

(No Model.)

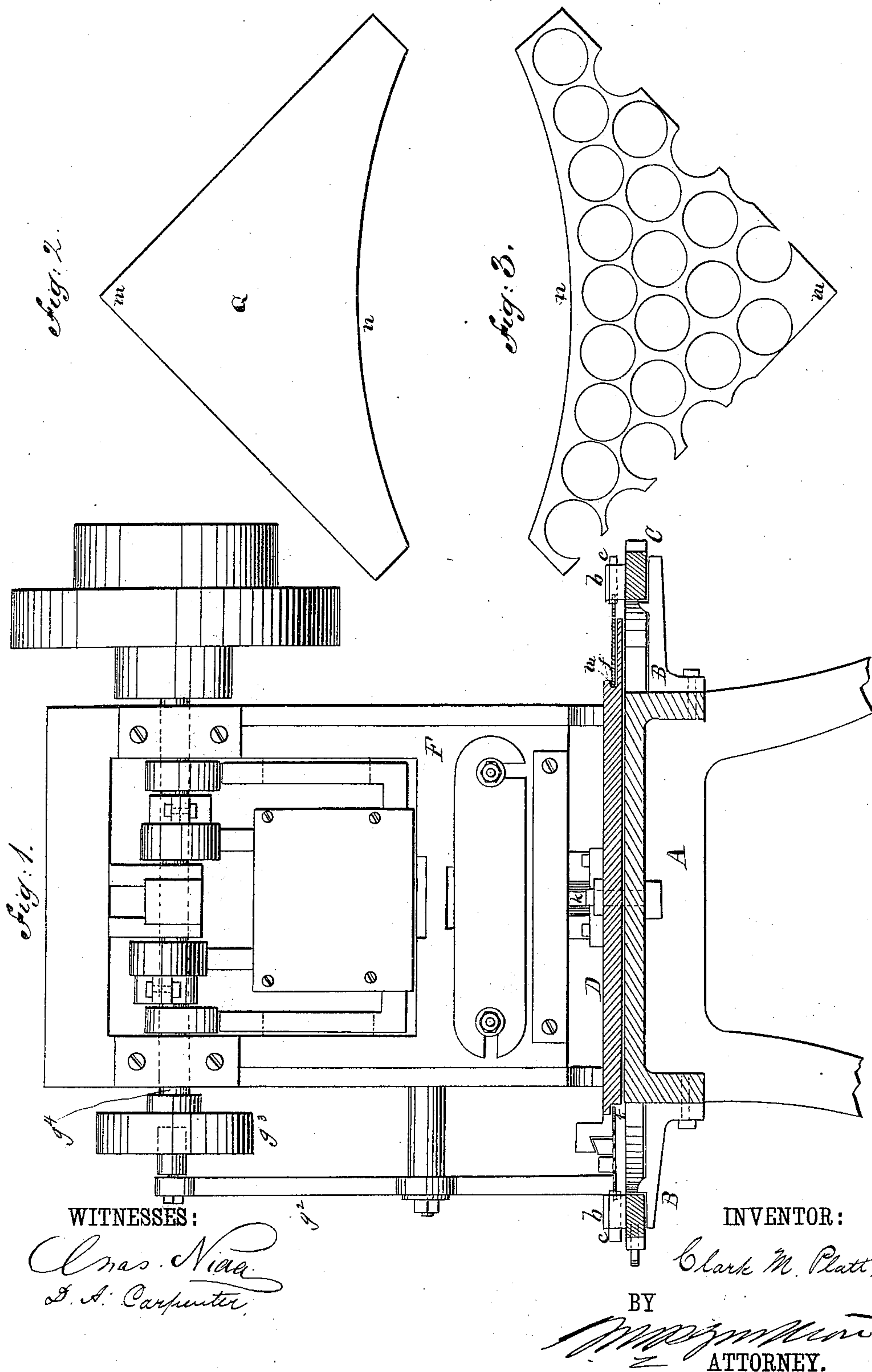
2 Sheets—Sheet 1.

C. M. PLATT.

MACHINE FOR PUNCHING AND FEEDING SCRAPS OF SHEET METAL.

No. 334,190.

Patented Jan. 12, 1886.



(No Model.)

2 Sheets—Sheet 2.

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Fig: 4.

Fig: 6.

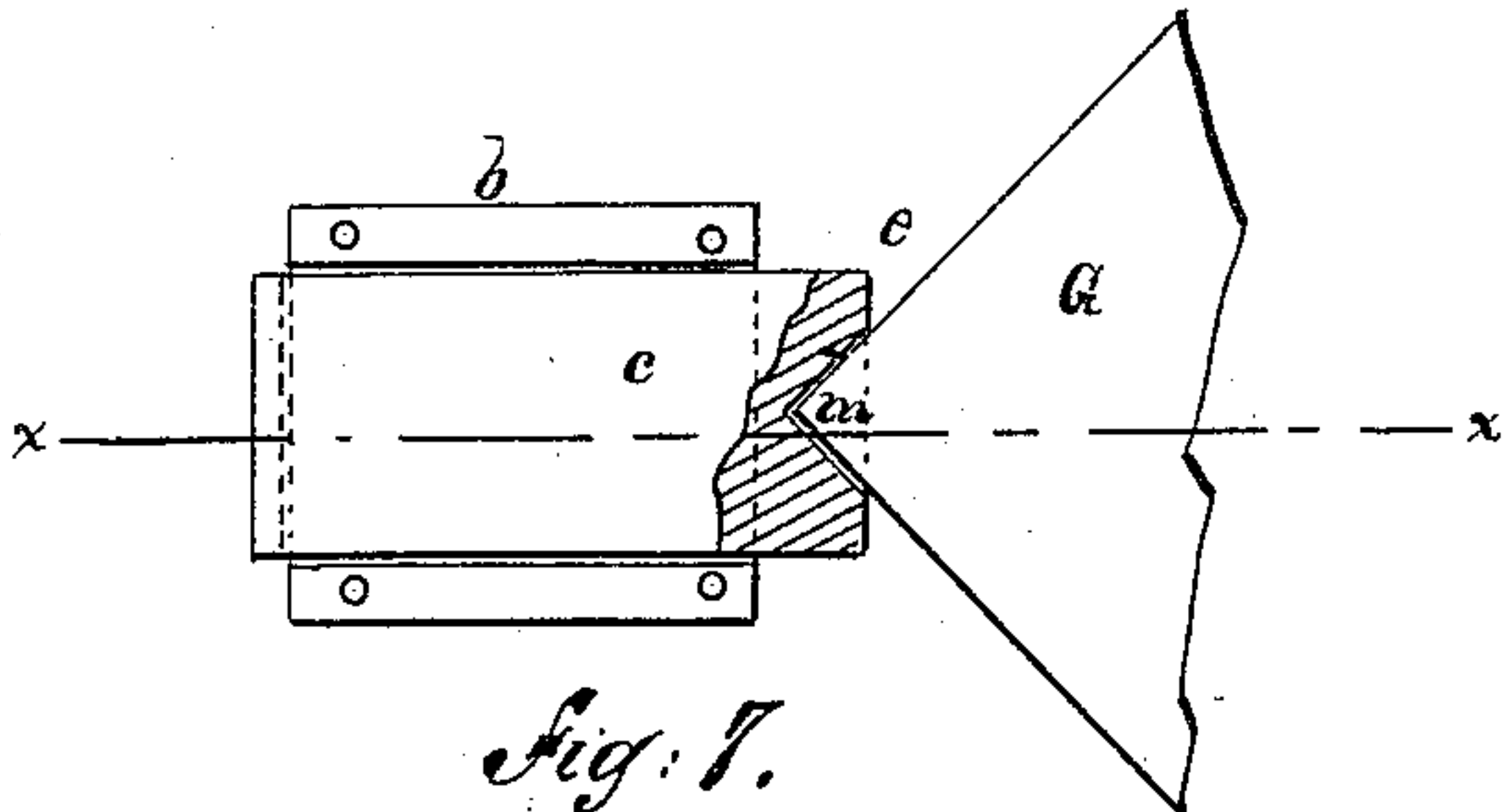


Fig. 7.

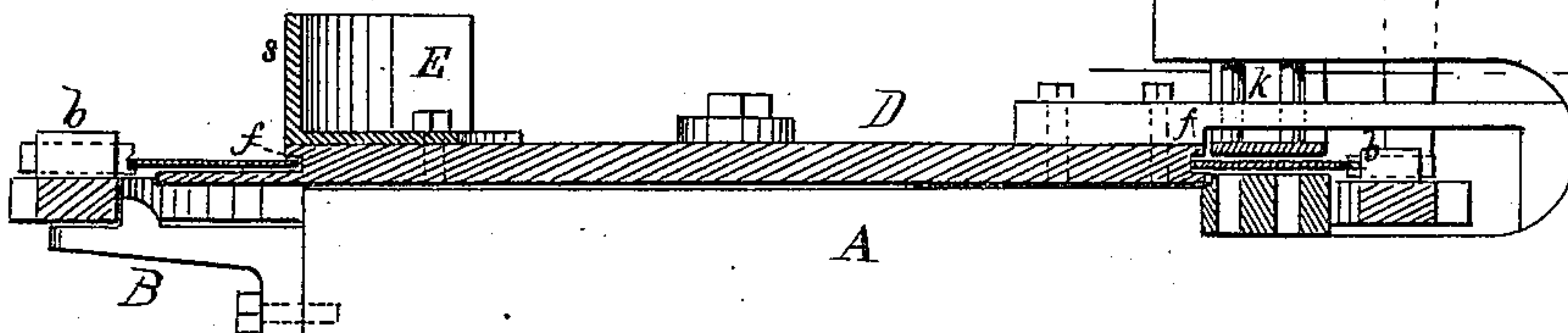
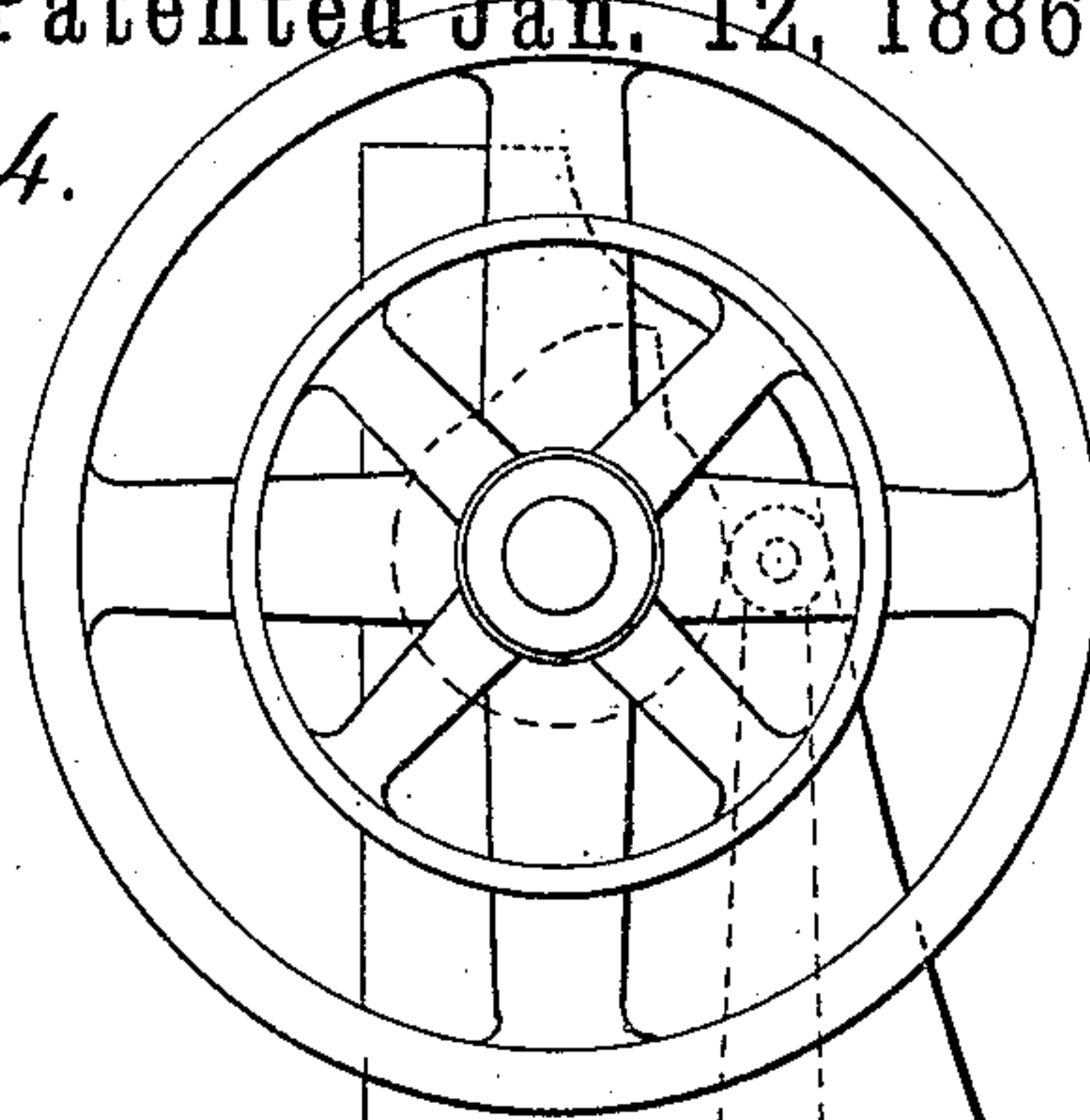
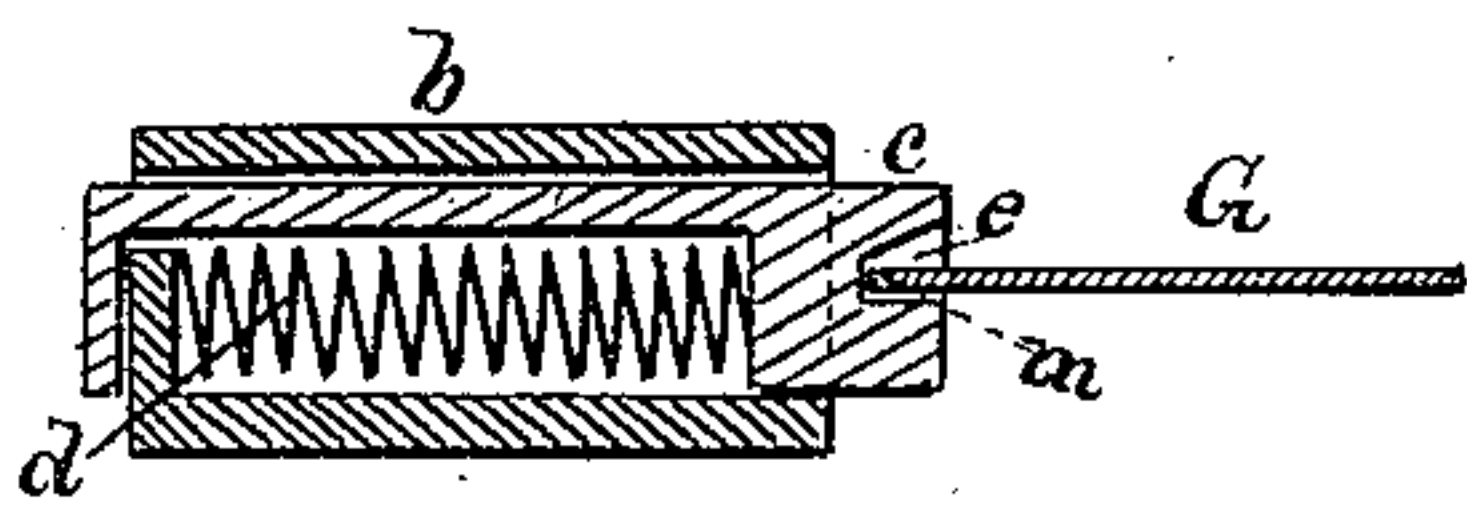
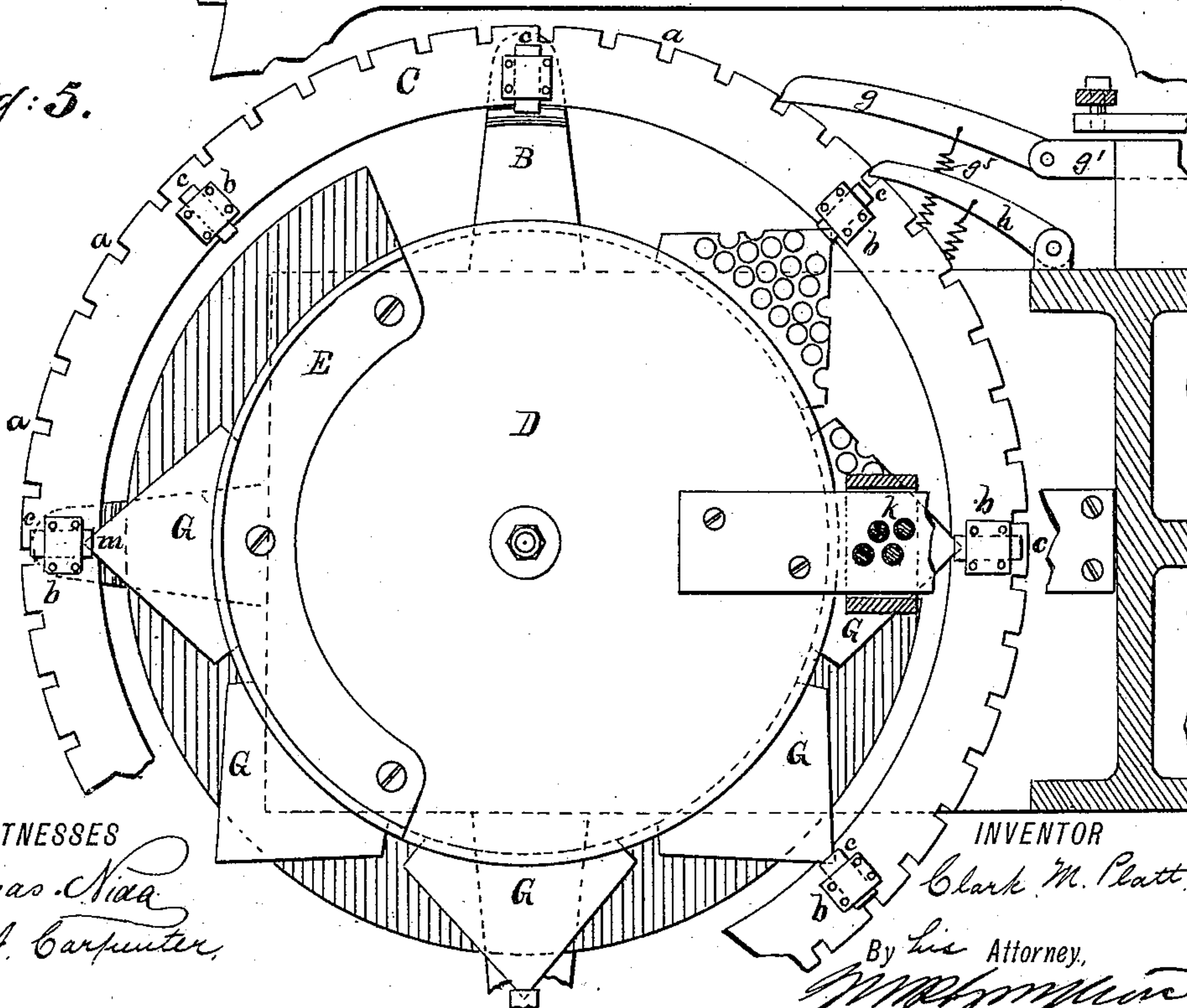


Fig: 5.



WITNESSES

WITNESSES
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By his Attorney,

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UNITED STATES PATENT OFFICE.

CLARK M. PLATT, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE PLATT BROTHERS & COMPANY, OF SAME PLACE.

MACHINE FOR PUNCHING AND FEEDING SCRAPS OF SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 334,190, dated January 12, 1886.

Application filed May 11, 1885. Serial No. 165,059. (No model.)

To all whom it may concern:

Be it known that I, CLARK M. PLATT, of Waterbury, county of New Haven, and State of Connecticut, a citizen of the United States, have invented a certain new and useful Machine for Feeding and Punching Scraps of Sheet Metal with Curved Edges; and I declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a machine for utilizing to the best advantage scrap sheet metal in the manufacture of buttons; and the invention consists in a machine for feeding and punching scrap sheet metal, constructed, arranged, and combined substantially in the manner hereinafter shown, described, and claimed.

In the accompanying sheets of drawings, Figure 1 represents a side elevation of my feeding and punching machine partly in section; Fig. 2, a blank of scrap metal; Fig. 3, the same after it has been punched; Fig. 4, an edge view of the machine partly in section; Fig. 5, a plan or top view of machine partly in section; Fig. 6, a plan view of spring-point holder; Fig. 7, a section of the same in the line *x x*, Fig. 6.

Similar letters of reference indicate like parts in the several figures.

As before stated, this invention relates to a machine for utilizing scrap sheet metal in the manufacture of button-blanks—that is, a machine that will enable the manufacturer of buttons to feed and punch the scraps of sheet metal that remain from the manufacture of cans and other sheet-metal utensils. These scraps of metal are purchased by button-makers at a moderate price, and it only needs some expeditious way of feeding and punching to render them available in the manufacture of buttons. Since these scraps of metal, which may be called “refuse,” are usually of inconvenient shape and size, it has been found difficult to feed them automatically to the punches that stamp out the button-blanks, and to obviate this difficulty is the chief purpose of this invention.

In the construction of my machine for this purpose, and referring to the drawings form-

ing part of my specification, A represents the base of the machine, to which are bolted arms B. To the upper surface of these arms is secured in any suitable manner an annulus, C. The periphery of this annulus may have formed in it ratchets *a*; and the annulus is secured to the arms B, so that it may freely revolve, the arms or their extremities acting as bearing-surfaces to support the annulus and permit it to revolve. To the upper surface of this annulus C, at suitable distances apart, are fixed boxes *b*, and into these boxes are fitted slides *c* and coiled springs *d*. The inner ends of the slides *c* have formed in them notches *e*. Im- movably fixed to the base A is a circular table, D, concentric with the annulus C. In the periphery of this table D is turned a groove, *f*. Fixed to the table D and at right angles to its upper surface is a curb, E, which stands up from the surface of the table, substantially as indicated in Fig. 4, and being a piece of metal shaped as a segment of and concentric with the table D. Engaging with the ratchets *a* is a pawl, *g*, operated in any suitable manner to revolve the annulus C, and a pawl, *h*, may also engage with these ratchets, the pawl *g* by its action revolving the annulus C, and the pawl *h* checking any backward movement of the annulus. I have herein shown the pawl *g* mounted on a slide, *g'*, arranged in ways on the frame, which slide is reciprocated by a rocking lever, *g''*, operated from the disk *g'''* on the main shaft *g''''* of the machine, the pawl being held to its work by a spring, *g'''''*. Also to the base A of the machine is secured suitable frame-work, F, which supports the mechanism for operating the punches *k*. These punches may be arranged in any suitable position in relation to each other, and as these punches and their operating mechanism are of well-known construction they need not be specifically described here.

Now, when my machine is constructed substantially as I have hereinbefore described it, its operation is as follows: The annulus C, revolving on its bearing-arms B at any convenient speed, an attendant standing opposite the curb E inserts the point *m* of a scrap of sheet metal, G, into the notch *e* of a slide, *c*, at the same time pushing outward this slide by the point of the blank G, and forcing down-

ward the curved edge *n* of the blank against the surfaces of the curb *E*. This surface, acting as a guide, leads the curved edge *n* of the blank *G* into the groove *f* in the periphery of the circular table *D*, the coiled spring *d* in the box *b* forcing inward the slide *c*. This slide forces the curved edge *n* of the blank *G* into the groove *f*, before named, in which it is retained by the elastic force of the spring *d*, the radius of the circular table *D* being the same as the radius of the curved edge *n* of the blank *G*, and the space between the periphery of the table *D* and the inner edge of the annulus *C* being a little less than the width of the blank *G* from its point *m* to a central point in the curved edge *n*. The blank *G* being now held in position, as described, and as is shown in Figs. 1, 4, and 5, the blank is carried around with the revolution of the annulus *C*, its curved edge sliding freely in the groove *f* of the table *D* until it is brought beneath the punches *k*, which descend and perforate the blank *G*, as shown in Fig. 3, cutting therefrom the blanks used for the shells of buttons, the shell-blanks falling beneath the machine in any suitable manner, and the punctured scraps of metal passing from beneath the punches are carried to a part of the periphery of the table *D* in which the lower flange of the groove *f* is omitted, as shown at *t*, Fig. 1. There then being nothing to support the inner edge, *n*, of the the punctured scrap, it drops by gravity from the machine to the floor, leaving a vacancy to be filled by the attendant, in the manner before described. If by any chance (which, it may be remarked, is hardly probable) any of the punched scraps should stick and not fall out by gravity, the attendant may forcibly eject them. In this way an attendant, standing in the place before mentioned, can feed as rapidly as possible scrap after scrap to the machine, which in due time are punched into button-blanks.

The machine shown and described is applicable to scraps of thin sheet metal which are angular and have a curved edge, such scraps resulting from the cutting out of circular tops and bottoms of cans from a rectangular sheet of metal, and as scraps of this form are to be had in greater quantities than scraps of other forms I have described a machine adapted to

work up only this form of scrap; but, as is obvious, the machine by slight modification is adapted to utilize scrap metal of other forms—for instance, the table *D* may be made polygonal and be made to revolve uniformly with the annulus *C*, and to such a modified machine scrap sheet metal with straight edges could be applied.

Instead of providing the annulus *C* with ratchets to be engaged with a pawl for the purpose of revolving the annulus, any other suitable means may be employed for that purpose—such as friction-wheels.

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

1. A machine for feeding and punching scrap sheet metal having, in combination, the following elements: a revolving annulus, *C*, a table, *D*, with a groove formed in its edge, a slide, *c*, with a notch, *e*, in its edge, spring *d*, box *b*, curb *E*, and punches *k*, as and for the purpose described.

2. In a machine for feeding and punching scrap sheet metal, in combination, a revolving annulus, *C*, grooved table *D*, and devices for retaining the scrap metal between the annulus and the table, as and for the purpose described.

3. In a machine for feeding and punching scrap sheet metal, in combination, an annulus, *C*, grooved table *D*, holding devices fixed to the annulus *C*, punches *k*, and mechanism for operating said punches, as and for the purpose described.

4. In a machine for feeding and punching scrap sheet metal, in combination, an annulus, *C*, table *D*, curb *E*, and devices fixed to the annulus *C* for holding the scraps *G* of metal between the annulus and table, as and for the purpose described.

5. In a machine for feeding and punching scrap sheet metal, in combination, an annulus, *C*, suitable devices for revolving the same, a table, *D*, with an interrupted groove in the edge of the same, and work-holders on the annulus co-operating with the said groove, as and for the purpose described.

CLARK M. PLATT.

In presence of—

G. M. PLYMPTON,

D. A. CARPENTER.