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Recent Foreign Inventions.

A NEW CANNON.—A patent has been obtained by Capt. T. A. Blakely, of the Royal Artillery, England, for making cannon as follows: He takes a tube of cast steel, and then surrounds this with external rings of wrought iron shrunk on. He also employs a buffer or spring of air at the butt of mortars to moderate their recoil. He also claims the method of strengthening old guns, by shrinking wrought iron bands on them.

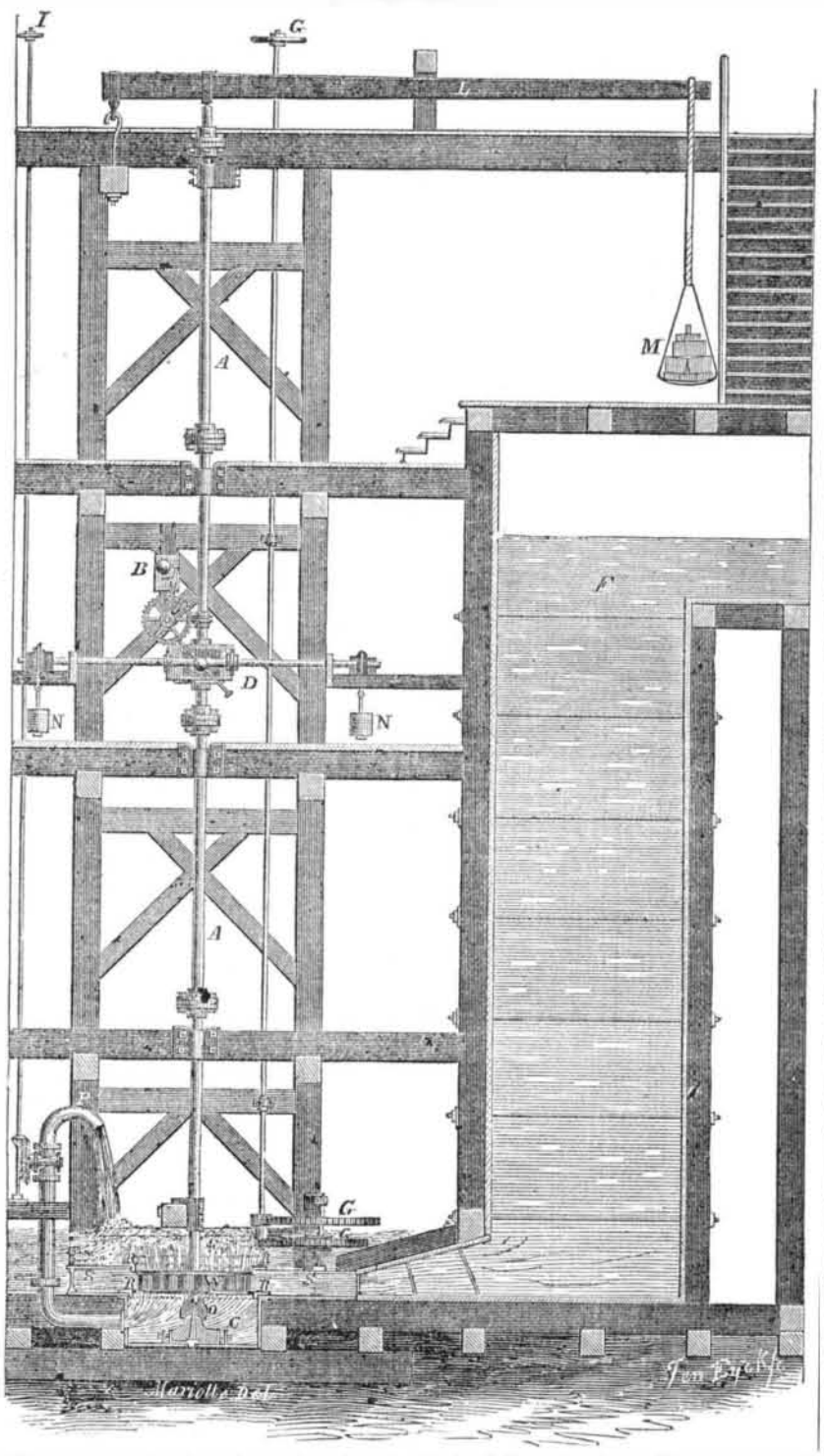
WOODEN COMPOSITION PIPES.—B. Blackburn, of Clapham Common, Eng., has obtained a patent for the following method of making pipes. He takes thin strips of wood, and bends them spirally and diagonally, and fills up the interstices with asphalt, or cement.

NEW MATERIAL FOR PAPER.—Alex. Brown, of Tarbet, North Britain, has obtained a patent for the use of fern, or the bracken plant, in making fibrous materials to be used in the manufacture of paper. He has also produced a textile fabric from the bracken, (our common brake,) and other plants of the cryptogamic series, and claims the manufacture of cloth from such. Our Patent Office has refused, in times gone past, patents for the application of a well-known material to a new purpose, but it should be generous in such cases when the results produced are improvements.

PICKERS OF POWER LOOMS.—Thos. Helliwell & Joseph Barker, of York, Eng., manufacturers, have taken out a patent for preserving pickers and picker-sticks, and for preventing caps coming off the shuttle during the process of weaving. The invention consists in the use of a spring of steel or whale-bone fixed behind the back end of the shuttle-box, such spring being attached at one end to a raw hide, and it has a hole in the other end passing around the sirspindle of the shuttle-box. The raw hide forms a buffer bringing the shuttle gradually to a state of rest, and preventing it going too far into the box, and it also assists in returning it for the next shot.

AN IMPROVED SOAP.—W. A. Armand, of London, has secured a patent for the following method of making a soap called "saponitoline," and which is stated to be of a superior quality. He places in a copper 88 gallons of soft water and mixes with it 112 lbs. of crystal soda, or 79 lbs. of salts of soda, and after two or three hours have elapsed, agitates it, and adds 112 lbs. of common soap. He then heats the whole to 40° or 45° centrigrade, and adds 17 lbs. of pearlash, and 17 lbs. of quick lime. When ebullition has commenced in the copper he slowly agitates the heated mass, and pours into it about 5 gallons of mucilage of linseed or marshmallow seed, after which he adds 7 1-2 pounds of borax, or about 2 1-2 pounds of calcined alum. When the whole is well mixed in the copper, and the liquid presents the appearance of being perfectly homogeneous, he leaves it to boil on a slow fire for 3-4 of an hour. The fire is then extinguished, the copper covered over, and the temperature allowed to fall to 55° or 60°. He then pours the liquid into barrels, where it becomes solidified in about 24 hours, (supposing that hard soap has been used,) if otherwise, it remains in a gelatinous state.

CENTER VENT WHEEL WITH HYDROSTATIC CHAMBER.



The accompanying figure is an elevation of Reuben Rich's patent Center Vent Wheel with a cast iron scroll, to which is applied Winters' Hydrostatic Chamber. This view represents a wheel in successful operation at the cotton mills of the Tallassee Manufacturing Co., at Tallassee, Ala. A "Prony Brake" for ascertaining the power of the wheel, is also represented.

A is the shaft of the wheel, W. R R are adjustable rings in which the wheel revolves. C is the hydrostatic chamber. O is the step and support of the wheel. S S is the section of the cast iron scroll. F is the fore-bay or water flume. P is a discharge pipe, having a stop cock, I, for regulating the upward pressure on the disk of the wheel from the hydrostatic chamber, C D is the Prony's friction brake or dynamometer. N N are weights suspended on it, and B is a bell to announce the number of revolutions performed by the wheel, it being struck with a hammer operated by a cam, as shown. L is the lever of the dynamometer, and M the weights on the scale. G, at the top, is a wheel lever on a shaft, to open and close the gate of the wheel by the pinions and wheels, G G, at the foot. These parts are all plain, and will be readily understood.

In this illustration it will be observed that the wheel discharges its water at the top only, its bottom being a solid plate. Between the periphery of the water wheeel, W, and the rings, R R, in which it revolves—although the rings and wheel are fitted very accurately to one another—there will still escape a certain quantity of waste water between the lower ring and the wheel, into the hydrostatic chamber, C; this chamber soon fills, and an upward pressure is thereby exerted on the sole or bottom plate of the wheel, proportioned to the head of water employed and the area of the wheel. This pressure is regulated by the valve in the discharge pipe, P, so as to proportion the discharge with the quantity of water that escapes into the chamber, C. In this manner the escaping waste water is made subservient to relieve the wheel of downward pressure on its step, O. In the wheel, at Tallassee, the entire upward pressure of the hydrostatic chamber, with the valve in the discharge pipe closed, is 25,000 lbs; the weight of the shafting, &c., amounts to 22,000 lbs. To balance this, about three twenty-fifths of the water flowing into chamber C, is allowed to escape by pipe P, and thus twenty-two twenty-fifths of the waste water is saved, by this useful method of applying it.

This hydrostatic chamber, C, is made of iron, but it might be formed in a rocky foundation, excavated in a proper situation for the purpose. Various devices may be employed for the escape of water from the hydrostatic chamber. A wheel put up for the Cartright Manufacturing Co., at Cartright, Ga., has inch holes bored through its disk (the number of such corresponding to the quantity of water,) for the escape of water from the hydrostatic chamber.

In experiments made with this wheel, to test its power, by a Prony brake, we are informed by the inventor that the increased useful effect of the Hydrostatic Chamber amounted to ten per cent. The same principle is alike applicable to the double as the single wheel, and to all water wheels running on vertical shafts, or carrying round a weight of water as they revolve. The invention can be applied by a small elevated tube of water to relieve the friction and pressure on any revolving vertical shaft of an engine or machine, which carries a great weight of machinery. The same principle can be applied to wheels that discharge below instead of above, but that method is not shown in the figure; the inventor, however, will explain the plan of doing this to those who apply to him.

It is evident that the Hydrostatic Chamber is a very useful improvement, that it nearly annihilates all the friction incident to the weight of the wheel, and its shafting on step O. Devices heretofore applied to relieve the friction on heavy vertical shafts, have rather aimed at disseminating than reduciug the friction, so as to reduce or equalize the wear of the rubbing surfaces. The improvement is an exceedingly simple one,—its qualities and merits are apparent at a glance. This Hydrostatic Chamber, on Reuben Rich's wheels, is employed by the Cartright Manufacturing Co., Ga., and Tallassee Manufacturing Co., Ala. Daniel Keith, Esq., is Superintendent of the former, and Z. Philips, Esq., of the latter—who can be referred to for opinions respecting its value.

The inventor of the Hydrostatic Chamber is J. S. Winter, Esq., who has applied for a patent, and from whom more information respecting its use and application may be obtained by letter addressed to him at his residence, Montgomery, Ala.

American Ship-Building.

During last winter and spring the docks of New York were crowded with ships for which no cargoes could be obtained, and, as a consequence, ship-building was almost suspended in all our dock yards. Things have taken an entire change within the past two months. Freights are now very high—a sure sign of abundant employment to our shipping—and in all the ship yards the sounds of hammer, mallet, and adze ring merrily from morning till night. There has been a partial failure of the crops in France and England during the present season, while there never was such a great surplus raised in our country. We are therefore able to supply the foreign demand, and this calls into activity the immense amount of capital invested in our commercial navy, which is stated to be larger now than that of any other country.

The Camden and Amboy Railroad Company, N. J., on whose road so many lives were lately lost by accident, have attached to some of their engines small whistles connected with exhaust pipes, through which the waste steam issues, making a continual succession of short shrill sounds, audible to a considerable distance.