

H. A. CROSSLEY.  
STAVE JOINTERS.

No. 185,629.

Patented Dec. 26, 1876.

Fig. 1.

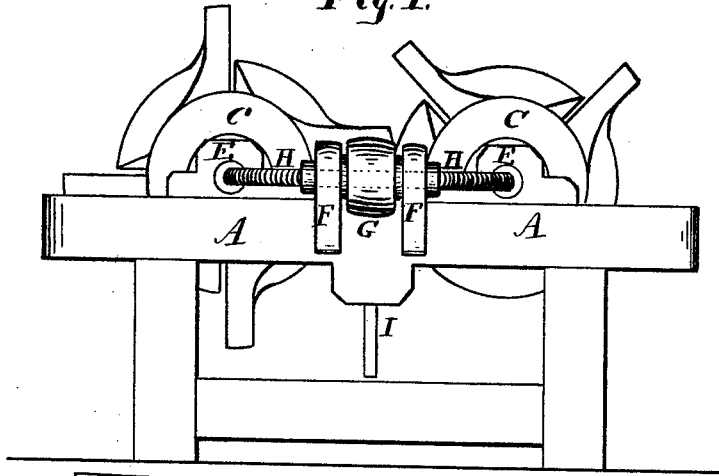


Fig. 2.

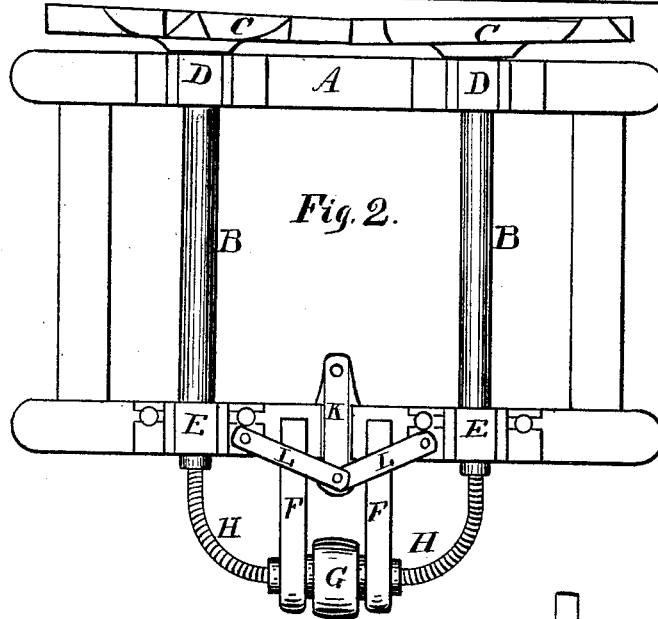
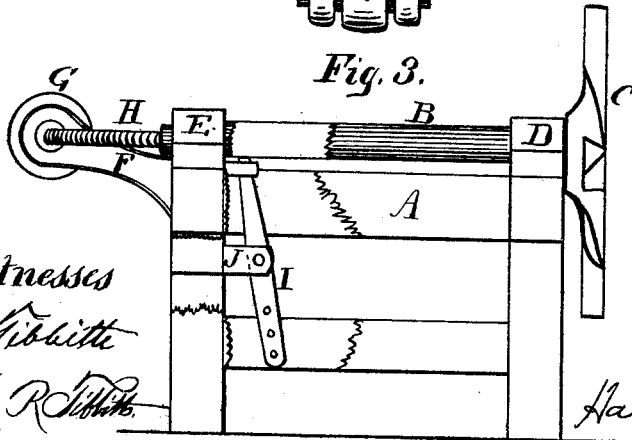


Fig. 3.



Witnesses  
Geo. M. Tibbitts  
Frank R. Tibbitts

Inventor:  
Harry A. Crossley

# UNITED STATES PATENT OFFICE.

HARRY A. CROSSLEY, OF CLEVELAND, OHIO.

## IMPROVEMENT IN STAVE-JOINTERS.

Specification forming part of Letters Patent No. **185,629**, dated December 26, 1876; application filed December 27, 1875.

*To all whom it may concern:*

Be it known that I, HARRY A. CROSSLEY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Stave-Jointers, of which the following is a specification:

This invention is in the nature of an improvement on the machine for which Letters Patent No. 99,411 were granted me February 1, 1870; and the invention consists in connecting the shafts of the cutters by means of a flexible shaft operated by and secured to a driving-shaft and pulley, the flexible shaft being designed to displace the costly, noisy, cumbersome, and oftentimes dangerous gear-wheels heretofore employed, and affording means whereby a greater speed may be obtained.

In the accompanying drawing, Figure 1 is a side elevation, Fig. 2 is a top or plan view, and Fig. 3 is an end elevation, of my improved stave jointer.

A is the frame of the machine. B B are the shafts carrying the cutter-disks C C. The said shafts are set in pivoted boxes D D, at the ends having the cutters, and in sliding boxes E E at their opposite ends. To the side of the frame, between the said sliding boxes, I attach two brackets, F F, in which I journal a short shaft and pulley, G, and I connect said short shaft with the ends of the shafts B B with a flexible shaft, H, made of successive strands of coiled wire. This flexi-

ble shaft I pass through the short shaft, securing it therein, so that it will turn with it, also securing the ends of said flexible shaft firmly in the ends of the two shafts B B, the object being to impart motion to the shafts B B through the medium of the flexible shaft H, substituting it for the gear heretofore used for that purpose, whereby rapid, safe, and noiseless revolutions are obtained. I is a lever, pivoted in a slotted arm, J, on the side rail of the frame A, the upper end connecting with and operating a short sliding bar, K, set in ways in the upper side of the rail. To one end of said bar K are pivoted two levers L L, connecting it with the two sliding boxes E E, thus forming a knuckle-joint between said boxes for operating the same. The lower end of the lever I is to be connected with the frame of the table which holds the stave, and is to be operated thereby for the purpose of adjusting the cutter-disks to the width of stave to be jointed, in like manner to my patent dated February 1, 1870, No. 99,411.

Having described my invention, I claim—

In a stave-jointer, the shafts of the cutters connected by a flexible shaft, H, combined with a driving-shaft and pulley, G, constructed and arranged substantially as described.

HARRY A. CROSSLEY.

Witnesses:

GEO. W. TIBBITTS,  
ANDREW SQUIRE.