

G. L. JONES.

Compound Metal-Working Machines.

No. 156,929.

Patented Nov. 17, 1874.

Fig. 1.

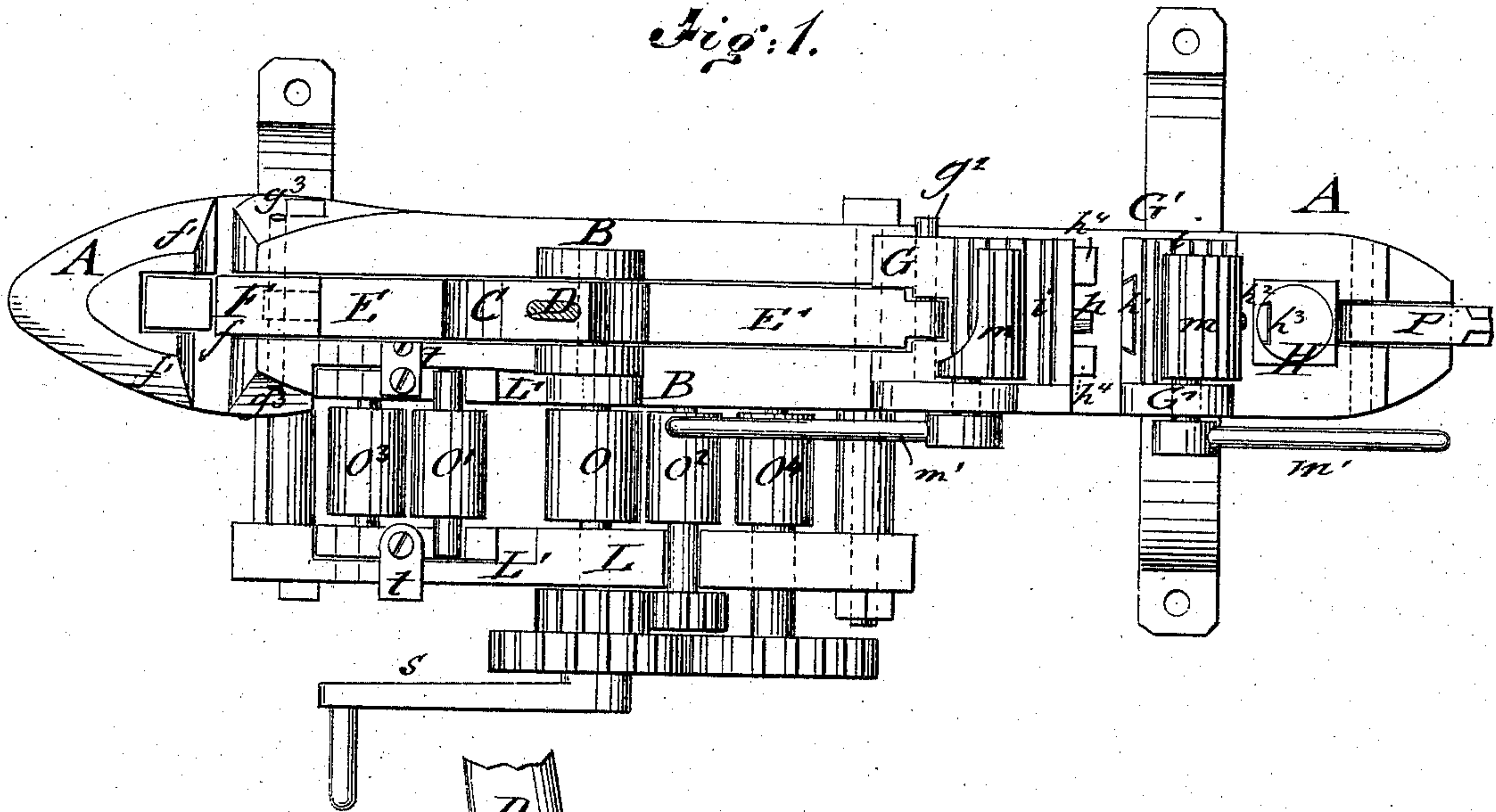
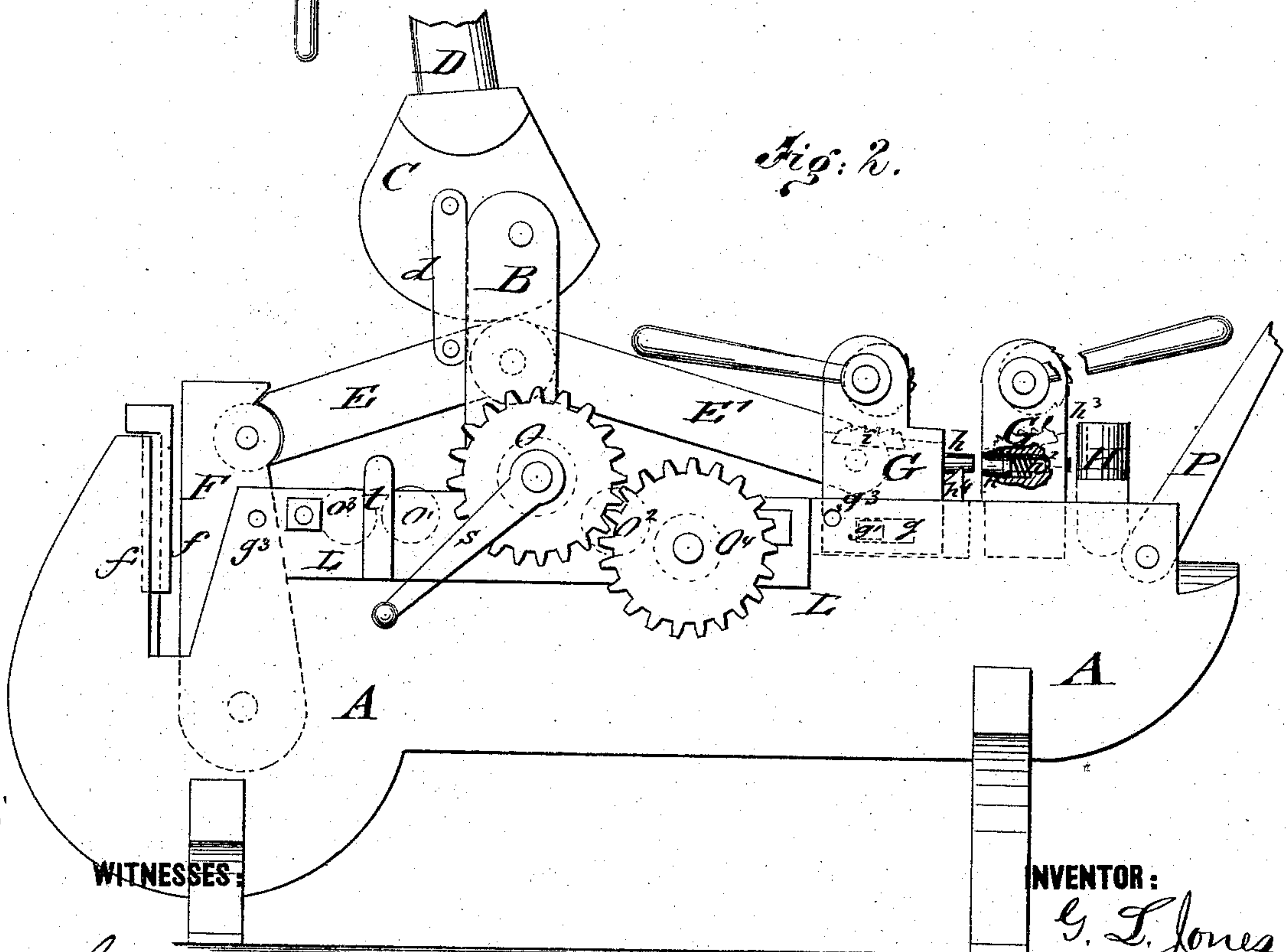


Fig. 2.



WITNESSES:

Chas. Nida
A. F. Terry

INVENTOR:

G. L. Jones
Munnell
ATTORNEYS.

BY

UNITED STATES PATENT OFFICE.

GEORGE L. JONES, OF VANVILLE, WISCONSIN.

IMPROVEMENT IN COMPOUND METAL-WORKING MACHINES.

Specification forming part of Letters Patent No. **156,929**, dated November 17, 1874; application filed September 19, 1874.

To all whom it may concern:

Be it known that I, GEORGE L. JONES, of Vanville, in the county of Chippewa and State of Wisconsin, have invented a new and Improved Combined Metal-Working Machine, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view of my improved compound metal-working tool, and Fig. 2 a side elevation of the same with upright G broken away.

Similar letters of reference indicate corresponding parts.

My invention relates to improvements in the compound metal-working machine patented to me under date of September 2, 1873, and numbered 142,398.

The invention consists in the improved arrangement whereby the punching mechanism, substantially such as previously employed, is made to operate a supplementary punch, as hereinafter described.

In the drawing, A represents the main supporting-frame of my improved metal-working tool, being of oblong shape and suitable material, and of larger size at the end at which the heavy cutting-shears are arranged. Frame A is placed on suitable legs and firmly secured, by strong bolts, screws, or otherwise, to the ground or other base, and provided with strong vertical standards B, between which is pivoted the eccentric C, which is operated by lever D. The eccentric C transmits its power, by pivoted links *d* or otherwise, to the knee-joint levers E E', the outer ends of which are again hinged, respectively, to a heavy pivoted cutting-block, F, and a sliding frame or carriage, G. Block F swings in a recess of the heavier part of frame A, and has a cutting edge or blade, *f*, which acts on a similar edge, *f'*, of frame A, in the manner of shears. The sliding frame or carriage G is guided in a suitable recess of frame at the opposite side of standard B by means of slot *g* and lateral piece *g*¹. A cross-pin, *g*², of suitable strength, fits into perforations *g*³ of frame A, one being arranged back of cutter-block F, the other back of carriage G, for the purpose of placing the cross-pin across that part not required to be worked, and throw thereby the full power of the knee-

levers on the part to be worked, either on the cutter or on the sliding carriage, by which the power and effect of each part is considerably increased. To carriage G is firmly secured, by wedges or otherwise, a puncher, *h*, which acts in the direction of the longitudinal axis of frame A on a perforated dovetailed steel cutter, *h*¹, in stationary standard G', and by means of a sliding supplementary puncher, *h*², placed in guide perforation of standard G' on a perforated cutter-plate, *h*³, of outer socket or standard H, so that bands, tires, &c., may be punched between standards G G' with larger holes, and between standards G' and H with smaller ones. Stationary stops *h*⁴, which are arranged in frame A between standards G G', and over which the sliding carriage G fits by suitable recesses, retain the punched band or tire for the withdrawing of the puncher *h* after the work is accomplished. The upper side parts of carriage G and standards G' are provided with grooved or notched dovetailed steel plates *i*, and are acted upon by partially grooved or notched steel eccentrics *m*, operated by lever-handles *m'*, for taking hold of the tires in connection with the lower plates. The wagon-tire is clamped between them, and either tightened or upset when off the wheel, as required, by lever E' acting on carriage G. At the outer end of frame A is a second cutter-lever, P, which is intended for cutting lighter pieces of metal.

For bending or rolling iron bands, tires, &c., the cylindrical rollers O, O¹, O², O³, and O⁴ are arranged sidewise of the frame A, supported by a suitable frame, L, and operated by a crank, *s*, and suitable intermeshing gear-wheels. The rollers O¹ and O², sidewise of the central roller O, are detachable, and may be taken out for bending the tire by the outer rollers O³ O⁴. Rollers O¹ and O³ are set into sliding blocks L', moving in guide-recesses of frame A and side frame L, and may be adjusted nearer to or farther from central roller O, increasing or decreasing the degree of curvature of the tire or band. Blocks L' are firmly clamped into position by set-screws *t* after being set to the required gage. The detachable rollers O¹ and O² are used in connection with the central roller O, for bending bands,

hoop-bands, &c., the bend being imparted on the passage of bands or tires through the rotating rollers.

The distance which the rollers O^1 and O^3 are moved is measured by gage-figures on the top of sliding blocks L, with corresponding figures on top of frame A and side frame L, so that the curvature or bend of the tire or band may be determined by the gage. Frame L is rigidly secured to frame A by means of two heavy horizontal bolts and a perpendicular brace running from lower edge of frame A up to frame L.

In place of claiming the bending mechanism in this patent, I purpose making it the subject of a future application.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the fixed standard H, having die-plate h^3 , the perforated standard G' , sliding punch h^2 , the punch h , sliding frame G, and toggle-lever mechanism E E' C D d , all arranged and operating as shown and described.

GEORGE L. JONES.

Witnesses:

HARDIN JARVIS,
MARTIN RASMUS.