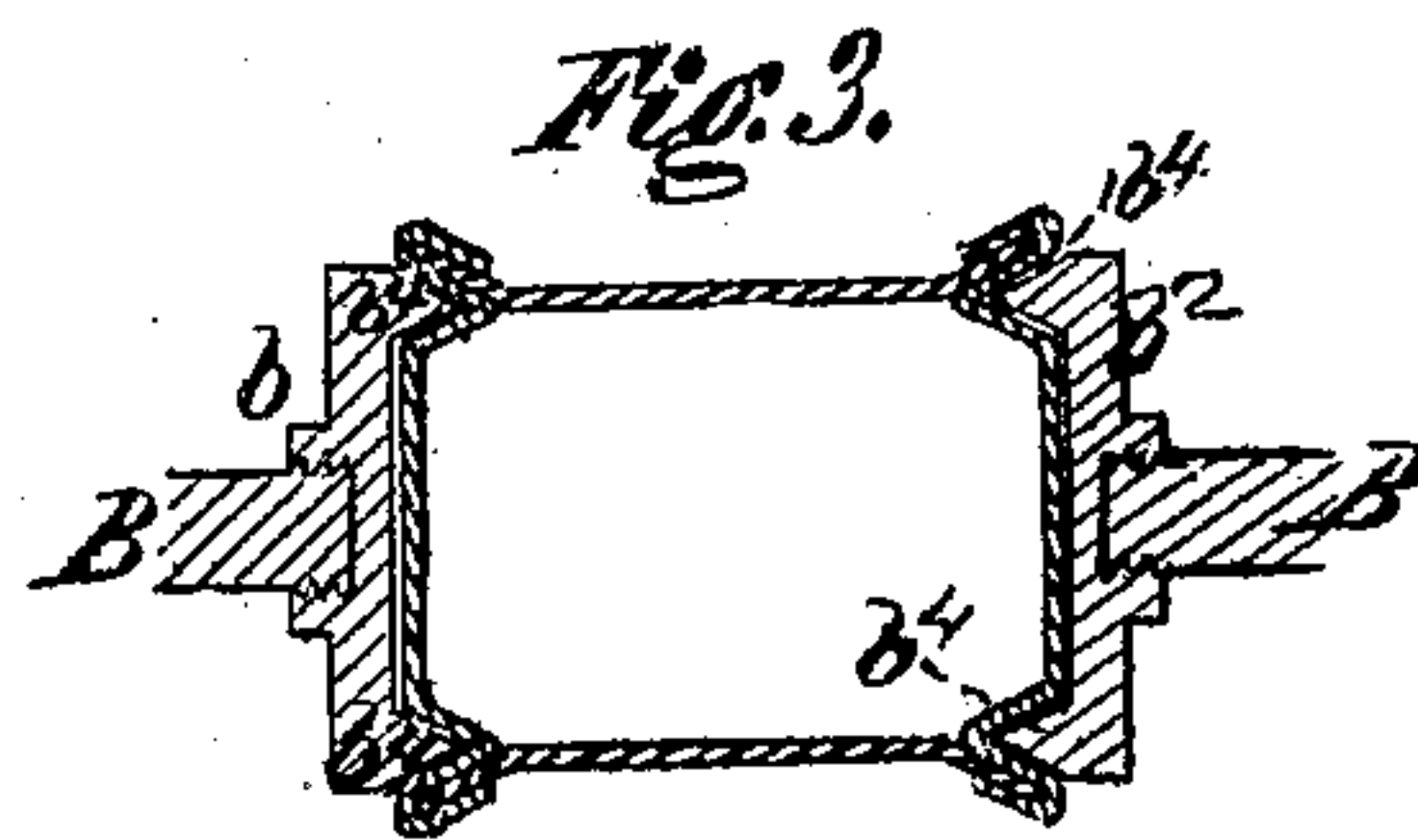
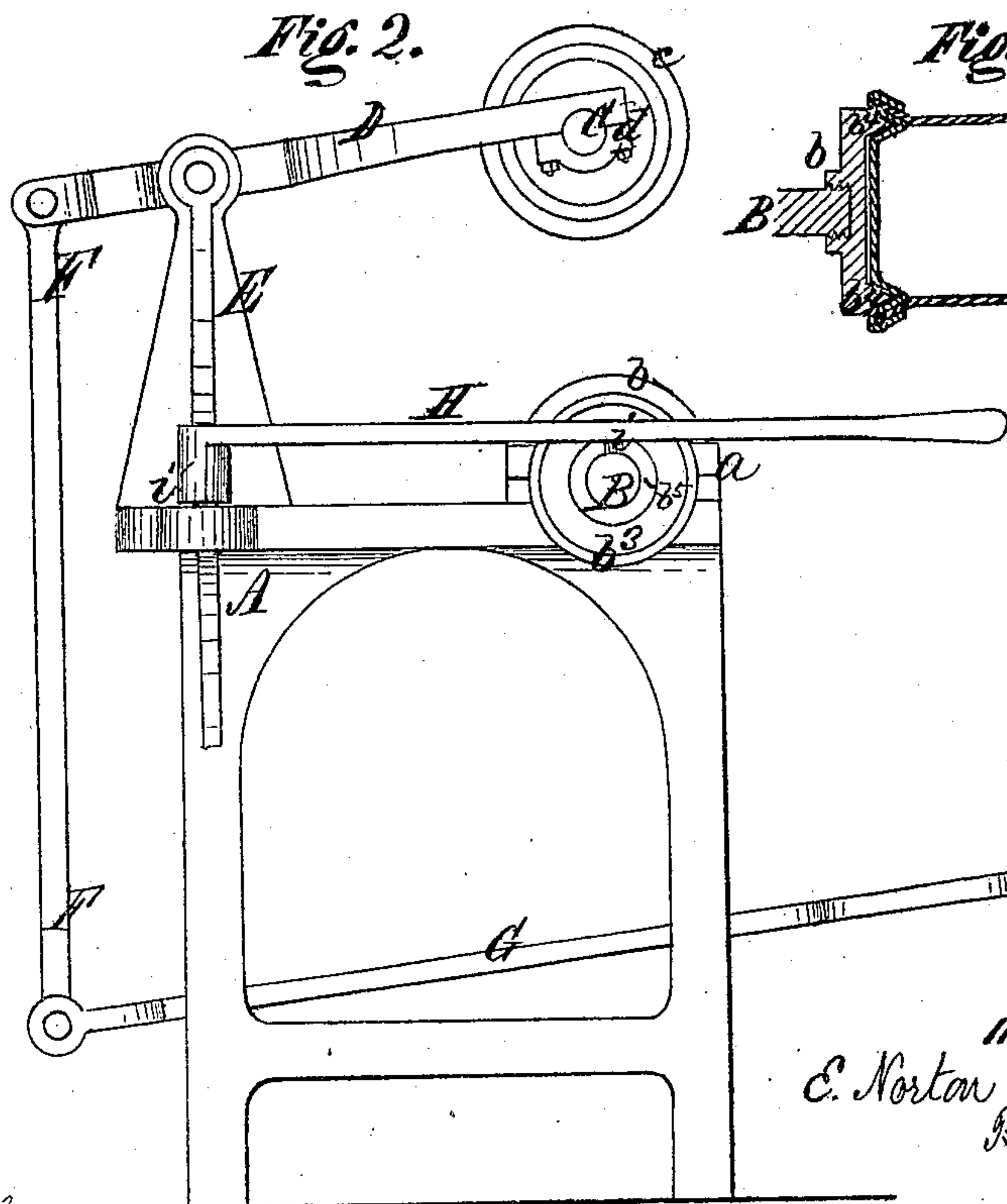
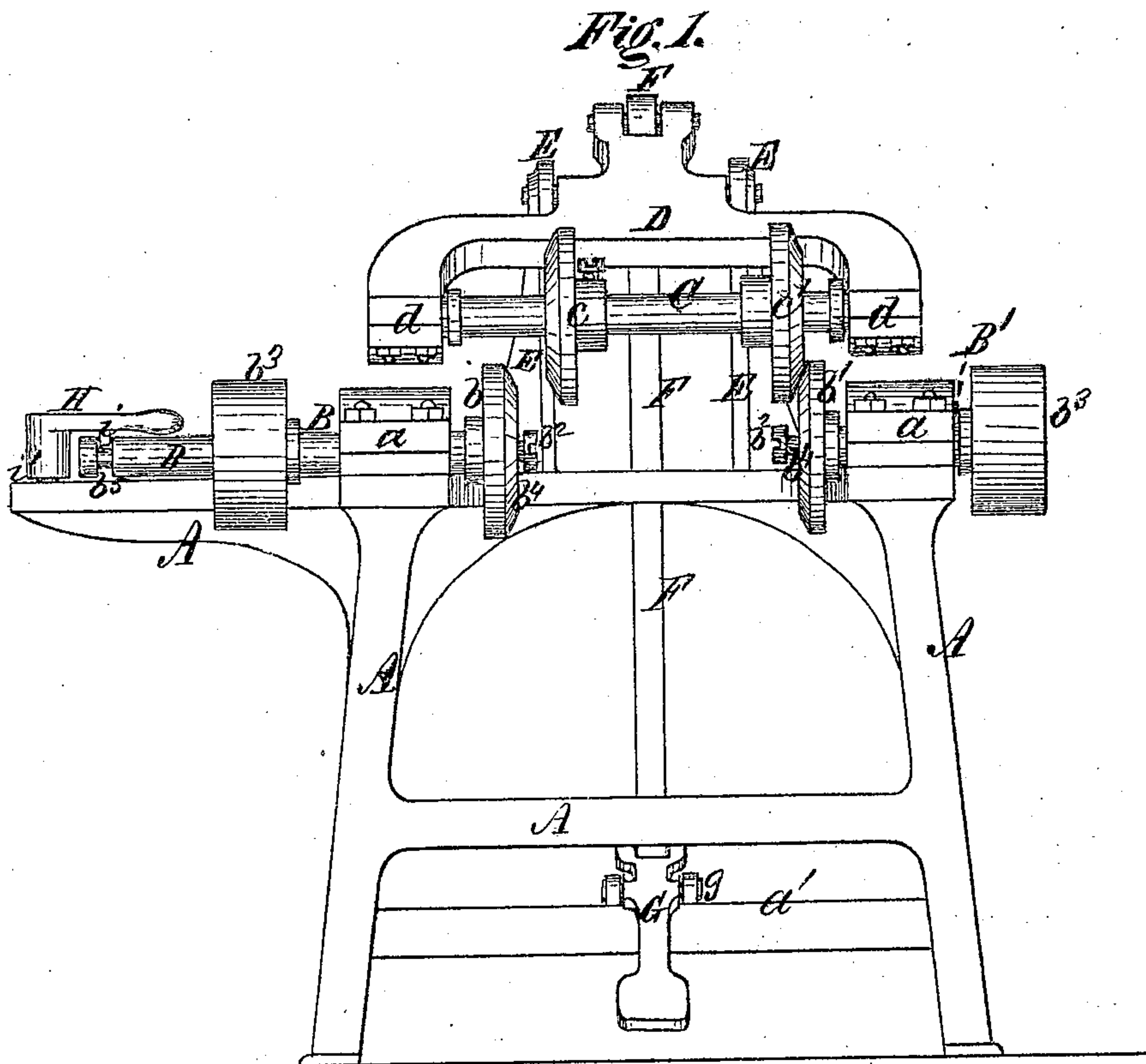


E. NORTON & A. H. FANCHER.

Improvement in Machines for Heading Cans.

No. 132,595.

Patented Oct. 29, 1872.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

EDWIN NORTON AND ALTON H. FANCHER, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN MACHINES FOR HEADING CANS.

Specification forming part of Letters Patent No. 132,595, dated October 29, 1872.

*To all whom it may concern:*

Be it known that we, EDWIN NORTON and ALTON H. FANCHER, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Putting on the Ends of Sheet-Metal Cans, of which the following is a specification:

### *Nature of the Invention.*

Our invention has reference to fastening the ends onto tin and other sheet-metal cans; and consists in a machine so arranged as to operate in a manner similar to a lathe, the can being held between chucks or disks, and both ends rolled or spun on at one operation, in the manner hereinafter described.

### *General Description.*

In the drawing, Figure I is a front elevation of our improved machine; Fig. II, a side or end elevation of the same; Fig. III, a diagram, showing a can between the disks and the method of rolling down the edge or rim.

A is a frame-work for supporting and holding the different parts of the can-heading machine. B B' are shafts held in place by the journal-boxes *a* on the frame-work, and having fixed pulleys or disks *b b'*, the former being adjustable horizontally by means of the hand-lever H, and attached to their inner ends by means of the set-screws *b*<sup>2</sup>. Belt-pulleys *b*<sup>3</sup> are secured to these shafts on the opposite side of the journal-boxes from the disks *b b'*, and *b*<sup>4</sup> is a bead or ridge on the face of each of the last-named disks. Above these disks and somewhat back of their center is a shaft, C, attached at each end to an arm of a forked support, D, by journal-boxes *d*. Arranged on this shaft and firmly secured thereto are two disks, *c c'*, which correspond in form, and are placed in line with the disks *b b'*, the former of which, *c*, is likewise adjustable on the shaft C by means of the set-screw *o*. By means of the adjustability of the disks *b c*, as set forth, the machine is adapted to operate on cans of varying sizes. The support D is hung at or near its center between the uprights E, and has a free vertical movement of the ends. At the end of the fork D, opposite the shaft C, is pivoted a vertically-placed connecting-rod or arm, F, which arm at its lower end is in turn

similarly connected to a treadle or foot lever, G, having its fulcrum *g*, to which the lever is pivoted attached to a brace, *a'*, of the framework A. The shaft B has a lateral play, and is guided in its movement by the hand-lever H, which has a yoke or pin, *i*, fitting into a groove, *b*<sup>5</sup>, in the shaft, and secured at the end opposite the handle by a circular bolt, *i'*, to the frame A.

The operation of the invention is as follows: The heads or ends of the cans are first stamped in a separate machine, and the piece forming the side cut to the right size. The side piece is made to assume the form of the ends, and the end pieces are then slipped on. The can thus put together is taken in the right hand of the operator and placed between the disks *b b'*, which are constantly revolved by the belt attachment on the pulleys *b*<sup>3</sup>, and the shaft B, which before was at the opposite extremity of its lateral movement, is made to advance toward the shaft B' by applying the left hand to the lever H. The disk *b* is thus caused to approach the disk *b'* until the can is caught and held firmly between them, the disks used being always of a size to conform exactly to the stamped ends, and the bead *b*<sup>4</sup> on the disks fitting into the groove in the end pieces. The can will then revolve with the shafts B B'. The foot of the operator is next placed upon the lever G and a downward pressure imparted to it, which, being transmitted to the shaft C and disks *c c'* through the fork D and connecting-rod F, causes the disks *c c'* to bear against the rim of the can, which rim bears in turn upon the corresponding disks *b b'* on that part of the disks formed by the bead *b*<sup>4</sup>. The rim is thus pressed between the disks with a force equal to the foot-pressure multiplied by the amount of leverage gained by the relative positions of the fulcrum *g* on the lever G, and uprights E of the fork D. The revolution of the disks *b b'* and can fixed between them causes the disks *c c'* also to revolve by friction, when the latter are brought in contact with the rim of the can. The whole circumference of the rims of both ends are thus brought under pressure between the disks *b c* and *b' c'*. One or two revolutions of the can after the disks are brought to bear suffices to clamp the lapped parts of the rim tightly together, and leaves a smooth edge and joint



that is almost air-tight without soldering. The operation being complete, the shaft B is made to recede from the one opposite by means of the hand-lever H, and the can falls into a chute (not shown in the drawing) which directs it to some convenient receptacle, whence it is next taken to be soldered. As soon as one can falls from the disks *b b'* another takes its place, and so on.

Different sets of disks may, of course, have differently-molded edges, so as to produce diversely-formed rims. In turning down the edge of a pail-top, plain flat disks are conveniently used. Various-sized ends will require disks of corresponding pattern. The change of one set of disks for another is effected by unscrewing one set from the shafts and screwing on another, the ends of the shafts being usually formed with a male screw, and the disks with a corresponding female screw.

The advantages secured in our invention are as follows: By making the disks *b c* adjustable, as described, we are enabled to adapt our machine to cans of different sizes, and at the same time obviate the necessity of any adjustability of the disks *b' c'*, thereby dispensing with the devices requisite to adjust the latter disks, which renders our machine much simpler and cheaper in construction than in those machines where both disks are adjusted. A simple movement of the hand-lever effects the adjustment of the disk *b*; nor is this simplicity and cheapness of construction with regard to the adjustment of but one set of disks the only advantage gained. For by our construction all the cog-gearing, differential pulleys, levers, and other devices employed in other machines are dispensed with, and a machine is con-

structed so simple that a child can easily operate it, while the much more complicated machines require an expert. Simplicity and cheapness of construction are thus fully obtained in our invention, and its use can readily be learned by a boy.

We are aware that a patent has been granted to W. Wilson, dated December 19, 1865, for a similar machine, and we therefore lay no claim to his invention, deeming that our machine differs materially from his in having no cog-gearing whatever, which is expensive, and requires more power to operate the parts than in our invention. The said machine also differs materially from ours in having both the upper disks adjustable, which requires a more complicated mechanism, and more power to operate the parts.

What we claim as our invention, and desire to secure by Letters Patent, is—

In combination with the disks *b b'* having beads *b<sup>4</sup> b'<sup>4</sup>*, the former, *b*, adjustable horizontally by means of the hand-lever H, and situated on the shafts B B', the corresponding beveled disks *c c'*, the former adjustable by means of the set-screws *o*, when said disks *c c'* are hung in the forked arm D and operated through the pitman F by the foot-lever G, all arranged and operating as and for the purposes set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

EDWIN NORTON.  
ALTON H. FANCHER.

Witnesses:

C. O. PECK,  
GEO. W. MIATT.