New Inventions.

New Textile Fabrics.

The *Agava Americana*, or Mexican grass, has been manufactured into a very beautiful fabric, by W. Stanton, of London, Eng., who has obtained patents for treating the fibre, and preparing it for spinning and weaving. It is first boiled in alkaline solutions, and afterwards washed and dried, when it is found to be strong and elastic, but not stiff enough for weaving. It is then run through a solution of glue and dried, and thus acquires the requisite stiffness.

New Patent Office in London.

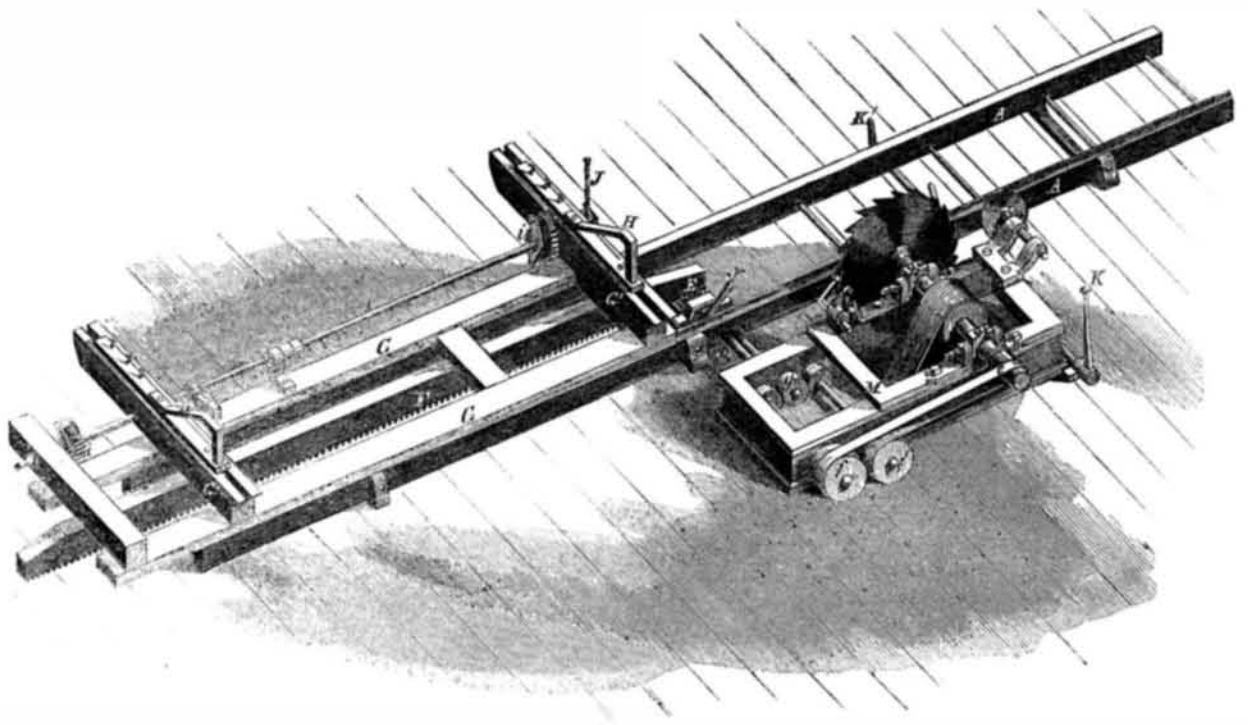
In comparison with our own noble Patent Office in Washington, the building set apart for the transaction of this business in London is a mere crib. Our cotemporary, the London *Engineer*, has been *down* on this cramped up establishment for some length of time, and has advocated the erection of a new structure, one that shall more fully illustrate the genius of the British people. In its last issue it announces the probability that something may now be done towards accomplishing this object. The new Lord Chancellor, late Sir Frederic Thesiger, who has had a good deal of practice under the Patent law, is uow conferring with the Commissioners of Patents in regard to a site for a building.

Burning Explosive Gases of Mines.

The proposition to destroy fire damp in mines is not the mere revival of some neglected and almost abandoned scheme, but altogether an innovation. The great object of all inventors in connection with the safety of mines has been to prevent the burning, and, consequently, the explosion of fire damp. From George Stephenson, in the construction of his "Geordy," to the safety lamp of his more brilliant competitor, and continuing through many inventions to the present day, the idea has ever been to prevent the combustion of the fire damp. If practicable, however, it is quite clear that the destruction of the gas would be infinitely better than its avoidance, and would give vast facilities in the working of mines. The new plan is offered by its inventor, a Frenchman, on highly favorable terms. The sum of $5,000 is to be placed in the hands of a notary in Paris, and paid to the inventor for communicating his secret when he has proved the efficacy of his system by working his apparatus in any coal mine that may be named. The apparatus is said to be permanent, and capable of destroying the fire damp as it rises ; and the inventor will, it is said, prove, by working his invention, that the safety lamp is not indispensably necessary in collieries.

We shall rejoice to learn that all this is strictly true, as it will go far to prevent one of the most destructive and distressing classes of accidents that occur among us, and that at present seem very imperfectly under the control of science or good management.

FERRY'S AUTOMATIC CIRCULAR SAW MILL.



Improved Saw Mill.

The above engraving shows a saw mill which needs no end play in its saw arbor to ensure proper ranging of the saw, and accurate cutting of timber; is automatic in its back and forward feed, being self-reversing and self-gigging back; is accurate and regular in its set of the log automatically, avoids the marring of the saw by the log or scratching of the log by the teeth of the saw, and, in fact, possesses all the requisites to a successful and profitable working of lumber, as extensive use of the same in the West has demonstrated.

In the accompanying engraving, A represents the track or way on which the log carriage, G, travels back and forth alongside the circular saw by means of rack, F, and pinion, E. This carriage has two head blocks, G′ G′, which are fed up laterally, or at right angles to the movement of the carriage, G, by means of a set lever, *i*, said lever coming in contact with an inclined set bar, which raises it and causes it to turn the ratchet shaft, J, and thereby effect the lateral feed of the head blocks with unerring accuracy and uniformity.

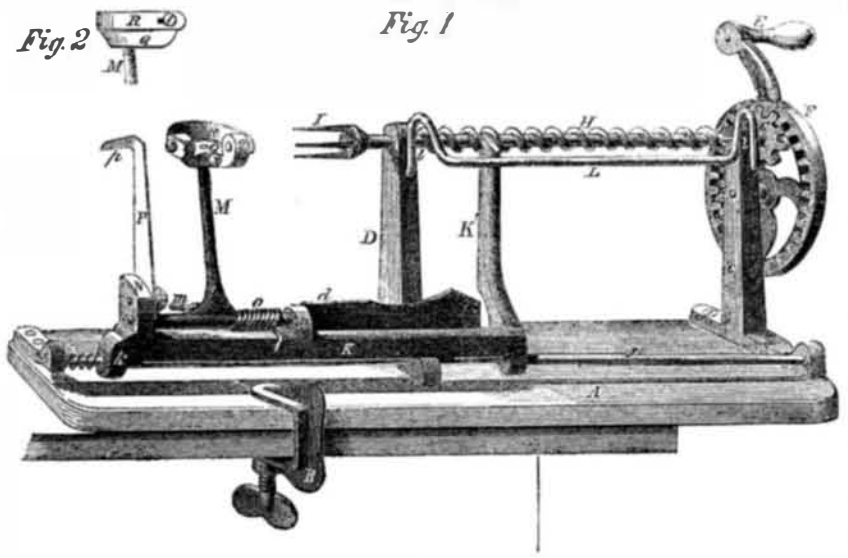
The saw arbor is set on a yoke, M. This yoke is adjustable by means of a pivot at *a*, and two set screws and oblique slots, *m m*, so as to set the saw oblique to the edge of the carriage or to cut toward the slab or log as desired. Thus setting the saw prevents the heating of it, and gives it its proper range for cutting accurately. The reversing of the carriage is effected by means of friction rollers and an adjustable roller, *g*. By shifting the roller, *g*, automatically by an eccentric on the shaft, *n*, which is turned slightly at each forward and backward motion of the carriage by reason of the carriage coming in contact with the trip, *r*. When the carriage strikes the trip, the friction roller, *g*, binds hard against either one or the other of the two rollers between which it lies, and thus the forward, reversing and gigging back motions of the log carriage are perfectly automatic.

The motion to the saw and carriage are communicated by means of the belt, *e*, running over the pulleys, *f f′*, as shown, the prime mover being the belt, B, which leads from the driving shaft of the engine.

To start this mill continuously to work, it is simply necessary to throw the lever, K, up to the position shown in the engraving, so as to bring trip, K′, in position for being struck by log carriage. To stop the mill, the lever, K, must be depressed. The several operations of feeding, setting, reversing and gigging are all automatic, and after the mill is once started, it requires no attention further than to supply it with timber.

We regard this as a most excellent saw mill, and know for a fact that it is extensively used in the West. It was patented April 6, 1858, by W. M. Ferry Jr., of Ferrysburg, Mich, who will furnish any further details.

WHITTEMORE'S APPLE PARING AND SLICING MACHINE.



Cutting and paring apples is in some portions of the country quite an occupation at which many persons are employed and much time expended, and as a natural consequence inventors have turned their attention to this field for the exercise of their ingenuity, and one of the results is the subject of our engraving. The inventor, D. H. Whittemore, of Worcester, Mass., has given much time and patience to the perfection of this simple little machine, and has obtained patents for it on successive improvements, Nov. 11, 1856, Jan. 13, and Feb. 17, 1857, and he has also patented it in England.

This machine not only pares the apple, but also cores and slices it, and leaves it in the very best state for cooking or drying. In the engraving, of which Fig. 1 is a perspective view of the whole machine, A is a stand or base on which the machine is erected, and this can be clamped to the edge of a table or any convenient stand by means of the clamp, B. C is an upright of cast iron, which serves as a journal of the axle or shaft, H, and as a rest for one end of a wire, L, the other rests in the upright, D, to the base of which is cast a piece, *d*, that serves as a guide for the cutter. E is the handle by which the machine is operated, and it turns the gear wheel, F, that gives motion to the smaller gear wheel, G, on the end of the screw shaft, H, while the other carries the prongs, I, on which the apple is placed. J is a wire which runs from the base of C to support *j*, and on this slides the piece, K, that supports the cutters. J passes through two bearings *k* in K, so that it can move along, and is allowed some play. There is a piece, K′, rises from the end of K, which passing through the bend, *l*, in the wire, L, fits into the screw, H, and so when the handle E is rotated, draws the cutters over and through the apple, and when the apple is cut drops over through the other bend, *l*, so that K can be moved to its former position by the hand, and be ready for work again. M is a rod on a shaft that can move in the journals, N and *n*, and it is kept upright by the spring, O, passing around it and attached to the projection, *m*; in working this projection, *m* passes over the guide, *d*, and in a great measure takes off the force of the spring so that the cutter shall not press on the apple too hard, and also serves to throw K′ out of L at the end of the screw. The cutter or parer is of semi-circular form as seen at R, and it is fastened to two ears, *q*, on the head Q, by screws; it projects slightly over Q, as will be better seen in Fig. 2, which is a side view of the cutter and head, and can be made to project more or less at pleasure. From its form it cannot fail to cut, even should it become clogged in one part when the apple came round again; another part of the cutter would catch it, and pare off the rind. To N is secured, by a screw, the slicer and corer, P; *p*, being the coring knife ; it cuts the apple in a spiral form, and by a slot in it, it can be made to leave any sized core, or it can be entirely removed for paring turnips, potatoes, &c.

The operation is simple. The apple is placed on I, the piece, K′ is placed against H, and the small spring at *j* keeps the cutter against the apple until K′ is fairly in gear, by giving the handle, E, five turns, the apple is pared, cored and sliced, and can be slid off, and it is in the best form for drying; or one stroke of a knife across it cuts it into slices for pies ; or it can be left alone for dumplings and the like; or the hole from which the core has been extracted can be filled with sugar and the apple baked.

It is a simple and perfect little machine, and can be obtained at all hardware stores. It is manufactured by Whittemore Bros., Worcester, Mass., from whom all further particulars can be obtained.

CAMELS.—It is stated that the government has made a contract with the citizens of Texas for supplying $25,000 worth of camels for the use of the army. Commercial arrangements will be made with some point in Africa affording the best facilities for purchasing animals suitable to our climate, and for exportation hither.