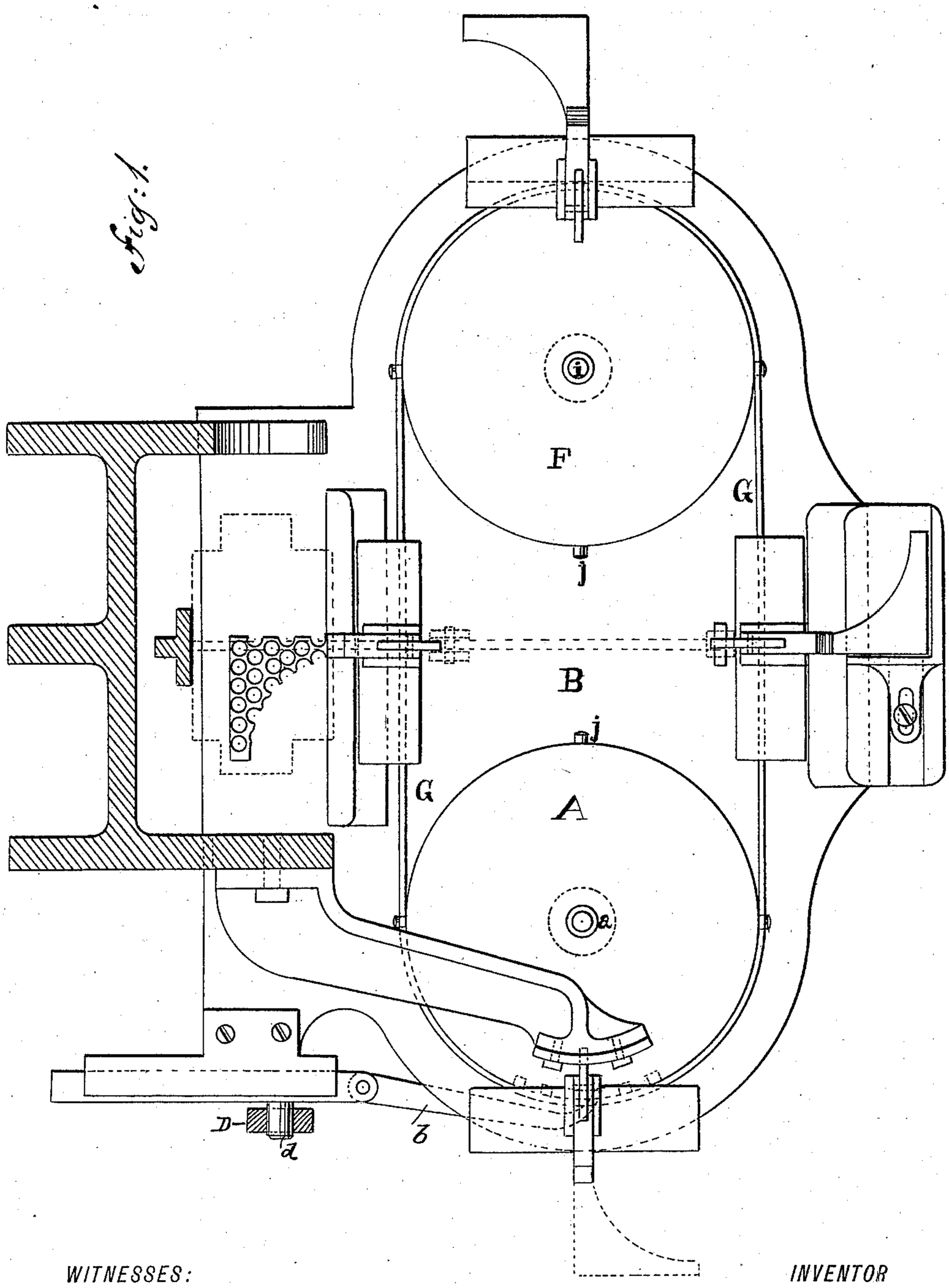
(No Model.) 3 Sheets—Sheet 1.

C. M. PLATT.

MACHINE FOR FEEDING AND PUNCHING SCRAP SHEET METAL.

No. 366,247. Patented July 12, 1887.

Fig. 1.



WITNESSES:

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(No Model.) 3 Sheets—Sheet 2.

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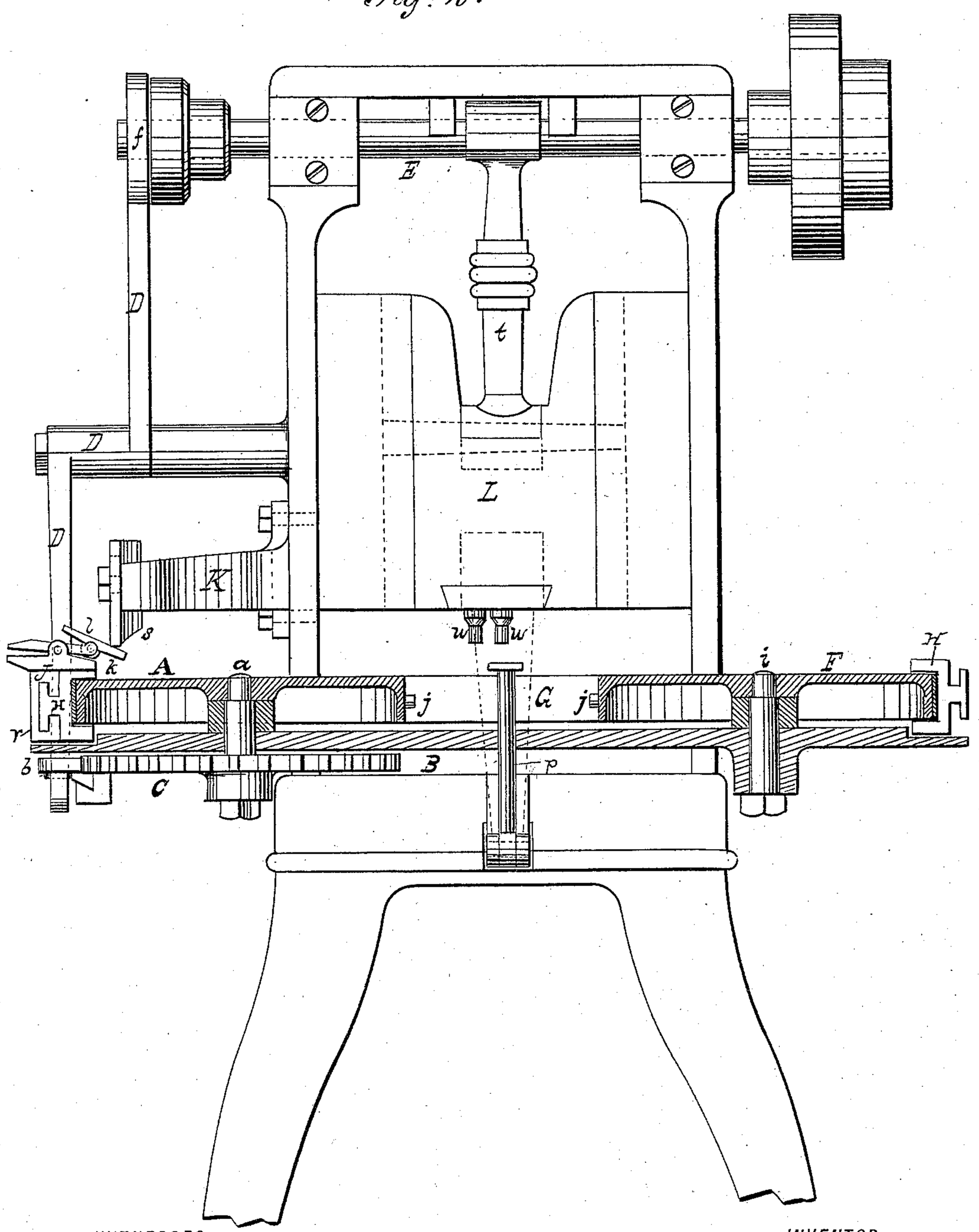
Fig: 2.



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(No Model.) 3 Sheets—Sheet 3.

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Fig: 3.

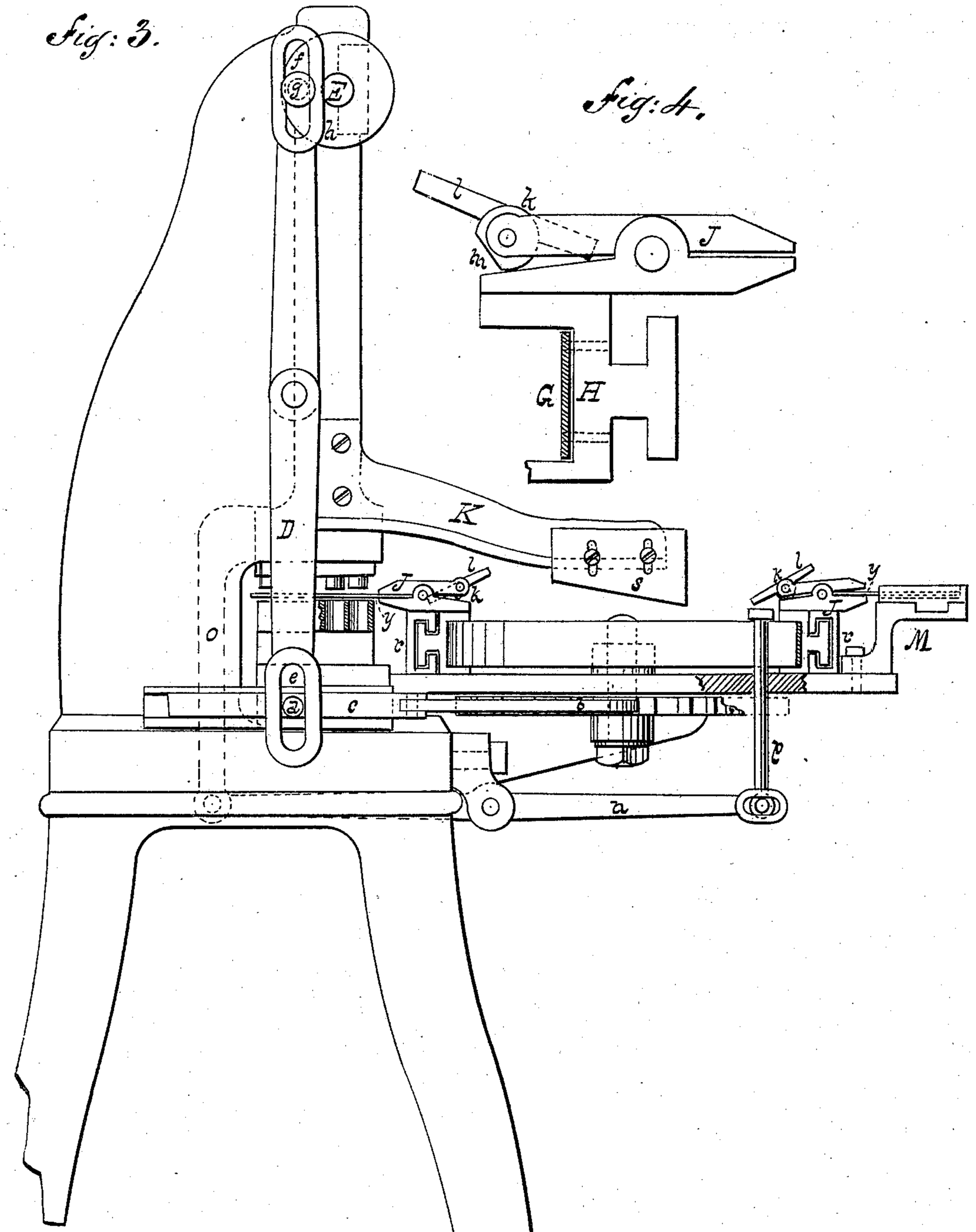

Fig: 4.

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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 FEEDING AND PUNCHING SCRAP SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 366,247, dated July 12, 1887.

Application filed May 25, 1886. Serial No. 203,192. (No model.)

To all whom it may concern:

Be it known that I, CLARK M. PLATT, of Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Machines for Feeding and Punching Scrap Sheet Metal, of which I declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to an improvement in machines for cutting button-blanks from irregularly-shaped scrap metal; and the invention consists in the machine for feeding and cutting blanks from irregularly-shaped scrap metal, hereinafter particularly shown, described, and claimed.

In the accompanying sheet of drawings, Figure 1 is a plan view, partly in section, of my blank-cutting machine. Fig. 2 is a side elevation of the same, partly in section; Fig. 3, an end view of same, partly in section; and Fig. 4, a side view showing detail of clamping device.

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

The machine which forms the subject-matter of my present application is a modification of a machine for feeding and cutting button-blanks from irregular scrap sheet metal patented to me January 12, 1886, and numbered 334,190—that is, the present invention relates to a machine designed to feed and cut button-blanks expeditiously and with economy from the scrap metal as it is found irregularly shaped in the open market. The irregular shape in which these scraps are obtained has been an obstacle to their economical use for the purpose named, because of the difficulty in feeding them to the punches, this difficulty oftentimes necessitating a retrimming of the scrap metal, or numerous handlings of it, or stamping from it but a comparatively small number of blanks, resulting, as is obvious, in loss of time or loss of material; and since the purpose of stamping the blanks from scraps of metal is to effect a saving, this purpose has ordinarily been defeated for the reason named.

In my present machine, referring to the drawings, Fig. 1, a plan view, represents a drum, A, of metal or other substance. This drum is keyed to an arbor, *a*, which is journaled in a bed-plate, B. To this arbor *a* is also fixed a gear-wheel, C. This gear-wheel is practically a ratchet-wheel, engaging into the ratchets of which is a pawl, *b*. This pawl is connected with a sliding block, *c*, into which is fixed a stud, *d*, the stud being received in a slot, *e*, in the lower end of a pivoted lever, D, the upper end of the lever being likewise slotted, as at *f*, to receive a wrist-pin, *g*, fixed to a cam-wheel, *h*, secured to one end of a driving-shaft, E. Also journaled to the bed-plate B by an arbor, *i*, is a drum, F. In the peripheries of the drums A and F are set at intervals protruding studs *j*.

Encircling in part the drums A and F is an endless metal band, G, with openings therein at intervals to receive the studs *j*. To this band G, and at as many places as may be required, are fixed brackets H, and to these brackets are secured clamps J, consisting of two pivoted jaws. The upper jaw, at its rear end, has pivoted to it a cam, *k*, and an operating-bar, *l*. This cam has one part of its periphery slabbed off, as at *m*. To the frame of the machine are journaled a system of levers, *n* and *o*, suitably connected with the driving-shaft E, the lever *n* terminating at its outer end in a vertical striker, *p*. This striker passes out through the bed-plate B, and is arranged to have an up-and-down movement through the same. Fixed to the bed-plate B, at suitable places, are guide-blocks *r*, through which pass the brackets H as they are carried around by the band G, to which they are attached. These guide-blocks serve to steady the band G as it turns and render its motion more positive, particularly at points where the scrap metal is fed to the clamps J and to the action of the punches. Also to the frame of the machine is fixed an arm, K, supporting at its outer end a tripping-plate, *s*. Also to the frame of the machine is secured a reciprocating block, L, operated by means of a link, *t*, and the driving-shaft E. The lower end of this reciprocating block may be provided with a gang of punches suitably arranged for the work to be performed. The particular construction of the punching appa-

ratus need not be detailed, since any suitable punch may be employed with my device.

Now, the machine having the foregoing described mechanism is operated by imparting motion through the driving-shaft E in any desirable manner, causing the cam-wheel *h* to revolve, and through the wrist-pin *g* in the slot *f*, giving a rocking motion to the pivoted lever D, which in turn, through its slot *e* and the stud *d*, causes the block *c* to reciprocate in its slideway, and, as it reciprocates it causes an intermittent thrusting motion to actuate the pawl *b*, and as this pawl engages with the ratchets in the wheel C, that wheel is made to revolve and with it the arbor *a*, carrying around in this way the drum A keyed to it, and as this drum turns, the endless band G is necessarily forced to travel with it, because of the studs *j* interlocking therein, and because of its friction around the drum, and as the band G is so forced to travel it conveys motion to the drum F, through its studs *j* and through friction, so that both drums A and F and the band G are set in motion, the drums revolving and the band G traveling from one drum to the other in a direction parallel to the bed-plate B. Now, as this band in this way travels, it carries with it the brackets H and the clamps J fixed thereon, and when these clamps are successively brought with their jaws open opposite to certain brackets, as at M, the scrap metal *y* is inserted within the jaws of the clamps, the bracket M acting as a table and guide for that purpose, and as soon as the scrap is inserted within the jaws of the clamp, the striker *p*, through its operating-levers *n* and *o*, operates the bar *l*, which causes the cam *k* to close the jaws of the clamp J and clamp the scrap metal within them. The scrap, being now firmly grasped by the clamp, is carried around by the band G beneath the punches *w*, which punch out the blanks as the scrap is fed beneath them, the punched scrap, still in the clamp J, continuing its travels with the band G until the end of the bar *l* is brought in contact with the trip-plate *s*, which operation moves the slot part *m* of the cam *k* downward, and so opens the jaws of the clamp J, releasing the punched scrap from them, and leaving them open to receive the next piece of scrap metal, when the clamp shall again come opposite the bracket M, there to be operated as before described, and in this manner each of the several clamps in succession receives its scrap of metal, carries it to the punches and releases it when punched; and there may be as many of these clamps as convenience may require.

From the foregoing it must be apparent that it is immaterial what the shape of the scrap metal may be, since, as is obvious, the clamps will grasp scraps of any shape and feed them to the punches with equal facility.

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

1. In a machine for feeding and punching scrap metal, in combination, a series of clamping devices, an endless band and mechanism for operating the same, and a punching-machine.

2. In a machine for feeding and punching scrap metal, in combination, an endless band and mechanism for imparting motion to the same, a series of clamps fixed to said band, and devices for closing and opening said clamps, and a punching-machine.

3. In a machine for feeding and punching scrap metal, in combination, an endless band encircling revolving drums A and F, a gear or ratchet wheel, C, and pawl *b*, as and for the purpose described.

4. In a machine for feeding and punching scrap metal, in combination, an endless band, revolving drums A and F, clamps J, fixed to said band, cams *k*, pivoted to said clamps, bar *l*, striker *p* and its operating mechanism, and a tripping-plate, *s*, as and for the purpose described.

5. In a machine for feeding and punching scrap metal, in combination, an endless band carrying clamps J and mechanism for operating said band and said clamps, and supporting feeding-brackets M, as and for the purpose described.

6. In a machine for feeding and punching scrap metal, in combination, an endless band and mechanism for imparting motion to the same, a series of clamps fixed to said band, and brackets H, as and for the purpose described.

CLARK M. PLATT.

In presence of—
G. M. PLYMPTON,
D. A. CARPENTER.