

(No Model.)

E. E. ANGELL.
HORN FOR CAN MACHINES.

No. 414,002.

Patented Oct. 29, 1889.

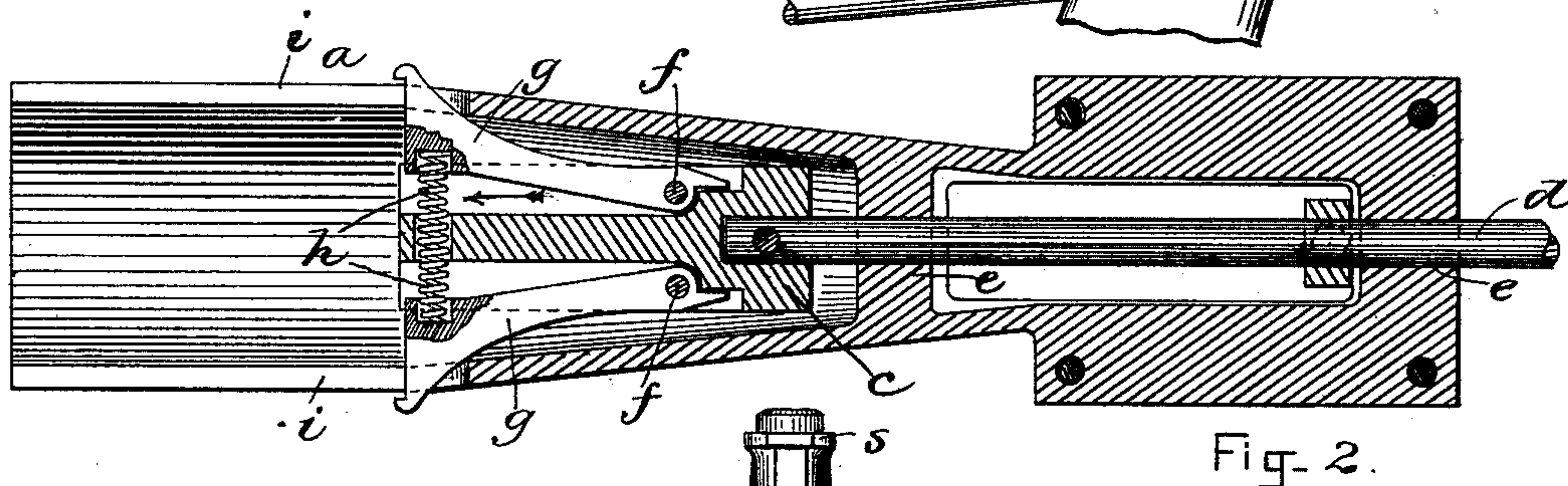
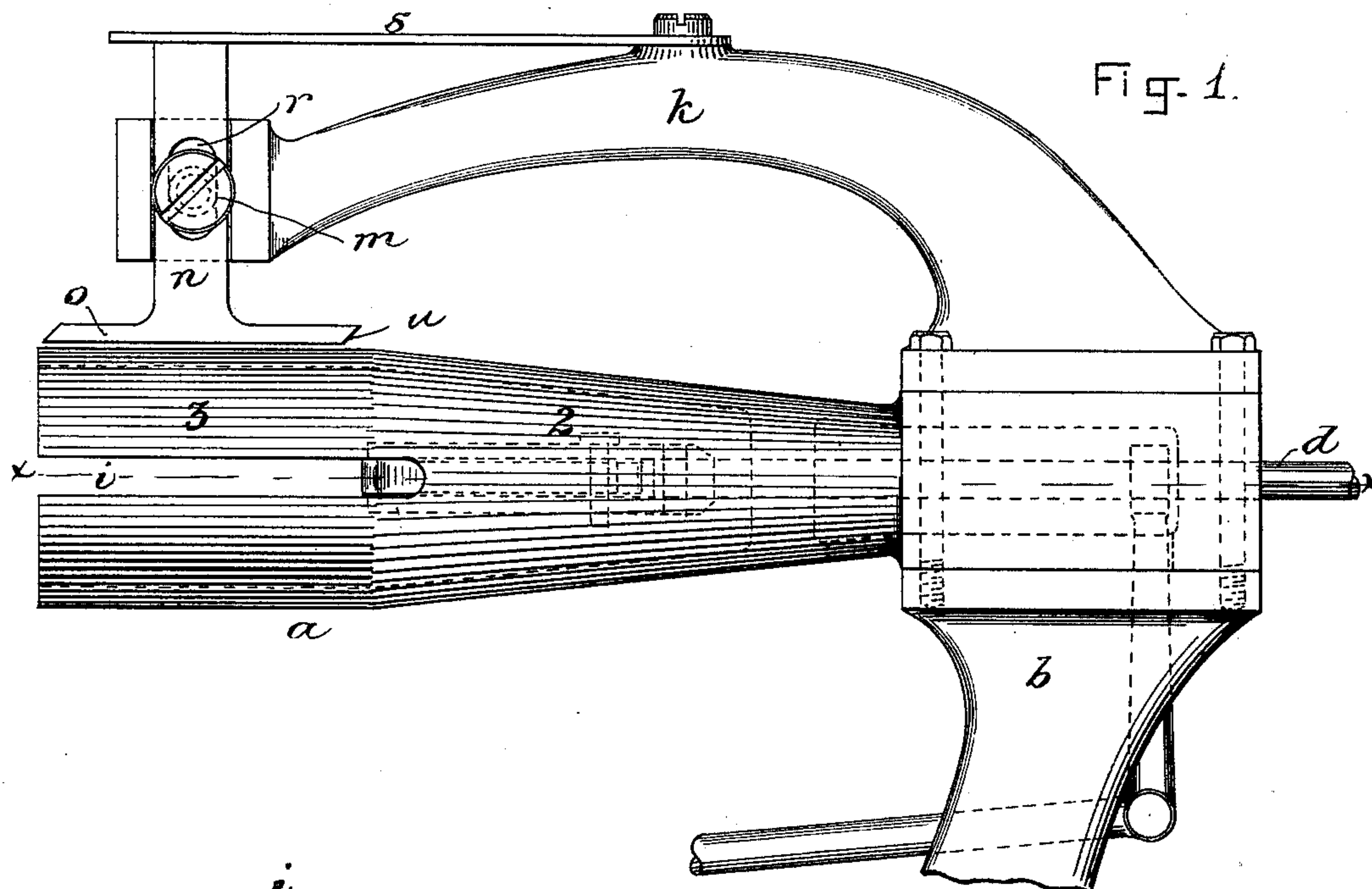
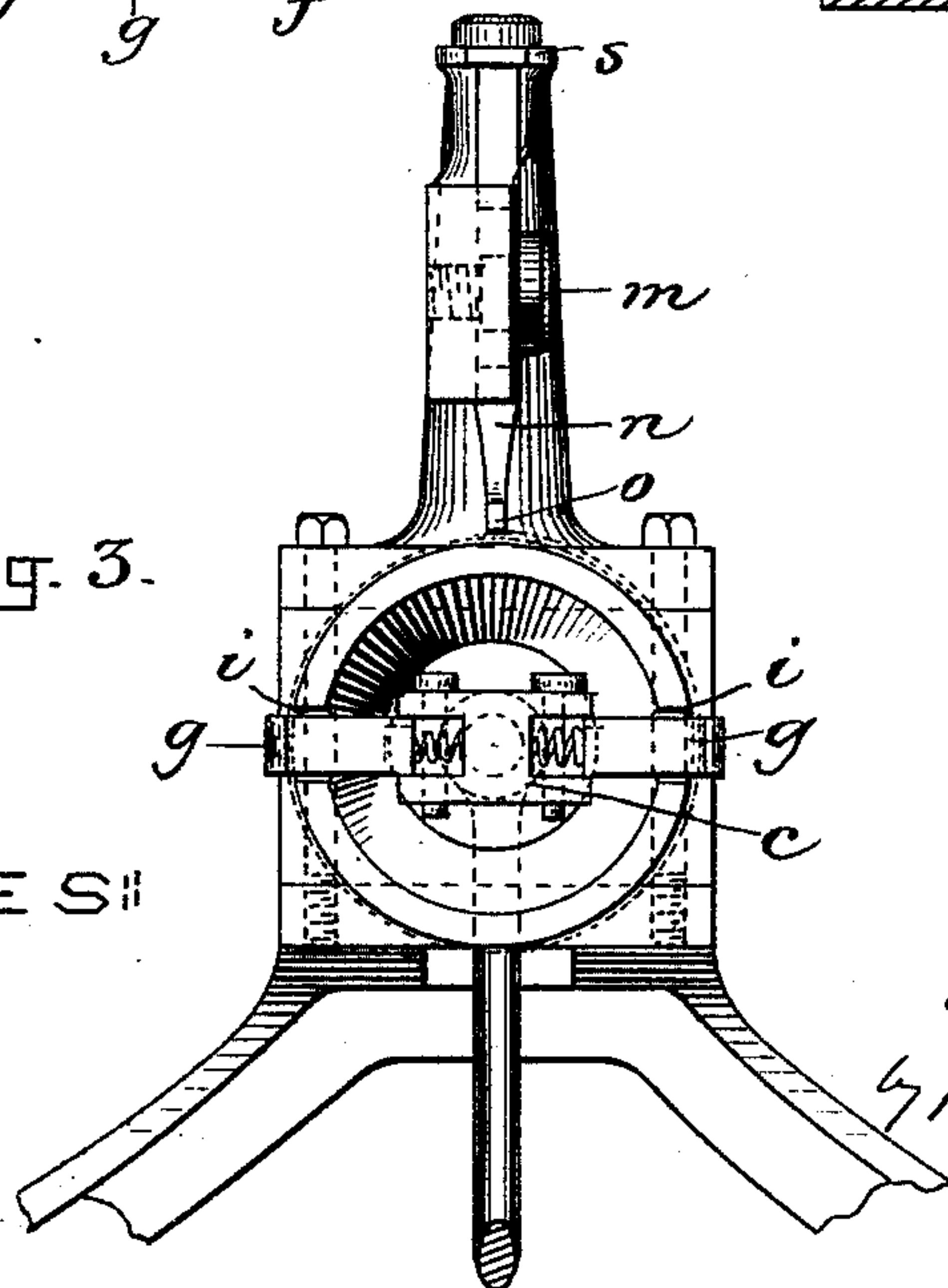


Fig. 3.



WITNESSES:

A. D. Harrison
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INVENTOR:

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By Myatt Brown (Attorney)

UNITED STATES PATENT OFFICE.

EDWIN E. ANGELL, OF BOSTON, ASSIGNOR OF ONE-HALF TO E. B. WELCH,
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HORN FOR CAN-MACHINES.

SPECIFICATION forming part of Letters Patent No. 414,002, dated October 29, 1889.

Application filed January 29, 1889. Serial No. 298,006. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. ANGELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Horns for Can-Machines, of which the following is a specification.

This invention relates to a can-making machine in which a sheet-metal blank previously bent into a scroll with overlapping edges is placed on a fixed horn and pushed from said horn onto a movable mandrel brought into line therewith, said mandrel being one of a series of mandrels arranged radially on a rotary carriage. Mechanism is provided whereby said carriage is rotated step by step, the mandrels being thereby brought successively into coincidence with the horn, each being held while the blank is transferred by an endwise movement from the horn onto the mandrel.

The invention relates particularly to the said horn, and has for its object to provide a horn on which the blank may be conveniently placed by the operator, and in connection therewith a guide for the overlapping edge of the blank, and simple and efficient means whereby the blank may be pushed from the horn onto the mandrel.

To these ends my invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of my improved horn. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents an end view of the horn.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents my improved horn, which is preferably arranged horizontally, and is attached at one end to a fixed arm *b*, forming a part of the supporting-frame of the machine. The inner end of the horn is preferably of considerably less diameter than the outer end, and the horn is gradually enlarged from the inner end, forming a tapered portion 2, which extends partly to the outer end, the remaining or outer portion 3 of the horn being of uniform diameter. The reduced tapered portion 2 is intended to facili-

tate the application of a scroll-shaped blank to the enlarged outer portion 3 of the horn, the reduced diameter enabling the operator stationed at the horn to easily spring said blank onto the inner end of the horn and then slide it lengthwise onto the enlarged outer portion. Within the horn is a reciprocating carrier *c*, attached to a rod *d*, which is reciprocated in guides *e e* in the horn by any suitable means. To the carrier *c* are pivoted at *f f* two jaws *g g*, which are pressed outwardly by a spring or springs *h*, their outer ends projecting through longitudinal slots *i*, formed in the outer portion of the horn. The jaws are enabled by their pivotal connection to the carrier and by the spring *h* to yield when the blank is being pushed forward by the operator, as above described. The jaws spring outwardly after the blank has passed over them, so that their outer ends are in position to bear against the rear end of the blank and push the same from the horn onto a mandrel held in line therewith, when the carrier *c* is moved outwardly in the direction indicated by the arrow in Fig. 2. The extent of outward movement imparted to the carrier and jaws is sufficient to remove the blank from the horn and transfer it to the said mandrel.

k represents an overhanging arm, which is attached to the inner end of the horn, or to the support thereof, and extends over the outer end of the horn. To the outer end of said arm is connected, by a screw or stud *m*, a vertical shank or slide *n*, on the lower end of which is formed a horizontal guide *o*, which stands over and is parallel with the outer portion of the horn. Said guide forms an abutment for the overlapping edge of the scroll-shaped blank, the operator turning over said blank until its overlapping edge comes to a bearing against one side of said guide, as shown in Fig. 3, (the blank being shown in said figure by dotted lines.) It will be seen that the guide insures a uniform location of the overlapping edge of each blank as it is moved onto the mandrel, so that the said edge will coincide with the soldering devices which act on the blank while it is on the mandrel. The shank *n*, supporting the guide, has a slot *r*, through which the stud or screw *m*

passes. Said slot enables the guide to move vertically, and thus accommodate itself to the thickness of the sheet metal of which the blank is composed. A spring *s*, attached at
 5 one end to the arm *k* and bearing at its free end on the shank *n*, holds the shank and guide down with a yielding pressure and permits the guide to yield upwardly. The rear end of the guide is beveled, as shown at *u*, to
 10 facilitate the insertion of the blank under the guide.

The construction of the mandrels which receive the blanks from the horn and the means for supporting and operating said mandrels
 15 constitute the subject-matter of another application for Letters Patent filed by me.

The means for reciprocating the blank-ejecting jaws *g g* may be automatic mechanism forming a part of the organized machine,
 20 or it may be suitable devices operated by hand.

I claim—

1. The combination, with a horn *a*, consisting of the uniformly-tapered inner portion 2
 25 having the slots *i*, of a reciprocating carrier

within said horn, and inwardly - yielding spring-jaws pivoted to said carrier and having their outer ends working in said slots, as set forth.

2. The combination, with the fixed support 30 *b*, of the horn *a*, having tapered and cylindrical portions, as shown, the arm *k*, the spring-pressed shank *n* at the outer end of said arm, and the guide *o*, carried by said shank above the cylindrical portion of said horn and provided with the beveled inner end *u*, as set
 35 forth.

3. A horn having longitudinal slots, combined with a reciprocating carrier within the horn, pivoted jaws on said carrier projecting 40 through said slots, and springs whereby the jaws are pressed outwardly, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 14th day of 45 January, A. D. 1889.

EDWIN E. ANGELL.

Witnesses:

C. F. BROWN,
 A. D. HARRISON.