J. E. ERB.

Straw Cutter.

No. 7,473.

Patented July 2, 1850.

Fig. 3

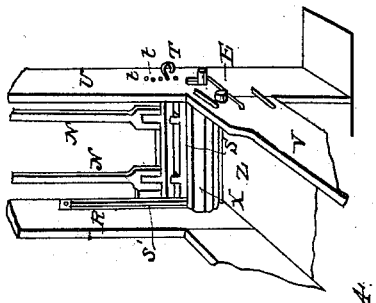


Fig. 4

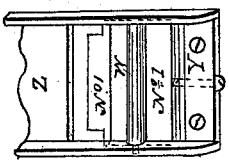


Fig 2

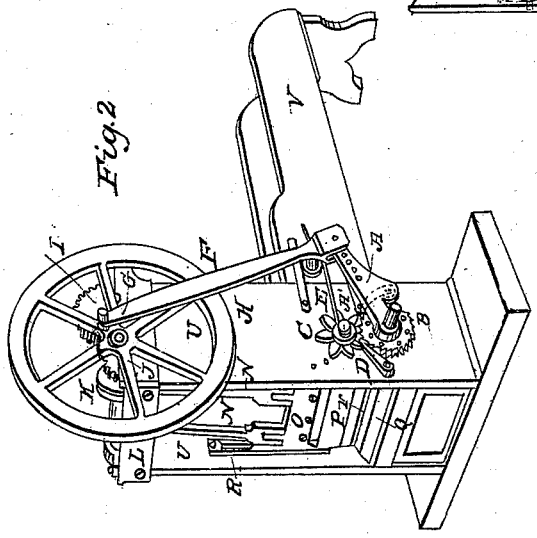
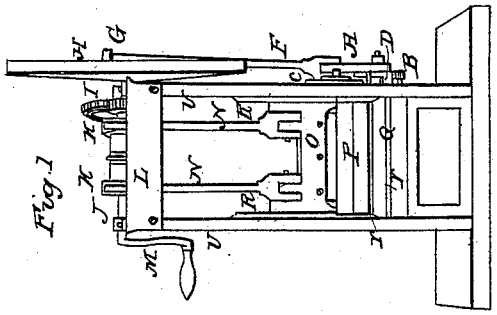


Fig. 1



Inventor
John E. Erb

UNITED STATES PATENT OFFICE.

JOHN E. ERB, OF BALTIMORE, MARYLAND.

FEEDER OF STRAW-CUTTERS.

Specification of Letters Patent No. 7,473, dated July 2, 1850.

To all whom it may concern:

Be it known that I, JOHN E. ERB, of the city and county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Machines for Cutting Ears of Corn, Straw, Cornstalks and other Fodder, of which the following is a full, clear, and exact description, reference being had to the annexed drawings of the same, making part of this specification, in which—

Figure 1 is a perspective view of the front of the machine, Fig. 2 a similar view of the front and side of the machine, Fig. 3 is a similar view of the back of a fragment of the machine embracing the upper feed roller, the guard piece, the back of the knife, a portion of the feed apron, and a part of the main frame, and Fig. 4 is a view in perspective of the back roller around which the feed apron is stretched and the mode of adjusting it to tighten the apron.

My invention consists of a new combination and arrangement of devices which together constitute a machine for cutting ears of corn, cornstalks, straw and other fodder, at once simple, efficient and durable.

The machine consists of a strong frame (V) on the top of which is mounted the main driving shaft in suitable bearings; one end of this shaft is fitted with a crank M to which the power to drive the machine is applied, and near the middle of the shaft a spur wheel I is secured which gears into a pinion (J) mounted on the counter shaft (J′), on one end of the counter shaft the balance wheel (H) is secured which tends to prevent jarring, and causes the machine to run with greater steadiness and regularity; the countershaft is also fitted with two eccentrics K K that communicate an alternating motion to the knife P suspended to them by the rods (N N); the latter being fitted with suitable straps to embrace the eccentric. The knife P is attached to a stock O which runs in vertical guides *o;* the stock is hinged to the lower end of the eccentric rods, N N.

The apparatus by which the straw or other fodder to be cut is fed to the knife consists of an endless apron Z Figs. 3 and 4, a feed roller X Fig. 4, and suitable machinery for giving motion to them; this apron is stretched on rollers within the trough V one of the rollers being across the front of the trough and stationary, the other being across its rear end and adjustable by means of a screw Y Fig. 4; the journal of the front roller of the apron projects beyond the outside of the frame and on its projecting end is secured a ratchet wheel B operated by a click A′ attached to a lever A, a star wheel which gears into and drives a star wheel C on the axis of the upper feed roller; the lever A is operated by a connecting rod F jointed to its outer end and connected to a wrist pin G on one of the arms of the balance wheel. A pawl D on the side of the frame works in the teeth of the ratchet wheel and prevents it from turning backward by the pressure of the knife against the material being cut. The journals of this upper feed roller X are placed in a slot in the frame to allow it to rise and fall to accommodate itself to the thickness of the sheet of fodder being fed to the knife; a spring E bears upon either end of the journals of this roller to cause it to press upon the sheet of fodder with the requisite force to draw it along the trough to the knife. Between the upper feed roller and the knife an adjustable guard piece S Fig. 3 is placed; it consists of a rectangular bar of wood or iron, its ends being fitted into guides (*s′* Fig. 3) in which it slides up and down; these guides are adjacent and parallel to those in which knife stock slides. This guard piece should be placed as near the knife as possible and is adjusted and held at a height corresponding to the thickness of the sheet of fodder passing under it by means of pins T passing through holes (*t*) in the side of the frame into the ends of the guard bar. To raise or lower this bar it is merely necessary to withdraw the pins from one hole and insert them in another that will hold it in the required position. The office of this guard piece is to prevent that portion of the sheet of fodder or ear of corn back of the knife from rising up by the pressure of the knife while cutting off that part of it which projects in front of the knife. By thus holding the material being cut firmly down upon the lower or stationary knife it cuts more easily, and wet fodder and ears of corn which can scarcely be cut at all in the ordinary cutting machine are cut with great ease by the aid of this guard piece.

In front of the lower or stationary knife

r is placed a stationary bar Q to support that part of the sheet of fodder in front of the knife while being cut off—the space between this supporting bar and the front edge of the stationary knife r is barely sufficient to allow the reciprocating knife P to enter between them, this front supporting piece greatly facilitates the cutting, by affording a firm support for the front end of the fodder.

What I claim as my invention is—

The guard piece S, in combination with the feed rollers to carry the straw or other material to the cutters as described.

In testimony whereof I have hereunto subscribed my name.

JOHN E. ERB.

Witnesses:

ALFRED ARNOLD,
P. H. WATSON.