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Steam Fire Engines.

The Philadelphia "North American," says: "We learn from good authority that a joint committee of the City Councils have accepted a proposal made by Mr. Harrison, an eminent and wealthy engineer and machinist of this city, to construct, upon a plan of his own, a steam fire-engine which shall answer the purpose designed at least as well, if not better, than the engine now in use in Cincinnati. If the apparatus, when completed, should prove upon trial to be what the inventor predicts, it is to be accepted by the City Corporation, and put in use forthwith for the extinguishment of fires. We are further informed that the engine is now in course of construction at one of our machine establishments, where the extensive facilities afforded will ensure its rapid completion. This is a movement in the right direction, which will be hailed with pleasure by the mass of our citizens."

Parian Marble.

Consists almost entirely of carbonate of lime, and is much softer and more transparent than that of Carrara. The term marble is applied to those fine varieties of granular and compact limestone, which being of a closer grain, are susceptable of a superior polish, and are remarkable for their whiteness, their blackness, or the beauty and varieties of their colors. Blue and green marbles frequently owe their tints to minute particles of hornblende. The black varieties are colored by carbon, and sometimes by bitumen.

Tin in California.

It is said that a tin mine has been found near San Francisco, by some workmen in the employ of the "Mountain Lake Water Co.," while tunneling through a hill near the Presidio. The Cornwall mines in England are now the principal and almost the only source from which the world derives this metal. Next to iron and copper, tin is the most useful of metals, and is the most generally employed in the arts. It is employed in covering iron plates to make the sheets used for kettles and pans, and also by practical chemists in making coloring mordants.

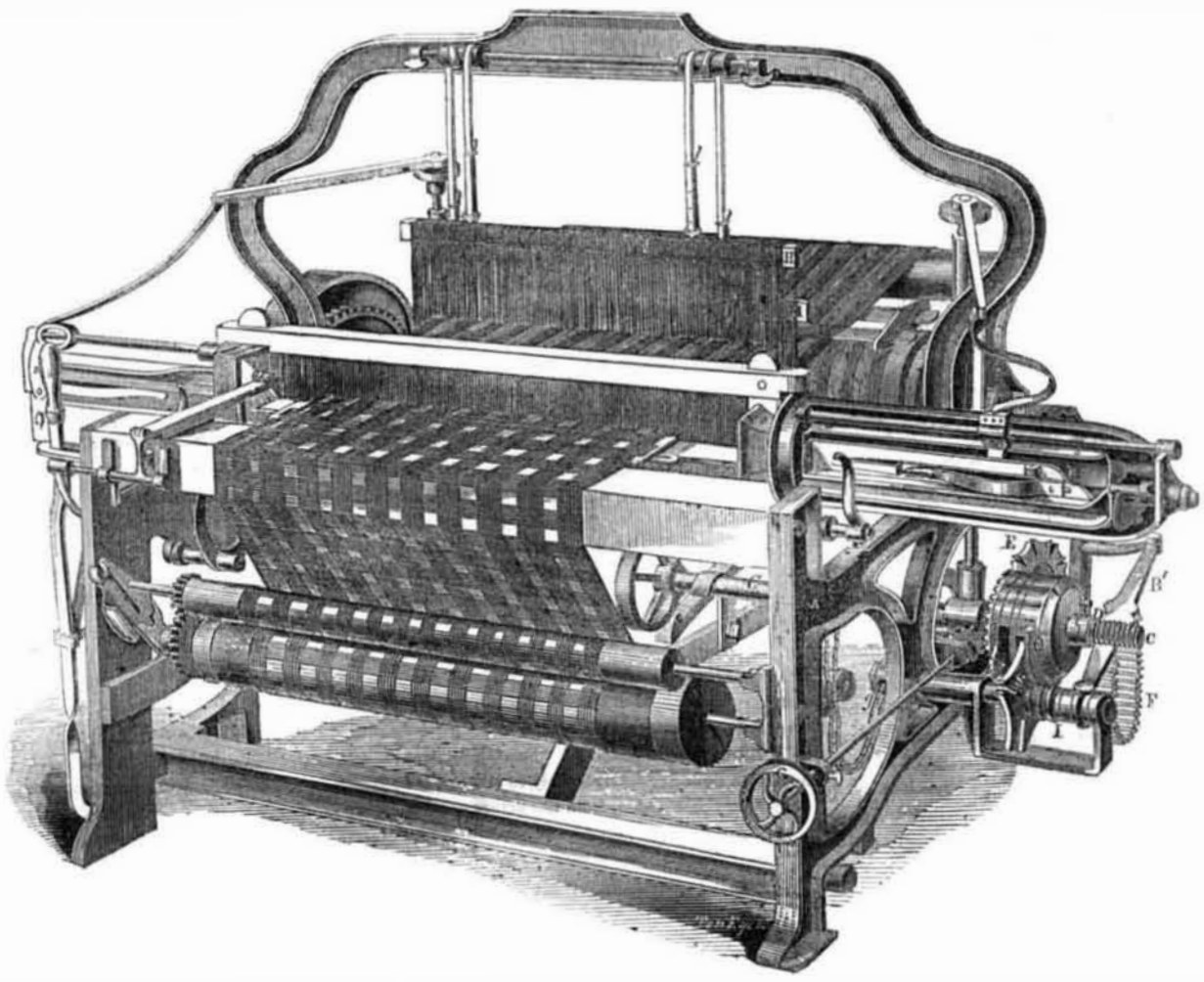
Missouri Hemp.

The increase of receipts at St. Louis over last year, in this important staple, foot up about 14,324 bales, making an aggregate of 63,450, against 49,124 for 1852. When to this is added the enhanced rates at which this article sold, (a considerable portion of the crop bringing as high as 20 per cent advance on the sales of the previous season,) a money balance in favor of the present year may safely be estimated at from $200,000 to $300,000.

The Timber Seized since July 1, on the Wisconsin and Chippewa rivers, as having been feloniously cut on Government land, amounts to sixty million of feet, and is valued at from $250,000 to $500,000.

Wrecks at Key West.—Twenty-eight vessels were wrecked on the Florida Reef during the last year, and twenty-nine arrived in distress.—Estimated loss $2,082,500.

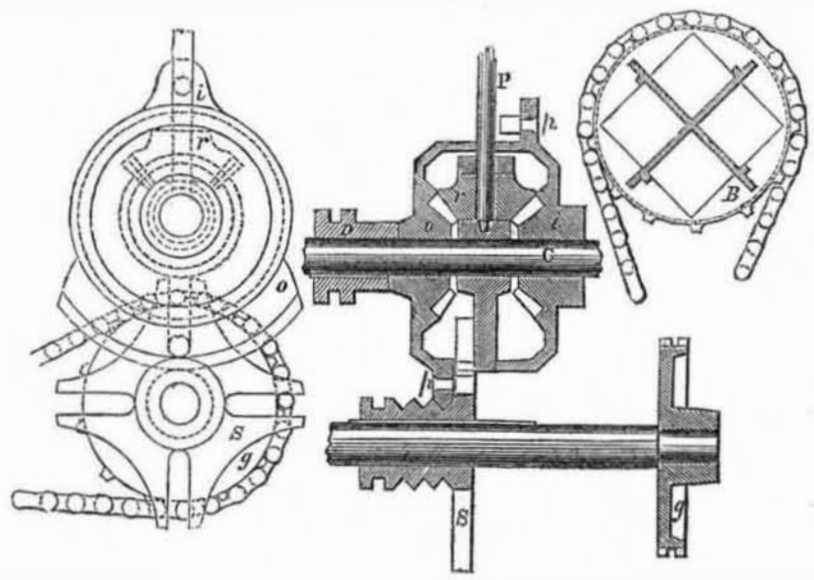
ECCLES' PATENT CHECK LOOMS.---Fig. 1.



The annexed engravings are views of Eccles' Patent Power Loom for weaving checks or ginghams; this loom is manufactured by that distinguished and extensive company "Ames Manufacturing Co.," Chicopee, Mass., James T. Ames, agent.

Figure 1 is a perspective view of the loom; fig. 2 is a sectional elevation of the compound motion for operating the shuttle box. Fig. 3 shows the gearing driven from the cam shaft, C, with which it is coupled by the clutch, D. Fig. 4 is a section of the shuttle box, B, with the chain, *g*, around its sprocket wheel, for the purpose of shifting the shuttles to throw in the desired weft as the star wheel, S, is operated by the pattern chain shipper. The general outline and parts of the loom are the same as those in common use, and need not be described. H H are the heddles; B is a revolving shuttle box; C is the common cam driving shaft; O is gearing which couples with said shaft, by the clutch, D, and which communicates motion

Figure 2. **Figure 3.** **Figure 4.**



from the bevel wheel, *r*, to the one, *i*, which runs in an opposite direction to O. P is a stay pin, which carries the gear, *r*, and causes the reverse motion of O and *i*. S is a peculiar star wheel on the small shaft, I. On a pulley on the inner end of said shaft, there is an endless chain, *g*, which passes between two small pulleys on the loom frame, and finally around the sprocket wheel, which is secured on the inner end of the revolving shuttle box, B. It will therefore be observed that the shuttle box will be operated just as the star wheel, S, is moved. There are four slots in said star wheel, and there are pins, *p p*, on the gearing, O *i*. As these pins revolve with the gearing they catch in the slots of the star wheel, and move it one quarter each time a pin catches, and by means of the chain, *g*, operate the shuttle box. The pattern chain, F. has pins secured on its links. This chain has a continuous positive motion from the shaft, C, by the star wheel, E, around the shaft of which it passes. The pins in chain F are not shown, but it is sufficient to say they are set in links, such as one pin at one side of a link for one color, another pin at the center of the next link, say for white or a neutral color, and a third pin set on the other side of a third link, for a different color; strictly speaking, however, there are only two kinds of pins on the pattern chain. These pins, as they come round, take into notches on a shipper or sword, B′, which has a prong end grasping the collar of the star wheel, S. This lever, therefore oscillates, and shifts the said collar of wheel S on its shaft further in or out—just the required distance—to bring the slots of the star wheel, S, into the exact position, to be caught by either of the pins, *p p*, or to be set on the neutral point between these two by the neutral pins mentioned, so that these pins may revolve and *not* catch into the slot of the star wheel, S, when required. Each change of the shuttle throws in two picks, but according as the pins are set on chain F, any required number of picks of one color can be thrown in. The great improvement claimed for this loom, is the gentle and easy motion of shifting the colors of the weft. There is no jarring, as in the pin wheel loom but all works soft and smooth.

When there is a mistake made in the picks, a small pinion on the inner end of the shaft of G, enables the weaver to bring back the gearing to its proper connection to correct the mistake. There is a series of notches on a collar on the small shaft, I, as seen in fig. 3, into which a bevel edge on O takes and holds the