NEW INVENTIONS.

Quartz Crushing Machinery.

Mr. Charles R. M. Wall, of New York City, has invented and taken measures to secure a patent for a new improvement in machinery for crushing quartz and other ores; it consists in crushing and pulverizing quartz, &c., by passing it between a series of corrugated rollers, said rollers being placed in a vertical position, in the form of a cone, with the finer corrugated ones placed lowest, and the whole enclosed and working in water. A column of water presses down in the centre of the cone between the rollers, but no water passes in a current. The water assists in pressing the particles to the points of contact between the rollers, and it has been found to greatly facilitate the crushing of the quartz, besides enabling the machinery to work much easier.

Improved Cast-Iron Car Wheel.

Mr. Orson Moulton, of Blackstone, Worcester Co., Mass., has taken measures to secure a patent for a useful improvement in Cast-iron Wheels for railroad cars, which consists in connecting the hub and rim by two curved plates, having projecting ribs running in cyma form on their inner sides, from the hub to the rim, and across the inside of the rim, the ribs on each side being placed opposite the middle of the spaces between those on the opposite side; this, it is said, provides for the unequal shrinkage of the metal in every direction. The extension of the ribs across the inside of the rim gives it great strength.

Improvement in Cotton Felting.

Mr. E.P. Rider, of the city of Brooklyn, has made a good improvement in cotton felting, to be used principally for upholstering. The nature of the invention consists in laying a bat of cotton on each side of a glazed sheet, the bat of cotton on each side of the glazed centre serving as a nap, which thoroughly protects it, and thus prevents the centre from being broken by friction, or otherwise, and thus it is greatly improved for upholstering purposes.

Measures have been taken to secure a patent.

Improved Paddle-Wheel for Steamboats.

Mr. James Hardie, of Victoria, Texas, has taken measures to secure a patent for an improvement in paddle wheels for steamboats. The improvement consists in making the buckets enter and leave the water in a vertical position. It is not like the feathering paddle, the paddles not being turned edge outwards, but merely changed to a vertical position, so as to enter the water in that position, and maintain it, while passing through the water. The cost of the wheel will be but little more than that of the common kind. The improvement is very simple, and consists of but a small alteration: all the parts can be made strong and durable. It is the best one we have yet seen of the kind, and we believe it will work well.

Improved Screw Wrench.

Jehiel K. Hoyt, of this city, has taken measures to secure a patent for an improved Screw Wrench, which relates to those wrenches in which the inner jaw slides on a bar which connects the outer jaw with the handle. The improvement consists in connecting the adjustable screw, by which the jaws are opened and closed, to the sliding or inner jaw, and allowing it to pass into the handle. The nut that operates on the said screw being placed outside of the handle in a suitable position for being turned by the thumb and finger of the operator.

Increase of Inventions---Patent Agents.

A late number of the Boston "Carpet Bag" says:—

"There are some countries which do not grant protection to invention, and as a consequence the arts are in a very crude condition, and progress in civilization very tardy. It is but a few years since the profession of Patent Agents obtained a distinct recognition, and it is, perhaps, one of the most difficult to acquire. Inventors, as a general thing, although fertile in genius, and imagination, are seldom competent to grapple with the business for preparing papers for their own inventions. Among the requisites necessary to constitute able Patent Agents, is a clear knowledge of mechanical philosophy, chemistry, and Patent Law, and as there are few who combine these positive essentials, the reason why so few succeed in the profession is made apparent. The publishers of the Scientific American are well known throughout the world as among the most able and accomplished Patent Agents in the profession, and since the introduction of this business into their concern a very large increase has manifested itself in the number of inventions yearly presented to the Patent Office, and the stimulus given to inventive genius throughout the country by that powerful auxiliary, the Scientific American, has doubtless been the means of increasing two-fold the business of every respectable Patent Agent."

Ex-Commissioner Burke,—good authority—has said the same for the Scientific American. Mr. Ewbank would not deny the fact. He knows what it is doing for the Patent Office, as well as what the Ohio Cultivator is doing for the wheat growing interests.

PATENT GEOMETRIC TRANSFER.

Figure 1.

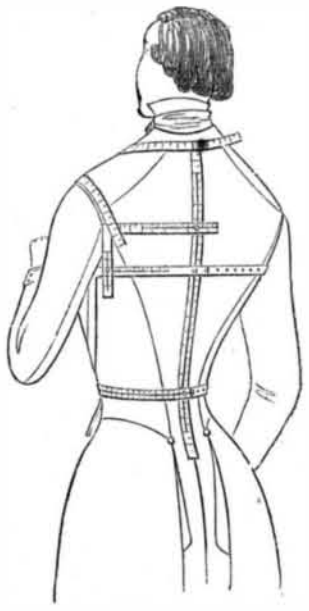


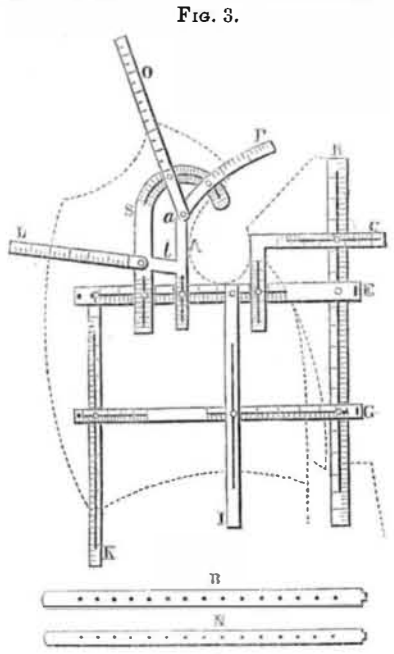
Figure 2.

The accompanying engravings represent an instrument for Tailors to measure persons, in such a manner that garments can be cut for them with the utmost accuracy to suit the "human form divine." It is the invention of Mr. James Maginnis, of Lockport, N. Y., and was patented on the 2nd of last December. The claim is on page 102 of this Volume of the Scientific American.

Figure 1 shows the instrument set to the back when the measure is taken. Figure 2 shows its application to the breast and shoulder. Fig. 3 is a view of the instrument as set to the form of the body of a coat—the dotted lines representing the coat body.

R is a strap that extends from the socket bone of the neck to the waist, parallel with the back seam; E is a strap that extends from the centre of the back to the breast; B is a strap that clasps into strap E, at the back, and is carried around and hooked into it in front,

Fig. 3.



as represented in fig. 1. G is a strap that extends from the centre of the back at the waist to the front; N is a strap that clasps into strap G, at the hollow of the waist, and is carried around and hooked in front; straps N and B serve to hold the instrument on the body; they are set apart below, but are used along with G E. C is a square that slides on straps, R and E, from the centre of the back to the armhole. A and S is a gauge, with two arms connected by a cross-bar, G. In the figure, two straps are attached to the top of the inner arm; these straps serve to measure the length of the shoulder; the outer arm passes up and forms a semicircle over and around the top of the inner arm; this semicircle is slit through the centre, and forms a way for the shoulder straps to turn on; this gauge slides backward on strap E, from the front, and locates the front of the arm-hole, and gives its diameter the pitch of the shoulder and width of the breast. L is a strap that is attached to the cross-bar of the gauge: it turns on a pivot and serves to measure the width of the breast and its height. *o* is a strap from the pivot, *a*, on the top of the inner arm of the gauge to the socket bone of the neck; this strap measures the length of the upper point of the shoulder, and gives its forward and backward pitch. P is a strap that measures the length to the lower point of the shoulder. K is a strap that measures the length of the breast, from the strap S, the distance that a coat is carried in at the waist is thereby determined.

This instrument is made of spring brass and is so arranged that it contracts or expands to any form or size, so as to give a complete graduation of sizes, from the smallest boy to the largest man, it being numbered in inches and quarters; it can be set to the form of a perfect coat of any size without taking the measure, hence it is a complete set of patterns, and is of great service and utility in cutting ready-made clothing; being composed of a metallic substance it gauges the body in all its parts, and by unhooking it in front it springs out straight and becomes a pattern, which transfers the shape of the individual, as well as his size, to the cloth.

Mr. Maginnis has used this instrument for the last nine months in obtaining the form of the human body, and transferring it to cloth; and he can draft a coat by it better and in less time than by any other mode. Twenty-five Cutters in the vicinity of Lockport are now using it. and they concur in pronouncing it to be the most perfect instrument of the kind they have ever seen.

We have stated more than once, in our columns, that "Genius is democratic," and it is our aim to set forth the merits of our inventors and mechanics, without distinction of trades, or the departments in which they exhibit mental qualities. Some journals professedly devoted to science, really do not know what it is, and do great injustice to many men. They seem to think that deep sounding words and devotion to a few *branches* of science are the alpha and omega of all science. We consider that there is as much genius displayed in the invention of a Tailor's Measure as there is in the construction of a bridge or a steam engine. In invention and science, we view no high and no low class. We know that intelligence and worth are not the exclusive property of any one class—these qualities belong to men, not trade nor rank. We know that our inventors, generally, stand high in point of intelligence.

That man who endeavors, honestly, to do all things well—the best way, irrespective of what he is engaged in—is a great man; he is living to some purpose; he is fulfilling his true and noble destiny. To every one of our mechanics we say, "strive to do all things well." One trade is not more noble than another,—there is as much geometrical skill and genius displayed in the foregoing instrument as in the resolved problem of an Oxford sage. We have been led to make these remarks by some nonsensical expressions that never would have been uttered by an intelligent and scientific man, but which lately appeared in a certain journal with a flourish of vapid aristocracy, not the genuine kind, for *it* belongs to *men* in all stations.

More information may be obtained about rights, &c., for the above instrument, by letter addressed to Mr. Maginnis.

At What Price Gas may be Produced.

At a public meeting held at Sheffield, the other day, on the question of forming a new gas company, it appeared, from an estimate presented by Mr. Laidlaw, of Glasgow, gas engineer, of the cost at which gas may be produced, that after allowing for all contingencies, the gas could be sold at 3s. per 1000 feet, and if there were one hundred millions sold, it would give the shareholders a dividend of at least 7½ per cent. Mr. Flintoff, of London, stated that estimates laid before Parliament, in 1847, showed that for a consumption of twenty-eight millions, the price ought not to be more than 3s. 2d., paying 10 per cent. A party employed by the committee to test the figures formerly brought forward, informed them that gas could be made under 2s. 6d per thousand ft., and considering losses and other contingencies, they were justified in offering it at 3s., with a strong probability that in a few months the price might be further reduced to 2s. 6d, per 1000.—[Leeds Mercury.

[The above price of gas affords a great contrast to the price charged in New York. One thousand cubic feet at three shillings is equal to 66 cents. Our gas is now reduced, apparently as a favor, to 300 cents per thousand feet—just 4½ times as much; and had Mayor Kingsland not vetoed the shameful gas contract, they would in all likelihood have raised it to the old prices—$4 and $7 per 1000 cubic feet. The contract was for 17 years; what a shameful monopoly it would have been; that men can be found in our community who can advocate such measures, and, what is worse vote for them, is a very bad sign. If gas was $2 per 1000 feet, all our working people would use it, and it would prove a blessing to them. There would be no accidents from camphene, and there would be less fires. Community, in *toto*, would be the gainers. It is the duty of all to exert an influence in bringing about a reform in the gas line. There must be a door left open for competition. Every mechanic in Manchester and Glasgow has his domicil lighted with cheap, convenient, and clean gas light. Why cannot our people, as a whole, have the same advantages? They can,—they should. Let them try and have them.

Collins Line of Steamers.

A petition has been presented to the Senate to enable the Company of this line to increase their facilities for carrying out their government contract. We hope it will be granted; we require powerful and large steamships to compete with the old Cunard line. It is imperative that our country should have them, and as the Cunard line would be a failure without great patronage, so will the American Line.

A statue of George Stephenson, the celebrated engineer, is about to be erected at Euston, England.