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## Improved Water Wheel.

This invention is an improvement on the wheel known as "Tyler's Wheel," originally patented in 1855 and 1858, and recently in 1864. Very many of these wheels—1500 the inventor assures us—are now running in various parts of the world. This is the best endorsement the wheel could have, and we could say nothing more favorable to it. The feature recently introduced is an improved form of bucket, whereby the wheel runs with much less friction and obtains a greater per centage of the water power.

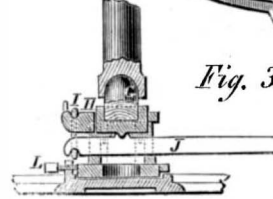
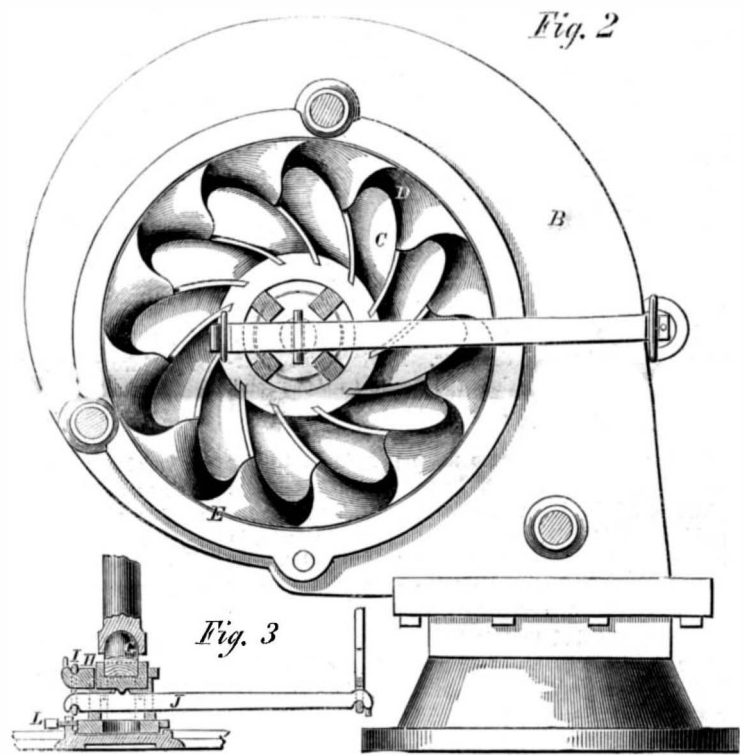
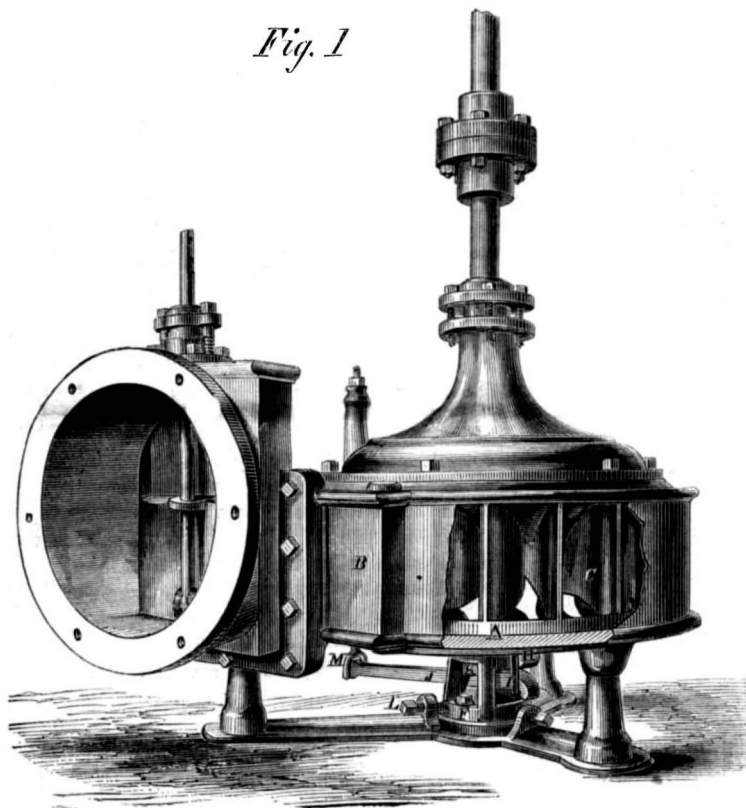
Fig. 1 represents the wheel and case in perspective, with a portion of the latter broken out to show the buckets of the former. Fig. 2 represents the

be a great drawback when the wheel was working submerged; in fact, it would nullify all the good effect gained by the tangential discharge. The rim of the wheel offers but little resistance to tail water, merely that due to surface friction, while the tangential discharge adds greatly to the power, for the water naturally takes that direction.

The step (Figs. 1 and 3) of this wheel is peculiar and well arranged. It consists in furnishing the casting, F, in which the bearing block, G, sets, with a horn, H. A stirrup iron, I, connects the lever, J, to this horn, so that it has free motion. In the center of the lever the cylinder, K, sets. It carries the bearing block, and slides loosely in the casting, F.

## Some Effects of the Erith Explosion.

The most remarkable effect of the explosion was upon animals in the large region around. The mortality among canary birds for miles around was very great; they dropped from their perches and died of fright, or of the concussion. Parrots were badly frightened, and dropped from their perches to the bottoms of their cages, refusing to speak for some hours. Dogs, cats and other animals manifested symptoms of the greatest alarm. For many miles from Erith the cattle in the fields, at first struck dumb and motionless at the stunning report, presently set off in the wildest excitement, racing around the enclosures, and could not be quieted for some hours. Two



## TYLER'S IMPROVED WATER WHEEL.

wheel and case from the bottom side; also the step, and machinery for operating the same, so as to raise the wheel as it wears.

The wheel, A, sets in the scroll, B, and has curved buckets, C, running from the hub, as usual. These buckets have a central discharge; that is to say, the water enters at the widest part, on the periphery, and escapes at the narrowest, or near the center. At this point the wheel is all cut away inside, so as to afford the least possible resistance to the exit of the water; just as a propeller wheel is smallest at the hub, so as to clear or leave the current as undisturbed as possible. As it is obvious that no force is exerted by the water on this water wheel at this point, it is plain that this feature must be a valuable one. In addition, the wheel has depressions, D, in the rim, which are difficult to show in a drawing. By means of these depressions, and the arrangement of bucket mentioned, the water escapes in a tangential direction, without extending the lower parts of the front portions of the buckets below the rim, E, or the main part of the wheel. Buckets so extended would

It also sets on the lever, J, so that when the lever is moved the cylinder works easily and accurately upward in the casting. For convenience the lever is acted on by a rod, M, on one side of the case, so that it is always easy of access. In this way the wear of the bearings may be compensated for, and the same may also be kept in line horizontally, or true in the scroll, by the use of the set screws, L, at the bottom. The claim on this wheel is for the depressions, D, on the discharge or inner side of the rim, at the bottom, to permit the tangential discharge of the water, so arranged that no part of the buckets extends below the rim.

These improvements were patented through the Scientific American Patent Agency, Oct. 13, 1864, by John Tyler, of West Lebanon, N. H. For further information address him at that place.

A saw-filer in New Bedford, whose practice is quite extensive in doctoring dull saws, puts out a sign in the form of a handsaw with the words "saw dentist" painted on it.

women's dresses were seen to fall at Woolwich, four miles off, and a human finger fell at Deptford, about as far away. On an estate in Belvidere, two or three miles from the magazine, a tun of glass is reported insufficient to replace that broken. All the churches for fifteen miles around, and most of them for twenty miles, have suffered by broken windows and cracked walls.

**DON'T EAT RABBITS.**—The Germans, like other nations, have their own peculiarities in the choice and treatment of domestic animals, whether of the useful or ornamental class. Rabbits are never eaten by them. A German has as great horror of rabbit pie as an Englishman would of a steak of horse flesh, which Germans, like Belgians, never feel afraid of, but regard rather in the light of a delicacy. The rabbit, like the guinea pig, is in Germany nothing but a child's plaything.—*Phila. Ledger.*

[This is an absurd statement. Rabbits are eaten as much in Germany as anywhere, and are well cooked there, moreover.—Eds.]