

## New Inventions.

## Machine for making Brass Kettles.

On the 9th ult. a patent was granted to Lyman C. Camp, of Berlin, Conn., whose claims were published in our list of that date. As the invention possesses considerable novelty, a more extended description of its nature, than can be obtained from the claims, will no doubt be of considerable interest to all who are engaged in the business of making brass kettles. In Mr. Camp's machine, the disk of brass, out of which a kettle is made, is brought to its proper form by a process widely different from any heretofore practiced for effecting a similar result. The most common, if not the only processes heretofore employed, has been stamping, hammering, and spinning, the last process being performed by machinery for which a patent was granted to H. W. Hayden, on the 16th Dec., 1851. By all these processes the vessel is brought to its shape with the use of dies or formers, and several of these are used in making one vessel complete. The process, as performed by this new machine, differs from the described plans, inasmuch as it neither requires a die nor former to produce the sides of brass vessels—the formation of the sides of a kettle from beginning to the end being effected upon the disk of metal without changing any part of the machine, a simple adjustment at certain stages of the process being all that is necessary in any case. A pair of rollers like those commonly employed for rolling metal, are combined with a pair of clamping mandrils, which hold and constitute an axis for the metal disk, which is situated in the same plane as the rollers. The metal disk is made to rotate upon the mandrels while placed edgewise between the rollers, and submitted to their action; the axis of the rollers and the axis of the disk are adjustable at different angles to each other, and the rollers having a movement in the line of their axes simultaneously with their rotation, or the axis of the disk having such a movement as to produce such a change in the relative position of the parts as the movement of the rollers. By the revolution of the metal disk between the rollers, and the last named movement of them, that part of the disk which is to form the sides of the vessel is distended, or stretched radially, and compressed circumferentially, and at the same time bent to form an angle with that part of the disk which is to form the bottom of the vessel, and which part of the disk remains at the end of the process in the same state as at the commencement. The patent is owned and controlled by Messrs. Phelps, Dodge & Co., of this city.

## Improvements in Soldering.

In the list of claims of patents granted on the 23d ult., the one of W. J. Stevenson, of this city, for soldering cans expeditiously, and by persons of but small experience or practice, deserves further notice. It is intended only for soldering straight seams, such as the sides of cans, or gutters. The can or tin pipe to be soldered, is placed upon a mandrel which is divided longitudinally by a line running slightly oblique to its axis. This is for allowing the mandrel to be contracted after the seam has been soldered, to allow the can or article to be easily removed from it. The mandrel is secured in the jaws of a clamp, the upper ends of the said jaws being so formed that when brought together they form a channel in line with the seam to be soldered, so as to receive the solder and retain it where its presence is required when melted. By this method of confining the solder, a neat bead is formed on the outside of the can. A strip of wood is placed in the mandrel under the seam of the joint, which, being a good non-conductor, makes the solder retain its heat longer, and allows of it flowing into the seams more freely.

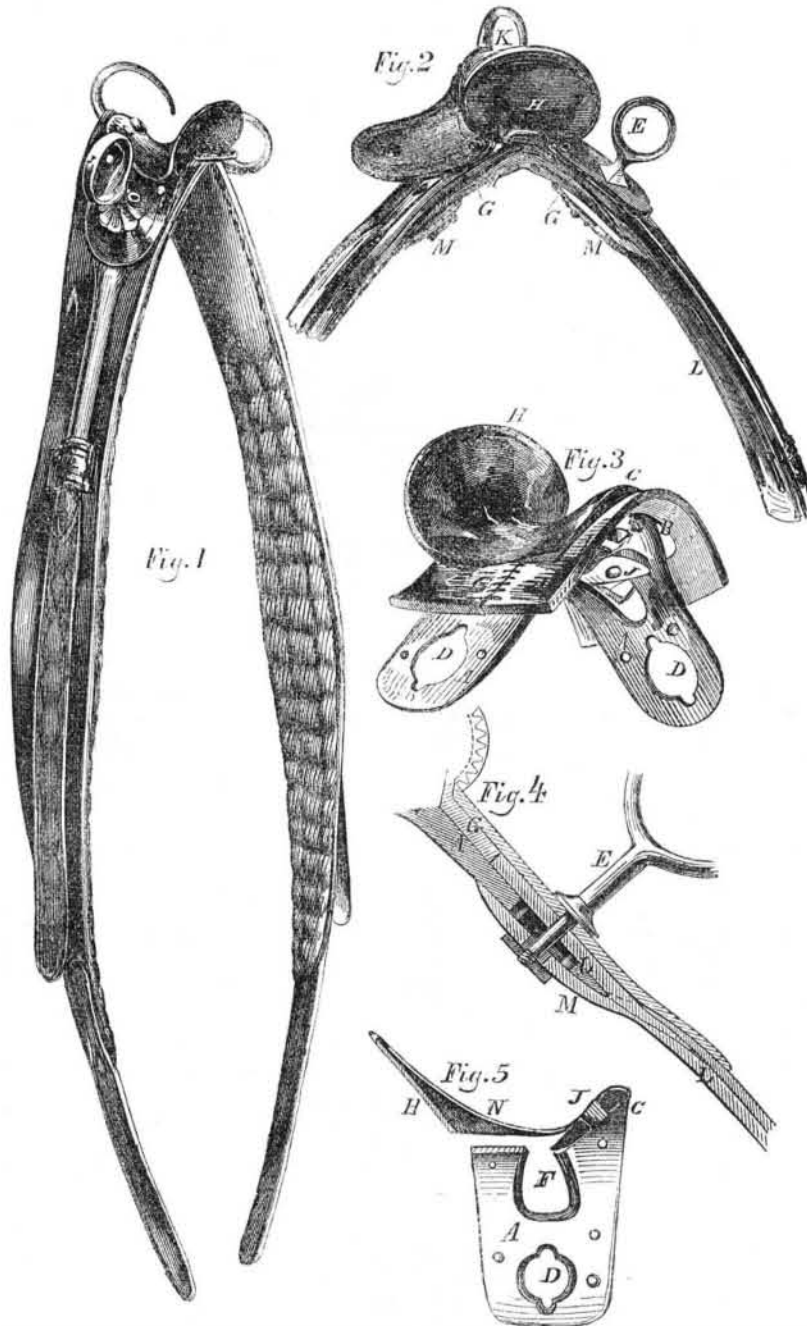
## Improved Oscillating Engine.

The improvement in oscillating engines, for which a patent has just been granted to George F. Wood, of Ulysses, N. Y., (whose

claims will be found on another column) consists in having two passages in the trunnions—an induction and eduction port—and also two passages in the steam and exhaust pipe, and between them are two valves operated by the machinery, and made to open and close the passages more rapidly, so as to cause the quick induction and eduction of the steam. The nozzles of the steam and eduction pipes, are fitted into the back of the valves, the latter being kept in place by the former, and held in such a manner as to turn freely, but at the same time fit steam tight,

both around the nozzles and the conical valve seats in the trunnions of the cylinder. Both valves are alike, each has three ports, equi-distant and within the same circles, and the seats in the trunnions have each two ports arranged opposite each other. The change in the position of the valves to reverse the engine is effected by a forked lever. The valves always move in an opposite direction to that of the cylinder, for the purpose of opening the cylinder ports quickly by causing the ports of the valves to move towards those of the cylinder.

## IMPROVED HARNESS SADDLES AND TREES.



The annexed engravings represent an improvement in first class harness saddles and trees, for which a patent was granted to Robert M. Selleck, of this city, on the 7th of last November.

Figure 1 is a perspective view of the improved saddle; figure 2 is a perspective view of a saddle partly finished, viewed from the rear; figure 3 is a perspective view of the tree as prepared for the saddler to work upon; figure 4 represents one-half of a partly finished saddle in section, and figure 5 is a vertical longitudinal section, showing the tin seat of the saddle. The same letters refer to like parts.

A represents the cast-iron frame or tree, upon which the saddle is constructed; B B are the shoulders cast on the sides of its head, C; D D are circular holes for the terrets, E E, to pass through, as represented; F is an oblong slot cut through its top for a tongue or tack-hold on the gullet piece to pass through; G is the gullet piece. It is provided with an opening in its center, and fits over the tree. This gullet piece fits against the shoulders, B B, and its top surface stands even with the head, C. Owing to the shoulders being formed on the tree, the full thickness of the leather forming the gullet piece can be employed without increasing the thickness of the saddle. The gullet piece

can also be extended back under the cantel, H, and crupper, I, and be made to form part of the flaps, as shown. If the shoulders were not formed on the tree, the gullet piece would have to be skived off, and fitted in and tacked to the front of the frame or tree after the flaps have been fitted in their places, and the edge of the piece uniting the flaps at the back of the tree will also have to be skived off and fitted in and tacked to the back of the tree, as is done in constructing saddles on the common wood trees. By this arrangement the front and back of the gullet piece on the common tree can be made in one, and of the same thickness as the flaps, L L, and owing to no tacking and fitting-in being necessary, can be arranged on the frame by the tree maker before the tree is delivered to the saddler, and made to serve as a tack-hold or soft substance for the saddler to work upon, and when the saddle is completed, form part of the flaps. By thus fitting the gullet piece the bolts which secure the crupper will serve for securing it in its place, and the back edge of the leather which covers the saddle, can be secured under the cantel, instead of to the back edge of the tree, and considerable time and labor saved, and a more solid and also a much handsomer and neater appearance given the back portion of the saddle; J is the tongue or tack hold, to which

the front end of the leather which covers the seat is tacked. This tongue forms part of the gullet; it passes down through the slot, F, and under the head, C, of the tree, and is secured in place by the gullet hook, K; M M are tongues formed on the flaps, L L. These tongues serve as blocking, and also as receptacles for the sockets of the terrets, it passing under the frame or tree, A, while the flaps lay on it; N, figure 5, is the false tin seat, arranged on the cantel (which owing to its being formed by itself, can be made of any desired shape) and also on the frame or tree, A. As this seat is made of tin, and can be struck up on a die, the part which fits the cantel may be made to form a perfect circle—instead of having its sides nearly vertical, as is the case when the cantel and seat are cast in one piece.

The nature of the improvements consist, 1st, in a cast-iron saddle tree having a depression formed on each side of its head, and a gullet piece constructed and arranged upon it in such a manner that it can be fitted flat on the tree, with its top surface even with the head of the same, without the necessity of its being skived down and tacked to the front and back of the tree, as when placed on a wooden tree. The gullet piece can also be extended back under the cantel and crupper, and secured, and a portion of it can likewise be secured and carried under the head, and by the gullet hook. By extending the gullet piece backwards it is made to form part of the flap, and owing to its being thus extended, and a portion of it carried under the head, it serves as a tack hold to work upon in covering the seat with leather. The second improvement consists in providing the flaps with tongues, which pass under the lower parts of the frame while the flaps pass over it. By thus constructing the flaps, no other blocking than that afforded by the tongues is required under the frame. A third improvement consists in making the seat of tinned sheet iron, and separate from the cantel.

These improvements on saddles and trees enables the most ordinary workman to make a first class saddle on an iron tree. Heretofore none but the best workman with safety could be put to work on a first class saddle. Saddles can in this manner be made of greater symmetry with increased strength and durability. The tree itself can be afforded at a much less cost than heretofore, and a saving of about half a day's labor on each saddle is effected, and thereby saddles of the first class can be afforded at the same price as one of the second class.

More information may be obtained of Mr. Selleck at his place of business 253 Pearl street, this city.

## Improvements in Separating Gold.

The improvement for which a patent was granted on the 16th January, to John S. Addison, of this city, for a new method of using quicksilver to extract gold from quartz or earthy matter, has for its object the distribution of such a quantity of quicksilver that the liquified paste of auriferous ore may be forced through it in a very finely subdivided state, so as to bring every particle in contact with it. Apparatus now in use for amalgamating gold with quicksilver, mostly operate on the principle of bringing the auriferous matter in contact with the surface of the quicksilver, hence they have to employ a very large quantity of mercury, or considerable of the gold may pass away in a free state. By this new process the mercury is distributed over the surfaces of strips or tubes of silver, or some other suitable metal so packed and arranged in any suitable vessel or receptacle as to leave small interstices between them, and to admit of the auriferous matter with a suitable quantity of water to permeate and flow through or between them.

## Currants Grafted on the Maple.

A correspondent of the *Rural New Yorker* says, that he transplanted into his door-yard a young, thrifty maple, and engrafted into it scions from a currant bush. They grew well, and when ripe looked very handsome. He says that you must not graft until the sugar water ceases to run.