Science and Art.

Natural Curiosities.

In Australia there is a beetle which has the peculiarly formed legs of the Kangaroo, and appears to be half kangaroo (on a small scale) and half insect. It is a grotesque creature, and from its appearance has received the name of "Kangaroo-Beetle."

In the same country there is also a bird (*Menura superba*) which has a tail resembling the ancient Greek lyre. The margin of the lyre is formed by two broad feathers on each side, which curve into scrolls at the upper end, while a number of delicate ones represent the wires in the middle. These birds are hunted for their tails, which form an object of curiosity and beauty in museums.

In the zoological kingdom there is a curious variety of shell called 'Harpa," from the bars with which it is marked having the resemblance of a harp. There is another shell called the "Bulina," which resembles a rose bud, and another which resembles a strawberry.

London and Old Rome.

Rome in the days of its glory was a magnificent and great city, but historical students assert that London already surpasses what that city was in her palmiest days. London has a population of 2,500.000, and what is very remarkable, it increases proportionably faster than any city in England. If it goes onincreasing for half a century as it has during the past 50 years, it will then have a population of six millions. The Commissioners of Sewers in that city are now providing drainage for such a population. What a human hive!

Improvement in Paddle Wheels.

Abraham Houseworth, of 259 Houston st., N. Y., has now on exhibition at the Great Fair of the American Institute, Crystal Palace, N. Y., his improvement in Paddle Wheels, for which Letters Pateut were granted Aug. 19th, 1856. Our engraving illustrates the improvement.

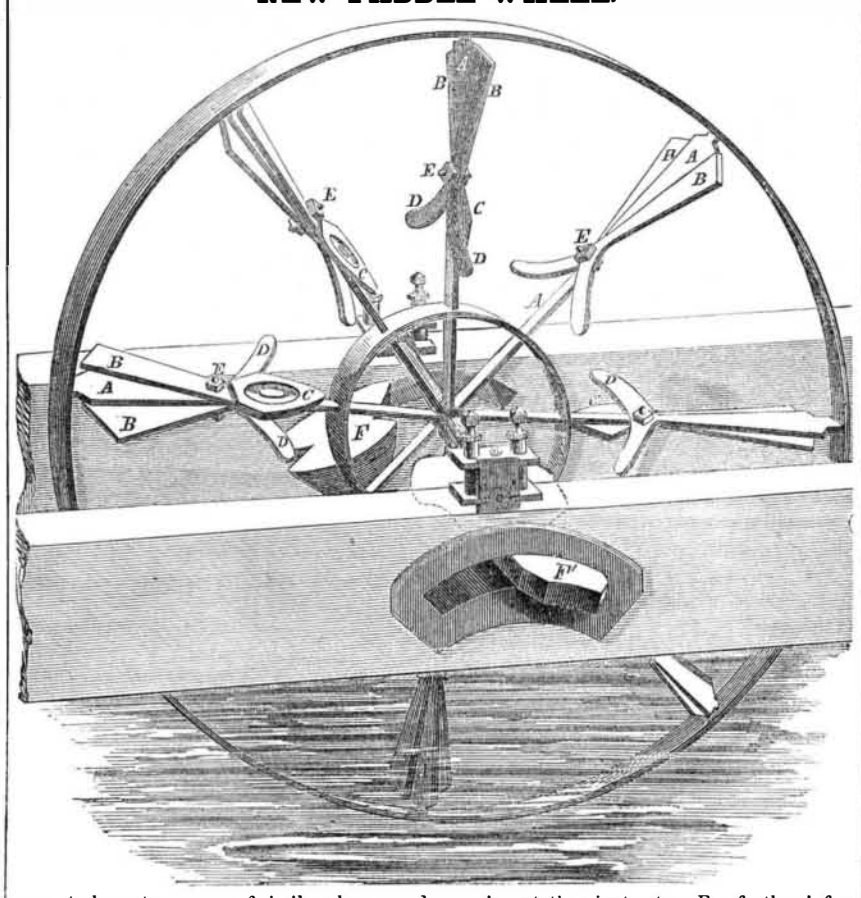
The principal objects of the invention are to prevent the injurious concussion and jarring caused by the common paddles in the act of entering the water; also to avoid the loss of power by the lifting of the back water, when the paddles emerge. For this purpose the paddles are made in three parts, the central portions, A, forming the spokes of the wheel, and the other portions, B B, being pivoted at E in pairs to A. The inner extremities of B B are furnished with projecting arms, C D, which are intended to strike upon the cam, F, as the wheel revolves and open the paddles. The opening or spread of the floats, B B, takes place just after they have entered the water. At the moment of entering the floats are folded together, so that only one-third of their actual surface is presented to the water, but after entering, the cam, F, causes them to open, or spread, so as to treble the propelling surface. In the act of emerging the paddles close again, and thus avoid the lifting of back water. When, therefore, the paddles reach that point where the greatest surface is needed, and where the power of the engine can be most advantageously employed, they open as described, but close in time to obviate the other difficulties named.

The cam, F, is movable, by means of its shank, F', which passes through a slot in the supporting beam for that purpose.

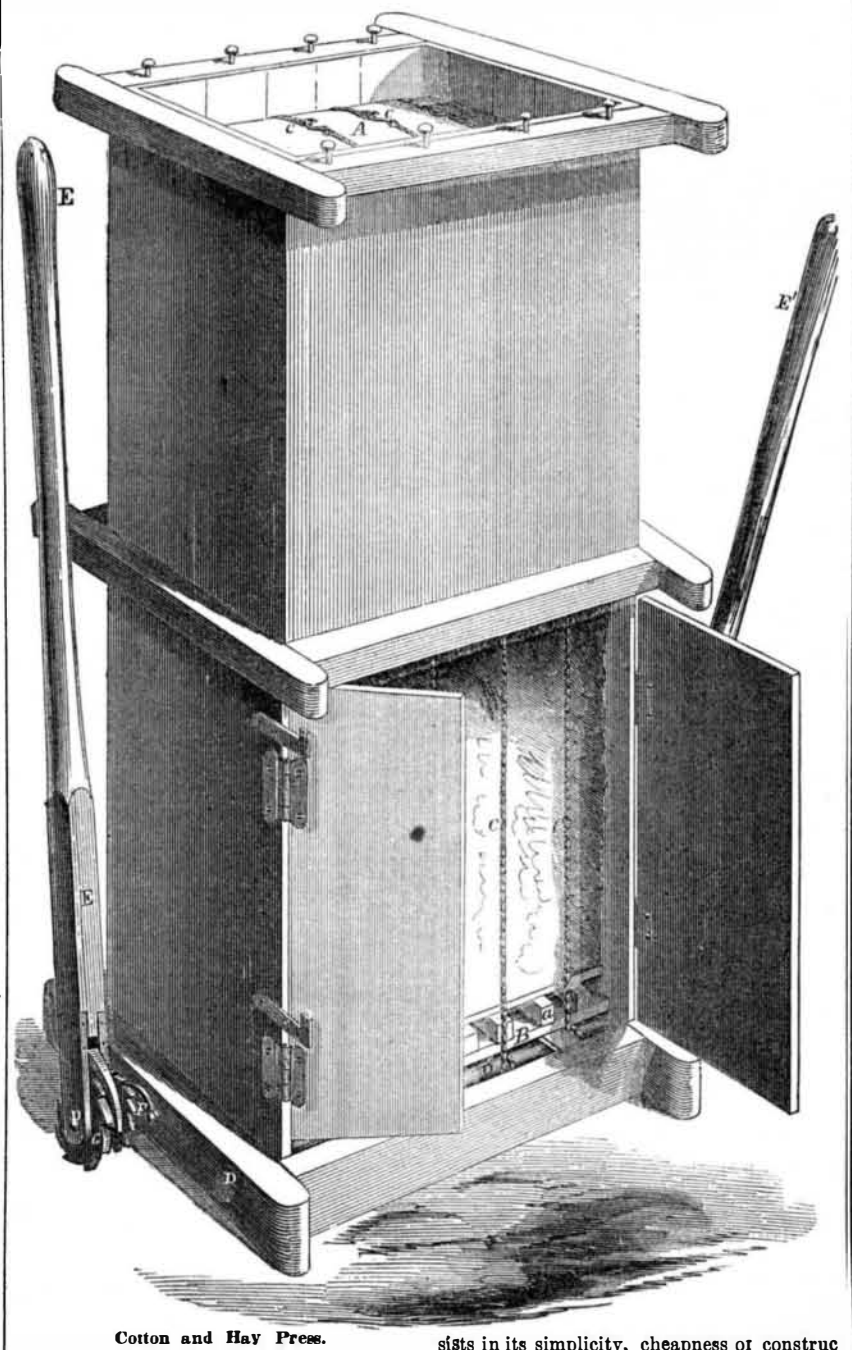
When it is desired to reverse the motion of the wheel, cam F is shifted to the opposite end of said slot. If cam F be moved so that its shank occupies the center of the slot, the floats will remain closed during the entire revolution of the wheel. The inventor proposes to make an advantageous use of this fact. By means of suitable rods and connections he will cause the cams to be shifted by a lever, located in the pilot-house of the boat, so that the pilot can, at pleasure, instantly alter the power of one or both wheels without causing the speed of the engine to be changed. If the paddles of one wheel are folded, and those of the other spread open, it is evident that greater force will be exerted on one side than the other, and that the vessel may be more quickly turned. Or the paddles of both wheels may be prevented from spreading, and the vessel's speed instantly reduced.

Instead of single arms, A, the inventor proposes to have two arms of similar shape, and to pivot the paddles, B B, between them. This will contribute to strength, prevent wearing at the pivot, etc. For further information apply at the Palace or address the inventor, as above.

NEW PADDLE WHEEL.



PRESS FOR HAY AND COTTON.



Cotton and Hay Press.

Our engraving is taken from a full-sized Press now on exhibition at the Crystal Palace. The chief merit of the improvement consists in its simplicity, cheapness of construction, durability and great power. The substance to be pressed is placed between the follower, A, and bottom board, B. The pressure is obtained by means of chains or cords, C, which extend over the follower, A, their ends winding upon roller shafts, D. There are two of these roller shafts, D, one on each side of the machine. They are rotated, respectively, by the levers, E E'. The roller shafts, D, project from the sides of the machine, far enough to receive the ratchet wheel and pawl, F, and also to receive the lower ends of levers E, which also have a ratchet and pawl, G. The office of the ratchet wheel and pawl, G, is to convey motion to shafts D, when power is applied to levers E E'. The purchase is retained by ratchet wheel and pawl F.

Whenever the shafts, D, are rotated in the proper direction, the cords, C, will be wound up, and the follower, A, pressed down towards the bottom board B. The degree of pressure is only limited by the length of the levers, E E' and the strength of the materials of which the machine is composed. The bottom board, B, is furnished with ribs, *a*, between which cords for binding the bales are passed. The under side of follower, A, is similarly provided.

It is almost needless to say that there are no parts connected with this machine that are likely to get out of order. Its compactness, ease of managemant, and economy of manufacture, with the other advantages described, render it worthy of public favor. For further information address the inventor, Jas. A. Disbrow, Poughkeepsie, N. Y. Patent applied for.

The Selma (Ala..) *Gazette* states that M. Dillard of that place, has grown 80 acres of "Boyd Cotton" this season, the yield of which has been very great—100 well-formed bolls being formed on a single stalk, on an average.