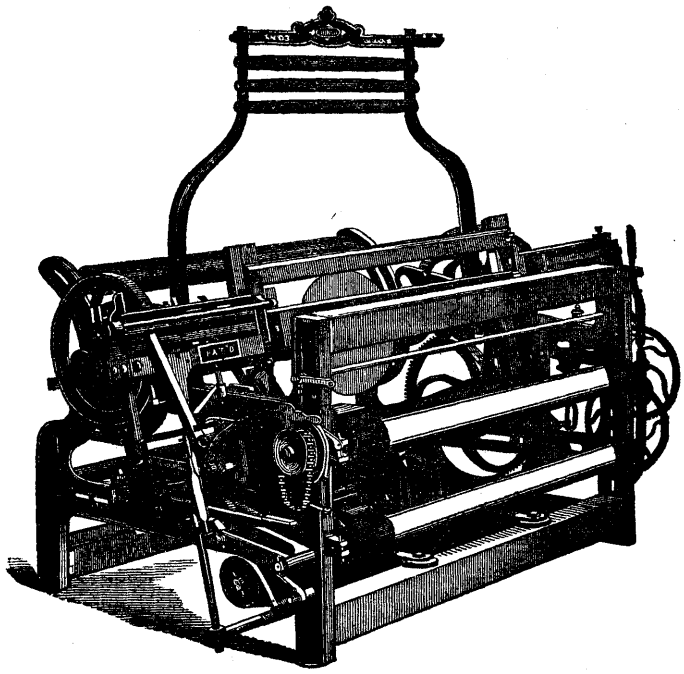
Power Looms.—As Lowell, Fall River, Lawrence and Manchester, in the Eastern States, are noted for the manufacture of plain cottons, such as print cloths, so is Philadelphia famous for its cotton checks, ginghams, plaid flannels, balmoral skirts, and such cloths, in which filling of more than one color is used. Thirty-five years ago, all checks, ginghams and plaids of all descriptions were the production of the hand loom. It was about 1833, that the first double box power loom was started in this country by the late J. C. Kempton, at the Schuylkill Factory, at Manayunk (now Twenty-first Ward of this city). Mr. Kempton was the first manufacturer who attempted the production of plaids on the power loom. His experiments were attended with great success, but met with great opposition from the hand loom weavers, and threats and attempts were made to burn the factories of Mr. Kempton in 1837. Other manufacturers, seeing the success of Mr. Kempton, and the great profits attending the manufacture of plaids on the power loom, had many of their single box looms altered, and others made to weave from two to four colors of filling, and at the present day, thousands of double box power looms are running in Philadelphia and vicinity, and not ten hand looms are now to be found making checks or ginghams. One firm at Manayunk has about 500 to 600 double box power looms on checks and ginghams, producing from fourteen to fifteen thousand yards daily.

Since the first double box power loom was started at Manayunk by Mr. Kempton, many improvements have been made in power

looms for weaving plaids. The following illustration shows a power loom for weaving with two colors of filling, called a two box loom, the manufacture of Mr. Thomas Wood, of this city, at his loom



works, Twenty-first and Hamilton streets. Mr. Wood was one of the first of our mechanics to engage in the building of double box power looms, and has made them a specialty, and with about twenty years practice and experience, he has in that time added many improvements. The above cut represents one of his looms, in which the box motion is of the star pattern, and for operating two shuttles or two colors of filling. This form of box motion is considered very simple, durable, and capable of being run at a great speed, as high as 140 picks per minute. One of the improvements introduced by Mr. Wood, is the casting of the shuttle-box in one piece, no bolts or rivets being used, as was formerly done in those made of brass, wrought or malleable iron. There is less liability to get out of order, and a capacity of running at a great speed. In this loom, the filling stop motion is connected with the pawl that operates the pattern chain of the box motion, which acts on the pawl instantly

by raising it, and preventing it from changing the pattern when the filling is broken or exhausted in one of the colors, thereby saving filling or yarn, and time.

The stop for the shuttle is independent of the box, and is worked by the motion of the lay. It has been much improved of late by adding a spiral spring to the under part of the stopper, to receive the force of the shuttle as it enters the box, which effects a great saving of pickers and shuttles, and is not so liable to break the filling, or jar off the bobbin or copp.

Mr. Wood is applying other improvements to his looms, for which he now has patents pending before the patent office. See his advertisement in the columns of this *Journal*.