

IMPROVED GAS COOKING STOVE.

The most convenient and cleanly stove for cooking and general domestic purposes is one in which the common coal-gas that is employed for illumination is used; and within five years they have been, to a considerable extent, introduced in some portions of the country; and as the article of gas for illuminating purposes becomes more general, we are confident it will be extensively used for heating dwellings, cooking and other domestic purposes. Gas can be ignited in a moment, and the heat can be regulated with the utmost precision by simply graduating the quantity to be consumed, so that there is no necessity of waste of heat or material.

The accompanying engravings represent a very neat and compact stove of this character. A is the oven cover, which is made of sheet iron and fitted into a rim, B. The pipes, P, are for conveying the gas to the burning chambers, D, are secured on the top of a neat stand, C, and the pipes have cocks to let-on and shut-off the gas, as required. The tops of these chambers are covered with wire gauze, which spreads the gas so as to form a sheet of flame over the entire surface. When it is ignited it gives out a most intense heat, with a blue flame which has but a moderate quantity of light. Vessels for cooking—such as kettles, &c.—may be placed upon the top of the covers above the wire gauze issues, E. The small projections shown upon the covers support the vessels a suitable distance above the flame, and admit the air to supply the combustion.

Fig. 2 represents a small stove of this character, well adapted for restaurants, or for hatters, tailors, &c. It is now several years since we first directed attention to the suitability of gas for cooking, especially during warm weather. It affords us pleasure to witness such a compact and neat adaptation of apparatus as this for thus using it. This gas stove will be readily understood from the foregoing description. It is simple in all its parts, and weighs but a few pounds; yet it is adapted for baking, roasting, boiling, &c., as well as heating sad-irons, and almost any other purpose to which heat is applied in the kitchen.

The patent for this invention was issued to Thomas Shaw, on Dec. 14, 1858; and further information concerning it may be had by addressing him, at No. 243 Race-street, Philadelphia, Pa.

IMPROVED LOCOMOTIVE AND CAR WHEEL.

The accompanying engravings will convey an idea of the form of this wheel, a patent for which has been granted to Thomas S. Bourshett. Fig. 1 represents a front view of a car wheel; Fig. 2 a cross section of the same. It combines lightness and durability, and it is claimed for it that it possesses greater strength than any other wheel in use.

This invention or improvement consists in casting the rim or tread, arms, and portions of the wheel surrounding the hub, hollow; of uniform thickness, excepting at the joints of connection of the parts; and curved in form, so as to provide entire security against all shrinkage by one part becoming fixed or cooled before another; the distinct parts thus accommodating themselves to each other in the manufacture, and preventing any imperfection of result from contraction in the process of cooling.

The principle of construction of this wheel is that of the greatest strength in physics, to resist pressure and weight, namely, the arc of a circle: all the force is exerted on curved surfaces, and consequently this wheel embodies more effective resistance to the strains, racks, twists and sudden jolts to which railroad wheels are constantly subjected, than can be affirmed of any other

wheel; the tests to which it has been put having fully confirmed all that is claimed for it.

All other attempts to make cast iron railroad wheels with spokes for common use have been unsuccessful; the usual form of carriage wheel having been adopted,

attest. Let the report of any railroad be consulted, on which heavy freights and great numbers of passengers are transported at a high rate of speed, and the large annual charge for renewing wheels will strike any one with astonishment. This great destruction of wheels is owing, not alone, to their wearing out by use, for a well-chilled wheel will run a long time, but from their breaking and cracking; the slightest crack making it imperative to discard a wheel. In the North and in the Northwest of this country, especially, the extreme cold of winter, causing great contraction in the metal, entails a ruinous destruction by cracking, in some forms of wheels. Now that economy in the management of railroads and every possible reduction of expenses have been forced on their managers, on no one item of expenditure can a greater saving be made, than on the outlay for wheels, provided a stronger wheel can be obtained than those now in use.

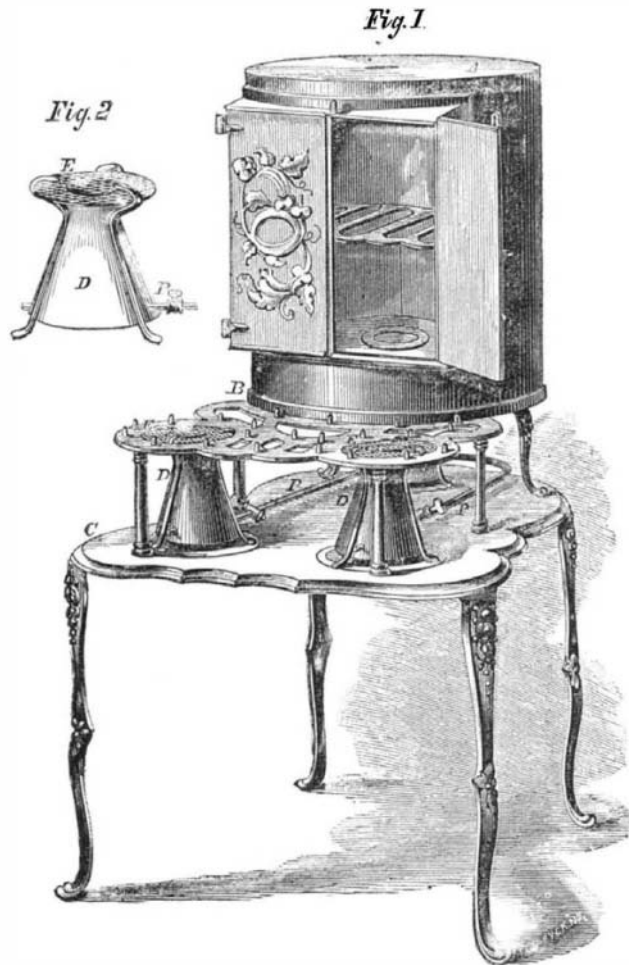
As regards beauty and lightness of appearance, the comparison between a solid plate wheel and one with well-formed spokes must be altogether in favor of the latter. Whoever has seen one of William Mason's locomotive engines (of Taunton Mass.) could not have failed to observe the grace and beauty of finish imparted to it by this wheel. Mr. Mason uses no other form of wheel under his locomotives, which, while they possess all the strength, durability and power of any other that can be made, as much surpass in attractiveness and taste the lumbering, ungraceful, heavy-looking engines of a few years ago as a modern American clipper ship surpasses a Dutch galliot whose naval architecture dates a century back.

The Baltimore and Ohio Railroad Company have adopted this wheel, and it is extensively used on that road. It is also much used on the Illinois Central and other roads. We trust that it will receive attention from those who are interested in securing what we believe to be the best wheel yet invented. Its qualities can be easily tested by trial.

By referring to an advertisement on another page, further information in regard to it will be found.

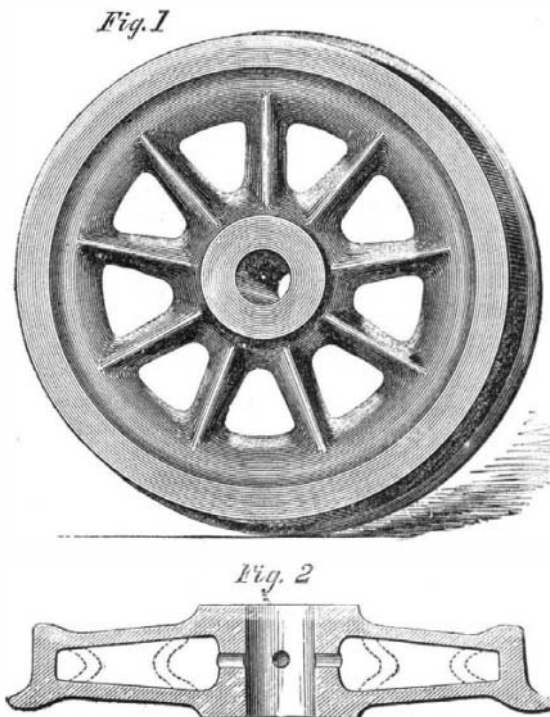
AN INVENTOR WHO DESERVES A REWARD.—Newark, in New Jersey, is one of the most enterprising manufacturing places in our widely-extended country; and for much of its business is it indebted to an industrious and ingenious mechanic who is now considerably advanced in life. This man is Seth Boyden, who, while benefiting Newark and her citizens, did not do so for his own aggrandizement. He established the patent leather and malleable iron manufactures in that place, and he is the inventor of quite a number of useful improvements in machines for splitting leather; also, an automatic governor cut-off valve for engines, the straight axle with outside connections for locomotives, and various other useful mechanism. The citizens of Newark are talking about making some demonstration to evince their gratitude to him. We hope this will not end in talk, as he deserves to have a substantial life annuity granted to him.

STEAM CARRIAGE IN CALIFORNIA.—A steam carriage for common roads has been imported from England by the Arizona Copper Mining Company, and it has been running on several occasions in the streets of San Francisco. It weighs 11 tons, and the power is not applied by connecting rods to drive the axles of the wheels, but through a train of wheels like Fawkes' steam plow. The San Francisco papers consider it unfit for their roads, as it was scarcely able to draw a load of 9 tons.



SHAW'S IMPROVED GAS COOKING STOVE.

that is, straight spokes connected with the rim and bent at right angles; they were found to be deficient in strength, and were liable to crack at the points of con-



BOURSHETT'S CAR WHEEL.

nection. They were therefore abandoned, and the solid wheel substituted for general use. These have been cast in every variety of form, some with a solid single plate, and some with double plates having a hollow between them. That they have not fulfilled the great desiderata of strength, durability and economy, the vast annual consumption of wheels on our roads will fully