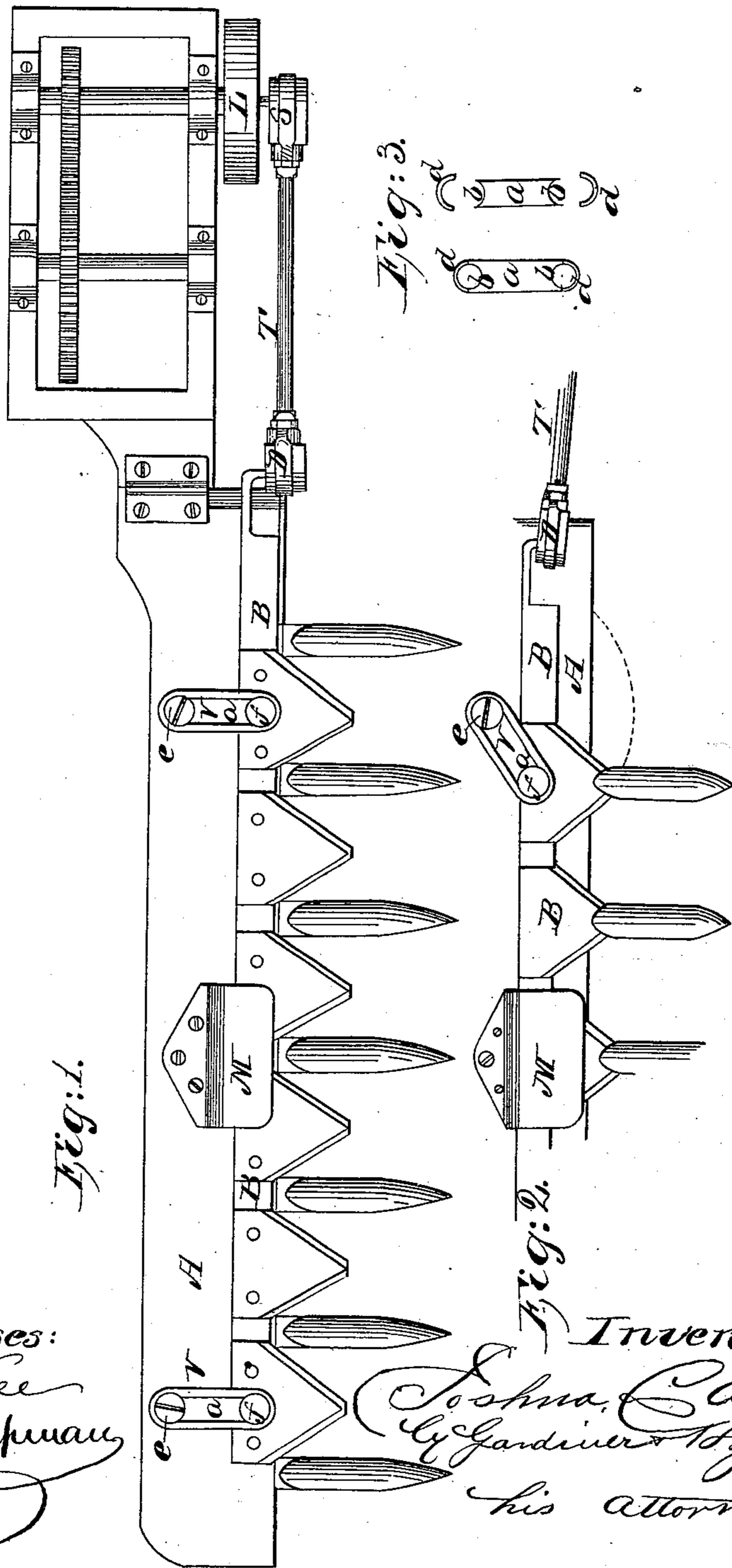


J. L. ABELL.

CUTTING APPARATUS FOR HARVESTERS.

No. 109,569.

Patented Nov. 29, 1870.



Witnesses:  
Roswell Lee  
Samuel J. Chapman

Inventor:  
Joshua Cabell  
by Gardner & Hyde  
his attorneys

# UNITED STATES PATENT OFFICE.

JOSHUA L. ABELL, OF CUMMINGTON, MASSACHUSETTS.

## IMPROVEMENT IN CUTTING APPARATUS FOR HARVESTERS.

Specification forming part of Letters Patent No. **109,569**, dated November 29, 1870; antedated November 12, 1870.

I, JOSHUA L. ABELL, of Cummington, Hampshire county, Commonwealth of Massachusetts, have invented a certain Improvement in Reapers and Mowers, of which the following is a specification:

### *Nature and Objects of the Invention.*

My invention relates to the manner of forming the connecting-link, so that the wear at both ends upon their axes is taken up by the elasticity of a strong rubber band, which, together with the resistance of the grain being cut, holds the cutter-bar with rivet and intermediate connection close against the rivet on the finger-bar, and both rivets in consequence against their bearings.

### *Description of the Accompanying Drawing.*

Figure I is a plan view of a machine embodying my invention. Fig. II is a view showing the sickle-bar in a different position from Fig. I. Fig. III is a view of the pieces connecting sickle-bar and finger-bar.

### *General Description.*

A is the finger-bar of a reaper or mowing-machine, having a smooth flat surface for the sickle-bar B to travel on. The bar B is attached at its heel to a ball-socket, D, in the end of the pitman T, which is attached at its other end by a ball-socket, S, to the pulley or crank L, the ball-sockets in the ends of the pitman permitting the lateral play of the sickle-bar B. The connections V are pivoted to the finger-bar at points that will cause the cutting-edges of the knives to pass through the fingers.

As many of the links V may be used as may be found necessary for strength, and between each two I place a guide, M, to hold the bar B in place.

In the shear motion obtained by vibrating knives with their edges at an angle with the edges of the fingers, through the fingers, there is always a tendency to push the stalks of the grain or grass away from the knives, and the knives have to be kept very sharp to be effective, while the action of my draw-shear motion is to hold the stalks against the edges of the fingers while the sickles are drawn along and through them. The slots in the fingers do not become filled up, so as to interfere with the movement of the knives, for the same reason.

The finger-bar B may be hinged to the main frame, so as to enable it to be lifted.

I form my connections V of pieces of metal *a*, having concave ends *b b*, and which, with caps or washers *d d*, are secured to the screws *e* on the finger-bar and *f* on the sickle-bar, the concave ends *b b* acting as bearings for the screws *e* and *f*, as in Fig. III, and it is better to have the piece *a* and screws *e* and *f* of different metal, so that the wear will be less.

What I claim is—

The connecting-pieces V, formed of parts *a*, caps *d d*, and rubber bands, constructed as described.

JOSHUA L. ABELL.

Witnesses:

R. F. HYDE,  
B. C. ENGLISH.