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RAIL-ROAD NEWS.

Railroads in Texas.

We hope Texas will go ahead in the rail-road line at the earliest date. It is a country well adapted for railroads, and they are the very means required for developing its resources, and giving an impulse to industrial emigration. We believe that three railroads are now projected, two of which have been surveyed, and companies formed for their prosecution. The first is the Buffalo Bayou, Brazos, and Colorado Railroad; this railroad is intended to unite the navigable heads of the Brazos, Colorado, and Red rivers with the waters of Galveston Bay, at Harrisburg. There are fifteen miles graded, and in a few months the whole will be ready to the Brazos to lay the rails to connect with that river. This project is the first step for a railroad from the Gulf of Mexico to the Pacific.

The second route is the San Antonio and Gulf Railroad, to connect Harrisburg and South-western Texas with the waters of Matagorda Bay, and of course the Gulf at Indianolo.

The third route traverses the above two from east to west, and cutting across the heart of Texas, at the head of navigation on all her chief rivers, is intended to join the New Orleans and Opelousas Railroad, which, it is declared, when fully completed, will carry the best trade of Texas to the "Crescent City."

A Stately Bridge.

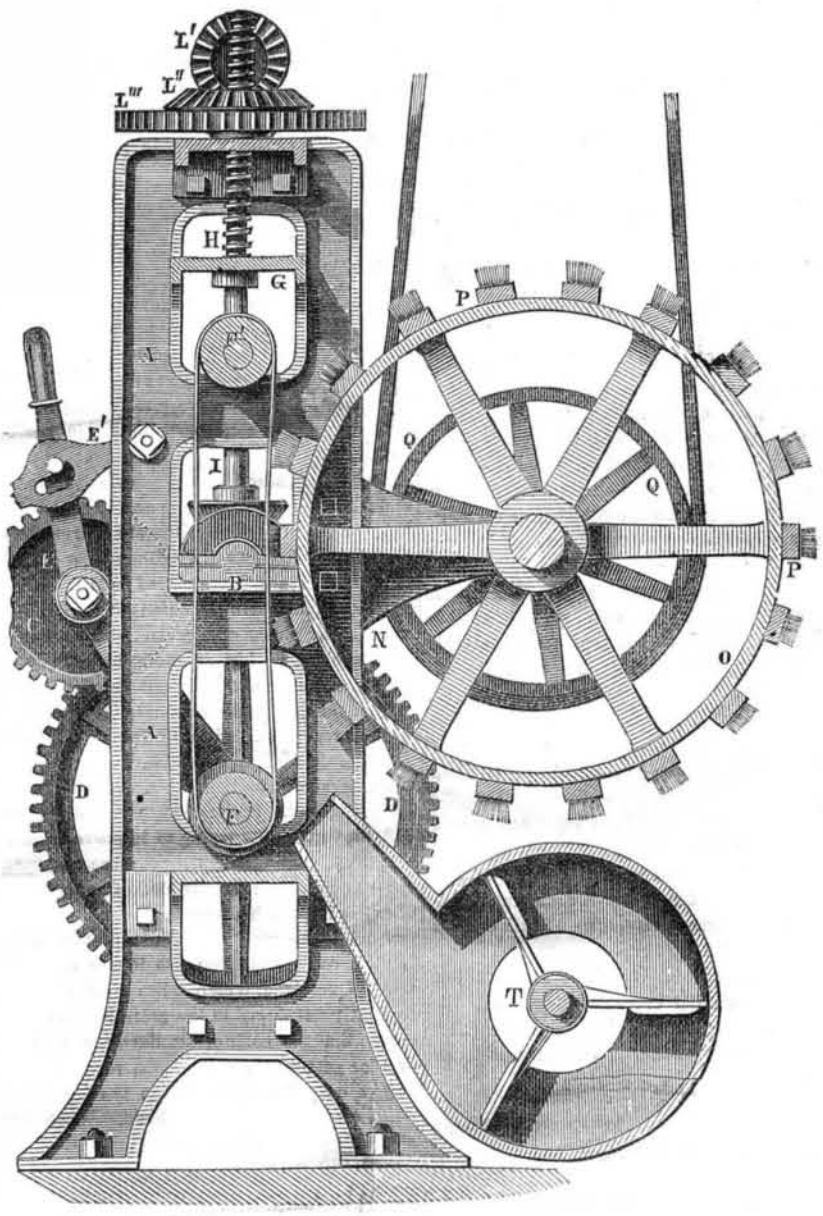
The New York and Buffalo Railroad, connecting Buffalo with the Erie Railroad at Hornellsville, via Warsaw, and Portage Falls, is now completed, and running, except the bridge over the Genesee at Portage Falls, which is to be completed on or about the 20th inst.

Of this bridge the Wyoming County Mirror, says:—

This immense structure is nearly completed. Those who have not seen it should go now, as it is worth fifty miles travel to see them raising it. It will be, if not the wonder of the world, the wonder of the thousands who will visit it annually. We are not aware that there is another bridge in the world as high and as large as this, and are confident there is not, of similar structure. It is 235 feet from the river to the track, and 240 to the top of the railing; and the length is 1,000 feet. The Suspension Bridge at Niagara Falls is 230 feet high and 795 long—so that Niagara is beat in this respect. And yet, though this work is reared to such an astonishing height it has the appearance of perfect safety. We are told, that by calculation they know that it would bear twenty times the weight of any train that can be put upon it. We think we should not fear in the least to ride over it the first time. We understand it is in contemplation to pass over it the first time with four of the heavy engines followed by a train of cars. If so, and the people have notice of the time, there will be thousands there to see it.

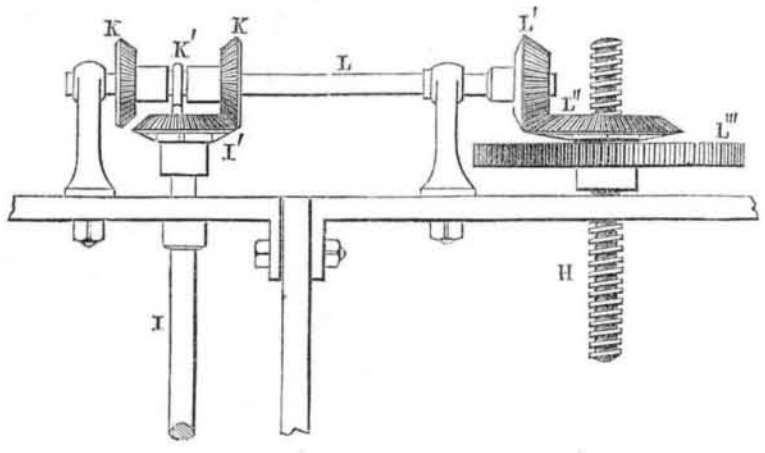
MACHINE FOR FINISHING YARNS AND THREADS.

Figure 1.



The annexed engravings are views of machinery for finishing cotton, silk, and worsted yarns and threads. The inventor and patentee is Godfrey Erman, of Manchester, Eng. Fig 1 is a sectional side elevation, and fig. 2 is a front elevation of the principal gearing for giving motion. In our country, the manufacture of cotton yarn in factories as an exclusive branch of business unconnected with weaving, is almost unknown, in England there are more than 30,000,000 lbs. exported every year. This yarn is dressed and put up in

Figure 2.



bundles for sale, and it is necessary, like the finishing of cloth, that it should look well. This machine is intended to clean, smooth, and separate the threads. It is an important machine, especially for cleaning and dressing colored yarn. There are some yarns colored with barwood, some with arsenic, potash, and the sulphate of the copper; they have all to be beaten and shaken when dry, to remove the offensive sediments of the dyestuffs out of them, and this has always been done by hand, the work is dangerously unhealthy, especially the dressing of the arsenic greens, and besides, it never has been thoroughly done by hand; this machine will accomplish the object.—The time will no doubt arrive in the course of our progress in textile manufactures, when much yarn, green, bleached, and colored, of silk, cotton, and wool, will be made in our country, and for factories and dyeworks this machine will form a landmark, to confer no small amount of benefit upon the manufacturers, and those who have been accustomed to finish yarns. The thread manufacture is but in its infancy among us; this machine is specially applicable to the dressing of threads in hanks like the strong linen kind, which we hope yet to see greatly improved, and rendered more perfect. There are a few factories in our country for making linen thread for shoemakers and saddlers, but there is only one factory in our whole country, with which we are acquainted, that makes linen thread for sewing; the samples of the thread which we have seen, of this home manufacture, lead us to say, that its makers have a great deal to learn yet.

The threads are submitted to the operation of the machine while in the hank, and the object of the process is to impart to the threads a smoothness and evenness not hitherto attained by any of the ordinary means employed; and also to give them a greater degree of lustre or gloss than usual. The principle of the improvements is, to submit the threads to friction, produced by a revolving brush, the threads being maintained in a state of tension, and also in motion during the operation. A is one of two side standards, which being properly connected together by cross pieces, form the framing of the machine. B is the main driving-shaft, for giving motion to the machine; it is carried by two bearings, one of which is upon the side standard, and the other upon a bracket or carriage, fixed to, and projecting from, the standard; upon this driving-shaft is fixed the driving-pulley, and also a spur-pinion, which gears into the spur-wheel, C, upon the boss of which is fixed a spur-pinion, gearing into and driving the wheel D. The wheel, C, and its pinion revolve loosely upon a pin or stud projecting from the lever, E. The fulcrum of this lever is upon the shaft carrying the wheel, D. The upper end of the lever, E, carries a pin, which passes into a slot in the lever, E'; by means of this slotted lever, the lever E can be caused to assume one of two positions, nearer to or further from, the driving-shaft, so as to put the wheel, C, into gear with the pinion upon the driving-shaft, B, or remove it from gear with it, and thereby stop its movements; but at the same time the pinion upon the boss of the wheel, C, is never removed from gear with the wheel, D. The shaft carrying the wheel, D, is mounted in manner similar to that of the driving-shaft, B, that is, the bearings of it are in the side standard and in the bracket or carriage. The inner end of this shaft carries upon it one-half of a toothed clutch-box, the other half being upon the end of the roller, F. This is one of the thread-rollers; the other is at F'; and it is around and between these two rollers that the hanks of thread are placed in the machine; and the bearings upon which these rollers revolve, are of such a construction as to be removed from, and replaced in, the machine with facility, the clutch being the means of connection between the roller, E, and the shaft carrying the wheel, D, so as to communicate motion to it. The upper thread-roller, F', revolves loosely in its bearings; thus it will be seen that when the thread-rollers, F, F', are mounted in the machine, and the lever, E, fixed in such a position as to throw the wheel, C, into gear with the pinion upon the driving-shaft, movement will be given to the rollers, and consequently to the threads upon them, submitting fresh portions of them to the action of the revolving brush. During the operation, the hanks of threads are maintained in a proper state of tension, as follows:—The bearings in which the upper thread-roller, F', revolves are attached to the sliding-bar or frame, G. This is attached to the ends of two screws, H, passing through nuts above, by the

turning of which in either direction, the screws, and consequently the frame, G, will be elevated or depressed, and the hanks of threads upon the rollers tightened or slackened accordingly. The screws are worked by gearing as follows :—Upon the driving-shaft, B, is fixed a bevel-wheel, gearing into and giving motion to another bevel-wheel upon an upright shaft, I. Upon the upper end of the upright shaft, I, a bevel-wheel I' is fixed; K K are two bevel-wheels fixed upon one boss, or a short hollow shaft working upon the shaft, L, which boss is attached to the shaft by a feather, which admits of the two bevelled wheels being moved lengthwise upon the shaft, so as to bring either of them into gear with the bevel-wheel, I', or to throw them both out of gear with the wheel, I', at one time. This is to allow the shaft, L, to be turned in either direction, so as to elevate or depress the screws as desired, or to allow the shaft, L, and consequently the screws, to be stationary. Upon the other end of the shaft, L, is fixed another bevel-wheel, L', gearing into the horizontal bevel-wheel, L'', to the boss of which is fixed to the spur-wheel, L'''. The boss also forms the nut of the screw, H, by which it is elevated and depressed. The other screw is likewise provided with a similar nut and spur wheel, with a connecting pinion between moving upon a fixed stud; the intervention of the pinion being for the purpose of moving both nuts in the same direction simultaneously. The boss carrying the two bevel-wheels, K K, is provided with a small lever, K', by which it may be readily moved along the shaft, L, when desired. Upon brackets, N, fixed to and projecting from the standards, A, is mounted the driving-shaft of the revolving-brushes, which consists of two end-wheels or centres, O, upon the periphery of which are fixed the bars, P, carrying the brushes. Upon one end of the shaft outside the carrying bracket is fixed the driving band-pulley, Q, this is driven by a separate band from that which gives motion to the main driving-shaft, B, whereby the movement of the brush is much more rapid than that of the threads under operation, and the movement of the threads may, when desired, be entirely suspended, as before described, while that of the brushes continues. At the lower part of the machine is mounted a fan blower, T, for the purpose of throwing a current of hot or cold air upon the threads under operation. The construction of this blower is of the usual kind, and motion is given to the fans either from the main driving-shaft, B, or from the brush shaft as most convenient.

When a number of hanks of thread are to be submitted to the action of this machine, the two rollers, F F', are removed from the machine, and mounted in what may be termed a filling frame. The hanks of thread are then passed over the two rollers, and equally distributed on their surfaces. The rollers being placed in their respective bearings in the above machine, the driving-shaft, B, put in motion, and the spur-wheel, C, thrown out of gear with its driving pinion, so as not to give any movement to the rollers, F F', that one of the bevel-wheels, K, upon the shaft, L, which will elevate the screws, H, is thrown into gear with the bevel-wheel, I', so as to turn the nuts and elevate the screws and the upper thread-roller, F, until the threads have attained their proper state of tension. The further upward movement of the screws is then suspended, and the spur-wheel, C, thrown into gear with its driving-pinion upon the driving shaft, B, giving a slow progressive movement to the threads around the two rollers, F F'. The strap driving the revolving brush shaft is now thrown into gear, thereby giving motion to the brushes, which passing rapidly through between the threads, lay the fibres of them, and impart a great degree of smoothness and evenness to the threads, and a lustre and gloss not hitherto attained. When the tension of the threads becomes relaxed during the operation, as they will, the screws are again elevated, and the proper state of tension restored. When the threads are sufficiently finished, the machine is stopped, the rollers, F F', are removed, the hanks of finished threads taken off, and others to be operated upon supplied, and the rollers remounted in the machine as before.

Gold Beating.

For making gold foil 2¼ oz. of gold dust mixed with 2¼ dwts. of silver and copper are fused together to form *deep* gold. The fused metal is cast in an ingot mould of 1½ inches long by 3-4 inch wide and 3-16 inch deep. The ingot is flattened into a riband 1¼ inches wide, 6 yards long, and about the thickness of foolscap paper. This having been annealed is marked out by compasses into 160 parts, which are cut out by shears into sections 1¼ inches square, each weighing between 6 and 7 grains. These 160 piece are beaten into leaves 4 inches square which are cut again into 640 pieces; in this state the leaf is named "Dentist's gold."

Gold may be extended into leaves which do not exceed 1-290000th of an inch in thickness. The proof of this remarkable tenuity is easy. For example, an ounce of gold is equal in bulk to a cube each of whose edges measures 5 12ths of an inch, so that, placed upon the table, it would cover little more than 1-6th of a square inch of its surface, and stand five-fifths of an inch in height. The gold beater hammers out this cube of gold until it covers 146 square feet. Now it can easily be calculated that to be thus extended from a surface of five-twelfths of an inch square to one of 146 square feet, its thickness must be reduced from five-twelfths of an inch to the 290,636th part of an inch.

The gold employed by the gold-beater should be pure; but various colors are obtained by alloys with silver, or with copper, in different proportions. The pure gold, or the alloy, is prepared for the gold-beater by melting in a crucible and casting into flat oblong ingots, each about three-fourths of an inch wide, and weighing two ounces. Each ingot is then formed into a riband by passing it between two rollers of polished steel, and this laminating process is continued until the ingot is spread out to a surface of 960 square inches of the thickness of rather more than one-eight hundreth of an inch.

The riband of gold is annealed or softened in the fire, and cut up into pieces of the size of a square inch, and 150 of these are placed by means of wooden pliers between an equal number of leaves of vellum, each square of gold occupying the centre of each leaf of vellum. A parchment case, open at both ends, is drawn over this tool, or kutch, as the packet of vellum leaves is called, and this is enclosed in a second similar case, so as to cover the edges left exposed by the first case. This packet is then beaten with a sixteen-pound hammer upon a smooth block of marble, strongly supported from below, and surrounded on three sides by a raised ledge of oak; the front edge is open, and has a kind of leathern apron attached to it for catching fragments of gold that may escape in the subsequent operations. The elasticity of the packet causes the hammer to rebound, and thus lightens the labor of the operator, and enables him to apply the blows with regular effect; every now and then, during the interval between two blows, he turns the packet over to distribute the force equally, and he occasionally bends the packet to and fro to overcome any slight adhesion between the gold and the vellum; and at intervals he opens the packet to see that the work is satisfactory, and also to re-arrange the relative positions of the squares of gold, by placing those near the surface in the centre, and placing those in the centre near the surface. The beating is continued until the one-inch squares are spread out into four-inch squares. The packet is then opened, and each piece of gold is taken out, placed on a cushion, and cut into four pieces with a knife. This increases the 150 pieces to 600, and these are put between the leaves of another tool, called a shoder, made of gold-beater's skin. The packet is enclosed in parchment, and beaten with a twelve-pound hammer as before. The squares of gold are again spread out to nearly the area of the gold-beater's skin. The packet is again opened, the leaves of gold are again cut into fours, and each quarter is placed between two leaves of membrane as before. The gold is in this case divided by means of the smooth edge of a strip of cane, since it has a tendency to adhere to a steel knife. The squares of gold, now increased to 2400, are separated into three parcels of 800 each; the squares of each parcel are again separated by gold-beater's skin, confined in the parchment cases, and beaten as before. These squares of gold-leaf expand for the third time nearly to the size of the leaves of membranes, and have at length attained the required degree of tenuity. The process of attenuation can be carried beyond this, but the gold is apt to tear, and the process requires great extra care. The three beatings and two quarterings expand the gold to an area about 190 times greater than it had in the form of a riband, and 100 square feet of it weigh only an ounce.

After the last beating, the thin leaves are taken up one at a time by means of a pair of long pincers made of white wood, and being placed on a cushion, are blown out flat by the mouth, an operation requiring considerable skill. Broken or injured leaves are rejected; but those which are perfect have the ragged edges cut off, which reduces their dimensions to about 3¼ inches square. Twenty-five of these leaves are placed between the folds of a paper book, the surfaces of which have been rubbed with read chalk, to prevent the gold from adhering, and in this form gold leaf is sold.

Gas for Flowers.

The Paris correspondent of the St. Louis Times says :—

"And now let me tell you of a most beautiful and interesting discovery which has lately been made by a celebrated Parisian horticulturist, by the name of Herbert. I was persuaded to go to his rooms a few days since, and I assure you I had no reason to regret the long walk I had taken. Beneath a large glass case, four or five feet in height, and as many in circumference, were placed pots of roses, japonicas, pinks, dahlias, china asters, &c., all in bud. By means of a certain gas, invented by himself, and which is made to pass by a gutta percha tube to any pot required, Mr. Herbert causes the instantaneous blooming of the flowers. The ladies in the room asked successively for roses, dahlias, and japonicas, and saw them burst into full bloom and beauty, in a second. It was really wonderful.—Mr. Herbert is now trying to improve on his discovery, and to make the gas more portable, and its application less visible. The secret is, of course his, and his rooms are crowded every day with the most delighted spectators. I wish I could send you the lovely camelia which I received, which, when asked for was so tightly enveloped in the green leaves of its calyx, that the color of its flower could not even be guessed at; and yet the request was hardly out of my lips when the beautiful white camelia was in my hand. When he has made a little more progress, Mr. Herbert intends to get out a patent and deliver his discovery to the public."

This gas was no doubt discovered among the giants of Brobdignag by the celebrated traveller Gulliver.

Chicory.

While in England, says a correspondent of the Journal of the New York State Agricultural Society, we received information as to the culture of this plant, the roots of which are used as a mixture with coffee. In many establishments of the first character in London, where coffee is extensively sold, we found the real coffee, prepared and ground, and by its side, chicory, prepared and ground; and were informed at several of these establishments that it was preferred to mix them, one-third of the chicory to two-thirds of the coffee. The flavor of the chicory is suited to the tastes of many, and its medicinal qualities give it great favor. Most of that in use in England is imported from Belgium and Germany; but it is being cultivated to a considerable extent in England and Ireland, and the cultivation is increasing.

The seed is drilled in, in April, the same as carrots or beets, on rich light land, and thinned in the rows to about six inches, and kept entirely free from weeds. In September, the roots should be gathered. They are taken up with a potato-fork, and the tops taken off, and the roots are taken to a convenient place and thoroughly washed. The roots are cut in small pieces, either by hand or a common turnip-cutter, having them as near a uniform size as practicable. The larger are then separated from the smaller, and put into coarse canvas bags and placed on a kiln to dry. They are then disposed of in market to the merchants, who prepare the root in the same manner as coffee, roasting and grinding. As soon as practicable after the roots are cut, they should be dried, to prevent the loss of the milky juice, which contains its most valuable properties. The leaves are fed to cattle and sheep, which are very fond of them; and they are also used as a substitute for woad for coloring, and are esteemed very valuable for that purpose.

A Second Sam Patch Leap.

A second Sam Patch leap came off on Monday, the 2nd inst, from the Suspension Bridge below the Falls, into the middle of Niagara River. Some five hundred persons were present to witness the feat. In consequence of the strong unexpected current of air under the bridge, the gentleman's back, instead of the pedal extremities, was first introduced to the surface of the water. He was not so badly injured, however, but that he commenced swimming towards the shore and was soon taken into a small boat. He had an appointment to descend the precipice at the Falls, in a similar manner, but the result of his experiments has determined him to look to some other opening for notority and fame.

Such feats appear to take their course like fashions One fellow has been amusing us New Yorkers for three weeks past, with jumping off the High Bridge into the Harlem River. It is a profitless and dangerous feat. Sam Patch lost his life at last, and Scott, the celebrated American leaper turned crazy and put an end to his life on London Bridge.

Barnum's Opinion about Advertising.

The following extract is taken from Freedley's Practical Treatise on Business; it is from the pen of the celebrated P. T. Barnum :

Advertise your business. Do not hide your light under a bushel.—Whatever your occupation or calling may be, if it needs support from the public, advertise it thoroughly and efficiently, in some shape or other, that will arrest public attention. I freely confess that what success I have had in life may fairly be attributed more to the public press than to nearly all other causes combined. There may possibly be occupations that do not require advertising, but I cannot well conceive what they are. Men in business will sometimes tell you that they have tried advertising, and that it did not pay. This is only when advertising is done sparingly and grudgingly. Homœpathic doses of advertising will not pay perhaps—it is like half a potion of physic—making the patient sick, but effecting nothing. Administer liberally, and the cure will be sure and permanent. Some say "they can not afford to advertise;" they mistake—they cannot afford not to advertise. In this country, where everybody reads the newspapers, the man must have a thick skull who does not see that these are the cheapest and best medium throughout which he can speak to the public, where he is to find his customers. Put on the appearance of busines, and generally the reality will follow. The farmer plants his seed, and while he is sleeping his corn and potatoes are growing. So with advertising. While you are sleeping or eating, or conversing with one set of customers, your advertisement is being read by hundreds and thousands of persons who never saw you, nor heard of your business, and never would, had it not been for your advertisement appearing in the newspapers.

The Koh-i-noor.

Diamond cutters have been brought from Amsterdam to London, to cut the great Koh-i-noor diamond into an oval brilliant, increasing its value and brilliancy.

A machine has been erected in London for the purpose, and the greatest anxiety has been manifested for the success of the undertaking.

Extraordinary Phenomenon.

Recently during a thunder storm, at Kingston, Canada, the lightning struck the bridge leading from the town to Point Frederick, pierced a large hole in the floor, and threw down one of the stone piers. A soldier, crossing at the time, had his clothes torn by the lightning, and the metallic ornament on his cap melted, but escaped himself without any serious injury.