

or gravel stones, and duly combined with coal tar or asphaltum, and his opinion of it?

It seems to me that roads are of importance equal to any material interest of our great country, and should share the attention of the press, and of able men, to a greater extent.

All you have done, or can hereafter do, to aid such enterprises, will have the gratitude of at least one of your numerous readers. PATHMASTER.

SPEED OF RAILWAY TRAINS.

A correspondent writes upon the subject of higher speed for railway trains in the United States. His opinion seems to be that the present rates of speed are generally too low to meet the wants of the public; that much higher rates are already talked of, and will shortly be demanded; while he also thinks the machinery of locomotives, and the structure of the rolling stock, too slight to endure an increase of speed with safety.

While it is undoubtedly true that a demand for greater average speed exists on the part of the traveling public, and also that the speed of American trains is generally much lower than the standard of English roads, our correspondent errs in supposing that this is owing to any inferiority in the structure of American locomotives or quality of the rolling stock. Both the locomotives and passenger cars of American manufacture are equal in strength, elegance, and efficiency to any made in the world. Indeed, it may reasonably be doubted whether our passenger cars are equaled by those made in any other country. Our roadways are, however, very inferior to those of England and France, and, until this fault is remedied, the present rates of speed can never be greatly increased with safety.

Foreign railroads are superior to ours in the following respects: First, the roadways are much more firmly constructed at the outset, and are less likely to be injured by frost. Second, there are fewer intersections of railways with each other and with common roads than is the case with us, the practice of undermining being pre-erred. Third, the lines are kept under a more strict surveillance; they are better fenced, barred and watched than the majority of American roads. Fourth, their bridges are, in general, much more substantial and permanent structures than ours.

These are the reasons why a higher rate of speed is compatible with safety on English roads than is possible with us. Still when grave doubts exist in England whether the rates of speed now maintained on her roads are not too high, and when such men as George Augustus Sala take up the pen to advocate their reduction, sustaining their position, by considerations both of public safety, and comfort, and profit to the companies themselves, it may well be doubted whether upon the inferior railways of the United States a much higher rate is either practicable or desirable. That our railroads cannot be improved so as to approximate in stability the English railways, we do not of course assert. That a speed, under any circumstances, of over from thirty to thirty-five miles per hour, should be made the standard for fast trains we think unreasonable to expect or to demand.

Editorial Summary.

THE oldest house in the United States is believed by some to be a stone edifice in Guilford, Conn. It was built in 1640 the stone being brought on hand-barrows from a ledge at some distance from the site of the building. The cement with which the walls were laid up is said to be harder than the stone itself. The first wedding in Guilford took place in this edifice, the supper provided being pork and peas.

If storms cannot be predicted, their progress can be communicated, so that preparation can be made for their approach. The latest proposal is to telegraph to various stations throughout the country the state of the weather, and announce it to the agricultural population by pre-arranged signals, of the discharge of cannon.

CAPITAL OF RAILWAYS.—During the forty-one years which have passed since Stephenson ran his first train on the Stockton and Darlington line, the railways of Great Britain absorbed £500,000,000 of capital, and extended over more than 14,000 miles. In 1865, the length of lines was 13,289 miles, of which more than a third were single lines, and the rest double; this was an increase of 500 miles over the preceding year.

A STEAMER is building in Boston designed to transport molasses from the West Indies. She is to be built in compartments, so as to bring the molasses in bulk, instead of hogsheads as is now the custom, and will have a carrying capacity of eight hundred hogsheads. It is estimated that this method will make a very large saving in the transportation of this article, and if it proves successful, will be generally introduced.

AN avalanche of rocks recently occurred near the Watch House, on Mt. Mansfield, Vt. One huge rock, of a hundred tons weight, moved its way through the dense timber for a thousand feet, and only stopped within ten feet of the house. Other enormous fragments rushed through the timber in various directions, their force being shown by the large number of shattered and prostrate forest trees.

A SINGULAR eclipse of the sun will take place on the fifth of November. This is no less than an eclipse of the great luminary by the planet Mercury, of course it will be invisible except to eyes armed by telescopes, and to these only in favored localities of which Paris is one. That city will how-

ever have to forego the sensation of the great solar eclipse of 1869, while it be visible in many parts of the United States.

A STATUE of the celebrated Hans Sachs, bootmaker and poet, is about to be erected at Nuremberg. In order to secure the funds necessary, for the inauguration a lottery is organizing under the direction of the boot and shoe makers of that city, in which all the prizes are to consist of foot gear.

NEWS from Spain is now received at Paris by means of carrier pigeons, telegraphic communication having been interrupted.

WE notice that the cultivation of silk is attracting increased attention in Southern California. This is right; there are no natural conditions wanting to make California as thrifty a silk growing district as exists upon the face of the earth.

THE Zouave Jacob, who made such a stir some time since by his mesmeric healing in Paris, has been called to Berlin by the King of Prussia to treat one of the royal family.

THE largest manufactory of shoe pegs in the United States is said to be at Burlington, Vt. It every day transforms 4 cords of wood into 400 bushels of shoe pegs.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

THE PACIFIC RAILROAD EXTENSION.—The Vice President of the Union Pacific Railroad has written a letter to the President of the United States, in which he says:—"The Union Pacific Railroad Company has been informed of the appointment of a special commission to re-examine their road. If this commission includes all roads receiving similar subsidies and bonds, this company will regard the appointment with satisfaction, but if no other road is included, it becomes evident that the Government has listened to representations unfavorable to the character of our work, and which justice requires that I should contradict. I think it my duty, therefore, to assure your Excellency that the Union Pacific Railroad is at least equal to any of these other lines in construction, appointments, and permanent improvements, and that you can easily ascertain the thoroughness and excellence of the work by reference to Generals Grant, Sherman, and Sheridan, who have lately been over the line, and from many other eminent practical railroad men. I respectfully request that the commission be instructed to include all these roads in the examination, and to report in detail the comparative qualities of each."

THE NEW POSTAGE STAMPS.—The Postmaster General has just awarded the contract for the supply of stamps to the department for the ensuing four years to the National Bank Note Company of New York. The new stamps will be somewhat smaller than those in use at present, but they are of a superior style and finish, with a novelty in design. The two-cent stamp contains an engraving of a postboy on horseback in full speed. The three-cent has a locomotive under full head of steam, the great carrier of our domestic service. The five-cent stamp contains a head of Washington. The ten-cent, the most of all in design and execution, has a miniature engraving of the Declaration of Independence, executed with such delicacy and precision that the picture suffers nothing under an ignifying glass. The twelve-cent stamp has an ocean steamship, and the thirty-cent has a finely executed engraving of the surrender of Burgoyne. When it is considered that over a million stamps are issued daily the importance of this contract is at once evident.

Mr. Jason Clapp, a well known carriage manufacturer at Pittsfield, Mass., died at his residence on the 19th inst., at the age of 85 years. Carriages of his make have been sent to Germany, one to the King of the Sandwich Islands; and the very beautiful one, presented to President Pierce, while in the Presidential chair, by the citizens of New York was built by him.

The cannon foundry of Krupp, in Essen, Prussia, extends over 920 acres, 246 of which are occupied with buildings. It has 12 miles of railroad, 6 locomotives, 150 wagons, and 50 horses. There are 9,000 jets of gas, consuming about five millions of cubic feet per day; 10,000 men are employed in the foundry; 1,200 at the mines and forges. The wages amount to 3,100,000 thalers per annum. The motive power consists of 160 engines of 6,000-horse power each. The daily consumption is 13,000 bushels of coal, 32,500 bushels of coke and coal, and 200,000 cubic feet of water.

A hydrographic survey of Vermont is talked of. The highest point on the Pacific Railroad is 8,362 feet above the sea. The rolling mills of Philadelphia pay annually for wages the sum of \$1,000,000.

The only glassworks in Indiana are situated at New Albany where larger quantities of bottles are made. A single firm in Philadelphia employs in the manufacture of gas fixtures 750 hands. Another employs 400 hands.

The extension of the Horicon branch of the Milwaukee and St. Paul Railroad has been formally opened at Winneconne.

It is stated that the reduction in prices of freight over the three trunk lines of the West is the result of general understanding, and is intended to run off the various fast freight lines.

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

CONDENSER.—Wm. L. Winans, England, and Thomas Winans, Baltimore, Md.—This invention relates to surface condensers of steam engines and consists in the means for preventing the surface of the condenser and the valves of the air pumps in surface condensing engines from being charged, coated, clogged, or obstructed with grease, tallow, or other extraneous matters which may be carried over with the steam from the cylinder into the condenser.

OPERATING WINDOW BLINDS.—Levi W. Swafford, Edward Butler, and John R. Hess, Muscatine, Iowa.—This invention relates to a new and improved method of operating window blinds, whereby the same are opened and shut and the movable slats of the same are adjusted, and blinds are more securely fastened without the necessity of raising the window for that purpose.

HORSE POWER HAY ELEVATOR.—Amos B. Hunt, Matteson, Mich.—The object of this invention is to provide the means of elevating hay from the wagon and storing the same in the bay or mow of a barn (or lifting hay from the stack and loading the same on a wagon) in a rapid and easy manner with the aid of only two attendants and a horse or other draft animal. It consists in general terms of a swinging crane or sweep bar provided with a lifting rope, pulleys, and catch and tripping devices, together with other devices perfecting the whole.

ROTARY STEAM ENGINE.—Levi F. Goben, Spring Hill, Mo.—This invention relates to certain improvements in rotary engines.

PAPER CUTTING MACHINE.—Hervey Law, Cnatham, N. J.—This invention relates to a new and improved machine for cutting paper, and is more especially designed for the use of book binders.

BEEHIVE PROTECTOR.—Alfred S. Johnson, Naupun, Wis.—This invention relates to a simple and economical device for protecting beehives from the cold of winter and the heat of summer.

CHIMNEY CLEANER.—Michael J. Lourentz, Leavenworth, Kansas.—This invention relates to a new and simple method of cleaning the chimneys of lamps, and it consists in combining two wires or rods with buttons or heads thereon.

PROCESS OF, AND COMPOSITION FOR TANNING LEATHER.—G. Z. Dpe, New York city.—This invention relates to a new tanning composition, which is so compounded that the leather can be completely tanned in a few days, while heretofore it took months to do it.

STEAM BOILER.—R. W. Humphreys, Clarksville, Tenn.—This invention consists in forming a steam boiler of an annular ring or tube in which are placed tubes or flues for the passage of the products of combustion, and in attaching to the same a fire-box or furnace and a smoke stack.

SUGAR-PAN DERRICK.—J. D. Ayers, East Greensboro, Vt.—The object of this invention is to provide a simple and effective derrick for lifting sugar pans off and on the furnace arches. It consists in the combination of lifting pulleys with a pan frame, which is arranged to slide on a horizontal arm which is raised and lowered by the pulleys, the said arm forming a movable attachment to a rotary upright.

WROUGHT IRON AND STEEL COLUMNS.—George Walters and Thomas Shaffer, Phoenixville, Pa.—This invention has for its object to furnish an improved column, which may be made of wrought iron or steel, which shall be firm, rigid, strong, and neat in construction, adapting it for use in those parts of a building or structure where neatness of appearance, combined with strength, is required.

CORN PLANTER.—C. W. Thiessen, Effingham, Ill.—This invention relates to a new corn planter, which is so arranged that the wheels contain the seed box and the dropping apparatus, whereby a very secure and regular distribution of the seed is obtained. The invention consists in such an arrangement of adjustable slides, that work on the face of the wheel, in boxes projecting from the face of the wheel, and in such a combination of the same with a seed box secured to the inner of the wheel, that the requisite quantity of seed is dropped during each full, half, or other partial revolution of each wheel, and that each seed is, by such revolution of the wheel, not only dropped, but also securely imbedded in the soil.

REAPING MACHINE.—Miletus J. Wine, Long Glade, Va.—The object of this invention is to provide a simple and more efficient means for removing and depositing the gavel.

COMBINED VISE AND ANVIL FOR CIRCULAR SAWS.—David Huffman, Luray, Va.—This invention consists of an anvil and a vise combined, in a neat and portable shape for the purpose of treating saw teeth.

GATE FOR SCUTTLING SHIPS.—John Hail Marshfield, Mass.—The object of this invention is to construct and attach to vessels a gate which can readily be opened for the purpose of scuttling them, and which can, afterward, be as readily closed, when it is desired to pump out and raise the vessel.

ROTARY ENGINE.—Geo. W. Goodwyn, Petersburg, Va.—The object of this invention is to furnish a rotary steam engine which shall be simple and cheap in construction, and shall economize the power of the steam to the greatest possible extent.

CAR BRAKE.—W. W. Babcock, Harmar, Ohio.—This invention has for its object to furnish a more simple and powerful car brake than any hitherto employed, and to this end consists in a peculiar combination of the screw with a toggle-joint lever whereby the brakes can be at any time applied by a child with so great force as to instantly stop the wheels.

MOLD BLACKING MACHINE.—Ben. S. Benson, Baltimore, Md.—This invention is an improvement in machines for blacking the molds used in casting metallic pipe, and consists in a new arrangement of the mechanism by which the blacking is fed to the brush through the stem that holds the latter, and is thrown against the walls of the mold from among the bristles of the brush.

PRINTING PRESS.—Royal Cummings, Newport, Vt.—This invention relates to a new and improved printing press of that class in which the paper is printed from a continuous roll, and both sides of the paper at one operation, or during a single passage of the paper through the press.

CORN PLANTER AND CULTIVATOR.—Charles Dyer, Coal Run, Ohio.—This invention relates to a new and improved corn planter and cultivator.

CULTIVATOR.—Jacob H. B. Kelser, Chambersburg, Pa.—This inventor relates to a new and improved cultivator and it consists in a novel construction of the same whereby the device may be used in a rough or stony ground without the liability of breaking or injuring it.

TRACE FASTENING.—James Brown, Mattewan, N. Y.—This invention has for its object to furnish an improved fastening for securing the traces to the whiffletrees, which shall be simple in construction, easily attached and detached, and not liable to become accidentally detached.

WASHING MACHINE.—E. F. O'Neill, Prairie du Chien, Wis.—This invention has for its object to furnish an improved washing machine, simple in construction, easily operated, and effective in operation, doing its work quickly and well, and in such a manner as not to injure the clothes or break the buttons.

BUT HINGE.—Lorenz Maschauer and Wm. Frankfurth, Milwaukee, Wis.—This invention relates to a new and useful improvement in but hinges of that class which are provided with a removable or detachable pin to admit of a door, shutter, or gate being unhung without unscrewing either leaf of the but.

PHOTOGRAPHING ROOM.—George K. Proctor, Salem, Mass.—This invention consists in constructing a room or apartment for photographing purposes, in such a manner or of such a form that the rays of light from a lamp placed within said room or apartment will be reflected and concentrated upon the person or object to be photographed, so that photographing may be successfully performed at night by artificial light, or other than that of the sun.

GRAIN DRILLS.—John T. Lynam, Jeffersonville, Ind.—This invention relates to a new and useful improvement in grain drills.

SWAGE FOR UPSETTING SAW TEETH.—Warren P. Miller, New York city.—This invention relates to a new and improved swage for upsetting saw teeth, bringing the cutting edges of the same to a proper cutting edge and at the same time spreading or expanding the edges of the teeth to a necessary width to insure a free cut of the saw and the ready expulsion of saw dust from the kerf.

SPRING BED BOTTOM.—Thomas J. Gaffney, Detroit, Mich.—This invention has for its object to improve the construction of spring bed bottoms, so as to make them stronger and more durable in construction and more convenient in use.

SCHOOL DESK.—John Mealey, Fairville, St. John, N. B.—This invention has for its object to furnish an improved desk, designed for use in school rooms, lecture rooms, public halls, etc., which shall be simple in construction, strong, and durable, and which shall be convenient for use, being easily adjusted for use as a desk, table, or seat simply, as the occasion may require.

STITCHING HORSE.—Thomas Depp, San Marcos, Texas.—This invention has for its object to improve the construction of the stitching horses used by harness makers, saddlers, etc., so as to make them more convenient and satisfactory in use.

SOLDERING GALVANIZED IRON.—Patrick B. Bonner, New York city.—This invention has for its object to improve the manner of soldering galvanized iron, so that the solder may not crack or break off, and will make the seam perfectly tight.

SPRING.—Frederick Cajar, New York city.—This invention consists in constructing the springs of corrugated metal and arranging the plates or strips so as to take the strain in the direction of the breadth of the same.

COMPOUND FOR PROMOTING THE GROWTH OF THE HAIR.—Benjamin F. Atwood, New York city.—The object of this invention is to provide a vegetable hair dressing, which will strengthen the hair and promote its healthy growth. It has been found by ample practical tests to promote the growth of hair wherever the same has been lost from fever, and in other cases where the hair follicles are not completely closed.

ARTIFICIAL LIMB.—Geo. B. Head, Albany, N. Y.—This invention consists in the construction and arrangement of the parts by which the necessary movements are produced, but relating more particularly to the method of operating the knee joint.