W. HOVEY.

Straw Cutter.

No. 3,431. Patented Feb. 12, 1844.

Fig. 2.

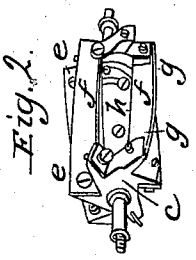


Fig. 1.

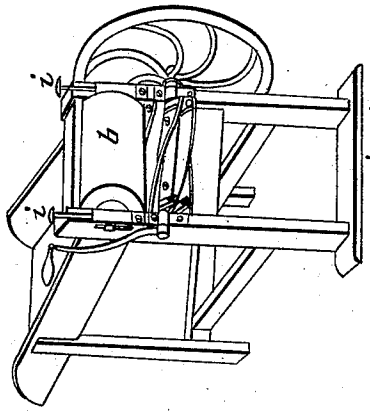


Fig. 4.



Fig. 5.

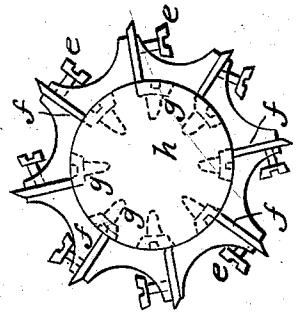
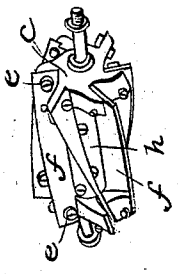


Fig. 3.



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WM. HOVEY, OF WORCESTER, MASSACHUSETTS.

STRAW-CUTTER.

Specification of Letters Patent No. 3,431, dated February 12, 1844.

To all whom it may concern:

Be it known that I, WILLIAM HOVEY, of the town and county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Machinery for Cutting Straw, Hay, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification, Figure 1 being a perspective view of the whole machine; Figs. 2 and 3, the wheel or cylinder of knives; Fig. 4, a knife detached.

The nature of my invention consists in forming a cylinder, around which a series of knives are set spirally, the said knives being radial, and so fastened to the cylinder as to be adjustable, by which means they can be made to cut against a cylinder or roller of wood or other suitable substance with the greatest precision, after they have been ground.

The construction of my machine is as follows: The frame and box are similar to the common horizontal-box cutters now in use, the two front posts of which sustain the journals of a roller (*b*); this roller is placed just above the bottom of the box, and can be raised or lowered by screws (*i*) attached to its movable bearings; directly beneath this roller the cylinder of knives is placed, so that the edges of the knives come in contact with the roller, and between them the straw is cut. On the shaft of the knife cylinder, at one end, a fly wheel is affixed, and to the other a crank, by which it is put in motion. From each end of the cylinder (*c*), Figs. 2 and 3, are projecting arms, the face of which, that the knives rest against and to which they are fastened, being made radial; or instead of these arms, spiral wings may be formed on the cylinders, extending from end to end, against which the knives will rest. These it is not deemed necessary to represent as the cross section of the wings is the same, in any part, as that of the arms above named. The knives have a notch cut into their backs near each end, as is represented in Fig. 4, where one of the knives is shown detached, and binding screws pass through said notches into the arms or wings above mentioned; set screws (*g*) are also inserted into the cylinder, under the back of the knives, near each end; they can be screwed in flush with the cylinder, or turned out, so as to elevate and adjust the knives, and bring their edges all up to the same circle, as they are ground away and wear out; they are thus made to touch the roller (*b*) above, throughout their length. The screws are all easily got at with a screw driver without removing the knives, and the nicest adjustment constantly preserved.

Another variation of the head is shown in Fig. 5; the heads are made circular, and as many slots (*l*) cut into them radially as there are to be knives; between each two slots a notch is cut out, which admits a screw (*o*) to be inserted angularly, that runs through into the slot. When the knife is inserted it just fills the slot, and in this arrangement it has no notch cut in it; the point of the screw being forced against the knife holds it firmly in its place; the set screws in this are like those (*g*) before described. The operation of this machine is to cut equal along the whole length of each knife, which is made to touch against the roller by the adjusting screws, notwithstanding any inequality in their wear.

It will be obvious that my improvement is applicable to the straight, as well as the spiral knife, but I prefer the latter. Keys or wedges can also be substituted without changing the principle.

I do not claim a cylinder of knives cutting against a solid surface as that has been done before; but

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

The cylinder, having any number of arms around it to which adjustable knives are affixed constructed and arranged as above described, in combination with the roller against which they cut, in the manner, and for the purpose herein set forth.

WILLIAM HOVEY.

Witnesses:

JOS. BROWER,

J. J. GREENOUGH,