New Inventions.

Improvement in the Purifying of Gas.

We learn by our excellent exchange "The London Patent Journal," that a Mr. W. Cormack, of Haggerstone, near London, has secured a patent in England for a new improvement in purifying gas, which is well worthy of being known in America. He takes 140 lbs. of copperas and 74 of common salt, and dissolves them in 150 gallons of water. This is placed in the purifyer—a vessel forthat purpose. The gas passes through this sulphomuriate of iron solution, and in doing so, it is freed from all ammonia and sulphur. The sulphur and ammonia are absorbed by the solution through which it passes. When the purifying liquor is exhausted, it must be changed. A chemist will be able to tell when this should be done by the common tests of sugar of lead and turmeric paper. The exhausted purifying liquor contains salamoniac and sulphate of soda in solution, and sulphuret of iron. Another way to use these materials, is what is termed "dry purifying." For this purpose the same quantity of copperas and salt are mixed with two bushels and a half ef broken charcoal—all moistened with water, to a soft consistence. The gas is passed through this in the same way as by what is termed the "dry purifying" already mentioned.

The salt is what is new in this invention, as combined with the copperas, but the latter has long been used as a purifyer. To remove all the carbonic acid gas, lime water must be used, so the above must only be employed for the removal of ammonia and sulphur. We state this plainly, to let those of our readers know what is new, and what it can, and cannot do.

We believe the composition to be a good one, and we see wherein its application may be improved. For example :—let the solution be kept in a "purifyer" containing wool or hair, and let there be a connection with a reservoir above, containing the pure dissolved composition, so that a dropping supply may be kept up from above, and the sediments be allowed to percolate through a false bottom into a receiver; this would make a constant purifyer. The gas should pass from this first purifyer into a lime purifyer, and in this way, gas of the utmost purity would be obtained—something we do not always get in New York.

Improvement in the Manufacture of Flour.

The Rochester Democrat says, a gentleman named Bonnell has recently brought out an invention by which a barrel of superfine flour may be produced from three and a half or four bushels of wheat. Mr. Spaulding, of Lockport, states that by the use of this new process he has recently obtained a barrel of superfine flour from four bushels of pure Ohio wheat, weighing sixty pounds to the bushel. The Detroit Advertiser states that it is an established fact that there is a barrel of excellent superfine flour in two hundred and ten pounds of good dry wheat, weighing sixty pounds to the bushel—*i. e.* three and a half bushels.

Appropriation for Electro Magnetism

Senator Benton moved on the 23rd inst. that $40,000 be appropriated to enable Prof. Page to continue his experiments on electro magnetism. Mr. Benton addressed the Senate on the advantages likely to result from the perfection and completion of the experiments.

Messrs. Cass, Jefferson Davis and Foote, opposed the appropriation.

Mr. Dickinson said he had just received a letter from a constituent who was making experiments on the steam engine, and as Prof. Page had received an appropriation of $20,000, he thought that an equally important sum should be appropriated to enable him to carry out his experiments. The motion of Senator Benton was rejected. The whole appropriation would have amounted to $60,000—a very large sum, indeed, for experiments.

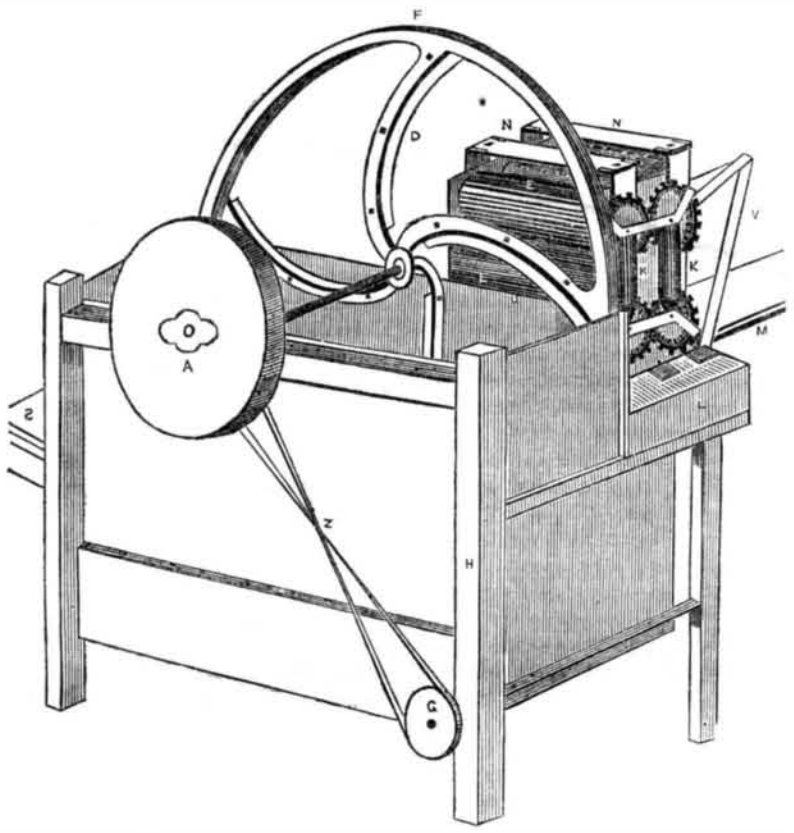
New and Improved Kind of Soap.

Messrs Cadwell, Payson & Co., 289 Rivington street, this city, have lately made an improved Soap, which we have examined and tried, and have found it to be of a very superior quality. It is well known that the basis of all soap is alkali and oil or grease, but there is so much difference in the qualities of different kinds of soap, that there can be no question of great skill and secrecy in the manufacture of some particular good kinds, and respecting this new kind of soap, we have found it to be practically a most excelling kind, for the removal of dirt and grease, and at the same time eminently easy on the colors—that is, in washing calicoes, &c.

Invention for the Opening of Iron Shutters of Stores.

Mr. Asa Willis, a member of the New York Fire Department, has invented an excellent apparatus for rapidly opening the large iron shutters of stores, so as to open them rapidly during a conflagration, as heavy losses have many times occurred from the impossibility of opening the upper shutters quick enough from the outside. One of these apparatus is now in operation at Messrs. Pentz, 55 Water street, where the iron shutters of the store, in every story, can all be opened by a chain from below.

BURREL'S PATENT CANE CUTTER.



This is an improved machine, invented and patented by Thomas & Edward Burrel, of Seneca, N. Y., and which was patented on the 11th day of September, 1849. It was awarded a premium at the late State Fair, at Albany.

This figure is a perspective view of the machine; it has a frame made in any common way; in front, however, the cutter wheel, F, revolves in a box, and the cut cane, stalks, or whatever it may be, falls down on an endless apron, and is carried up and deposited in any convenient place, as shown in the direction of the said apron, S. The cutter wheel, F, has curved knives, D, secured on it in the usual way. A is the main pulley, to receive motion by a belt from any known power; Z is a band to drive the small pulley, G, which operates the endless apron, S, and carries up the cut stuff as mentioned. V is the feeding box, a part of which, only, is seen; and M is another endless apron, which carries the stuff into the feed rolls; H is one of the posts of the frame; E E are the front feed rollers,—there are four of such rollers, one pair placed behind the other; L is a back bed piece; and there are metal plates on each side of the feed box, for the bearings of the feeding apparatus. On the front end of the feed box is a metal die, U, for the knives to cut close up to the box. N N are the slide bearing plates of the rollers. The object of the rollers is to produce a feed to the cutter wheel, which will be always steady, and hold the feed firmly to the action of the cutters, however fast the speed of the cutter wheel may be. All the feeding motion is derived from the main shaft of the pulley, A. This shaft has a worm wheel on its inner extremity, which meshes into a bevel gear on the opposite side, which gears into the two fluted vertical roller wheels, K K, and these move the upper feed rolls. The roller wheels, K K, allow the upper feed rolls to move up and down in slots, for inequalities of the feed, and still all the feed motion be in gear. The top hind roller has spikes on its periphery to gather in the cane, straw, or stalks, and the combination of the whole of them, holds the feed steady to the action of the cutter wheel, and at the same time there is a free movement for inequalities of feed.

The claim is, first, the employment of four feeding rollers, in the manner herein described, the top hind roller having spikes on its surface, to hold firmly the straws, &c., and the combination of the said four rollers to feed in the stalks or straw with a steady uniform motion, so that the action of the cutter wheel will not arrest the motion of the sheet of stalks, &c., when fed into the knives, however great the speed of the cutter wheel may be.

Second, The cylinder fluted pinion wheels, K K, in combination with the upper cog wheels, to allow the top rollers to rise up and slide down, when different thicknesses of stalks, &c., are fed into the cutters—this being a superior manner of gearing to accomplish this object and avoid all breakage of cogs in the wheels.

More information may be obtained by letters addressed to Messrs. Burrel, at Seneca.

Philadelphia Art-Union Plate.

We have just seen the engraving by Mr. Ritchie, Chambers street, this city, for the Philadelphia Art Union. The subject is "Mercy's Dream," from a painting by Huntingdon. This is one of the finest engravings that we ever saw; it places Mr. Ritchie if not the very head, at least at the very head of engravers in America. We venture to say that it is the best work of art ever produced in our country, and the subscribers to the Philadelphia Art-Union will possess a plates as superior to any ever awarded by the New York Art-Union, as any one can well imagine.

Ocean Steamers.

The Cunard Line of Steamships are to run hereafter, between New York and Liverpool, without touching at Halifax; we will, therefore, have four lines of steamships running from New York, direct to Europe, viz., the Cunard, the Collins, the Havre and the Glasgow lines. New York, seemingly, is the grand centre of American navigation.

Interesting to Inventors.

Within the past few months we have been engaged in re-fitting and extending our apartments, to better facilitate the transaction of our increasing business. We are now happy to inform our inventing friends that the rooms which we have been fitting up, expressly for the transaction of Patent Office business, are completed; and with an increased force of Examiners, we are now able to transact every kind of Patent Office business with greater dispatch than we have ever previously been able to do. The number of Examiners, Draughtsmen, and Specification Writers that are constantly employed in this office, render our facilities for making applications for Foreign and American patents superior to that of any other Agency in the United States.

From July, 1849, to July, 1850, (one year) over 300 applications were made for letters patent, through this Office, but a small number of which (considering the vast number of applicants) were rejected.

Our American and efficient board of Foreign Examiners, Draughtsmen and Specification Writers, consist of nine persons, each of whom has his particular branch of business assigned to him, so that no confusion or derangement ever occurs in transacting our vast business.

In addition to the already enumerated advantages an inventor derives from having his Patent business done at this Office, he is enabled to save at least one-third of the expense of making his application. The amount of business we have to do, and the facilities we possess for doing it, renders us able to make applications for at least one-third less price than those who do business on a small scale, as well as to be more familiar with patents already granted or those pending at the Patent Office.

The persons whom we employ to examine inventions, for the purpose of determining the patentability of them, are experienced in the business, and as familiar with the models which are on exhibition at the Patent Office as the Patent Office Examiners themselves.

A valuable library of Scientific and Mechanical books and publications are always at the service of those gentlemen employed in this Office, which render great aid in determining the patentability of inventions that are submitted for their examination.

We also possess a list of every patent that has been granted since the establishment of the American Patent Office, with the names of the inventors, and the claims of all the patentees for the past fourteen years.

Taking every thing into account, the best Patent Agency in the United States, for transacting home or foreign business, is at the Scientific American Office, 128 Fulton street, New York.

For reference, apply to the hundreds who have secured patents through this Office. See advertisement.

No. 1 Vol. 5, Sci. Am.

If any of our friends have duplicates of No. 1 Vol. 5, Scientific American, they will confer a favor on us by sending them to this office, as we wish to accommodate many who have failed to receive them. When put into a wrapper directed to the "Scientific American" they will be allowed to pass through the office without the necessity of pre-paying the postage.

Propellers.

Philadelphia seems to be going ahead in the construction of steam propellers (Loper's) :—two large ships, the "Union" and "Commodore Stockton," were lately launched at Kensington, for the California trade. On their trial trips, both of these propellers made excellent time.

Subscribers wishing to have their volumes of the Scientific American bound had better send them to this office as soon as possible. They will be bound in a substantial manner for 75 cents.

Erratam.

The description of Mr. Macomber's Straw Cutter, No. 50, Vol. 5, stated his residence to be at Burlington Vt., it should have been Bennington.