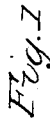


Straw Cutter.

Patented Feb. 10, 1846.



UNITED STATES PATENT OFFICE.

SAML. G. BLACKMAN, OF NORWALK, CONNECTICUT.

STRAW-CUTTER.

Specification of Letters Patent No. 4,371, dated February 10, 1846.

To all whom it may concern:

Be it known that I, SAMUEL G. BLACKMAN, of Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Machines for Cutting Straw, &c., and that the following is a full, clear, and exact description of the principle or character thereof, which distinguishes it from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation, and Fig. 2, a longitudinal vertical section of my improved straw cutter.

The same letters indicate like parts in all the figures.

My improvement is applicable only to that class of straw cutters which cut by means of knives attached to, and radiating from the center of a shaft or roller, and acting against the surface of a cylinder of wood, lead, or other substance.

Heretofore the roller against which the knives act has been pressed down toward the axis of the roller of knives by a set of springs placed above and regulated by temper screws or wedges to cause the surface of the cylinder to make pressure on the knives and to adapt it to the irregular wear of their edges; but this, it is believed, has a very injurious effect on the surface of the cylinder, for the action of the springs will, during the rotation of the roller of knives, cause the surface of the cylinder to sink between the knives, so that the one which is advancing penetrates, more or less, into the surface of the cylinder before it reaches a line passing through the axis of the roller and cylinder, and as it approaches that line and passes it the tendency is to gouge or prize out a portion of the surface of the cylinder; and at the same time it will be evident that much power is necessarily consumed at the passage of each knife in lifting up the cylinder against the tension of the springs.

The object of my invention is to remedy this evil, and I effect it by suspending the boxes in which the journals of the cylinder work between helical springs placed above and below, with temper screws that bear on the top of the upper springs, so that the surface of the cylinder can be regulated at pleasure to make the requisite pressure on the edges of the knives as they pass, and yet not sink so much between them as to injure the surface of the cylinder and waste the power.

In the accompanying drawings (*a*) represents the frame of the straw cutter, (*b*) the roller with the radial knives (*c*), and (*d*), the cylinder that makes pressure on them.

The journals of the roller (*b*) run in permanent boxes (*e*) in the usual manner, and those of the cylinder (*d*) run in sliding boxes (*f*), that rest on helical springs (*g*), which tend to force them up, and are borne down by two similar springs (*h*), placed above them: and for the purpose of regulating the tension of these, two temper screws (*i, i*), that pass through nuts (*k, k*) in the standards of the frame, bear on them, so that by the turning of these screws the cylinder can be made to bear on the edges of the knives, as they pass, with any desired pressure, while this downward tendency is resisted by the upward pressure of the lower set of springs (*g*).

What I claim as my invention and desire to secure by Letters Patent, is—

Suspending the boxes in which the journals of the cylinder run between two sets of springs placed above and below, the upper set being regulated by temper screws or other analogous device, in combination with the roller of radial knives that cut against the surface of the cylinder, as herein described.

SAMUEL G. BLACKMAN.

Witnesses:

W. M. KELLER,
A. P. BROWNE,