New Inventions.

Grain and Grass Harvesters.

Improvements in harvesting machines are not yet ended, as will be seen by the claim of the patent on another page granted to T. W. Lupton, of Va. The machine combines rotary cutters with wire fingers, reel, and endless receiving aprons. The fingers bend the grain at an angle at which it is swept and cut by the cutters, conveyed away by the aprons, and deposited on the ground.—The aprons are dispensed with in cutting grass.

Turpentine Distilling Apparatus.

The claim on another page, of a patent granted to A. C. Blount, of Mount Pleasant, Ala., for an improved apparatus for distilling turpentine, relates to the straining of crude turpentine, prior to its distillation.

The crude turpentine is placed in a cylinder surrounded by a steam jacket for heating it, and containing cylindrical wire sieves placed one within the other. When subjected to heat, and melted, it flows out into a receiver, by gravitation, screened of all its dirt and impurities, and is connected with the still by a pipe, into which it is drawn as required.

Improvement in Flour Bolts.

The annexed engravings represent an improvement in Wire Cloth Flour Bolts, for which a patent was granted to Elias Nordyke and F. B. Hunt, on the 6th of last February.

Figure 1 is a longitudinal section of the flour bolt—the plane of section being through the center, and figure 2 is a detached section of the device by which the pressure of the brushes against the wire cloth of the bolt is graduated.

The nature of the invention consists in the peculiar device employed for expanding and contracting the rotating brushes which act against the inner surface of the wire cloth of the bolt, and force the flour through; the brushes bearing against the wire cloth, with a greater or less pressure according as they are adjusted.

A represents a wire cloth bolt of the usual cylindrical form, which is placed stationary within a chest or box, B, the bolt being formed of cloth of different degrees of fineness, as indicated by 1, 2, 3, 4, and 5.

C represents a shaft which runs longitudinally through the center of the bolt, A, and has its bearings, *a a*, on the framing of the chest or box, B. On one end of this shaft at the head of the bolt, there is placed a driving pulley, D. At each end of the shaft, C, there is permanently secured a hub, *b*, having radial arms, *c*, projecting from it, the ends of said arms being forked, and having bars, E, loosely fitted in them, on the outer ends of which bars brushes, F, are secured.

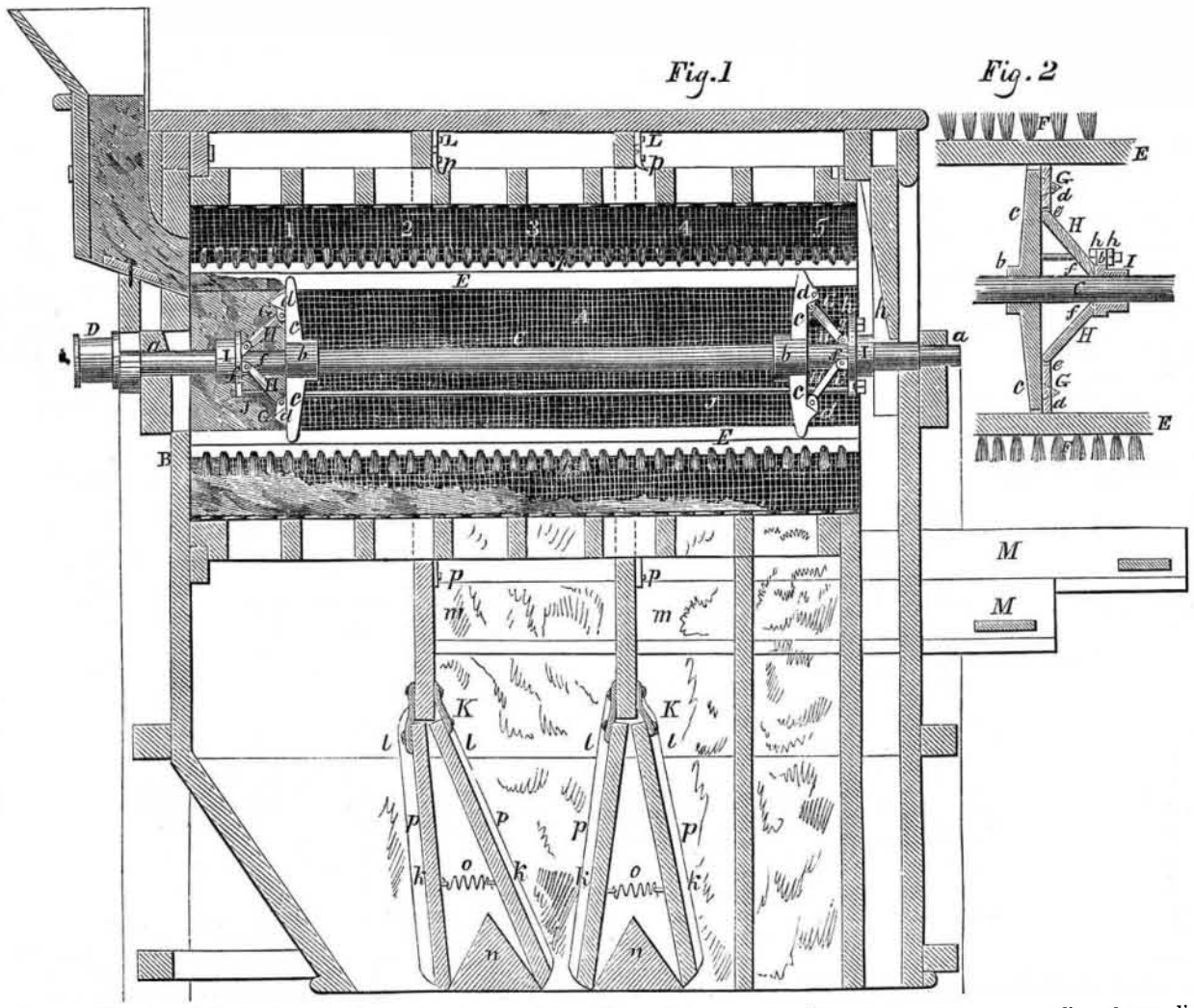
On the outer edges of the arms, *c*, and near their ends are slides, G, one to each arm, said slides working within small guides, *d*, attached to the arms, *c*. The outer ends of the slides, G, are attached to the brush bars, E, and the inner ends are attached by pivots, *e*, to the upper ends of arms, H, the lower ends of said arms being secured by pivots, *f*, to a hub, I, placed loosely on the shaft, C. The hubs, I I are kept in proper position upon the shaft, C, by a small rod which passes through one of the hubs, *d*, of the arms, *c*, and through the hub, I, this hub being prevented from moving by nuts, *h h*, on the rod, which nuts are at each side of an ear, *l*, on the hub, I, fig. 3.

J, fig. 1, is a rod which passes through both of the hubs, I I, and having a screw thread cut on its inner end working on the hub, I, at the head of the bolt.

K are spouts, or rather the divisions of spouts which are attached to the lower ends of hoops or rings, L L, which encompass the bolt, A. To these divisions, K K, there are attached slides, M M, one to each, the slides projecting through the chest or box, B, at the tail of the bolt. The divisions, K K, and hoops or rings, L L, form perfect divisions or compartments within the chest or box, B, and prevent the flour from one division passing into the other. The lower ends of the divisions, K K, are formed each of two parts, *k k*, the upper ends of which are attached by straps or hinges, *l*, to projections, *m*, secured to the lower parts of the hoops, the lower ends of the two parts af each division fitting over triangular projections, *n*, at the bottom of the chest or box, B, the lower ends of the parts, *k k*, being kept against the projections by spiral springs, *o o*. The hoops or rings, L L, on their inner edges, are provided with india rubber strips, *p*, in order to make a tight joint between the bolt frame and hoops or rings. The outer edges of the upper halves of the hoops or rings are also provided with strips, *p*, as also the edges of the division plates, K.

Operation—The meal or unbolted flour is admitted into the head of the bolt, A, which is elevated about one inch to the foot, and motion being given the shaft, C, the flour is brushed through the bolt or wire cloth by the brushes F, the pressure of said brushes against the wire cloth being graduated as desired by operating the rods, *g* J, by which the nuts, I I, on the shaft, C, may be moved, and the brush bars, E, expanded or contracted. The finest flour falls through the portion of fine wire cloth, numbered 1 and 2, and by

IMPROVED FLOUR BOLT.

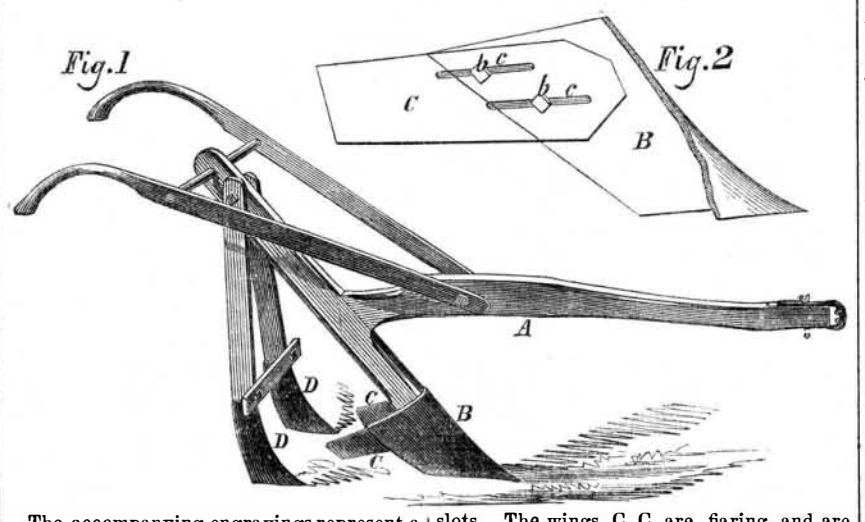


moving the slide to which the first division plate K, is attached the flour receptacle is enlarged or contracted so that only the first quality may be received in the flour receptacle. The same operation may be applied to the plate, K.

By the use of the sliding division plates, the flour may be separated at varying points, as also the ship-stuff, and inferior boltings towards the tail of the bolt. And as wheat differs much respecting the quality and quantity of good flour it will produce or yield, the division plates may be adjusted according ly, so as to keep the fine portion separate from the rest.

More information may be obtained by letter addressed to Nordyke, Ham & Co., Richmond, Ind.

HORSE SHOE CULTIVATOR PLOW..



The accompanying engravings represent a cultivator, for which application for a patent was made at the same time by two different inventors, viz: W. S. Hyde, of Ohio, and H. Wright, of South Byron, N. Y. A compromise was finally made, and the patent was issued in Mr. Hyde's name, in June, 1853, but H. Wright is now the sole owner of a large portion of territory in the Eastern and Western States.

Fig. 1 is a perspective view, and fig. 2 is a section, showing one of the adjustable wings connected with the plow shoe. A is the beam. B is the plow shoe. D D are two adjustable cultivator teeth, behind the shoe, and C C are the adjustable wings. In fig. 2, *c c* represent two slots in each wing, and *b b* are screw bolts to secure the wings in these slots. The wings, C C, are flaring, and are designed for hilling up, consequently, as they can be adjusted by the slots, *c c*, and the bolts, further in or out on the plow shoe, they are rendered fit to hill up high or low, and made suitable for narrow and wide rows. The bar which connects the two cultivator teeth, D D, has bolts which also work in slots in their respective legs, and they swivel at the top, consequently they can be set near and wide apart, to cut as close to the rows as may be desired.

To use this plow cultivator, the ground should be plowed deep, well harrowed, and marked both ways with a good marker. As soon as the rows can be seen, commence using the implement. Take off the wings from the shovel, and not use them while the crop is small. Set the teeth to run as near the hills as possible; to work fast have a man or boy follow while crossing, when the corn is small. As soon as the corn is a foot or more high, put on the wings, and set them level on the lower edge, and as the crop grows, set the hind teeth nearer together.—To hill up any crop, take off the wood work to which the teeth are attached, and you have a most perfect implement for hilling. It is designed for corn, cotton, or any crop requiring to be hoed.

More information may be obtained by letter addressed to the assignee, Mr. Wright, care of A. Gordon, & Co., manufacturers of the implements, Rochester, N. Y.

Spark Arresters.

The patent of Gilbert Richards, granted this week, for an improved spark arrester, relates to placing within the usual inverted conical casing, at the top of the smoke pipe, a spiral flanch, the upper edge of which is in close contact with the inner side of the casing, and its lower edge inclining inwards towards the center, so as to form an acute angular recess around the casing.—There is also a suitable number of deflecting plates connected with this spiral flanch. The sparks are thrown by the deflecting plates into the angular recesses formed by the spiral flanch, and downwards while the smoke and heated gases pass upwards. This spiral flanch, while it arrests the sparks, has no tendency to choke the draft.

The Locomotive Works of Schenectady, N. Y., under the superintendence of Walter McQueen, turns out about one locomotive per week, and has been very successful.