

No. 772,017.

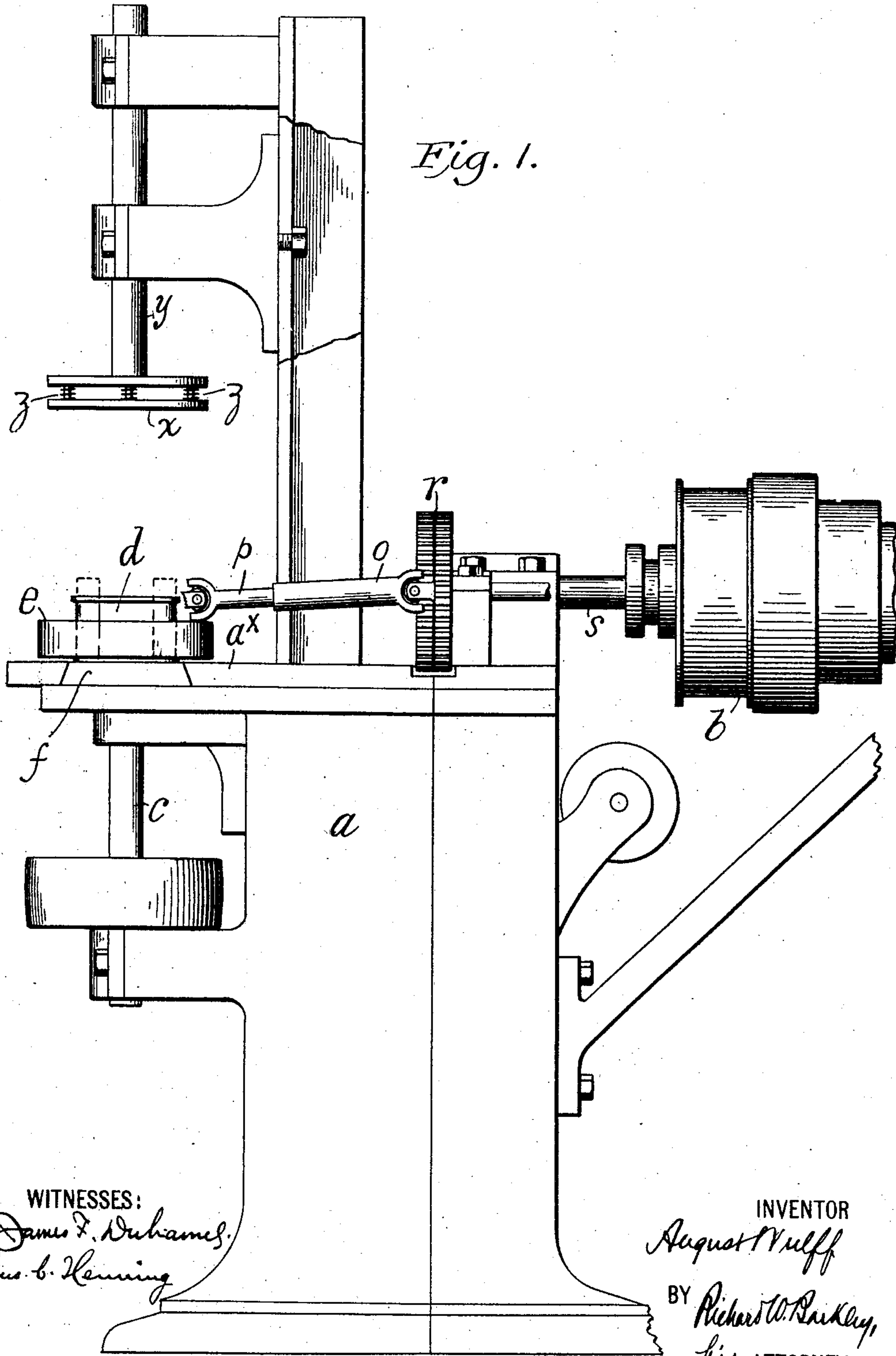
PATENTED OCT. 11, 1904.

A. WULFF.  
CAN SEAMING MACHINE.

APPLICATION FILED FEB. 24, 1902. RENEWED AUG. 26, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:  
*James F. Duhamel.*  
*Geo. b. Henning*

INVENTOR  
*August Wulff*  
BY *Richard W. Barkley,*  
his ATTORNEY

No. 772,017.

PATENTED OCT. 11, 1904.

A. WULFF.  
CAN SEAMING MACHINE.

APPLICATION FILED FEB. 24, 1902. RENEWED AUG. 26, 1904.

NO MODEL.

3 SHEETS—SHEET 2

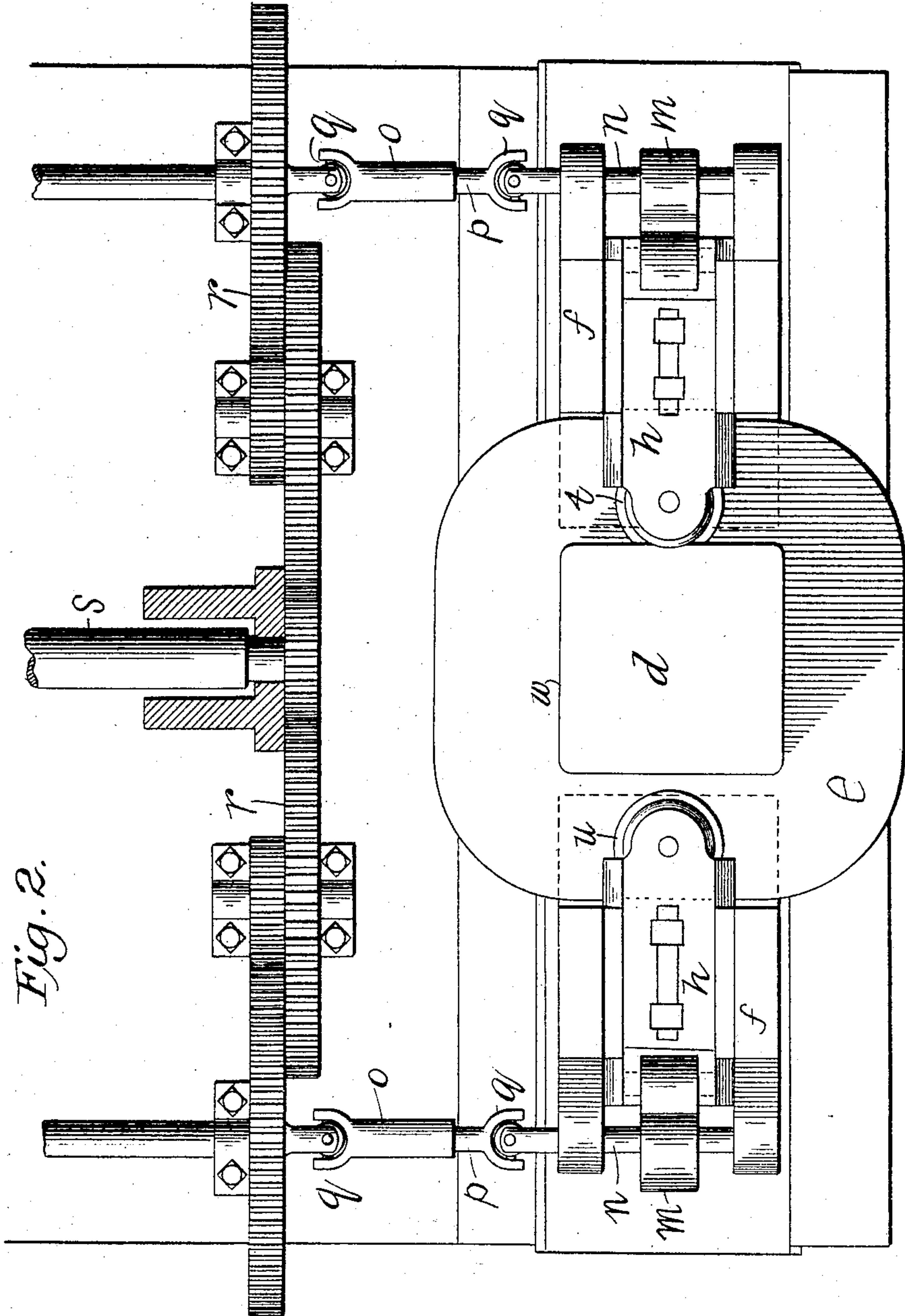


Fig. 2.

WITNESSES:

James F. Duhamel,  
Esq. C. Henning.

INVENTOR

August Wulff

BY

Richard W. Backley,  
his ATTORNEY

No. 772,017.

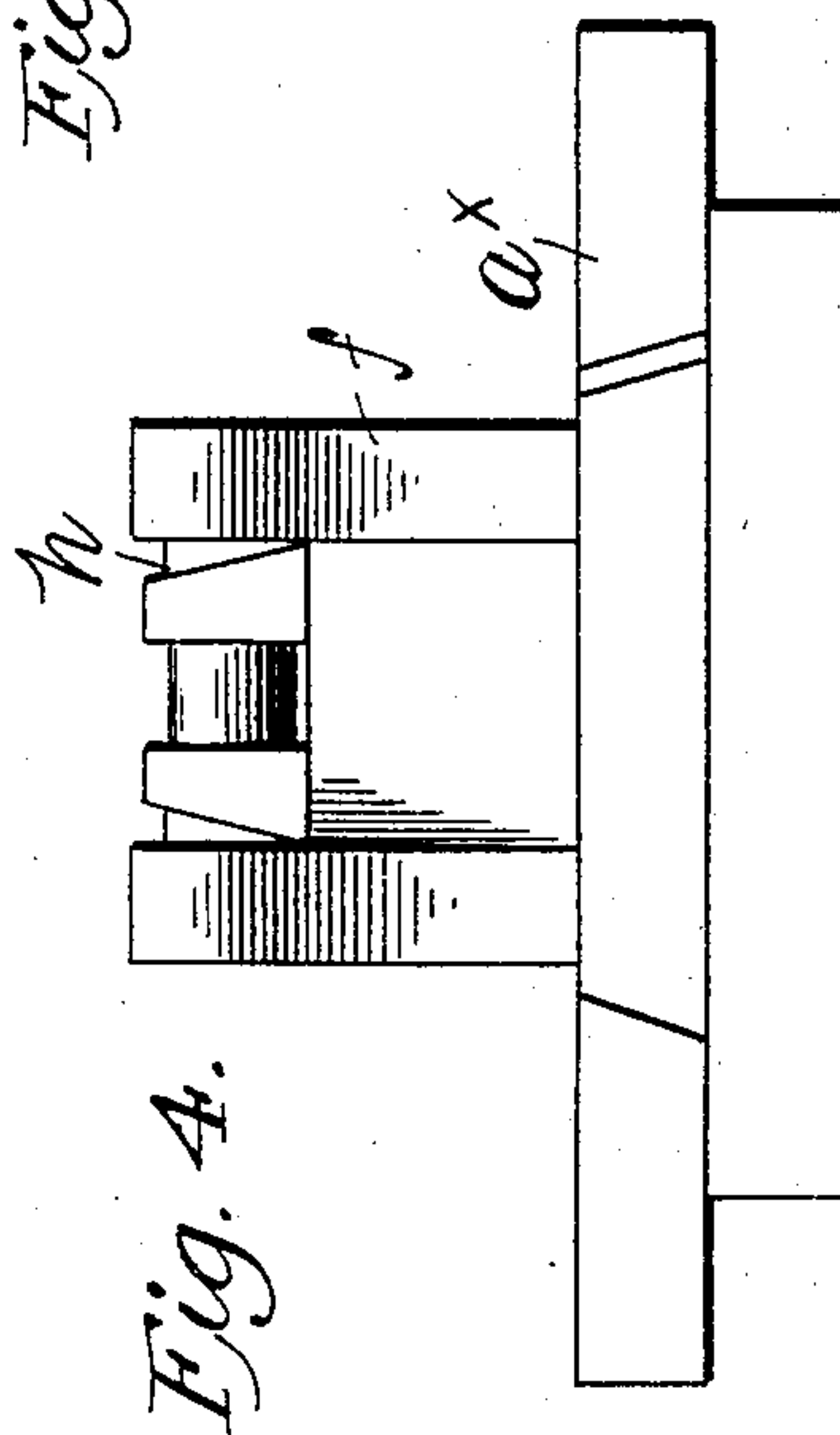
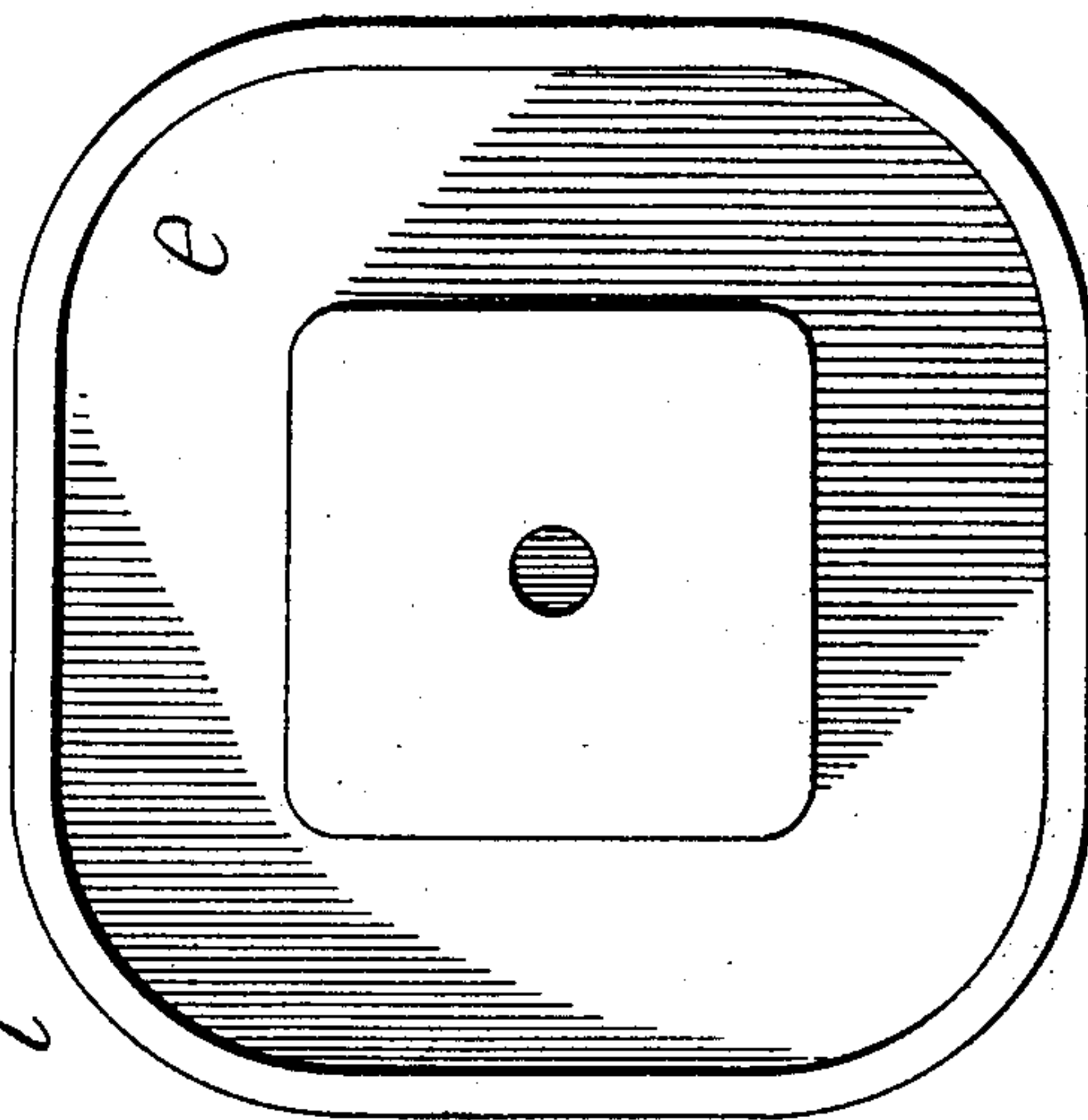
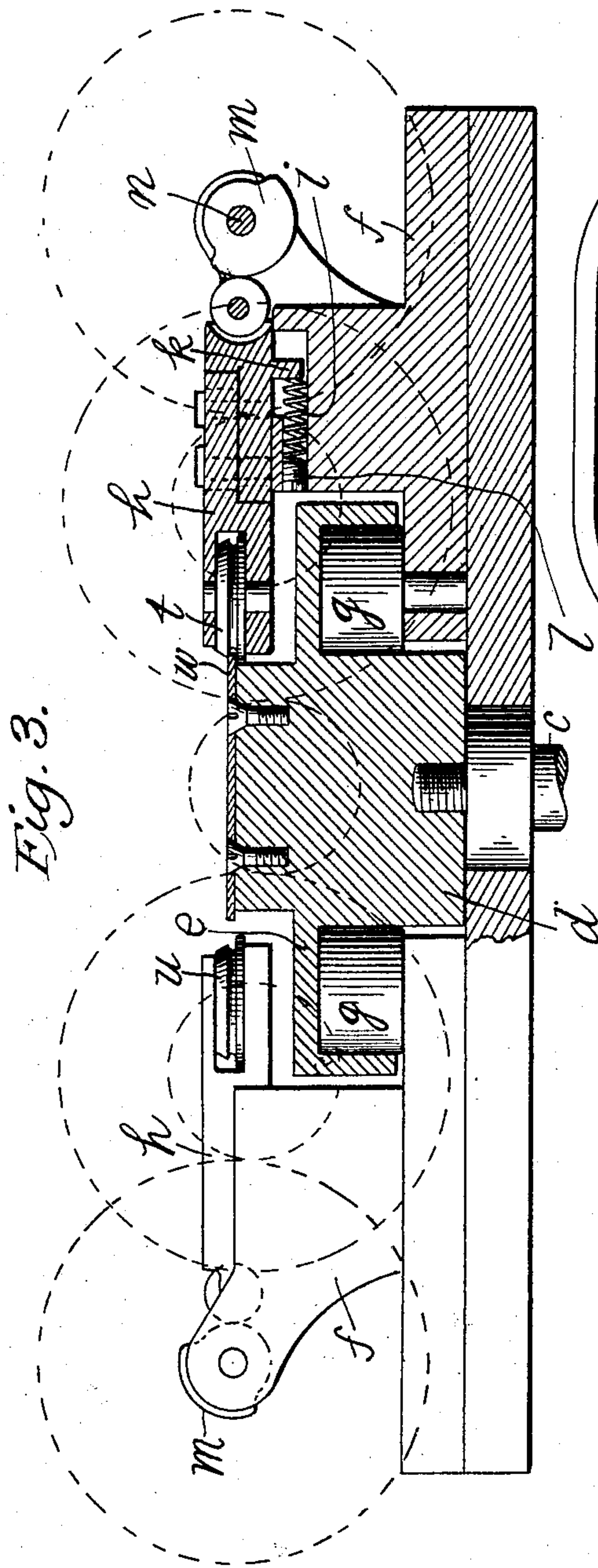
PATENTED OCT. 11, 1904.

A. WULFF.  
CAN SEAMING MACHINE.

APPLICATION FILED FEB. 24, 1902. RENEWED AUG. 26, 1904.

NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

James I. Duhamel,  
Geo. C. Hemming.

INVENTOR

August Wulff

BY

Richard W. Barkley  
his ATTORNEY.



# UNITED STATES PATENT OFFICE.

AUGUST WULFF, OF BROOKLYN, NEW YORK.

## CAN-SEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,017, dated October 11, 1904.

Application filed February 24, 1902. Renewed August 26, 1904. Serial No. 222,306. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST WULFF, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Can-Seaming Machines, of which the following is a specification.

The present invention relates to machinery for securing the heads to the bodies of sheet-metal cans of any form by seaming or folding the metal.

The primary object of the invention is the provision of simple and durable mechanism which will do the work with rapidity, efficiency, and economy.

Other objects will appear hereinafter during the description of the invention.

In its general features a machine in which the present invention is embodied comprises a suitable framework or casting, in which the moving parts are mounted in appropriate manners, an upright revolving shaft, on the upper end of which is mounted the can holder or support, which is provided with an overhanging internal support or anvil for the head and body of the can during the operation of seaming, carriages mounted on the framework to be capable of motion toward and from the axis of rotation of the anvil, a cam for so moving said carriages, movable slides mounted on said carriages to move independently thereof toward and from the axis of rotation of said anvil, cams mounted on said carriages to move said slides, and means for operating the last-mentioned cams in all positions thereof or of the carriages on which they are mounted. Suitable forming rollers or dies are mounted on slides and are brought into and moved out of action thereby, whereby seams of known form may be made.

The preferred form of the invention is illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view from the side of a machine in which the invention is embodied, parts being omitted and others being broken away for the sake of clearness. Fig. 2 is a plan view of the can holder or support, the die carriers or slides, and operating mechanism therefor shown in Fig. 1. Fig. 3 is a front elevation, partly in section, of the parts shown in Fig. 3. Fig. 4 is an end view of the carriage and slide shown in the preceding figures; and Fig. 5 is a bottom view of the can-holder, showing the carriage-moving cam formed integrally therewith or attached thereto.

In the drawings the reference *a* marks a suitable framework or casting, in which the working parts are mounted in manners appropriate to each, and *b* cone-pulleys by which power is transmitted to the mechanism. I would remark that the power may be thrown out of action automatically, as is common in the class of machines to which this invention relates, whenever the seam is completed.

*c* indicates a vertical shaft journaled in the frame *a*, and to the upper end of this shaft the can holder or support *d* is detachably secured in any suitable way, whereby holders or supports for cans of different forms may be substituted for that shown. The rim of the holder *d* is provided with a cam *e*, whose shape corresponds with that of the can supported on the holder. The holder *d* projects above a table *a'*, forming part of the frame of the machine, and the table is provided with suitable ways or guides for carriages *f*. The carriages *f* are provided with pins or rollers *g*, which engage with the cam *e*, whereby the carriages are moved toward and from the axis of the shaft *c* during the rotation of the last-mentioned shaft. Slides *h* are mounted in the carriages *f* so as to be capable of motion independently thereof toward and from the axis of the shaft *c*. These slides may be moved positively in each direction by a cam, or the construction shown in the drawings, which is the equivalent of a closed cam, may be used for this purpose. As shown in the drawings, the slides *h* are moved away from the shaft *c* by springs *i*, which abut against lugs *k* on the under side of the slides and against screw-plugs *l* in holes bored in an upstanding part of each of the carriages *f*, and cams *m* on shafts *n* move said slides toward said shaft *c*. The shafts *n* are journaled in lugs or ears on the carriages *f* directly behind the slides and are operated by flexible shafting from gear-

ism therefor shown in Fig. 1. Fig. 3 is a front elevation, partly in section, of the parts shown in Fig. 3. Fig. 4 is an end view of the carriage and slide shown in the preceding figures; and Fig. 5 is a bottom view of the can-holder, showing the carriage-moving cam formed integrally therewith or attached thereto.



ing on the fixed framework *a*. The shafting shown in the drawings for operating the shafts *n* consists of telescopic sections *o p*, which are connected together so as to rotate together and which are joined by universal joints *q* to the gears *r* on the fixed frame *a* and the shafts *n* on the to-and-fro-moving carriages *f*. The gears *r* are driven from the shaft *s*, on which the cone-pulleys *b* are mounted.

At their inner ends the slides *h* are provided with dies or forming-rollers *t u*, of configurations appropriate to the form of seam which is to be made by them. The rollers *t u* may be replaced by others. The cams *m* are so placed on their shafts and are so made that they do not throw their respective rollers into operation simultaneously, nor yet to the full extent all at once, from which it follows that the flange of the head is first bent or curved until its edge rests against the body of the can, the flange being bent more than one hundred and eighty degrees by the roller *t*, after which roller *t* is withdrawn and roller *u* comes into operation and completes the forming of the seam by pressing the metal down against the body of the can, at the same time forcing the edge of the inturned flange along toward the edge of the can-body, all in a known manner. Reference *w* marks an overhanging anvil secured to the support *d*. The mechanisms for rotating the can-holder *d* and the cams *m* are so proportioned that many revolutions of the holder take place to one revolution of the cams, from which and the shape of the cams themselves it results that the cams *m* are moved closely toward the shaft *c*, and thus perform their functions in a gradual manner.

The cans and heads are held down on the support *d* by means of an up-and-down-movable spring clamping-plate *x*, connected to the up-and-down-movable shaft *y*, which is suitably mounted in the frame of the machine and which may be moved down by a treadle (not shown) and up by a spring. (Also not shown.) The spring connection between the plate *x* and the shaft *y* permits the plate to accommodate itself to any inequalities in the heights of the cans when it is brought down upon them to clamp them.

The operation of the above-described mechanism is as follows: The can-head, which comprises a central disk or ring, from which projects at right angles or thereabout a cylindrical web and from which web projects an outside flange, is first placed on the anvil *w*. The can-body is then placed over the head with its lower edge resting upon said outside flange. Then the shaft *y* is moved down and so held to cause the plate *x* to clamp the can against the support *d*, after which the shaft *c* is started to turning, and then the gears *r* are started and the corresponding cam *m* begins to move

the slide-carrying rollers *t* inward on the carriage *f*, which of course is being reciprocated the while by the cam *e*. The roller *t* is thus gradually advanced against the outside flange and gives it the bending first above described, after which the roller *t* is released and is moved away, while the roller *u* is advanced in like manner and completes the seam as above described. As above stated, the machine may be stopped automatically upon the completion of the seam and the release of the roller *u*. Since such mechanism for so stopping the mechanism shown is known in the art, I have not deemed it necessary to show the same herein.

I do not limit myself to the precise form of the invention shown in the drawings and above described, since the invention may be embodied in forms other than that shown.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a can-seaming machine, the combination with a fixed framework, of a rotatory anvil thereon, a cam moving with said anvil, a carriage moved to and fro on said framework by said cam, a slide mounted on said carriage and movable independently thereof, a movable cam mounted on and moving to and fro with said carriage and actuating said slide, and gearing mounted on said framework and connected by shafting having two members sliding on each other to and actuating said last-mentioned cam, substantially as described.

2. In a can-seaming machine, the combination with a fixed framework, of a rotatory anvil thereon, a cam moving with said anvil, a carriage moved to and fro on said framework by said cam, a slide mounted on said carriage and movable independently thereof, a shaft journaled on said carriage, a cam operated by said shaft and operating said slide, and gearing on said framework connected to and actuating the said shaft, substantially as described.

3. In a can-seaming machine, the combination with a fixed framework, of a rotatory anvil thereon, a cam moving with said anvil, a carriage moved to and fro on said framework by said cam, a slide mounted on said carriage and movable independently thereof, a shaft journaled on said carriage, a cam on said shaft for operating said slide, toothed gears mounted on the said fixed framework, and a telescoping shaft connected by universal joints with said shaft and said gears, substantially as described.

Signed at New York city, in the county of New York and State of New York, this 17th day of February, A. D. 1902.

AUGUST WULFF.

Witnesses:

GUS. C. HENNING,  
R. W. BARKLEY.