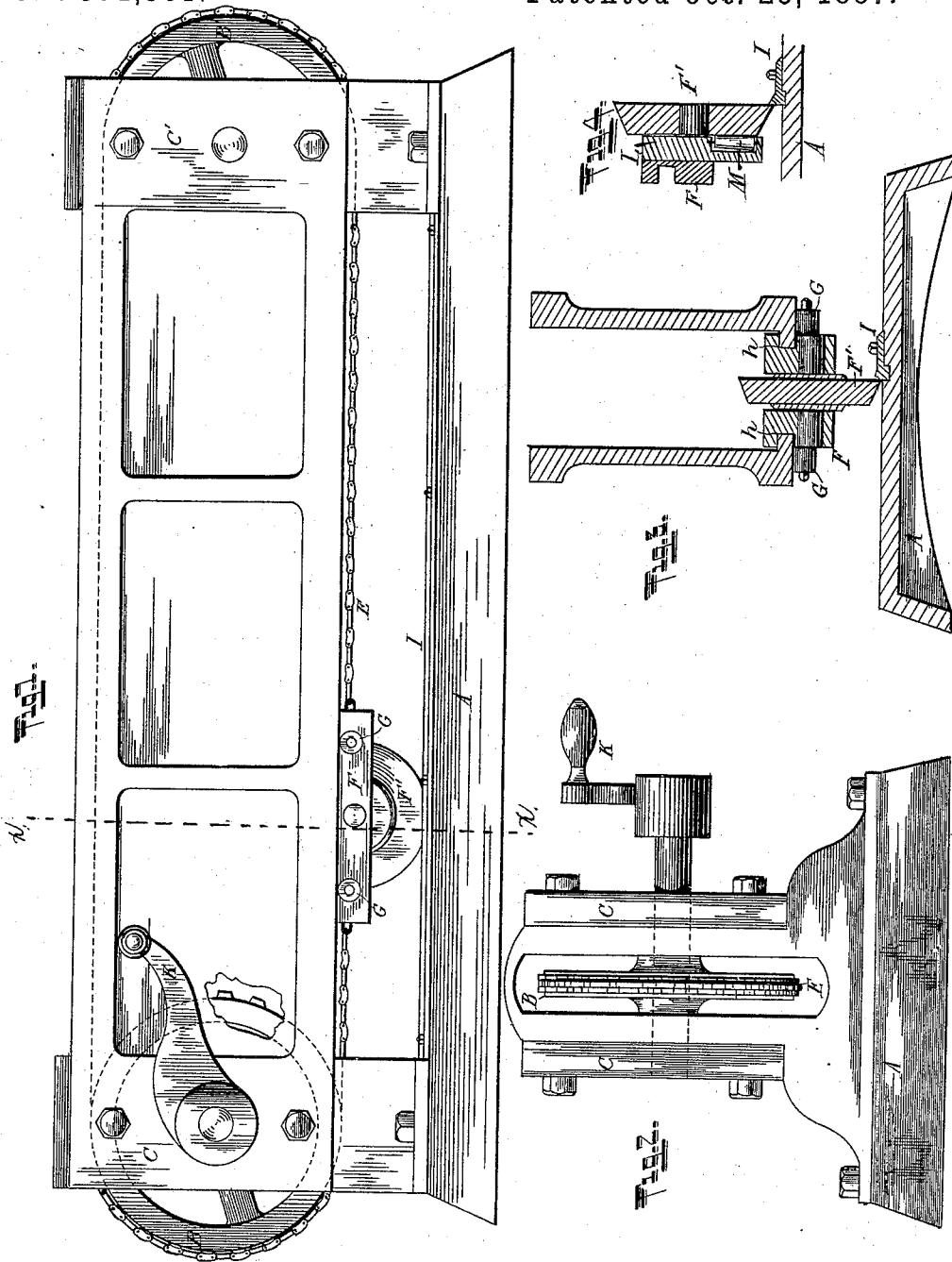


(No Model.)

J. H. MASON.
SHEET METAL SHEARS.

No. 371,961.

Patented Oct. 25, 1887.



Witnesses
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JAMES HEWETT MASON, OF CHICAGO, ASSIGNOR OF ONE-HALF TO GEORGE F. WATSON, OF AURORA, ILLINOIS.

SHEET-METAL SHEARS.

SPECIFICATION forming part of Letters Patent No. 371,961, dated October 25, 1887.

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To all whom it may concern:

Be it known that I, JAMES HEWETT MASON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cutters for Sheet Metal, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention consists in a special construction of apparatus, and whereby the same is not only very strong, but is adapted either for light work or for very heavy work—such as cutting boiler-plate—while it is also suitable for ordinary work and for circular work.

In the drawings, Figure 1 illustrates in side elevation one form of machine embodying my invention; Fig. 2, an end elevation; Fig. 3, a transverse section in the line *xx* of Fig. 1; Fig. 4, a detail showing a variation in the carriage.

A represents a cast-iron bed or frame; B B', sprocket-wheels mounted, respectively, in strong uprights C C' at each end of this bed or frame; E, an endless sprocket or link chain on these wheels and extending from one to the other; F, a cutter-carriage secured to this chain and receiving from it a traveling motion when these wheels are turned by any suitable means—such as a crank, gear, or otherwise. On this carriage is journaled and firmly held a rotary cutter, F', which of course travels back and forth with the chain and carriage and over the metal to be cut.

G G are friction-rollers on the carriage, and which I find sometimes desirable, to receive the upward thrust of the cutter during the traverse when heavy work is done—such as cutting boiler-iron; but in a machine for general light work these rollers may be dispensed with, the carriage then simply running in its guides *h h*, like those for the cross-head of an engine.

I sometimes attach to the carriage F a projecting piece, L, reaching down nearly to the

edge of the rolling cutter F', for the purpose of supporting or holding said cutter close up to the straight stationary knife, and also for the purpose of taking off the strain from the pin or journal on which the cutter F' revolves and to relieve and resist the strain on this cutter when doing heavy work, such as shearing boiler-plate, &c.

M is a friction roller or pulley on the inner face of this piece L, and this piece L may, if desired, be an integral part of the carriage.

I, in Figs. 1 and 3, represents a stationary shear-blade extending lengthwise of the machine between the uprights C C', and when only one rotary cutter is used it engages with this stationary blade to effect the cutting.

Instead of attaching the crank K directly to the shaft of one of the sprocket-wheels, as shown, it may, when it is desired to make the machine more powerful in its action, be attached to gearing. By thus "back-gearing," it can do heavier work, such as boiler-plate.

My machine as constructed may be driven by hand or power from a stationary driver located at either end of the machine.

It will be evident that the machine can be used for cutting other material besides metal, and for some kinds of light work a belt could be substituted for the chain and pulleys for the sprocket-wheels; or the carriage can be propelled by a shaft and gears.

I claim—

1. In a machine adapted for cutting sheet metal, the combination, with the supporting-frame, the sprocket-wheels, and the chain or its described equivalent connecting the same, of a cutter-carriage attached to such chain and having journaled thereon a rotary cutter, the carriage and its cutter being adapted to travel forward and back and to engage with another cutter when the machine is in action.

2. In combination with the stationary cutter and with the rolling cutter-carriage F, the downward projection L and its roller M on said carriage, for the purposes set forth.

JAMES HEWETT MASON.

Witnesses:

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