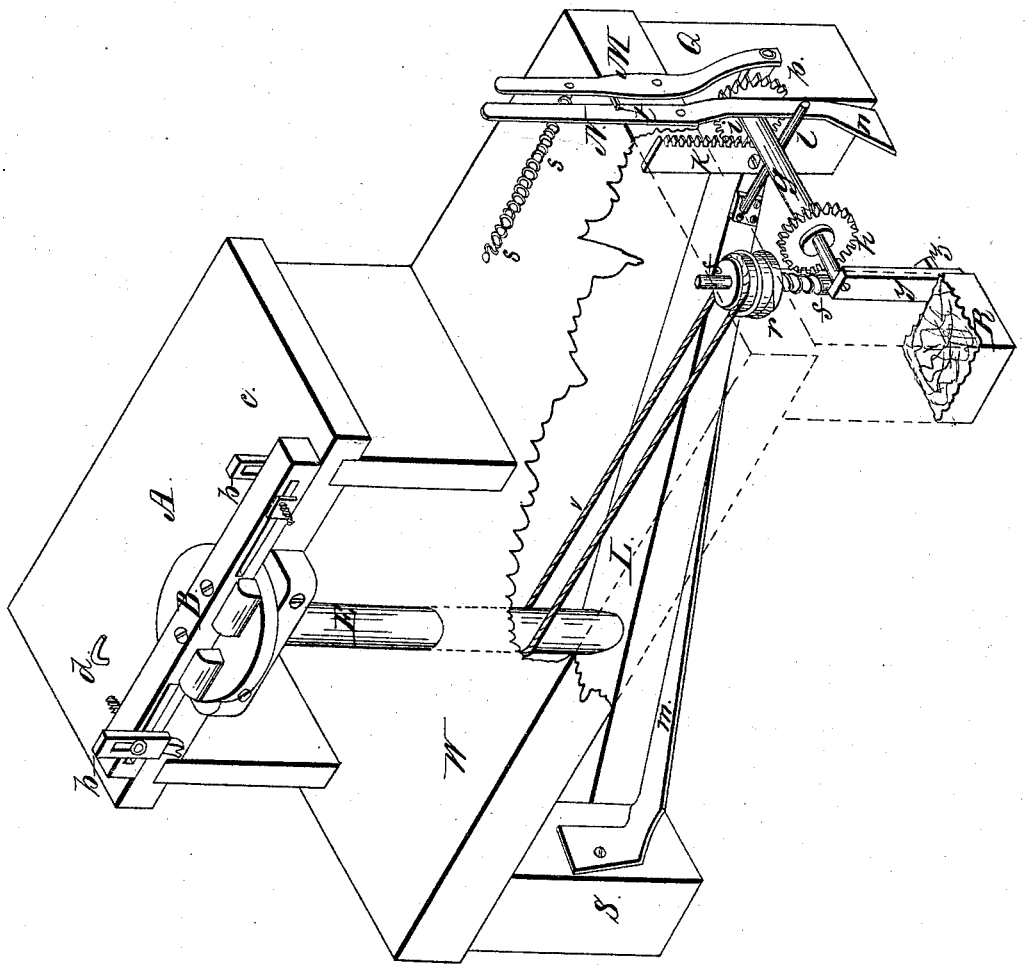
J. & L. Adams,

Making Felloes.

No. 7,485. Patented July 9, 1850.



UNITED STATES PATENT OFFICE.

JOSEPH ADAMS AND LEVI ADAMS, OF HADLEY, MASSACHUSETTS.

MACHINE FOR CUTTING FELLIES.

Specification of Letters Patent No. 7,485, dated July 9, 1850.

To all whom it may concern:

Be it known that we, JOSEPH ADAMS and LEVI ADAMS, of Hadley, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Machine for Cutting Fellies; and we do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing, making a part of this specification.

The nature of our invention consists in the combination of certain movements with the shaft of the cutter head, so arranged that the forward motion of the shaft will cause it to descend while the felly is being formed by the cutters in the cutter head, and as soon as that has been accomplished, will automatically throw the shaft upward into its starting position.

W, is the top of a strong bench which supports the respective movements of our felly cutting machine. Elevated a short distance above the supporting bench W, and strongly secured thereto, is the bed A, upon which a plank is secured while a felly is cut therefrom. Suitable dogs *c*, *d*, are combined with the bed A, for holding a plank thereto while it is being operated upon by the cutters.

The cutter head B, and the cutters *b*, *b*, may be constructed in any well known or usual manner. The lower end of the shaft E, of the cutter head, rests upon the bar L; one end of the bar L, is jointed to the leg S, of the supporting bench, and its opposite end is forced upward by means of the spring *m*, (or by a cord or chain and weight,) with sufficient power to elevate the shaft E, and the cutter head surmounting the same. At the outer end of the bar L, a vertical rack *k*, is secured, the teeth of which rack match into the pinion *i*, on the horizontal shaft *g*. Another pinion *h*, on the shaft *g*, gears into an endless screw on the vertical shaft *f*. The shaft *f*, is connected to the shaft E, of the cutter head, by the band *v*. The lower end of the shaft *f*, has its bearing in the bracket *z*, made fast to the leg R, of the supporting bench, and the journal at its upper end is inserted in a box secured to the under side of the bench W. The journal at one end of the shaft *g*, works in the plate *y*, secured to the leg R, of the supporting bench, and the journal at its other end works in the movable plate *p;* the plate *p*, works in a groove in the leg Q, of the supporting bench, or in a box secured thereto; the outer end of the plate *p*, is connected to the lower end of the vertical lever M; which lever (M,) is connected to the end of the top W, of the supporting bench, by a fulcrum pin; and the upper end of said lever is connected to the spring S, which draws it inward. A lever N, is placed by the side of the lever M, and is secured to the end of the bench by a fulcrum pin; a wedge *t*, projects from the edge of the lever N, above its fulcrum pin, in the direction of the lever M; the lever N, terminates at its lower end in the inclined plane *n*. The spring *s*, which acts upon the upper end of the lever M, turns the lever upon its fulcrum, and thereby throws the pinion *i*, out of gear with the rack *k;* by turning the lever N, upon its fulcrum to such a degree as to force the wedge *t*, projecting therefrom, under the lever M, sufficient inward motion will thereby be given to the lower end of this lever and to the sliding plate *p*, connected thereto, to throw the pinion *i*, into gear with the rack *k*.

When a plank has been secured upon the bed A, of the machine, and the cutter head put in motion, the pinion *i*, is thrown into gear with the rack *k*, by turning the lever N, into the position shown in the drawing; the forward motion of the shaft E, will then cause the bar L, and the cutter head resting thereon, to descend, by means of the band *v*, the shaft *f*, the pinions *h*, and *i*, on the shaft *g*, and the rack *k*, at the outer end of L, until the plank has been cut through and the felly formed; at which moment the rod *l*, projecting from the outer end of the bar *L*, and bearing against the inclined plane *n*, at the lower end of the lever N, will, as it descends, vibrate the said lever to such a degree as to remove the wedge *t*, from under the lever M, and permit the spring *s*, to vibrate the said lever, and thereby throw the pinion *i*, out of gear with the teeth of the rack *k;* when the spring *m*, will throw upward the bar L, and the shaft of the cutter head which rests thereon, to their original starting position. After removing the felly thus formed, another plank is placed in the machine to be operated upon, when by again throwing the lever N, into the position shown in the drawing, the same operation as above set forth will be repeated.

What we claim as our invention and desire to secure by Letters Patent, is—

The causing the shaft E, of the cutter head to automatically descend during its forward motion, until the felly has been formed by the cutters in the cutter head, and then be thrown upward to its starting position, substantially in the manner herein set forth: To wit, by resting the said shaft E, upon the movable bar L, which bar is forced upward by a spring or weight, and has a rack *k*, and a pin *l*, connected to its movable end; the said rack *k*, being connected with and caused to descend by the forward movement of the cutter head shaft, through the medium of the band *v*, the shaft *f*, and the pinions *h*, and *i*, on the shaft *g;* which movements are thrown out of gear with the rack *k*, at the proper time, by the pin *l*, and the spring *s*, which act upon the levers N, and M, and the shaft *g*, substantially as herein represented and described.

The above specification of our machine for cutting out fellies signed and witnessed this fifth day of April 1850.

JOSEPH ADAMS.
LEVI ADAMS.

Witnesses:
JASON STOCKBRIDGE,
BENJAMIN ADAMS.