

**A NEW FOOT POWER.**

Foot power is undoubtedly more convenient and economical than any of the motors yet devised for propelling light machines such as sewing machines, lathes, etc., therefore it is important to utilize this power to the best possible advantage.

The accompanying engraving shows the application of one of the best and most recent contrivances for converting the oscillating motion of foot pedals into a continuous rotary motion. In this machine the motion of the two pedals is alternating. The cord which is attached to the frame and extends downward under the pulley on one of the pedals, runs upward over one of the pulleys on the shaft of the sewing machine, over an intermediate pulley, thence over the other pulley on the shaft, and downward around the pulley in the other pedal, thence upward to the frame. The two pulleys, which are placed loosely on the sewing machine shaft, each carry an arm having two pawls that engage a ratchet wheel secured to the sewing machine shaft. There is a separate ratchet wheel for each pulley. A downward movement of one of the pedals rotates one of the pulleys on the sewing machine shaft in one direction and the other in the other direction. The one making the forward movement rotates the machine, while the pawls carried by the other pulley simply make a retrograde movement preparatory to the descent of the other pedal.

The oscillating motion of the pedal is in this manner converted into a continuous rotary movement which must always be in one direction, thus avoiding both the trouble of starting the machine and the possibility of turning it backward. Another important advantage gained by this method of converting motion is that any motion of the pedals, however small, results in turning the machine.

For further information address the patentee, Mr. W. F. Lane, Elgin, Ill.

**Apples for Europe.**

The export of apples this year promises to be the largest ever known. The apple crop is enormous; the quality is excellent, and prices are ruling low enough to give excellent promise of profit in foreign markets. The Boston correspondent of the *New York Bulletin* says that already some vessels have taken as many as 3,000 barrels, but the "Canopus," of the Warren Line, which sailed October 16, took 5,000 barrels, which is the largest cargo yet, and, as near as he can find out, no such shipment was ever before made.

**NEW WOOL SCOURING AND RINSING MACHINE.**

The usual method of removing wool from the scouring vats is to throw it out by means of forks. By this slow and laborious process it is often difficult to throw it all out, especially if it is short staple wool, and whatever remains in the tank becomes discolored and its fiber loses strength. Besides these disadvantages, the sediment remaining in the vat is stirred up, and the wool in consequence never becomes entirely clean.

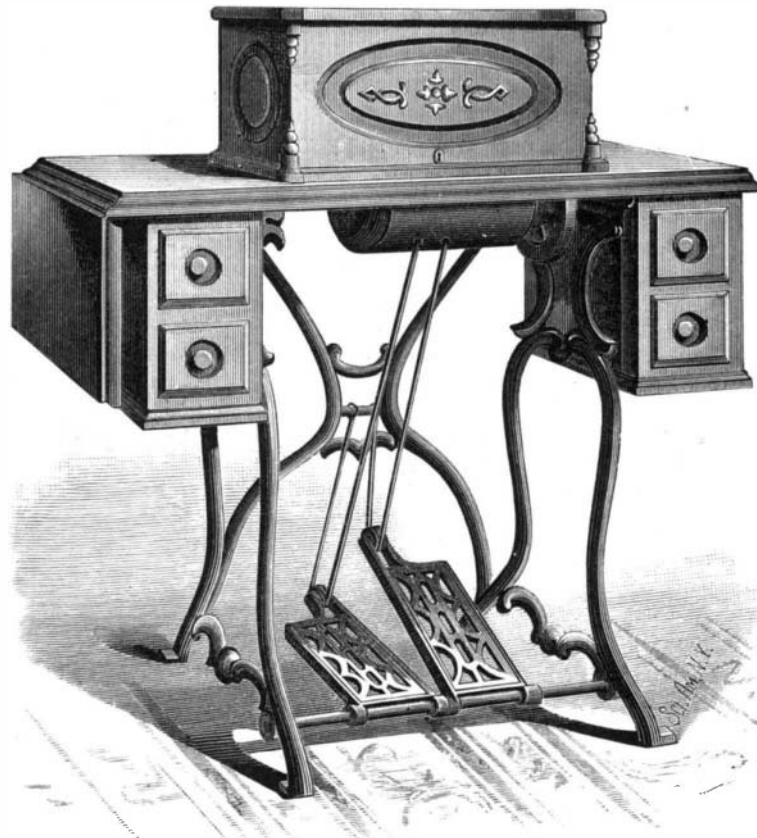
In the accompanying engraving a recently patented machine is represented, which accomplishes the scouring and rinsing of wool rapidly and thoroughly, and effects a material saving in labor and scouring materials. In the vat, which is shown in the background, there is an inner vessel, having a rounded perforated bottom, and provided with agitators near the rear end, which keep the scouring liquor constantly in motion. The inner vessel is pivoted at one end, and provided with a circular rack and beveled pinion, by which it may be raised into a vertical position when it is desired to drain the wool and discharge it from the scouring vat.

The inner vat is counterbalanced so that it requires little power to move it. As the inner vat is raised the wheels that rotate the agitators are thrown out of gear. The wool is dumped on the drain, which is supported at the front of the scouring tank, and the liquor flows back into the tank, thus avoiding waste.

The rinsing, which is similar to the scouring apparatus, receives the wool after scouring. It is kept in motion by a current of water, which is continuously passing through the

vat. The stock can be taken out at any time without drawing off the water, by simply raising the inner vessel on its pivot. The water flows back into the vat, and the water gates are closed automatically as the wool is dumped, thus saving water and avoiding the escape of detached bunches of wool with the discharge. The inner vessels are both provided with pawls that retain them at any desired elevation.

We are informed that a number of these machines are in successful operation, effecting a saving of both time and

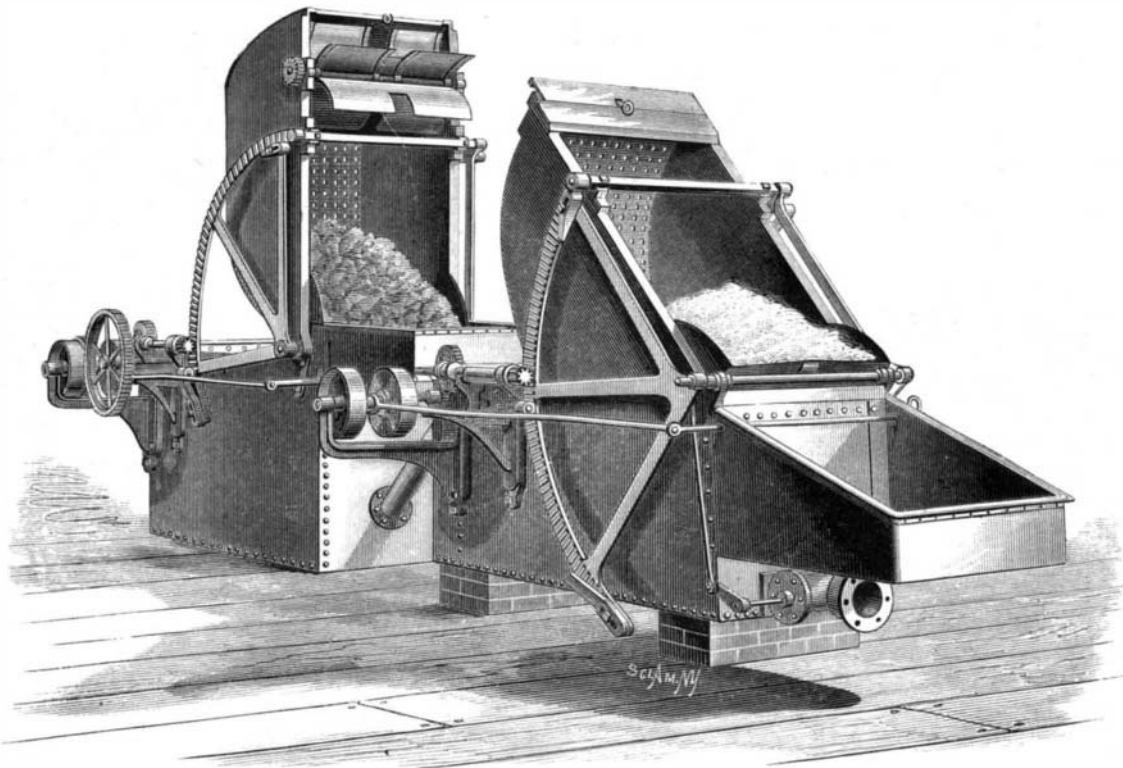
**LANE'S FOOT POWER.**

labor, and affording a cleaner product than is possible with the old method of scouring.

For further particulars address Hall Brothers, Norwich, Conn.

**New Inventions.**

An improved Fishway has been patented by Mr. Marshall McDonald, of Lexington, Va. This invention consists, mainly, in utilizing the head of water for the production, upon an incline, of an upwardly moving current, the head of water being led to the under side of the incline, whence it issues through openings to the surface, which openings are arranged in series and direct the current upwardly, so

**HALL BROTHERS' WOOL SCOURING AND RINSING MACHINE.**

that an incipient upward current is produced near the bed of the incline, which flows back at such a low velocity as to permit the fish to swim upward in the same, the natural instinct of the fish causing it to swim against the current.

Mr. James Conniff, of Oconto, Wis., has patented an improvement in Logging Sleds which consists of an axle box and attachment made of two horizontal sections, that are bolted to the runner at their ends and to each other at the box part, the box part having an interior rib or

thread that is fitted into a corresponding annular groove of the axle.

Messrs. Friedrich W. Hoffmann and Conrad Hoffmann, of New York city, have patented an improved Knife to be used by cigar makers in cutting the wrappers, etc., into proper shape. The blade may be adjusted at any desired angle to the handle, or, when worn, replaced by a new blade, so as to be of greater efficacy and durability.

Frederick Michael, of Eaton, Ohio, has patented an improved Evaporator, which consists, first, in a novel construction of the evaporating pan and arrangement of parts in connection therewith, whereby provision is made for separating the scum from the sirup, and preventing it from being burned, broken, and mixed with the sirup, and for straining the sirup before drawing it from the pan.

Messrs. Eli B. Comly and William C. Brown, of Logan, Ohio, have patented an improved Barrel Cover, which contains a semicircular aperture, covered by a sliding lid, held in place by a screw or bolt, so fixed in reference to the center of the barrel as to allow the lid to be slid around, exposing the aperture without taking more space than the top of the barrel cover. The cover is fastened on the barrel on one side by means of barbs attached to a block fastened securely to the under side of the cover, on the other side by means of a hinge knee joint piercing the inside of the barrel between the chine and the top.

An improved Life Boat has been patented by Mr. Charles Dickenson, of Portland, Or. This invention consists in providing an ordinary ship's boat with an attachment in the form of a removable cover or false deck, which, when applied thereto, will convert said boat into a life boat having a chamber in which human beings or goods may be stored, protected, and safely transported to land in case of danger to the ship.

An improvement in Tables has been patented by Mr. Peter Pleines, of New York

city. The object of this invention is to furnish for club-houses and saloons an improved table, in which the shelves below the table are so arranged that the wine and beer glasses may be placed out of the way, and any drippings therefrom conducted off, so that the shelves are kept in a dry and clean state, and may also be more conveniently cleaned of dirt after use.

An improved Cigar Box has been patented by Mr. Moritz Jonas, of New York city. The essential feature of this box consists in its being divisible into equal equilateral triangular spaces so as to receive cigars arranged in triangular packages. These not only allow the article to be exhibited to great advantage, but enable the cigars to be packed quickly and with economy of space.

An improved Paper File has been patented by Mr. Addison Childs, of Ypsilanti, Mich. This invention is intended to provide for families, reading rooms, and libraries an improved paper file or rack, by which the different papers may be quickly and neatly filed in proper order, and one or more readily taken out for use, without allowing the others to fall out; and the invention consists of a base frame hung to the wall, and provided with projecting supporting strips and spring-acted paper holding frames.

Messrs. Thorer Hansen and George H. Weiffenbach, of Racine, Wis., have patented an improved Currier's Knife having reversible blades, which save time in sharpening, as both edges may be worn dull before it becomes necessary to sharpen the knife. The blades are removable, and they are the only portions requiring to be made of steel. There are no screws to wear out or corrode, and the knife is easily

cleansed and kept in order, and will thus remain true.

Mr. Edward Kelley, of Baby's Point, Ontario, Canada, has recently patented an improvement in Hair Pins, which consists in connecting ordinary hair pins in pairs by means of an elastic cord of suitable length. The pins are inserted in opposite or nearly opposite sides of the hair braid, with the elastic connection passing over the top of the braids, or around and between the braids, so as not to be exposed to view.