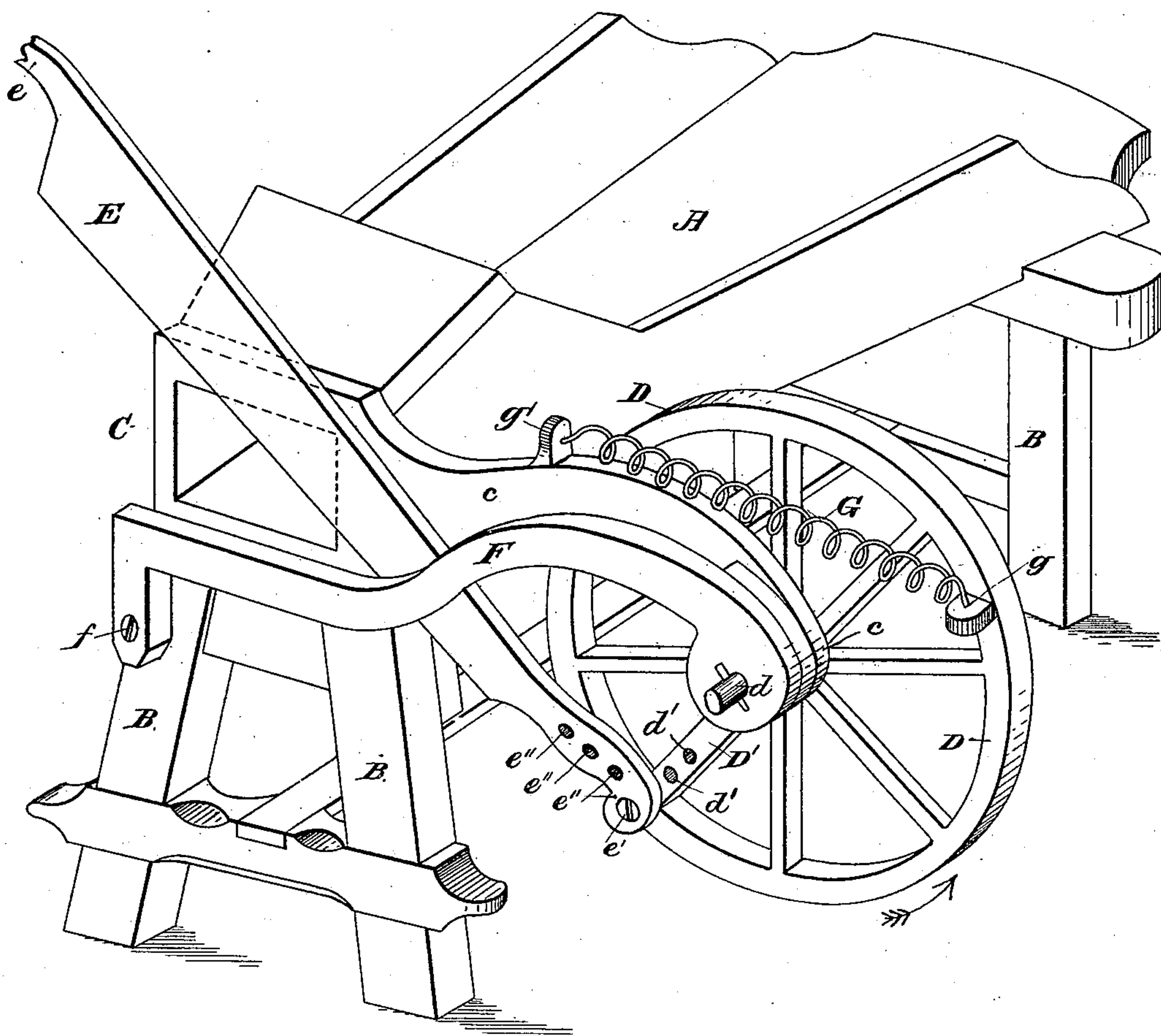


(No Model.)

D. V. CASH.
Straw Cutter.

No. 234,905.

Patented Nov. 30, 1880.



Attest:
Geo. T. Smallwood Jr.
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Inventor:
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attys.

UNITED STATES PATENT OFFICE.

DAVID V. CASH, OF JOHNSON CITY, TENNESSEE, ASSIGNOR OF ONE-HALF
TO JACOB M. RANGE, OF SAME PLACE.

STRAW-CUTTER.

SPECIFICATION forming part of Letters Patent No. 234,905, dated November 30, 1880.

Application filed July 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, DAVID VANCE CASH, a citizen of the United States, residing at Johnson City, in the county of Washington and State of Tennessee, have invented Improvements in Straw-Cutters, of which the following is a specification.

My invention relates to those forms of straw-cutters that have a sliding knife provided with a handle at one end and suitably pivoted or guided at the other end; and my invention consists, primarily, in certain improvements in the construction and arrangement of parts hereinafter fully described and claimed.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawing, which shows in perspective a machine embodying my improvements.

A is the box, and B the legs, of a feed-cutter as ordinarily constructed. To the front or delivery end of the box is attached a metal plate, C, having a rectangular opening, through which the straw is fed, and also having a prolongation, *c*, extending out from the box, so as to form a bracket or support for a fly-wheel, D, that oscillates upon stud or gudgeon *d*.

E is a sliding knife, provided with handle *e*, and pivoted, by means of bolt or screw *e'*, to the fly-wheel D. Holes *d'* *d'* in the arm D' of the fly-wheel allow of the attaching of the knife at different distances from the center of the wheel. If desired the arm D' may be slotted and the bolt *e'* provided with a collar and clamp-nut, as is usual in such adjustments. The knife also may have adjusting-holes *e''*, whereby it may be shortened up to correspond with the adjustment on the arm D'.

The knife is held against the plate C by arm F, attached to the front of the frame at *f* and to the projecting end of the arm *c*. The upper surface of this bar is made flush with the bottom of the opening in the plate C, so that the projecting ends of the straws rest upon it while being cut, thereby presenting the work to the knife in the most favorable manner.

G is a helical or other suitable spring, attached to the bracket *g* below the top portion

of the wheel D, and to the bracket *c* at *g'*, for the purpose of storing up the power exerted on the upstroke and expending it again on the downstroke, thereby equalizing the work. The bracket or projection *g* being formed on or secured to the wheel D below or beyond the top of said wheel, as shown, it will readily be seen that on the return of the wheel to its position of rest (which it will always do on the release by the operator of the knife-handle, owing to the greater weight of its lower portion, to which the knife is attached) the spring attached at one end to said projection will be automatically extended, and will remain so extended until the starting forward of the knife allows the spring to retract and aid in the operation of the knife, as heretofore explained.

An important advantage of the combination of the spring and fly-wheel rests in the fact that the momentum imparted to the fly-wheel on the upstroke, having full play during the commencement of the stroke, finally culminates in stretching the spring far beyond any tension that could be directly imparted to it without the use of the wheel.

The object of the fly-wheel itself, independent of its use in combination with the spring, is to concentrate and hold in reserve the force expended during the first part of the stroke, and expend the same during the last portion of the stroke, when the greatest resistance is met.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

The combination of wheel D, having perforated arm D' at its lower portion and projection *g* below the top of said wheel, knife E, perforated at its lower end and pivoted to said arm, plate C, having rectangular opening, and the prolongation or bracket *c*, provided with stud or projection *g'*, and the spiral spring G, secured at its respective ends to the projections *g* *g'*, as and for the purpose set forth.

DAVID VANCE CASH.

Witnesses:

E. C. REEVES,
A. R. REEVES.