

**NEW AGRICULTURAL INVENTIONS.**

A novel air blast regulator for the blowers of thrashing machines has been patented by Mr. Jacob Hunsinger, of Metamora, Ind. In this device an ordinary centrifugal governor is employed to open and close the air supply valves of the blower.

A harrow, which is capable of adjustment as to width, and will accommodate itself to inequalities of the ground, and which may be readily separated into two parts for convenience in loading, is the invention of Mr. W. D. Fink, of Strasburg, Ill.

Mr. Albert D. Blanchard, of Hutchinson, Kan., has invented an improved wheel plow, in which the plow beam is pivoted to a long slotted lever, and is raised or lowered by an eccentric lever pivoted to an elongated vertical plow standard. The eccentric lever is provided with a pawl and ratchet for holding it in position.

An improved tobacco hoisting apparatus, patented by L. W. Brewster, of Canton, Ky., consists of a standard upon which slides a sleeve, that may be raised or lowered by means of a rope running over a pulley in the upper end of the standard. The sleeve carries an arm which is provided with hooks for receiving the sticks of tobacco.

An improved grain separator, patented by Mr. Henry H. May, of New Albin, Iowa, is capable of separating oats, cockle, chaff, etc., from the wheat, and to deliver them each separately. It will also clean seed wheat and remove shrunken and broken grains.

A churn, which forces the cream back and forth through a foraminous plate while it is exposed to a column of compressed air, has been patented by Mr. Wm. A. Reich, of Salem, N. C.

Mr. David Crowell, of Florence, Ontario, Canada, has patented a mowing machine which is remarkable for its simplicity. The driving mechanism consists of a single cam wheel placed on the axle, and a lever actuated by the cam wheel and connected with the sickle bar.

A plow adapted for heavy or wet land, and which may be adjusted for depth and width of furrow without changing the clevis or harness, is the invention of Mr. L. E. Woodward, of Waco, Texas.

Edward Walker, of New York city, has patented an improvement in plows. The plow carries a curved plate, which opens a channel for receiving potatoes or other seed as the plow advances.

**How Some English Cottons are Loaded.**

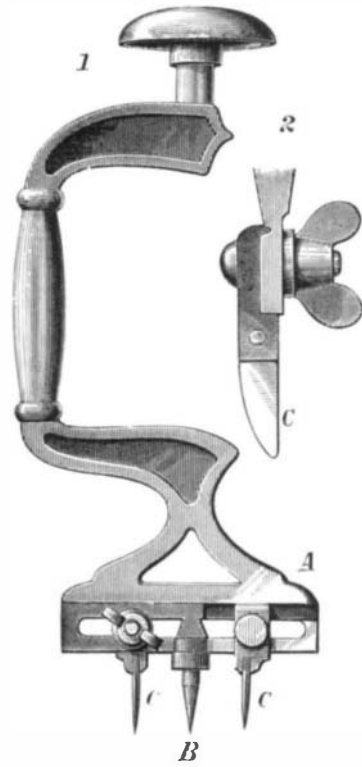
Mr. Albert D. Shaw, United States Consul at Manchester, England, has sent to the Department of State the report of a trial involving the manner of manufacturing and packing of English cotton goods for the Chinese market. A contract was made for the sale of 48,000 pieces of gray shirtings, which were properly packed and shipped to Shanghai. On being opened at that port more than half of the packages were found to be affected by "mildew." It was contended that this "mildew" was not caused by any exterior influence, but by the nature of the sizing used by the manufacturers to make the cloth heavier and thicker. This sizing is composed in part of chlorate of magnesia, chlorate of zinc, glue, and china clay. Originally a flour composite was used.

But improvements have been discovered. Tallow, oil, or paraffine, mixed with starch, removes any harsh feeling the cloth may have. By degrees the manufacturers found that other ingredients could be added. The cloth was not sold by the yard—only by weight, 4 lbs. of cotton being made to weigh 8 1/4 lbs. by this process of sizing. Moisture being necessary to increase the weight, salt was added. It was contended that the "mildew" was caused by the use of salt in the sizing. Some manufacturers say they have added an ingredient, in the form of an antiseptic, which removes the danger from dampness. In the case before the court the "mildew" was found in the center of the packages and not on the outside, as in packages badly packed.

The press report of Mr. Shaw's communication speaks of the subject as one worthy of attention by American manufacturers. We trust the writer did not mean to hint that our cotton makers might follow the British example with profit. The art of sophisticating cotton goods has not been cultivated here, and the prospects of our cotton trade at home and abroad are all the better for the lack of it.

**AN IMPROVED WASHER CUTTER.**

The accompanying engraving represents a novel washer cutter recently patented by Mr. Alfred J. Palmer, of Carlton, N. Y. It consists in a fixed central point, B, and adjustable cutters, C, attached to a body, A, which is similar to an ordinary bit stock. A detail view of one of the cutters is shown in Fig. 2.

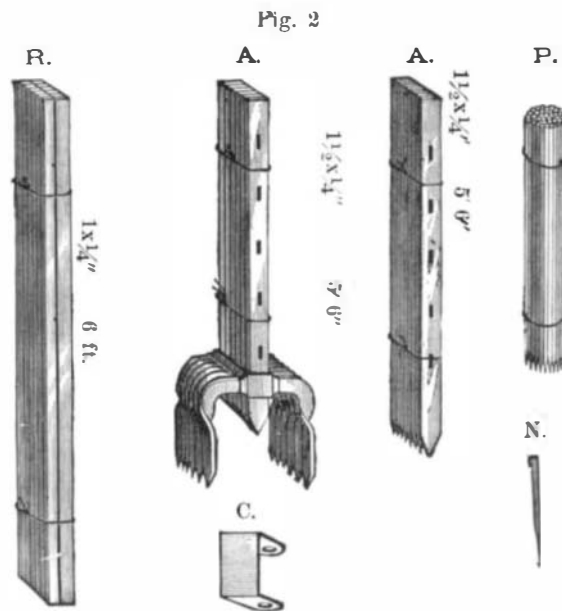


**PALMER'S WASHER CUTTER.**

This tool is designed for cutting washers of various sizes from leather, one of the knives, C, cutting the outside, and the other the inside of the washer.

**A NEW HURDLE FENCE.**

English hurdle fences have been in use for forty years or more, yet they show no signs of decay. The durability and desirableness of this kind of fence having been demonstrated, it remained for an American inventor to cheapen and perfect



it, and to simplify its construction and facilitate its transportation and erection.

The accompanying engravings represent this improved fence, Fig. 1 showing it complete in several different forms; Fig. 2 showing it packed ready for shipment. The fence is composed of flat iron bars and posts, alternate posts being provided with prongs or anchors. The horizontal rails

are grooved longitudinally to afford a seat for the nail or key, which is driven into the mortise to hold the rail. Wherever the rails lap, the mortise in the post is enlarged. When iron pickets are used, as shown at Nos. 4 and 5, in Fig. 1, the clips, C (Fig. 2), are employed to hold them. The picket passes through the holes in the clip, and the latter is fastened by a key or nail driven in between it and the grooved side of the rail.

Fig. 2 shows at A the posts, at R the rails, and at P the pickets as they appear when packed for shipment. Although the inventor prefers to make the fence entirely of flat bars, he has shown us round and square bar rails adapted to posts with round or square holes.

To insure great strength and steadiness the posts are placed but three feet apart. The fence has a light appearance, but not too light, being readily seen by horses and cattle, besides it is very stiff and strong. It has no barbs to injure stock, neither does it require straining posts or pillars. The rails and posts are sufficiently rigid to be self-sustaining. The fence can be graded or curved to suit any inclination. As to the matter of cost it will compare favorably with a wooden fence, but when its durability is considered it is found to be far cheaper.

Further information may be obtained by addressing the patentee, Mr. J. B. Wickersham, No. 913 Cherry street, Philadelphia, Pa.

**German International Exhibition of Milling Machinery.**

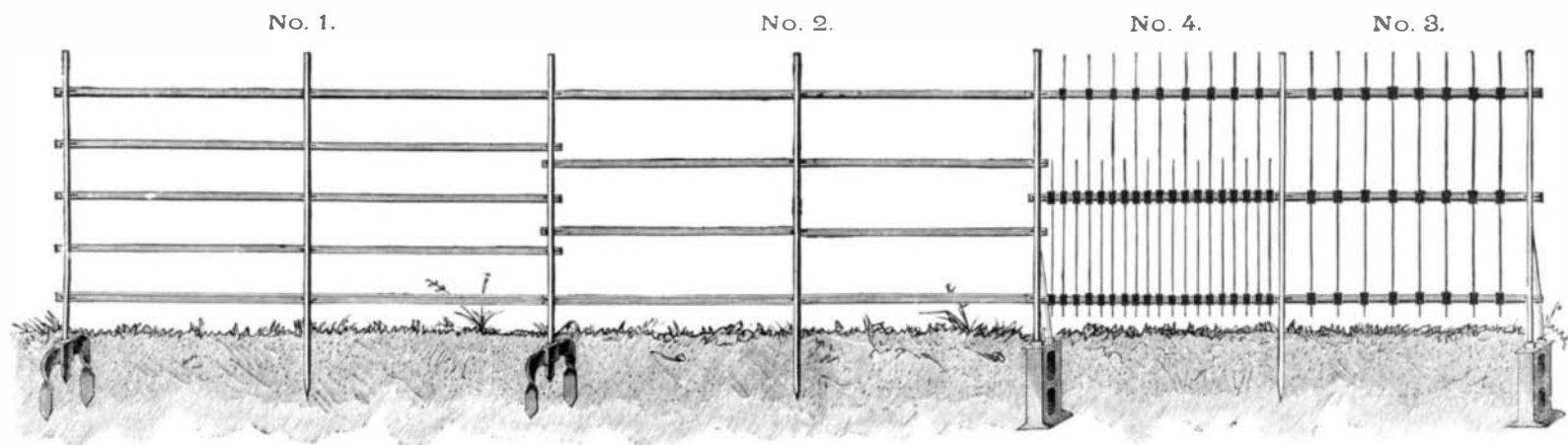
An international exhibition of milling, baking, and confectionery machinery is to be held in June next, under the auspices of the German Millers' Association, in Berlin. The exhibition will consist of all kinds of motors and machines used in mill work, such as steam engines, turbines, wind motors, and waterwheels, either in their working shape or in model. All parts necessary to the internal operation of mills, transmission contrivances, frameworks, millstones, roller mills, cleaning, dusting, mixing, decorticating, and dressing machines, as well as dressing tools of all kinds, and all implements and contrivances necessary for high and low milling, are also eligible for exhibition. The milling exhibits are intended to include those relating to oil, sawing, paint, rice, bone, and cloth mills, as well as to grain milling; and implements used in pastry making and baking are to be comprehended in the exhibition, as also lighting and lubricating contrivances, fire engines and their appurtenances, articles used for packing, including bags, weighing machines, and carriages used in transport. All the products of the mill and the bakery are also to be included in the exhibition. As the latter takes place at the time when an exhibition of the Berlin industries is to be held, there will be a large influx of visitors to the Prussian capital from all parts, and the exhibition will form a good opportunity for the milling engineers and mill furnishers of this country for bringing their productions before the notice of Continental millers.

Applications for space, etc., will be received by the President, Mr. J. van de Wyngaert, 95 Potsdamerstrasse, Berlin, up to March 1, 1879.

**Shipbuilding in the United States.**

The following statistics show that the shipbuilding industry is not quite extinct in this country:

During the fiscal year ending June 30, 1878, 32 iron vessels were built, with a tonnage of 25,960.29 tons. This record is second to the best record the country has yet made, which was in 1874, when the tonnage aggregated 33,097 tons. The next best record in tonnage was in 1873, when it amounted to 26,548 tons. The number of iron vessels built during the past year was greater than in any other year, the year which most favorably compares with it being 1873, when 26 were built. Of the vessels built during the past year, 9 were ocean propellers, varying in tonnage from 1,156 tons to 3,548 tons; 1 was a lake propeller of 306 tons; 1 was a stern-wheel river steamer of 1,028 tons; 7 were side-wheel river steamers, ranging from 128 to 1,285 tons; 13 were steam tugs, the largest of which measured 180 tons; and the remaining vessel was a yacht. The current year promises to surpass the last considerably in its additions to our iron shipping.



**Fig. 1.—AMERICAN HURDLE FENCE.**