H. Mooers,

Casting Car Wheels.

No. 634. Patented Mar. 10, 1838.

Fig: 3.

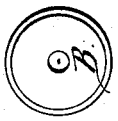


Fig: 1.

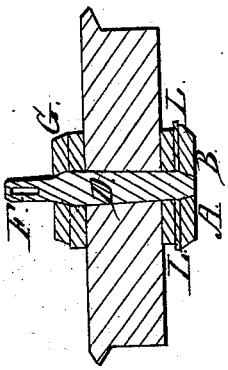


Fig: 2.

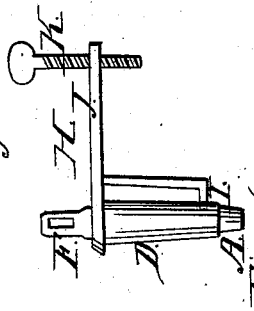


Fig: 5.

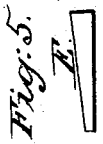


Fig: 6.

Fig: 8.

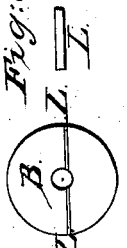
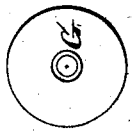


Fig: 7.

Fig: 4.



UNITED STATES PATENT OFFICE.

HENRY MOOERS, OF BEAVER MEADOWS, PENNSYLVANIA.

IMPROVEMENT IN THE MODE OF MAKING CAST-IRON WHEELS FOR CARS TO BE USED ON RAILROADS, AND APPLICABLE TO OTHER PURPOSES.

Specification forming part of Letters Patent No. **634**, dated March 10, 1838.

To all whom it may concern:

Be it known that I, HENRY MOOERS, of Beaver Meadows, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement on Car-Wheels; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in casting a car-wheel of any size and description with a hub solid and chilled, and of cooling them with water or other liquid, so as to prevent them from straining and breaking, thereby differing from the common ones now in use, the hubs of the present common car-wheels being cast in sections, requiring them to be wedged, banded, and drilled, the expense of which will be entirely saved by casting the hubs solid, and the wheels will wear much longer, being a saving of about three dollars on the first cost of the wheel and much more in the superior service they will perform.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

I construct my pattern for the wheel in the ordinary or any known form, with the exception that I put upon the lower side of the pattern a print, A, of wood or iron, varying in size according to the size and weight of the wheel—three-eighths or one-half inch smaller than the hole is intended to be at the outer end of the axle of the car, and of more taper—from one to two inches deep—for the lower chill, B, to fit upon, thereby holding it in its place at the center of the wheel, the lower chill, B, being a piece of iron or steel of the size of the hub, or a little larger, turned and bored out in a circular aperture, C, to fit the print A on the pattern, the center pin or chill, D, being turned to fit the lower chill, with a shoulder three-eighths or one-half inch all round, to make the size of the hole in the hub at the outer end, and at the length intended for the hub a shoulder the same as at the other end, the center chill having a taper of three-eighths of an inch in seven inches, so that it can be keyed or driven out by a key, E, inserted into the mortise F. I then have a plate or chill, G, of the size of the hub, or a little smaller, turned and bored out to fit the center chill and hub.

The manner of setting and truing the pin is as follows: I first set the center chill, D, firm in the bottom chill, B. Then by means of an iron trammel or sweep, H, arranged to fit the top of the pin, and a brace, I, to set against the lower part of the pin, with a horizontal arm, J, and a set-screw, K, at the outer end, to sweep upon the face of the outside chill of the wheel, by the turning of which I ascertain when the pin is set true. I then put on the top chill or plate, G, and close the flask, which is of the usual construction. I then pour the metal into the mold. As soon as the iron becomes sufficiently cool I lift off the flask, and by means of a key, E, or hammer, I draw or drive the pin out of the hub. I then pour water in the hub to cool it as fast as the rim and arms, keeping the wheel and hub at the same temperature to prevent them from straining and breaking. I put a couple of iron bars or dies, L, on two opposite sides of the pin and resting on top of chill B, to form a slot in the end of the hub to receive a key to fasten the wheel upon the axle. (See Figs. 1, 6, 7, and 8.) The key-slot will be the same shape as the bars or dies.

What I claim as my invention, and desire to secure by Letters Patent, is—

The mode of chilling the hub by means of the combined chills, so as to make a car-wheel with a solid hub without their straining or being liable to break, as before described.

HENRY MOOERS.

Witnesses:

M. L. PESTANA,

W. C. CURRAN.