

A LAWN MOWER ATTACHMENT.

The illustration represents a construction whereby the cut grass will be taken from the knives of a lawn mower and delivered to a receiving receptacle at the back of the machine, provision being made to prevent the grass being scattered by the wind. The improvement has been patented by Charles E. Kreider, and is being placed before the public by the Kreider Lawn Grass Elevator Company, of Logansport, Ind. Back

**KREIDER'S LAWN MOWER ATTACHMENT.**

of the ground wheels is located an elevator whose side pieces extend down quite close to the ground, a projecting board or apron coming near the knives, and there being journaled in the side pieces an upper and a lower roller carrying a light but strong endless elevator belt. The elevator is driven by a belt connecting the shaft of the rear ground wheel with a pulley on the trunnion of the upper roller. The elevator has an adjustable cover, to prevent the scattering of the grass, and fenders prevent the falling of the grass between the front roller and elevator. The elevator and basket may be readily attached to and removed from any lawn mower.

HOW FLAG STICKS ARE MADE.

A machine just invented for the quantitative manufacture of flag sticks is represented in the accompanying illustration, and is a direct result of the patriotic impulse which approves of placing the American flag in the hands of every school child, and the general display of the flag on every public occasion. The little sticks to which the flags are attached are consequently in great demand, and by the old method of manufacture they could not be economically supplied in sufficient quantity. Under the old method each stick was rounded separately and the operation was very tedious and slow. By means of this invention the whole board is fed into the machine, the boards being first sawed into the length of the finished stick. J. A. Fay & Company, of Cincinnati, manufacture this machine. There are two sets of cutters, one cutting on the top and the other on the bottom of the board. These cutters are specially shaped, the upper cutter cutting one-half the circle of the finished stick, the lower cutter cutting the other half, and this is done so nicely that when the board has passed the cutters it is cut into finished round sticks, each separate from the other, and each so nicely rounded that the meeting point of the two sets of cutters cannot be observed. After leaving the machine the finished sticks drop into a large box or hopper and are then stacked up ready for the flags. The machine is made so that it will cut any size of stick from the very smallest up to any diameter desired by simply changing the cutters on the cutting mandrel. The arrangement is such that the cutters can be moved from the mandrels very readily and new cutters put in place in about a minute's time. The upper and lower cutters are placed in an almost vertical plane so that they will cut the sticks at almost the same time, and after the sticks leave the cutter they are fed into circular grooves before they leave the machine, so that each separate stick is held firmly in place and a smooth cut assured. The machine cuts the sticks so smoothly and uniformly that sanding is not necessary. This machine can also be used for making all kinds of circular sticks for other uses.

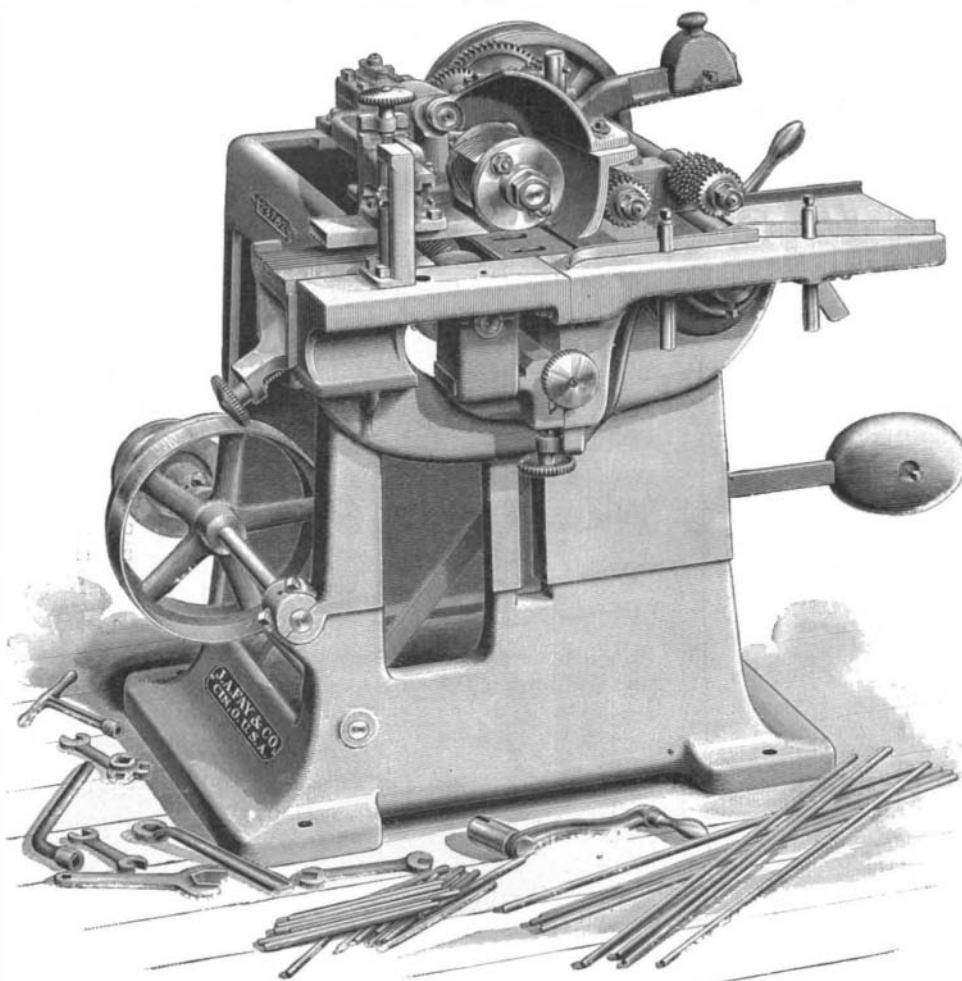
A BALTIMORE judge has decided that faith cure doctors are not entitled to remuneration for their services. He takes the ground that the faith cure physician renders no apparent service to the sick.

Toads at Dinner.

The toad does not take dead or motionless food, says The Popular Science Monthly. Only living and moving insects, centipeds, etc., are devoured, while worms or other larvæ disturbed by their hopping are safe so long as they remain curled up; but as soon as they move they are captured. The toad's tongue, its only organ for seizing food, is soft, extensible, attached in front but free behind, and is covered with a glutinous substance that adheres firmly to the food seized. So rapid is the motion of this weapon that a careful watch is necessary in order to see the animal feed. At night, soon after sunset or even before on cool evenings, the toad emerges from its shelter and slowly hops about in search of food. Something of a regular beat is covered by these animals, whose sense of locality is strong. In the country this beat includes forage along the roadside, into gardens and cultivated fields, and wherever insect food is abundant and grass or other thick herbage does not interfere with getting about. In cities and suburban villages the lawns, walks and spots beneath the electric lamps are favorite hunting grounds. At Amherst, Mass., Mr. A. H. Kirkland, from whose paper we derive these observations, once counted eight large, well fed toads seated under an arc light and actively engaged in devouring the insects which, deprived of wings, fell from the lamp above. At Malden, Mass., a colony of about half a dozen toads sally forth on summer evenings from under the piazza of a citizen's house, go down the walk, cross the street, and take up their stations under the arc lamp, where they feed upon the fallen insects till the current is turned off, when they return to their accustomed shelter.

Japanese Mushrooms.

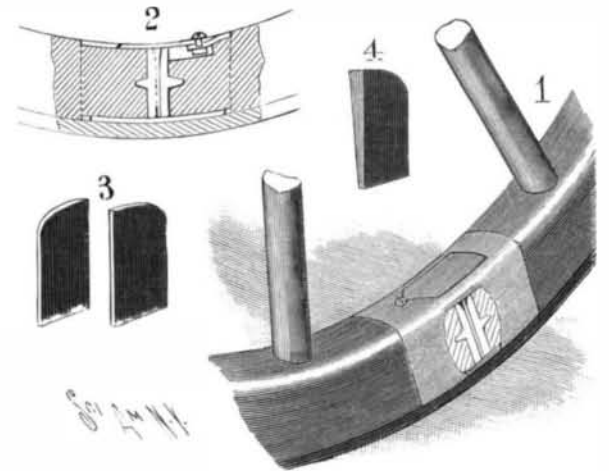
Mr. Robert P. Porter, who has been conducting investigations into the industries of Japan, states that one of the most interesting studies in that country is the growing of mushrooms in the Shikoku Island, where most of the camphor is produced. This is an important article of export, mostly to China, and during the year 1895, the last year for which the returns are available, the quantity of mushrooms exported from Japan to all countries amounted to 1,780,597 pounds. Of the numerous species of edible mushrooms, the one called Shiitake is the most important, being abundantly exported abroad and also used for many culinary purposes at home. Logs which are used for cultivating this mushroom are various species of oak. The principal districts where this mushroom is produced are the provinces forming Shikoku, Kiu-shiu, Wakayama and Shiozuka prefectures. Oak trees twenty-five to thirty-three years old are felled in the autumn, and incisions made with axes at intervals of three or four inches, the incisions generally reaching the woody layer. The trees are then cut into logs of four to five feet in length and left in dark, secluded parts of the forest. After the third year mushrooms make their appearance in the incised portions. When the growth lessens they are replaced by new logs. The mushroom grows at each season of the year, winter, spring, summer and autumn, but the growth in winter and spring is the result of artificial stimulus. The logs

**A MACHINE FOR MAKING FLAG STICKS.**

are steeped in water for a number of hours, according to the dryness of locality, and then struck with pommels or axes to prepare the beds for facilitating the growth of the mushrooms. The autumn crop is the most abundant. After being collected, mushrooms are dried either by the sun or by artificial heat.—Journal of the Society of Arts.

A VEHICLE WHEEL TIRE TIGHTENER.

A device which may be readily adjusted to compensate for the expansion or contraction of the wooden fellys of a wheel is illustrated herewith, and has been patented by W. H. Wallingford, of No. 224 South Clinton Street, Chicago, Ill. Fig. 1 represents the application of the improvement, a portion of the felly being broken out, Fig. 2 being a sectional view, and Figs. 3 and 4 representing filling plates and a wedge employed. A metal casing sleeve is employed, in which the ends of the fellys are inserted, there being on the inside of the sleeve an opening closed by a cover plate, and through this opening are inserted two facing blocks each having a transverse rib to be embedded in cross grooves in the end surfaces of the fellys. It is designed that there shall be a slight space or crevice between the blocks, in which the filling plates may be inserted, or from which they may be removed should the fellys

**WALLINGFORD'S TIRE TIGHTENER.**

become too tightly compressed; and to take up looseness in the joints a pair of wedges is employed to spread apart the facing blocks and the ends of the fellys they are in contact with and thus sufficiently tighten the tire. When the wheel has only a single bent felly but one tightening device can be used, but with a series of sections in the felly a number of tire tighteners are preferable.

Lobsters from the Pacific.

The Kansas City epicures, particularly those who incline to the succulent shell fish, are reveling in the recent introduction of a species of lobster new to this part of the country, says The Kansas City Star. It is known as the Bermuda lobster, and is very unlike the Atlantic lobster, although of the same family. The advent of this new species is very timely, as the Atlantic lobster is growing scarcer and of smaller size and poorer quality with each succeeding season. The Bermuda lobster is gathered on the southern coast of California, and is shipped here from San Diego, Cal., at a cost of five cents a pound less than the Atlantic lobster. In general appearance the Pacific coast lobster, which gets its name because it originated in the Bermuda Islands, where it is now nearly extinct, resembles the ordinary Atlantic species, but a careful examination brings out many little features that are not found in the Atlantic lobster. The Bermudas are considerably larger as a rule than the others, and the boiled ones have a richer red color. The Bermuda has no "shear claw," which is a distinguishing feature of his Atlantic brother, but he has a row of legs or creepers on either side of his body that more than make up for the big "shear claw" of the Atlantic lobster, and he is all meat. The tail part is of the same general character as is that of the Atlantic species, but the flesh is more solid and firmer, and, if anything, the flavor is better than that of the Atlantic species. The Bermuda lobsters have several other points that make them differ from those caught on the Atlantic coasts. They have two long tentacles or feelers that protrude in front of the head a foot or more.