cular routine in their operations, are rarely willing to deviate from the beaten track, excepting the new procedure can at once be made visible, and palpable, in all its parts. This state of things, however, has been visibly changing, for some years past, and a brighter era is dawning upon us, as the artisan is becoming convinced that the light of science, which has conducted the philosopher in the attainment of the true theory of many of the operations of nature, is practically applicable to his pursuits, and will enable him to perform his labours with greater facility, and to attain a higher degree of perfection than could be hoped for without its aid.

The instrument denominated the Mechanics' Assistant, consists of a brass scale, a little upwards of six inches long, and four inches wide, and by the aid of which millwrights, pattern makers, blacksmiths, carpenters, and other mechanics, may be saved the trouble of numerous tedious calculations, or, which is frequently more tedious, the arrival at the needed result, by numerous trials. We cannot detail all the purposes to which the scale is applicable, but the following will suffice to show its utility. By it may be found,

The pitch circle of any number of cogs, and any pitch;

The laying off of bevel gears, in every change of direction;

The velocity of water per second, under different heads;

The velocity of wheels when loaded;

Laying off hoppers, potters' flasks, rafters for roofs, &c.;

Ascertaining the width of streams;

Sloping the ends of braces;

Making bands, hoops, &c.;

Measuring the area of a circle; and

Finding the square which shall correspond with it;

Finding the cubic contend of cylinders, &c. &c.

The scale is accompanied by a pamphlet, which gives a clear explanation of its application to the above, and many other purposes. There are also a number of printed certificates of its value; and we have in our possession many others, written by practical mechanics, who declare that it has been a sure guide to them, and has many times repaid its cost.

Mr. David Townsend, who resides at Beaver Falls in this state, has sent some of his instruments and pamphlets to Philadelphia, for sale, and they are now in the hands of Mr. Dobson, where those interested may call and see them. The price of them is ten dollars.

Tyler's Improved Turning Lathe.

[With a plate.]

WE gave, in Vol. 3, p. 186, a description of Mr. Tyler's turning lathe, which description was accompanied by a plate, showing its structure, in detail, and to this we refer for information on this point. The plate which we now give, is more correctly drawn, and exhibits it on its cast iron stand, as recently constructed. The attention of the mechanic is particularly called to the fact of the superiority of cast iron, as a collar, a fact which has been fairly tested, and which not only diminishes the labour of the maker, but gives a solid, in-

stead of an inserted collar. We subjoin a letter from Mr. Tyler, to which we do not think it necessary to add any thing further.

TO THE EDITOR OF THE FRANKLIN JOURNAL.

Sir,—Since your publication of a description of my lathe in March last, I have entered more largely into the business of lathe making, and in consequence have found it necessary, to make such improvements and alterations as would best adapt it to general use.

In order to bring the expense within the reach of every one desirous of having a good lathe, I have omitted every appendage not absolutely necessary to its usefulness; in place of the bureau part, supporting the table, I have substituted cast iron legs, through which are made holes for the pivots of the treadle, and the crank axle. It has, I think, been well proved, that the steel collar for the mandril to run in, may be dispensed with, the cast-iron itself being better for that purpose, as it is found to run a much longer time without oil.

I herewith send you a drawing of the lathe with its stand, above referred to, and which is also a better representation than that formerly published; should you think proper, you will greatly oblige me by inserting this in your useful work.

R. TYLER.

List of Patents granted in the United States, from February 15th, to May 31, 1827.

FOR INVENTIONS AND IMPROVEMENTS.

In the mode of packing cotton; William C. Thomas, Richmond County, N. C. Feb. 15.

In the kiln for burning lime; Abel James, Mill Creek Hundred, Del. Feb. 15.

In manufacturing copperas; Isaac Tyson, Baltimore, Feb. 15.

In making wheels for carriages, being a machine called the wheelwright's assistant; John Sitton, Pendleton, S. C. Feb. 15.

In the apparatus for constructing teeth for harrows; Wm. M'Caughy, New Gardiner Township, Penn. Feb. 16.

In the washing machine; Chester Stone, Middlebury, Conn. Feb. 17.

In the horse rake, for hay and grain; Moses & Samuel Pennock, East Marlborough, Penn. Feb. 17.

In preventing moths and worms from injuring skins; Samuel Storm, New York, Feb. 17.

In a machine for grinding clay for making bricks; Benjamin H. Hill, Richmond County, Geo. Feb. 17.

In the machine for pressing cotton; Philemon White, Chatham County, N. C. Feb. 19.

In the plough; Ryland Rodes, Charlottesville, Albemarle County, Va. Feb. 20.

In the percussion gun-lock; William A. Hart, Fredonia, N. Y. Feb. 20.

In the construction of locks for doors; John Brown, and George W. Robinson, Providence, R. I. Feb. 20.

In the manufacture of salt; Benajah Byington, Salina, N. Y. Feb. 21.