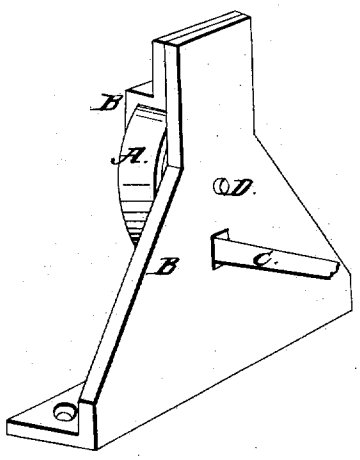
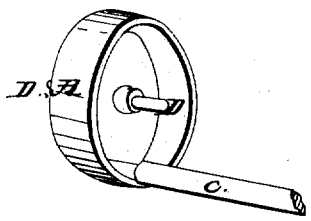
8881X

J. Nicolet,

Anti-Friction Roller.

Patented June 12, 1835.





THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

8881 X June 12, 1835

Julian Nicolet of Pittsburg Pennsylvania

Letters Patent

The schedule referred to in these Letters Patent and making part of the same containing a description of the nature & principle of this improvement in machinery called the anti-friction wheels particularly applicable to Steam Boats.

To all to whom these presents shall come. Be it known that I Julian Nicolet of the City of Pittsburg in the State of Pennsylvania have invented a new and useful improvement in machinery called anti-friction wheels particularly applicable to Steam Boats, and that the following is a full and exact description of the construction and operation of the same. The friction wheels which I use, are made of cast iron or any other suitable material, in the form of a short hollow cylinder with one end closed and the other open. or in other words of a flat wheel with a narrow flange projecting at right angles from its circumference, the dimensions being varied to suit circumstances. At the centre a square opening is left in the shaft which for strength is also surrounded by a thick flange. The shaft on which the wheel is made permanent, and which should be of well tempered steel, passes through the centre opening and projects sufficiently far on both sides, to form the journals or bearings of the wheel. Although the bearings may be varied, those which I prefer are as follows, an upright plate of iron with a rectangular foot or ear to secure it by screws, is made fast to the top of the bearing timber or a straight plate when that form will suit the situation best, is to be used. in the upper end a hole is made for one journal of the friction wheel or a suitable box may be attached thereto. the other journal being supported in a similar hole or box. in the upper end of a short iron cap. or rectangular arm. secured firmly to the back of the plate, just mentioned. the wheel lying between them. with the cavity towards the plate. A hole is made in the plate of sufficient size to admit and allow to play freely. the shaft of the balance wheel or other shaft. to be received. Of the friction. its lower side or end extending a short distance

below the flange of the friction wheel by which means the shaft is caused to bear on the inner surface of the flange and the friction of the same is relieved or deminished in the proportion which the diameter of the flange bears to the diameter of the journal of the friction wheel and shaft journ[al]. On the end of the shaft a journal is turned as truely cylendrical as possible. being well lubricated and something shorter than the depth of the flange. the square shoulder of the shaft thus formed, prevent the end of the journal from coming in contact with the plane of the wheel. and the sides of the hole in the plate serve to check the lateral movement of the shaft. to receive the pressure of which lateral friction rollers attached to the plate may be employed. these wheels I apply one at each end of the shaft of water wheels or balance wheels used to propelling mills and factories. also to the paddle wheels and balance wheel of boats to be propelled by steam or other power and have found by a variety of experiments. that their application effects an immense saving of power and expence of machinery. and particularly when applied to Steam Boats, of additional weight of machinery. and loss of life consequent upon the employment of Engines. and Boilers far more powerful than usual would be required with my improvement.

Now I do not claim to have invented the friction wheel described herein. but its application to the specific purposes herein set forth. In testimony that the foregoing is a true specification of my said improvement, I have hereunto set my hand at the City of Washington this 30th day of May 1835.

Julien Nicolet

(7 84 hundredths)

Witnesses
Sam Stelling
James Tate

June 12. 1835

(Drawing)