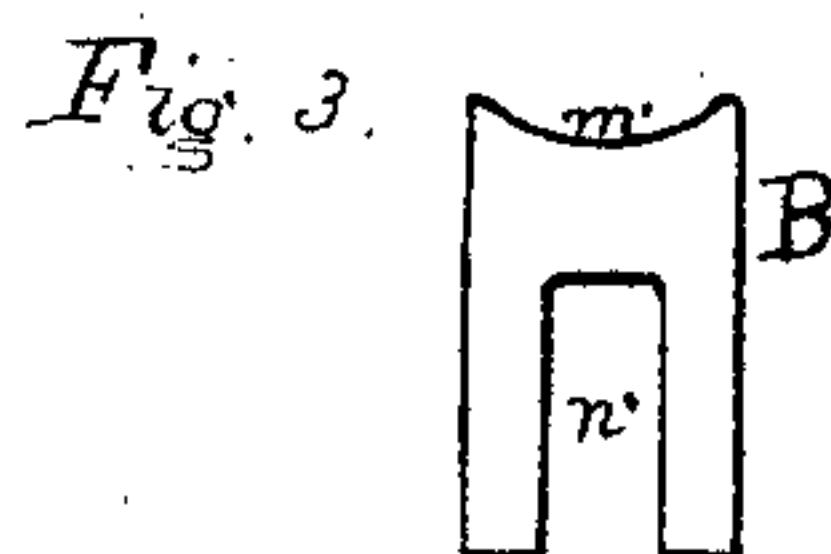
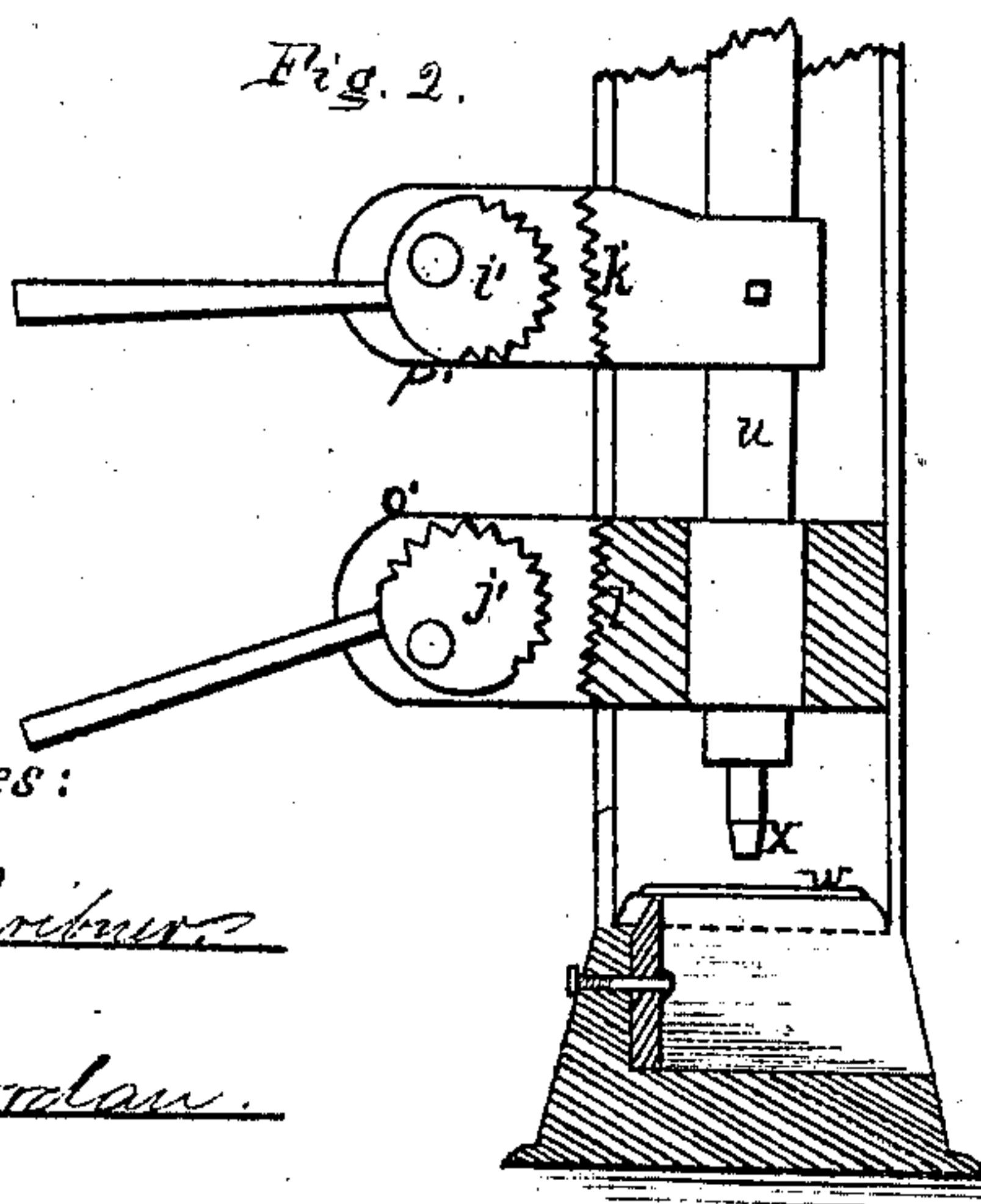
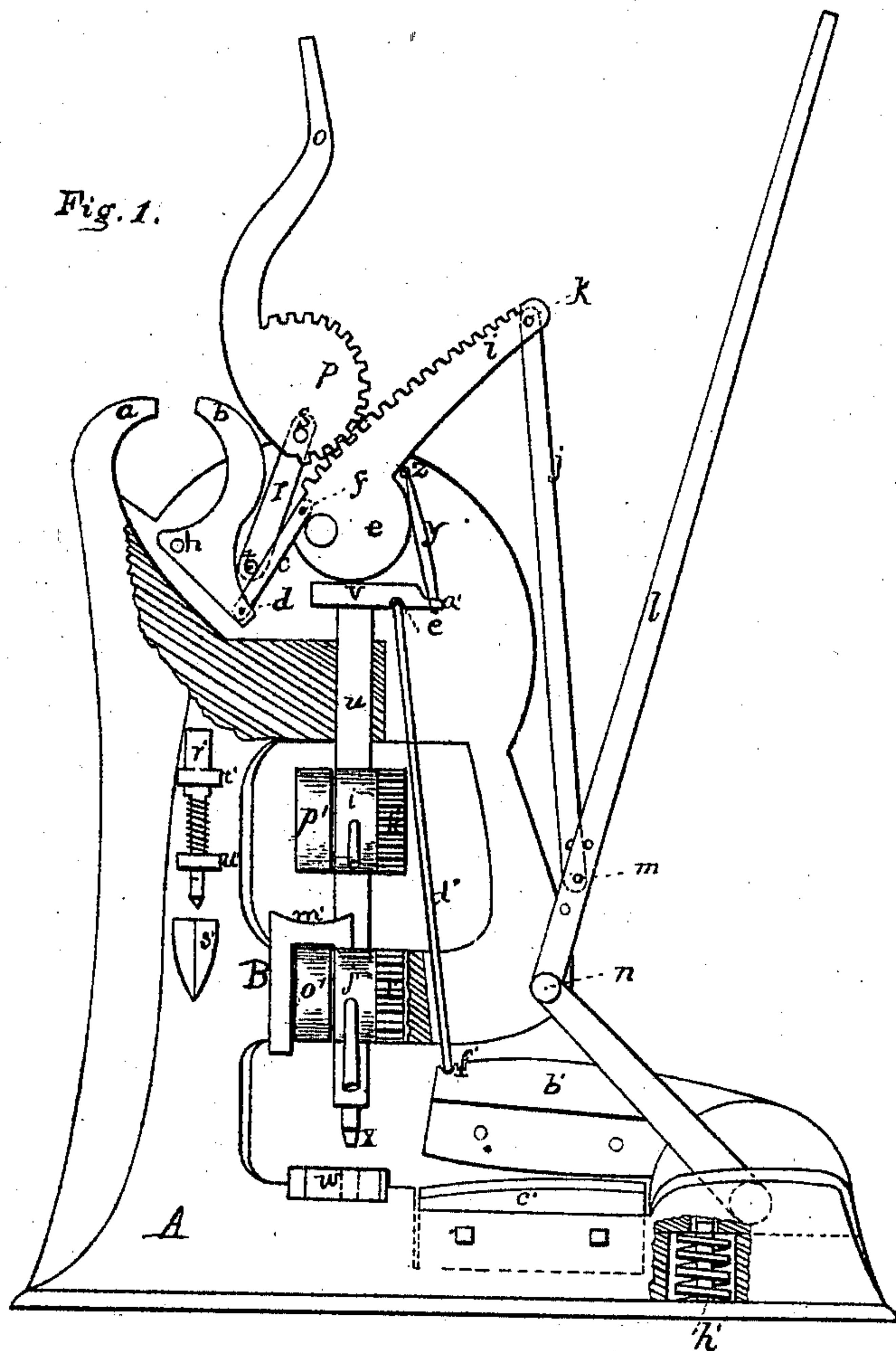


H. B. SEVEY.  
Improvement in Machines for Cutting, Punching, and Upsetting Metals.  
No. 128,758. Patented July 9, 1872.



Witnesses:

D. W. Scribner  
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# UNITED STATES PATENT OFFICE.

HIRAM B. SEVEY, OF VIENNA, MAINE.

## IMPROVEMENT IN MACHINES FOR CUTTING, PUNCHING, AND UPSETTING METAL.

Specification forming part of Letters Patent No. 128,758, dated July 9, 1872.

*To all whom it may concern:*

Be it known that I, HIRAM B. SEVEY, of Vienna, in the county of Kennebec and State of Maine, have invented a new and useful Machine, to be called or known as Sevey's Puncher, Shear, Vise, Tire-Upsetter, Metal-Bender, and Countersink; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is hereby made a part of this specification, in which—

Figure 1 is a side elevation, with parts of the frame broken out to show certain of the operating parts. Fig. 2 is an edge view of the upsetting device. Fig. 3 is a detail of the metal-bender.

Same letters show like parts.

I will describe my invention in detail, commencing with the vise, the jaws of which are shown at *a b*—*a* being fixed; *b*, movable. The movable jaw *b* is operated by the link *c*, pivoted to the jaw at *d*, and to the cam *e* at *f*. The jaw *b* is itself pivoted to the frame of the machine at *h*. The outer end or arm of the cam *e*, shown at *i*, is drawn down by the connecting rod or link *j*, pivoted to said arm at *k*, and to the lever *l* at *m*. *l* is pivoted to the frame *A* of the machine at *n*. The operation of the vise is thus indicated: By drawing down on the lever *l* the jaw *b*, through the above-described devices, is thrown over toward *a*. It may here be specified that, instead of the lever *l* and the rod or link *j*, the arm *o*, cam *P* with cogs thereon matching cogs on the under side of *i*, can be used to operate the machine. This arm has the link or connecting-rod *r* pivoted to it at *s*, and also to the frame of the machine at *t*, by which its motion is so confined as to operate in the desired manner upon it.

I will next describe the operation of the puncher. By the movement of the lever *l*, (or *o*), as before set forth, the cam or eccentric *e*, pressing upon the cap or top *v* of the puncher, so forces it downward, and any piece of work placed upon the bed *w* receives and is perforated by the point *x*. The puncher is lifted for another stroke, after having once descended, by the rod or link *y*, connected at *z* with

the arm *i*, and also with the cap *v* at *a'*. It will be seen that as the arm *i* is pushed up by the rod or link *j* it will draw up the puncher by the link *y*.

*b'* is the movable jaw, and *c* the fixed jaw of the shear, operated by the inflexible rod *d'*, resting up against, at *e'*, the under side of the cap *v*, and resting in notches *f'* on the top of the movable jaw *b'* of the shear. The method of operation is plain. The downward motion of the cap *v* pushes down, by the rod *d'*, the jaw *b'* of the shear, and so causes it to cut anything placed therein. The shear is thrown up by a spring, either metal or rubber, placed under the joint, so as to throw up the jaw *b'*, as seen at *h'*.

The tire-upsetter is composed of the cams *i'* *j'*, having the teeth as shown, and matching the toothed faces or vertical racks *k'* *l'*. The block or piece carrying the teeth *k'* is rigidly fixed in the puncher or rod *u*. The heated tire is placed between *i'* and *k'* and *j'* and *l'*, and then the cams *i'* and *j'* so turned as to tightly hold the heated tire in place. Then, by pressing down on the lever *l*, the block or piece on which the rack or teeth *k'* are placed is brought down nearer to the one where the teeth *l* are placed, and so the tire contracted as desired.

The metal-bender is seen at *B* in detail, and also in its place over the machine. When to be used, the bender *B* is placed over or astride the projecting part *o'*—*j i i'* being first removed from those parts for this purpose. The slit *n'* fits over the projection *o'* and so holds the bender in place. The metal to be bent is placed over the concave surface *m'* of the bender *B*. The lever *l* is then drawn down, and the projecting part *P'*, pressing upon the concave surface and the metal placed therein, will give a curvature to the metal, and so, the metal being pushed along after each successive stroke of the part *P*, the metal can be bent into a circle or any part thereof, as desired.

The countersink is seen at *r'*. *s'* is a shelf to receive the article in which the countersink is to be made. *t' u'* are two ears, through which the cutter *v* rises and falls. A coiled spring restores it after a stroke. A blow on the top operates the cutter. A depression in



the top of the shelf corresponds to the point of the cutter or countersink.

An iron arm or bar may be placed along the side of the shear to prevent the iron being cut from turning up. A ring or guard around the point *x* of the puncher will prevent the metal being punched from adhering to the point. The shear may be made removable for cutting boiler-iron.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the metal-bender B

with the piece *o'*, projecting piece *P'*, puncher-rod *u*, cap *v*, cam *e*, arm *i*, link *j*, and rod *l*, all as herein set forth.

2. The improved device, consisting of the vise, puncher, shear, tire-upsetter, and metal-bender, aggregated in the manner herein set forth.

H. B. SEVEY.

Witnesses:

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