

time of peace, for its own defence, and to do so effectually, it should avail itself of any ascertained improvement as soon as possible.

Fourth, There is still another very important feature in favor of the breech-loading system: viz, the practicability of loading and firing with great rapidity. The Gatling gun, which is a breech-loader, can be loaded and fired at the rate of one hundred shots per minute. Now it is evident that no muzzle-loading arm could be loaded and fired so often. By loading at the breech, the process of loading is simplified—ramrods, wipers, the biting of cartridges, capping, etc.—are all dispensed with.

The prediction may be safely made, that muzzle-loading small arms will, within the next quarter of a century, become as obsolete as the flint-lock musket is at the present time.

Breech-loading cannon will, no doubt, in most cases, supersede muzzle-loaders. There is now at the Arsenal, in this city, a breech-loading steel cannon—Broadwell's patent—which has been adopted by the Russian and other Governments of Europe, which can be loaded with great facility, and which has been fired over one thousand times without the escape of gas at the breech, and without injury to the gun. Surely these improvements and results should wake up "red tape" and "old fogyism" to a sense of their duty. There is no necessity for riding in stage coaches when steam cars are at hand.

Washington, D. C., July 26, 1866.

#### Board Measure.

MESSRS. EDITORS:—Your correspondent, Mr. P. Rhoades, under date of June 10th, after correctly noticing the error in Heber Wells's mode of calculating the quantity of one-inch boards that can be sawed from a log of any given size, gives his mode of calculating the same, viz., "multiply the length of the log, in feet, by half the diameter less 4 inches, and the product by the same number, then divide by 4, and the product will be the amount in 1-inch boards;" but he also says, although the result is correct, he does not know how or why it is so, or in other words, he does not know why he deducts 4 from the diameter of the log, or why he divides by 4. Now by cancellation, the length of the log—in feet—after being squared by taking off the 4 inches, is multiplied by half its diameter in inches and then again by the same number, which is the same as multiplying the length by the square of half the diameter; now, as the square of half the diameter is only one-fourth the square of the diameter, it only requires dividing by 3 instead of 12 to bring it into feet, solid measure, or by 4, as done by Mr. Rhoades, if an allowance is made of one-fourth for saw kerf.

On the same principle of cancellation, Mr. Rhoades would save still more figuring by multiplying the length of the squared log in feet, by the square of one-fourth its diameter, in inches, and dispense with dividing by 4 altogether. This rule will apply to any length log, or a log of any size square, viz., one log 12 feet long, 24 inches in diameter, deduct 4 inches for slabs, and you have a log 20 inches square. The contents will be in 1-inch boards, 300 feet, thus: 12 feet,  $24-4=20 \div 4=5 \times 12=60 \times 5=300$ . But Mr. Rhoades makes a great mistake in taking off 4 inches, indiscriminately, from logs of different sizes, as a 12-inch log is squared by taking off  $1\frac{3}{4}$  inch slabs, while a 24-inch log requires a slab of  $3\frac{1}{2}$  inches, which leaves a log of 17 inches square. My calculation is made from Mr. Rhoades's estimate, and is intended only to show where he gets the 4 for a divisor.

I have read the remarks of D. W. C. C., in the last number of the SCIENTIFIC AMERICAN, and consider them mathematically correct.

AN OLD LUMBER MEASURER.

Madison, Ind., July 27, 1866.

#### The Mississippi Levees.

MESSRS. EDITORS:—I see that the levees near New Orleans are causing a great deal of trouble and expense. Why not build them of two rows of piles, laid nicely edge to edge, with a space between, and have them driven to or through the "hard pan." If there is no natural "hard pan" make an artificial one of hydraulic cement grout. Excavate the space between the two rows of piles down to the "hard

pan" and fill with a mixture of clay and gravel, well worked together, with a proper quantity of liquid oxide of iron. Proportions, one of clay to two of gravel. Line the piles from the top down two or three feet with plank, to hold them together and stiffen the structure.

Gravel, clay, and timber are on the spot, and the iron scraps, from which to make the liquid oxide, can be brought from all parts of the country, as ballast, in vessels arriving in New Orleans. It could be put into tanks, as wanted, with water and a little acid. If the iron chips could not be easily procured, the mixture of clay, gravel, and water would answer every purpose, except that it would require more time to harden than when mixed with liquid oxide. In such a case I would brace the outside by wood-work, or a grout of hydraulic cement, and by the time the piles were rotted away the mixture would have become a compact, hard body. A mass of clay as a brace on the water and land sides would make all secure. Even common earth laid at an angle of thirty or forty-five degrees would make an efficient protection.

The danger in all such embankments is the first insidious advances of the water, but I think a muskrat would find it hard to make a hole through this embankment.

A. J. WILKINSON.

Pawtucket, R. I.

#### Hail Storm Phenomenon.

MESSRS. EDITORS:—The village of Portchester, N. Y., was visited by a remarkable hail storm on the afternoon of the 26th. At about three o'clock icy balls, averaging nine inches in circumference, came pouring or dropping down with terrific effect upon the crops—stripping trees, breaking windows and skylights, and developing phrenological bumps of extraordinary altitude upon heads before innocent of such elevations.

The storm lasted half an hour, and was confined within an area of four miles, beyond which limit it was not felt. An enterprising hotel keeper in the village, with a view to profit, and knowing that everything was sent into this world for some good purpose, collected several baskets full of the frozen balls and used them at his bar as a substitute for ice. For a time "hailstone punches," were a favorite beverage, and many who imbibed of them attest the excellent qualities of the drink.

McN.

New York, July 30, 1866.

#### An Unbeliever in Breech-loading Fire-arms.

MESSRS. EDITORS:—A correspondent, in your issue of July 14th, writing under the heading of "Breech-loading Rifles," claims to have some wonderful targets made at 50, 100, and 220 yards. Now, if good shooting can be made by a breech-loader in a favorable time (which I do not believe), then we had better discard all muzzle-loaders, and for the best performances use breech-loaders.

I have used the muzzle-loading rifle for forty years for hunting and prizes, and am firm in the belief that there is no breech-loader that can or ever will be able to compete with a good muzzle-loader, either at target or for hunting, for the reason that the bullet cannot be patched in the breech-loader.

The targets referred to by your correspondent are probably selections from five or six thousand targets. Now, I would like to know if your correspondent can, in a favorable time, make ten shots at fifty yards in a one-inch circle; for we hunters do not reckon it any thing unless we can go out any fair day and do it. I have seen the center nail driven in four times in succession at forty rods, but the man that will buy that gun for the purpose of driving the center at 40 rods, will be mistaken. I hope your correspondent will tell us what he can do with his breech-loader one day with another, then we can judge if it is better than a muzzle-loader. We are all seeking light and information.

A. A. H.,

A Rocky Mountain Hunter from 1840 to 1848.  
Syracuse, N. Y., July 22, 1866.

#### Millers Please Notice.

MESSRS. EDITORS:—I have a few questions to ask through your valuable paper—which I take to inform myself on things mechanical.

Can good flour be made with a "stiff spindle burr"? Does it equal or surpass the old style "cook

head" in either durability, ease of management or quality of work?

We would like information from some unprejudiced and uninterested party who has tried both, or can speak confidently from practical or scientific reasons.

Z. W. WOOD.

Goodland, Ind., July 17, 1866.

#### NEW INVENTIONS.

The following are some of the most prominent of the patents issued this week, with the names of the patentees:—

TALLOW OIL.—H. R. Colburn, Boston, Mass.—This invention relates to a compound of tallow oil with coal, shale, or heavy paraffine oil, whereby the best properties of each are retained, and the ingredients are so combined that they are not liable to separate, the tallow oil itself giving it substance and durability, and the property of adhering to the machinery when it is used for lubricating purposes.

TRUSS.—CHARLES WESLEY THOMPSON, Batavia, Ill.—This invention consists principally in making the pad in two distinct pieces of wood or other material, placed side by side, so that their action in holding a hernia is like that of two fingers of the hand.

STEERING APPARATUS.—EDWARD ROWSE, Augusta, Me.—This invention relates to certain improvements in that class of steering apparatus in which wheel ropes or tackle are used, in connection with a tiller and hand-wheel windlass, and whereby the wheel ropes are kept taut at all parts of the stroke of the tiller, and the main objection to wheel ropes or tackle thereby obviated.

CHURN DASHER.—GEORGE DECKMAN, Malvern, Ohio.—This invention consists of an improved dasher formed by the combination of a double concave and concavo-convex perforated disk with each other and with the dasher handle.

SORGHUM STRIPPER.—C. L. HART, Mattoon, Ill.—This invention consists in the use of a plate, having holes formed through it, through which the stalks are passed to be stripped—the holes are circular at the inner side or face of the plate, and polygonal at the outer side or face of the said plate; in the combination of the frame and spring bars, and with each other, and with the perforated plate, and in the combination of stripping tubes with the spring bars and with the perforated plate.

MANUFACTURE OF IRON.—JONATHAN M. JONES, East Taunton, Mass., BERNARD SPAULDING, Port Richmond, N. Y., SYLVESTER PARKINS, Providence, R. I.—The object of this invention is to furnish sheet and bar iron, tougher, more flexible, not so liable to rust, and which, when rolled into sheets, will make and take a finer polish than the ordinary iron, and be equal or superior to the best imported iron in all the qualities that make iron valuable.

RESCUTTING FILES.—A. A. DUNE, Manchester, N. H.—This invention consists in a new process of rescutting and renewing worn files, and such as are badly cut and damaged, so as to make them again serviceable.

TRACE BUCKLE.—R. J. ALGER, Kalamazoo, Mich.—This invention has for its object to furnish a trace buckle in which the trace can be readily taken up or let out, which does not require to be punched, and thereby weakened, and which will adjust itself to a trace of any thickness, and it consists in making the frame of the trace buckle with slots or elongated holes in its sides, and in the same tug cap in combination with the said slotted frame of the buckle.

BROOM.—E. P. COOLEY, New York City.—By this invention simplicity, cheapness, and durability are obtained.

WASHING MACHINE.—A. L. DRAKE, Richmond, Me.—This invention relates to a clothes washing machine of that class in which a reciprocating rubber is employed, and it consists in a novel manner of operating the same and graduating the pressure thereof, whereby the clothes will be subjected to a requisite degree of rubbing to thoroughly cleanse them, and without injuring them in the least.

PORTABLE SHAVING CASE.—THOMAS P. CONARD, West Grove, Pa.—This invention consists in combining with a shaving box a water-heating apparatus; and also in so arranging the water-heating apparatus within the shaving case that water can be heated in it without occasioning the least injury to the case.

CLOTHES-WASHING MACHINE.—WILLIAM GOWEN, Warsaw, Wis.—This invention consists in a novel manner of securing the cross bar, which supports the rubber shaft in the tub, whereby it may be readily adjusted in and detached from the tub, so that there will be no difficulty in removing the rubber whenever required. Also in a peculiar way of arranging the cleats on the rubber and on the bottom of the tub, whereby the clothes are operated upon in a very efficient manner.

COVERING FOR STEAM PIPES, ETC.—E. C. LITTLE, St. Louis, Mo.—This invention consists in preventing the radiation of heat from steam pipes and boilers by covering them with a coating of plaster of Paris cement, properly secured with a wrapper when necessary, this substance being cheap and durable, and offering great advantages as a superior non-conductor of heat.

COMBINATION INKSTAND.—GEORGE SCHMIDT, New York City.—This invention is a combination of an inkstand, wafer or sand box, calender, and letter and envelope holders, and pen racks, whereby a very desirable article is obtained for the counting room, and one which may be constructed at a moderate cost and have a neat and ornamental appearance.

SHIRT COLLAR.—S. S. STONE, Troy, N. Y.—This invention is to make turn-over collars, either of paper or cloth, so as to fold down neatly over the band without being rumpled, on being adjusted to the neck, when the necktie is inserted. It also provides against the enameled surface of the collar coming in contact with the necktie or skin of the wearer; a serious objection heretofore existing against such collars. Another desirable feature is that the button hole is made to adjust itself to large or small buttons.

MACHINE FOR SMOOTHING OFF IVORY KEYBOARDS.—MILON

**FRATT, Meriden, Conn.**—By this machine the keyboards for melodeons, pianofortes, and other musical instruments, are smoothed very nicely and effectively, whereby a great saving of time and labor is effected, beside securing superior workmanship.

**HAY FORK AND CUTTER.**—**J. B. DRAKE, Picture Rocks, Pa.**—The tines are formed with cutting edges so that when closed they form a spear point to adapt the instrument to be readily probed into the hay in taking its load.

**OIL WELL GAS PIPE ATTACHMENT.**—**L. W. TURRELL, SAMUEL STANTON, AND L. C. WARD, Newburgh, N. Y.**—This invention consists in inserting in the gas pipe, at a point between the well and the furnace of the steam boiler, one or more partitions of wire gauze or wire cloth, so as to prevent, in case of the ignition of the gas, the flame communicating with the gas in the well, it being well known that a flame cannot pass through wire gauze or fine wire cloth.

**WATER WHEEL.**—**G. E. CORBIN AND J. W. PUGH, Grand Rapids, Mich.**—This invention consists in a peculiar shape and position of the buckets of the wheel, together with a ring and cloats or guides for directing the water properly to the buckets, and in a novel application of the case to the wheel, whereby several advantages are obtained over the ordinary wheels of the same class in use.

**WATER WHEEL.**—**JESSE TUCKER, Adrian, Mich.**—This invention relates to a new and improved water wheel of that class which are placed on a vertical shaft and are commonly termed horizontal wheels. The invention consists in a novel arrangement of issues, whereby it is believed that a greater per centage of the direct and reacting power of the water is obtained than with the ordinary horizontal wheels.

**FRICTION WINDOW SPRING AND FASTENER.**—**H. NAYLOR, Peoria, Ill.**—This invention consists in the employment of a catch and spring so constructed that when the window sash is closed, the catch will lock and fasten either the lower or upper sash, or when it be desired to raise or lower the sashes, will bear against the stile of the window with sufficient force to prevent the sash descending.

**PRIVY SEATS.**—**J. M. DAVIS, Cincinnati, Ohio.**—This invention consists of a cheap, simple and effective construction of a privy seat, the object being to prevent it being soiled.

**PADDLE WHEEL.**—**CHARLES A. TODD, New York City.**—The object of this invention is to obviate the lifting of the water by the floats of the paddle-wheel as they emerge from it, thus relieving them of their back pressure to a great extent.

**COMPOUND FOR SETTLING COFFEE.**—**GEORGE W. CARLTON, Brunswick, Me.**—This invention consists of a compound for clarifying coffee, by which it can be accomplished in a most satisfactory manner.

**SCREW AUGER HEADS.**—**RUSSELL JENNINGS, Deep River, Conn.**—This invention relates to swaging the heads of augers, and it consists in a novel arrangement of a die and mold, and the manner of operating the die, whereby the desired work may be performed in a very rapid manner and with great perfection.

**CAR COUPLING.**—**W. VAN VALKENBURGH, Smithfield, N. Y.**—This invention consists in applying springs to the draw head so that they will resist the movement of the draw head when forced backward under concussions, and when pulled forward, thereby avoiding the sudden jars now occasioned by the stopping and starting of cars. It also consists in a novel latch arrangement for securing the shackle in the draw head, and also in the application of side springs to the draw head to admit of an easy lateral movement of the latter under the side surging of the cars.

**PAINT BRUSH.**—**EMIL HISS, Delaware, Ohio.**—The material of which the brush is composed, whether of hair, bristles, or other material, is clamped to the end of the handle by a draw-band, which enables the brush to be tightened on the handle as occasion may require, and which also permits the brush-part to be readily renewed.

**COMPOSITION FOR ROOFING.**—**R. B. SMITH, Mount Pleasant, Ohio.**—This invention consists of a mixture of tar and a peculiar mineral which is composed of hydro-silicate of iron and alumina, and carbonate of lime and magnesia.

**WASHING MACHINE.**—**WM. AND A. G. KELSEY, Delavan, Wis.**—This improvement consists in combining a washing apparatus with a tub in such manner that it may be used alternately for both washing and rinsing clothes; the devices for washing are simple, convenient, and effective, and after using them they are readily turned up on one side of the tub so as to leave it clear for rinsing the clothes, thus making one article serve both purposes.

**QUARTZ CRUSHER.**—**A. LINDSAY, Malone, Franklin county, N. Y.**—This invention relates to that kind of quartz crushers, by which the quartz is powdered under so-called chasers, revolving in a groove sunk into a solid bed plate. The improvement chiefly consists in an arrangement by which the powdered quartz is swept from the bed plate, and in a device by which all those parts which are not crushed fine enough, are returned to the crushing apparatus. The machine appears to be very efficient and can be managed by one person.

**MEDICAL COMPOUND.**—**P. M. DEVOS, New York City.**—This invention relates to a medical compound, especially designed for the prevention and cure of cholera and other epidemic diseases, and is to be worn by means of a belt about the body of a person. From the characteristics of the several ingredients composing the compound, its use, at all times, would seem to be conducive to the general health of the person, but more particularly during the prevalence of any of the many epidemic diseases.

**LAMP EXTINGUISHER AND REGULATOR.**—**C. E. LYON, Worcester, Mass.**—By this improvement the flame can be regulated at pleasure, or extinguished at any moment, and without danger of an explosion, or allowing a bad odor to escape into the room.

**AUTOMATIC BOILER FEEDER.**—**B. CHALFAUT, Williamsport, Pa.**—By this invention the level of the water in the boiler can be preserved with the greatest accuracy, and no further attention is required after the improved feeder has been adjusted.

**HOOP SKIRT.**—**JULIUS SCHLEISINGER, New York City.**—The hoops of this skirt, instead of being united at the ends, are turned up and fastened to the edges of the open

part of the skirt, so that it is open all the way down, and the hoops do not interfere with the motions of the feet; the ordinary shape is imparted to it by a secondary skirt extending from the waist-band down a suitable distance.

**UNIVERSAL TOOL BOX.**—**JAMES WOLFENDEN, Jersey City, N. J.**—This invention relates to a universal tool box, and is intended for sliding off shafting, for cutting V and square threads, and also for steady rest. It is provided with two or more radiating tool holders, which are adjustable according to the size of the article to be turned, and which connect with a scroll in such a manner that the several tools close up simultaneously, and a uniform action of the tools on the work is effected.

**BILGE WATER GAGE.**—**WILLIAM P. KIRKLAND, San Francisco, Cal.**—This invention relates to a bilge water gage, composed of a perforated box, containing a float, which acts on an index rod extending through a tube to the deck, so that the depth of water can be ascertained at a glance.

**SHOE STRING FASTENER.**—**E. S. SCRIPTURE, Brooklyn, N. Y.**—This invention relates to a little spring catch, which when attached to a shoe or galter boot, serves to securely hold the surplus ends of the lacing strings after they have been drawn up snugly.

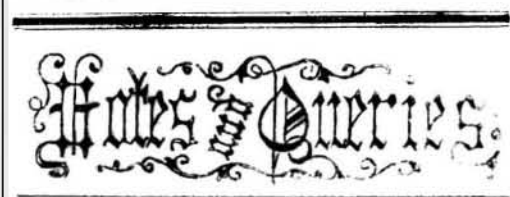
**PISTON PACKING.**—**A. S. CAMERON, New York City.**—This piston packing consists of a wire placed spirally around the circumference of the piston, and is retained in the working face thereof by a spiral groove, so that the wire will be pressed tight against the inner surface of the cylinder by its own elasticity, and a packing is obtained, which is cheap, and not liable to allow the steam to pass it, as it wears.

**STEAM VALVE.**—**A. H. WOODRUFF, Lansing, Iowa.**—By this invention large openings for the supply and discharge of the steam are obtained, with a valve of comparatively small area; the pressure of the steam on the back of the valve is partially or wholly balanced; a full supply of steam is obtained at the beginning of a stroke, and the steam may, by adjusting a slide, be worked expansively to any desired degree.

**HOOP SKIRT.**—**CESAR NEUMANN, New York City.**—This invention consists of a hoop skirt, the wires of which are fastened in the pockets of the tapes by thread of silk, cotton, linen, or other material, in such a manner that the rivets or other metal parts generally used for this purpose can be dispensed with, and all danger of tearing the skirts worn over them is avoided.

**REDYEING CUSHIONS OF RAILROAD CAR SEATS.**—**THOMAS BROWN, Albany, Albany County, N. Y.**—This invention relates to a method of redyeing cushions of car seats, by which the color is firmly united with the fiber, and by which also the dye will be held to one side of the cushion, in case both sides want to be differently colored.

**APPARATUS FOR COOLING MILK, ETC.**—**J. OWEN MOORE, Washingtonville, N. Y.**—This invention has for its object the cooling of milk to a temperature allowing it to be transported; and the invention consists in so constructing the apparatus that the milk will be cooled while passing through a narrow channel, which is surrounded by water or any other cooling liquid, and in so constructing the apparatus that it can be easily taken apart for cleaning purposes.



**J. B. B., of N. Y.**—A mixture of two parts brick dust to one of plaster of Paris will make a mold for type metal. It is mixed with water to the consistency of egg yolks. A mold can also be made of plaster alone. The only breach-loading rifle with which we are acquainted, designed for open powder and ball, is the Colt's repeating rifle.

**A. F. P., N. Y.,** desires to know if the fact, that a large wheel passes over a greater distance in a given time than a smaller one, could not be applied to the rounding of curves by rail cars. We answer, yes, if all the curves were of the same radius and trended the same way, but if the wheels were rigidly secured to their axles, as usual, how would they run on a straight track? The principle of adapting the diameter of the wheel to a curve is applied to the carriages for heavy guns in fortifications.

**A. C. K., of N. Y.**—**Geo. C. Round, Wesleyan University, Middletown, Conn.,** can probably give you the information you desire as to the method of reading the Signal Corps' cipher.

**J. S., of N. Y.**—The "Miller, Millwright and Engineer's Guide," published by Henry Carey Baird, 406 Walnut street, Philadelphia, gives instructions about hanging the sash saw, and Holly's "Art of Saw Filing," or Parsons's "Sawyer's Companion" explains the methods of filing and setting the saw.

**D. C. M., of Pa.**—We do not think fire armor is now used. The description in this paper, to which you refer, was intended mainly to furnish good air to firemen, when in burning buildings. Your plan of making coffee is not new.

**J. G. B., of Ky.**—We cannot tell you the exact process of welding cast iron and steel. We think, however, it is done by means of a flux and compression or percussion.

**G. W. H., of Pa.**—Woolen goods are bleached by the same process as straw goods, viz: fumigation by the fumes of burning sulphur, or soaking in a solution of sulphurous acid. The goods must first be thoroughly cleaned from grease, etc. A soap which will promptly remove the stains of crude petroleum oil from woolen and other goods is now a great desideratum. Some remedy for the evils attending the use of petroleum lubricating oil, in cloth factories, is in demand; here is a chance for the inventor. Watson's treatise on weaving, published by Baird, Philadelphia, is the book you want.

**B. C., of L. I.**—Newspaper controversies as to priority of invention are interesting to but few, and the public generally sympathize with the one who puts his ideas into some tangible form. In this case Dr. Andrews antedates your claim, as we heard him state that he discovered and applied the principle 16 years ago.

**A. L. H., of Ohio.**—You will fail in attempting to drive a mill and propel said mill through the water by wind power.

**J. T., of Del.**—To set a slide valve, put the valve in the chest, connect the gear and turn the crank to see if the eccentric rod is of theright length. If it opens one part more than the other, shorten or lengthen the rod one-half the amount required to make both parts open alike. When the valve runs square put it at the lead you require, turn the engine on its center and move the eccentric on the shaft, until the rods will connect. It will be then nearly in the right place, but will require some adjustment. You should give twice the lead you require if the valve is set cold, for the springing of the rods, lost motion and expansion will shorten the lead materially.

NEW PUBLICATIONS.

"HAYES'S RAILROAD FAST EXPRESS WAGES COMPUTING TABLES," is the imposing title of a very useful compendium of calculations, the value of which is not enhanced by the title. The volume is an elaborate and comprehensive arrangement intended for railroad men, and admirably adapted to the requirements of the managers of large concerns who have to calculate the pay per hour, day, week, and month for men employed at varying rates of wages. The tables contained in the volume are calculated by tenths, and range from the rate of sixty cents per day to five dollars. With the plan adopted by the compiler, no fraction between these two points can escape observation, and all the calculations which so often occupy valuable time and snarl overtaxed brains, are avoided.

From a careful examination of the volume, and several experimental analyses of the compiler's plan, we judge that the publication is of great value to all who are compelled to make calculations from data so varying as the difference in amounts and time, and the wages of employes in large concerns.

It is handsomely got up, the paper printed on only one side, and the calculations mathematically correct. Published by Rockwell, Baker & Hill, Buffalo, or by Lester Hayes, the compiler, Kent, Portage county, Ohio.

THE MARKETS.

**GOLD** has ruled quiet and steady. There is but a moderate demand for export, and only a fair amount is being taken for C & M duces. The bulk of the transactions have been at about 150 3/4 cent. Call loans on stock securities are readily obtained at from 4@5 per cent; on bond and mortgage 6@7. First-class bills, sixty days, endorsed, 6 1/2 cent, and for three or four months, 1/2 3/4 cent additional. Government securities are held firmer, and prices rule a shade higher. Stocks in fair demand and without decided change. There is a quiet market in most standard articles. Holders are firm and buyers not over anxious. Building materials have slightly advanced. Coffee has experienced a rise, particularly in West India varieties. The grain and flour market is steady without much foreign demand. Corn is somewhat lower. Iron, pig, is dull, and the demand for bar and scrap light. Lead in fair demand and prices somewhat lower. The market for leather is looking up. The largest advance is noticeable in builders' materials, for which there is a good demand. Nails, especially some varieties of cut, have advanced 1/2 cent 3/4.

**ASHES**—Pots are quite dull, but with continued light receipts, market steady; the sales are 50@60 bbls. at \$8 87 1/2. Pearls are nominal; we hear of no business.

**BRICKS**—Common Hard have advanced to \$12. Croton and Philadelphia are unchanged at \$14@15 for the former, and \$40 for the latter.

**COFFEE**—Laguayra, 12 1/2@13 1/4 Gold, in bond. No shipments from Rio for the States.

**COPPER**—Detroit, \$1@1 1/4; Portage Lake, \$1.

**COTTON**—Market steady. Ordinary, 27@28; middling, 26@27. FLOUR—Common brands, \$8 10@9 30; Genesee extra, \$10 10@13 00; Canada, \$8 30@12 00.

**MEAL**—Dull; Rye-flour and corn lower.

**GRAIN**—Corn, 24; medium Western; 27 1/2; Oats, 20@25.

**IRON**—Market inactive. No. 1 American pig \$47@48. Scotch, \$47@50. Bar and scrap very quiet.

**LATHS**—Are firm, with sales of Easter, at \$5 25@3 85, three months.

**LEAD**—Pig has been offered at lower prices, and buyers have purchased more freely; the sales are 400 tons best (Graville), to arrive at 7 1/2 cents; 25 do common Spanish, 7 gold; 20,000 lbs Spanish and German, on terms not made public; best English is held at 7 1/2. The bulk of the stock of Foreign, however, is not offered, holders awaiting the turn of events in Europe. Bar, Pipe, and Sheet are steady and active at 11 1/2 cents, cash.

**LEATHER**—The market for Hemlock Sole continues active, and prices are very firm. We quote Rio Grande and Buenos Ayres Light Weights, 35@34 cents; Middle do., 35@36; Heavy do., 36@37; California Light, 31@32; Middle do., 31 1/2@34 1/2; Heavy do., 34@35; Orinoco, 4c. Light, 31@32; Middle do., 32@34; Heavy do., 29@32; Slaughter Upper in Rough, 31@33. Oak Sole is in light stock, and the market is firm. French and American Calf Skins are firm with a fair demand.

**LIME**—Rockland is in good demand, with sales of 5,000 bbls. Common at \$1 50; Lump is nominal at \$2 10, cash.

**LUMBER**—There is an active demand for Eastern Spruce, with sales of 1,483,000 feet at \$23 50@26, usual terms; 143,000 feet Georgia Pitch Pine Lumber, at \$38 for Flooring Boards and Step Plank, as they run; \$40 for Scantling, and \$45 for 5 by 12 Timber, 3 mos.

**NAILS**—Cut are very firm and scarce, with a tendency to advance; some sizes are scarce, and for these 1/2 cent more is paid. We quote: Cut, 6 1/2@7 cents; Clinch, 8 1/2; Forged Horse, 33@34; Pressed do., 22@24; Copper, 50; Yellow Metal, 33; Zinc, 20; and Wrought Ship and Boat Spikes, 7@8 cents, as to sizes, net cash.

**SUGAR**—Prices have favored sellers, and we have to notice an advance of 1/2 of a cent 3/4 on Refining grades, bringing Fair Refining Cuba to 10 1/2@10 3/4 cents; Good, do., to 11 1/2@11 3/4, and No. 12 Box to 11 1/4@11 3/4 mos. Grocery grades are without particular change, but are the turn dealer. Refined continues in good demand, but is less active than before. Messrs. Stuart quote their best Crushed, Granulated, and Ground, 16 1/2 cents; White A, 16 1/2; and Yellow C, 15 1/2—the range of other manufacture is 14 1/2@17 cents for Hard; 15 1/2@16 1/2 for Soft White (B and A only), and 14@15 1/2 for Yellow.

**WIRE**—Telegraph, 9c@10c. for Nos. 7 and 11, and for hoop skirt, 55c. for No. 13 covered, and 35c. for uncovered.

**WOOL**—Market unsettled, and prices 10@20 3/4 cent lower.

**ZINC**—9 1/2c. less 4 per cent. for gold. Market dull.