

New Inventions.

Sales of American Inventions in Europe.

We have reports recently of the sale of some American inventions in England, at almost fabulous prices. It appears to us that our inventors do not fully appreciate the wide field open to them for the introduction of their improvements in England, France, and other European countries. It has been a part of our business for several years past to procure patents in foreign countries. Inventors desiring advice upon this subject can correspond with us freely in regard to it.

Sawing Laths and Clapboards.

The accompanying engravings illustrate an improvement for sawing laths and clapboards. Fig. 1 is a longitudinal vertical section. Fig. 2 is a plan view—the carriage or bed to which the stuff is attached being removed; *x x* of this figure shows the plane of section fig. 1. The nature of the invention consists in the peculiar means for feeding the stuff to the saw, reversing the motion, and obtaining a perfect automatic feed movement.

A represents the framing of the machine, constructed in any proper manner to support the working parts. B represents an arbor or shaft to which the saw, C, is attached, the arbor being placed transversely on the framing, A. D represents a shaft which is placed in the framing, A, parallel with the saw shaft. On this shaft there are placed two cams, E E, (fig. 2) at a suitable distance apart; and F is a friction roller, which is fitted between them, said roller being on the inner end of a lever, G, which is attached by a pivot, *a*, to an arm, *b*, on the framing. The outer end of the lever, G, is forked and is fitted over a clutch, H, on a shaft, I, which connects either of two pulleys, J J', with the shaft, I, the pulleys being placed loosely on this shaft.

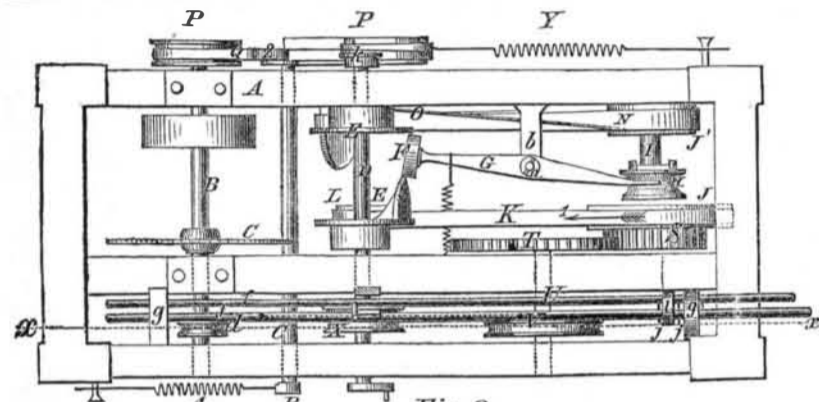
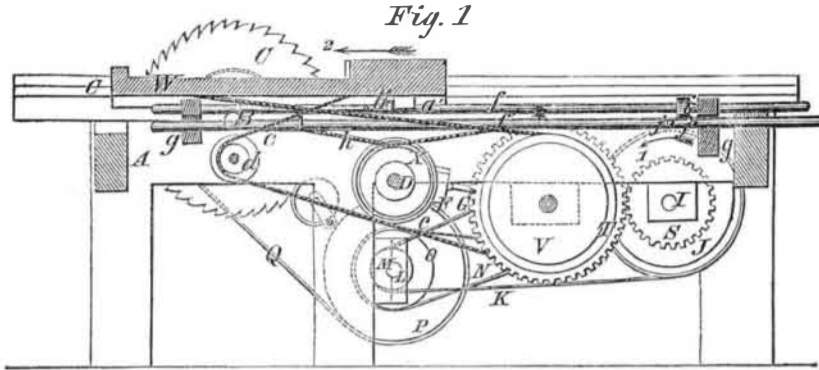
K is a belt which passes around the pulley, J, and also around a pulley, L. N is a cross belt, which passes around pulley, J', and a pulley, O, on the shaft, M. To one end of the shaft, M, a pulley, P, is attached, having a belt, Q, passing around it, which belt also passes around a pulley, R, on one end of the saw shaft, B. On the shaft, I, there is a pinion, S, which gears into a toothed wheel, T, on a shaft, U, said shaft having a pulley, V, upon it, around which pulley a cord, *c*, passes, said cord also passing around a pulley, *d*, and having both ends attached to a carriage, W, which works between suitable guides, *e*, on the framing, A. The ends of the cord, *c*, are attached to opposite ends of the carriage, as shown in figure 1.

On the upper part of the framing, A, and directly underneath the carriage, W, there are placed longitudinally two rods, *f f'*, the ends of which are fitted in bearings, *g*, the rods being allowed to slide in said bearings. To one of the rods, *f'*, there is attached a cord, *h*, which passes around a pulley, X, on the shaft, D. The rod, *f*, has an ear or projection, *i*, attached to it, through which ear or projection the rod, *f'*, passes; this rod has two pins, *j j*, passing through it, one at each side of the ear or projection. Y is a spiral spring, which is attached to a crank pulley, *k*, at one end of the shaft, D. Z is a friction roller, which is made to bear against the belt, Q, by means of a spiral spring, A', which is connected with a lever, B', at one end of a shaft, C', on which the friction roller, Z, is placed, said friction roller being on a crank on said shaft.

OPERATION.—The stuff to be sawed is secured upon the carriage, W, in any proper manner, and motion is given the saw arbor, B, and if the clutch, H, is in gear with the pulley, J, on the shaft, I, the pulley, V, on the shaft, U, will rotate in the direction indicated by the arrow, 1, and the carriage will be moved by the cord, *c*, in the direction indicated by the arrow, 2, and the stuff will be fed to the saw. When the carriage, W, arrives at a certain point, a projection, *a'*, underneath the carriage, W, will strike a pin, *b'*, on the rod, *f*, and said rod will cause the rod, *f'*, to be moved, and the cord, *h*, will turn the pulley, X; the cams, E E, will also be turned, and in turning will operate the lever, G, and throw the clutch, H, in gear with the pulley,

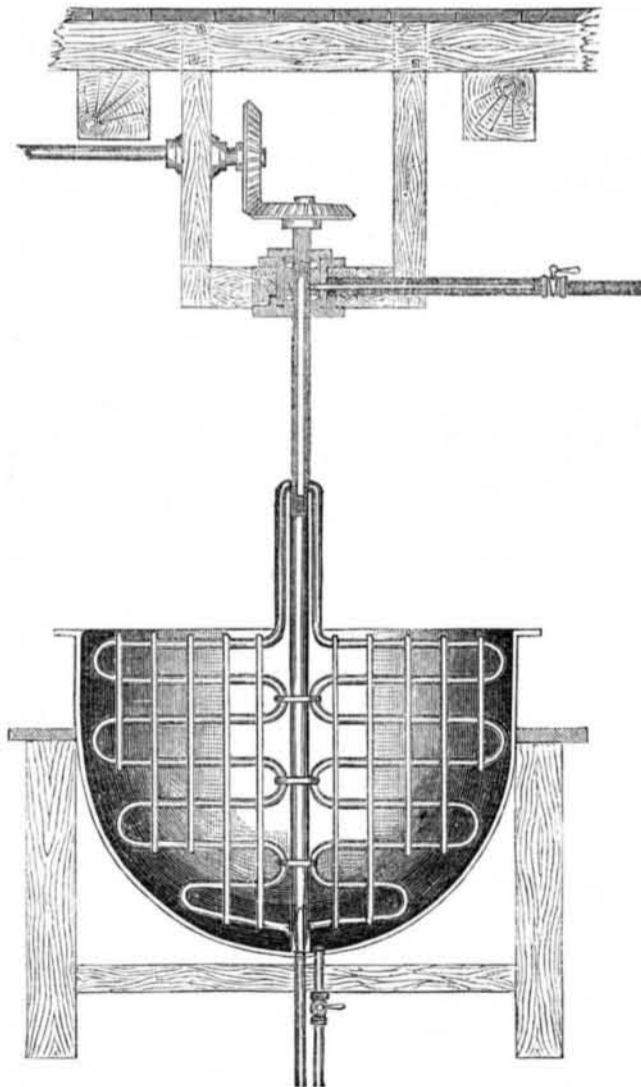
J', and by the cross belt, N, the shaft, I, will be rotated in an opposite direction, and a reverse movement will be given the carriage, W, which, when it reaches the extreme point of its backward movement, will be again moved forward in consequence of the projection, *a'*, striking against the ear or projection, *i*, which causes the lever, G, to throw the

MACHINE FOR SAWING LATHS AND CLAPBOARDS.



clutch, H, in gear with the pulley, J. This very efficient automatic feed motion is obtained by very simple means. The improvement may be applied to sawing machines at a small cost, and it is not liable to get out of repair. The patent for it was granted on the 25th of March last. For further information address Jesse Gilman, Nashua, N. H.

TUBULAR TWIRL FOR BOILING SOAP, RENDERING TALLOW, etc.



The above drawing represents the twirl, recently invented by Campbell Morfit, of Baltimore, Md., for the simultaneous mixing and heating of compounds. It consists of an upright shaft with tubular arms or branches, and derives motion by means of cog-gearing from a steam engine. A stuffing box, near the top of the shaft and connecting the steam boiler, serves as the medium for a constant current of steam through the branches, so that as the twirl is driven through the contents of a boiling vessel, mixing and heating take place co-incidentally. This arrangement not only economises time labor, and fuel, but produces a more perfect result than can be accomplished by any other means now in use. The twirl may be adapted to the ordinary forms of iron kettles or wooden tubs, and allows the use of steam of any temperature from "low" to "high," according to the pressure applied to the boiler. There is an outlet provided for the escape of

excessive or condensed steam, and a vent, also, for spent lye, as shown in the engraving. Although specially designed for the manufacture of soap and rendering of tallow, the twirl will be found equally serviceable for all boiling operations; and more particularly those in which it is desirable to effect a combined mechanical and chemical action at one and the same moment.

New Bullet Machine.

William H. Ward, of Auburn, N. Y., has invented a most ingenious and original machine for manufacturing bullets, from lead wire. The wire is coiled upon rests at the top of the machine, and suspended by means of arches, from which the lead is fed downward into the machine, where it is measured and cut off as required for each bullet, after which it is forced forward into dies, and formed into the desired shape by compression. The dies attached to the machine are of the most modern and improved style in the U. S. Army. It makes muskets, rifle, and pistol, elongated, hollow, and conical expansion bullets; also round or shell balls, all at the same time. At one corner it makes round balls, at another musket, at another rifle, at the other rifle and pistol elongated bullets—each corner being double, with two sets of dies and punches, which gives eight bullets to one revolution of the machine. The machine is capable of being worked up to twenty-five turns in a minute, which is equal to 200 bullets per minute, 12,000 per hour, or 120,000 per day.

The machine was driven, in Auburn, by a steam engine, and is complete within itself, requiring no attention while working, other than taking away the bullets and supplying the reels with lead. Another beautiful feature is, its perfection in doing work, using a sufficient quantity of lead and no more—it wastes nothing.

Mr. Ward was in this city last week with his machine, which has been forwarded to Washington, and he left us a set of bullets that were formed by it, which may be seen at this office.

Gold Products Increasing.

The following is from the California Mining Journal. "The gold fields of Australia are yielding more largely than ever, at the rate of nearly £20,000,000 per annum—about \$100,000,000. The produce of the first three months of 1856 is nearly double that of the corresponding three months of 1855, being close upon 700,000 ounces.

California, also, is now beginning to increase her contributions to the circulating medium. The greatly improved method of mining, and the rapid development of new diggings added to the increasing produce of the quartz mines, is beginning to be sensibly appreciated. Total shipments for 1854, \$47,333,517. Total shipments for 1855, \$44,060,374. Total shipments to Aug. 20th, 1856, \$31,636,246.

Unfortunate Steam Frigate.

By recent news from China we learn that the steam frigate *San Jacinto* broke down, on her passage from Whampoa to Simoda, and had to put back to the former place for repairs. Since this frigate was built she has cost, we believe, more for repairs of her machinery than its entire original cost, and she cannot be trusted to make a single voyage without fears of some break down.

SPLENDID PRIZES.—PAID IN CASH.

The Proprietors of the SCIENTIFIC AMERICAN will pay, in Cash, the following splendid Prizes for the largest Lists of Subscribers sent in between the present time and the first of January, 1857, to wit

For the largest List,	\$200
For the 2nd largest List,	175
For the 3rd largest List,	150
For the 4th largest List,	125
For the 5th largest List,	100
For the 6th largest List,	75
For the 7th largest List,	50
For the 8th largest List,	40
For the 9th largest List,	30
For the 10th largest List,	25
For the 11th largest List,	20
For the 12th largest List,	10

Names can be sent in at different times and from different Post Offices. The cash will be paid to the order of the successful competitor, immediately after the 1st of January, 1857.

See Prospectus on last page.