increase in the production took place in 1895 compared with 1894. The number of workmen employed in the zinc industry in Poland is 2,100 of which 1,460 are engaged in the mines and 700 in the workshops.

THE INDUSTRIAL PROGRESS OF JAPAN.

From The Paper Mill.

The industrial progress of Japan is something upon which Americans cannot look without interest. Japan is spending a great deal of money in England and America, and especially in America, for machinery of all sorts. For paper making machinery alone representatives of Japanese paper manufacturers have expended many thousands of dollars in the United States within the past year. Even within the past two weeks a contract for two large machines has been awarded to one of the leading concerns engaged in building paper mill machinery.

Another phase of the thing has come into attention recently, and that is the possibility that Japan may, in the end, supplant the United States in the markets of other nations. It has been said that with their remarkable facility in the mechanical trades, their low cost of living and low wages, the Japanese may even undersell American manufacturers in certain lines in our own markets. At present Japan is buying very liberally of us, and is paying in cash, and at very good prices, for whatever she purchases, and it will be a long time before she will be able to sell to us anything like as much in value as she will need to buy.

STEEL FREIGHT CARS.

From The Industrial World.

One probable result of the heavy reduction in the price of steel will be the construction of steel cars. The question has long been discussed from an engineering standpoint and many advantages have been pointed out for the metal car, but the railroad engineers could get no encouragement from the managers, because the cost was so much greater. Fifteen years ago a steel car would have cost several times that of a wooden car, and even six months ago the difference would have been decisive in favor of the older material. But with the collapse in billets and rails came a readjustment of values, which now make it possible to construct a steel car for about the same cost per ton of carrying capacity as that of the material now in use. There are other advantages. The saving in dead weight would be an important item. There would be less loss in fire and the steel cars, it is believed, would survive a collision better. In a serious disaster shapes would be bent and distorted, but a system of keeping all parts of the car in stock would facilitate repairs very greatly. Engineers have been steadily encroaching upon wood by substituting steel shapes for castings and wood wherever practicable, and a decided movement in the direction of all steel cars would not be surprising to many railroad men, especially if the large order recently made for the Pittsburgh, Bessemer and Lake Erie road proves satisfactory.

STOCKS IN MONTREAL.

MONTREAL, April 7th, 1897.

Stocks.	Highest.	Lowest.	Total.	Sellers.	Buyers.	Average price 1896.
Montreal	230	230	14	232	227½	223½
Ontario	83	83	14	85	82	.....
People's	.....	.....	.....	.....	.....	.....
Molsons	.....	.....	.....	195	180	170
Toronto	229½	229½	5	232	228	239
Jac. Cartier	.....	.....	.....	.....	.....	.....
Merchants'	171	170½	7	172½	170½	168
Commerce	.....	.....	.....	127	125	135
Union	.....	.....	.....	.....	102	100
M. Teleg. xd	165½	165	50	166	165	165
Rich. & Ont	92	91½	125	95	90½	88½
St. R'y.	234	230½	3140	234	233½	231½
Gas xd	181½	188	3947	188½	185	195
C. Pacific Ry	49½	48½	25	51	49	55½
Land gr't bonds	.....	.....	.....	.....	.....	108
N.W Land pfd	.....	.....	.....	.....	40	.....
Bell Tele. xd	160½	160	56	160½	160½	154
Mont. 4% stock	.....	.....	.....	.....	.....	.....