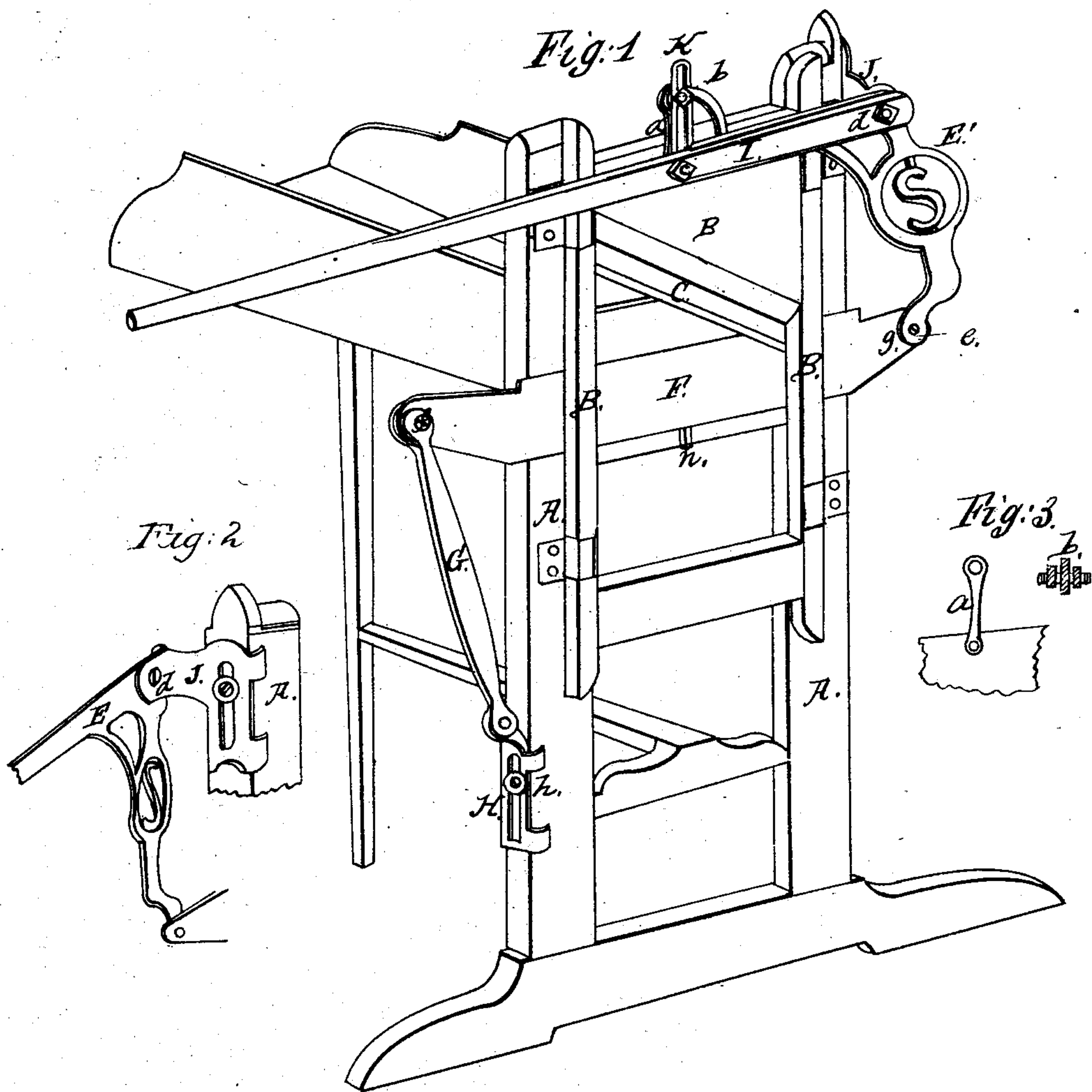


N. HOLMES.  
STRAW CUTTER.

No. 69,915.

Patented Oct. 15, 1867.



Witnesses.  
Wm. M. Gording.  
Sidney W. Edwards.

Inventor.  
Nelson Holmes.

# United States Patent Office.

NELSON HOLMES, OF LAONA, NEW YORK.

*Letters Patent No. 69,915, dated October 15, 1867.*

## IMPROVED STRAW-CUTTER.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, NELSON HOLMES, of Laona, in the county of Chautauqua, and State of New York, have made certain Improvements in the Construction of the Machine for Cutting Straw, &c., secured to me by Letters Patent No. 26,676, bearing date January 30, 1860; and I do hereby declare the following to be a full and exact description of the same, reference being had to the drawings making a part of this specification, from which many of the parts secured by my former patent are omitted, only those needed to illustrate the improvements being shown.

Figure 1 is a perspective view, showing most of the improvements.

Figure 2 shows what cannot be distinctly seen in fig. 1, and

Figure 3 is the link and bolt by which the compound lever is adjustably attached to the upper knife-gate.

The nature of the improvements consist in the provision for adjustability in certain parts of the machine, and in a back support to the lower knife.

Upon the upright frame A is placed the vertical moving knife-gate B, with the knife C obliquely attached. A compound lever-handle in two parts, I and E, that has its fulcrum on the bolt *d*, has an upright projection, K, on the end of E, and is secured to I by the screw-bolt *e*, the upright K being slotted lengthwise. A link, *a*, vibrates at its lower end upon a stud or bolt near the upper edge, in the middle of the top bar of the knife-gate B. The upper end of the link is connected to the projection K on the lever E by the bolt *b*, the bolt having a collar fast upon it in the middle of its length. The end passing through the slot in K is held immovably thereto by the nut on the end of *b*, and is thereby adjustable at pleasure. The upper end of the vibrating link *a* is upon the other end of the bolt *b*, and is movable thereon. The extreme of E is attached to the lateral moving-knife F by the bolt *g*, that both knives may be simultaneously moved by the handle I. To the other end of the lateral moving knife F a connecting-rod, G, is attached by the bolt *f*, the lower end of the rod G being vibratory upon the adjustable support H on the main frame A, so that by changes at K and at H, the relative positions of the knives to each other can be altered at pleasure. For further convenience of adjustability, the fulcrum of the compound lever can be heightened or lowered by the adjustable support J, fig. 2, which is secured to the upper part of the main frame A. To insure due resistance to extraordinary cases of pressure that may occur to the lateral knife F, a bar, *n*, is inserted vertically behind the knife into the cross-bar *m* in the main frame A.

What I claim as improvements, and desire to secure, is—

The compound lever-handle I E, and the connected adjustable supports K, J, and H, all constructed and arranged substantially in the manner and for the purposes specified. Also the supporting-bar *n*, when placed in the cutting machine for the purpose set forth.

N. HOLMES.

Witnesses:

W. M. GOODING,

SIDNEY W. EDWARDS.