

No. 734,759.

PATENTED JULY 28, 1903.

C. W. SLEEPER.
EJECTOR FOR SIDE SEAMING MACHINES.

APPLICATION FILED JAN. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

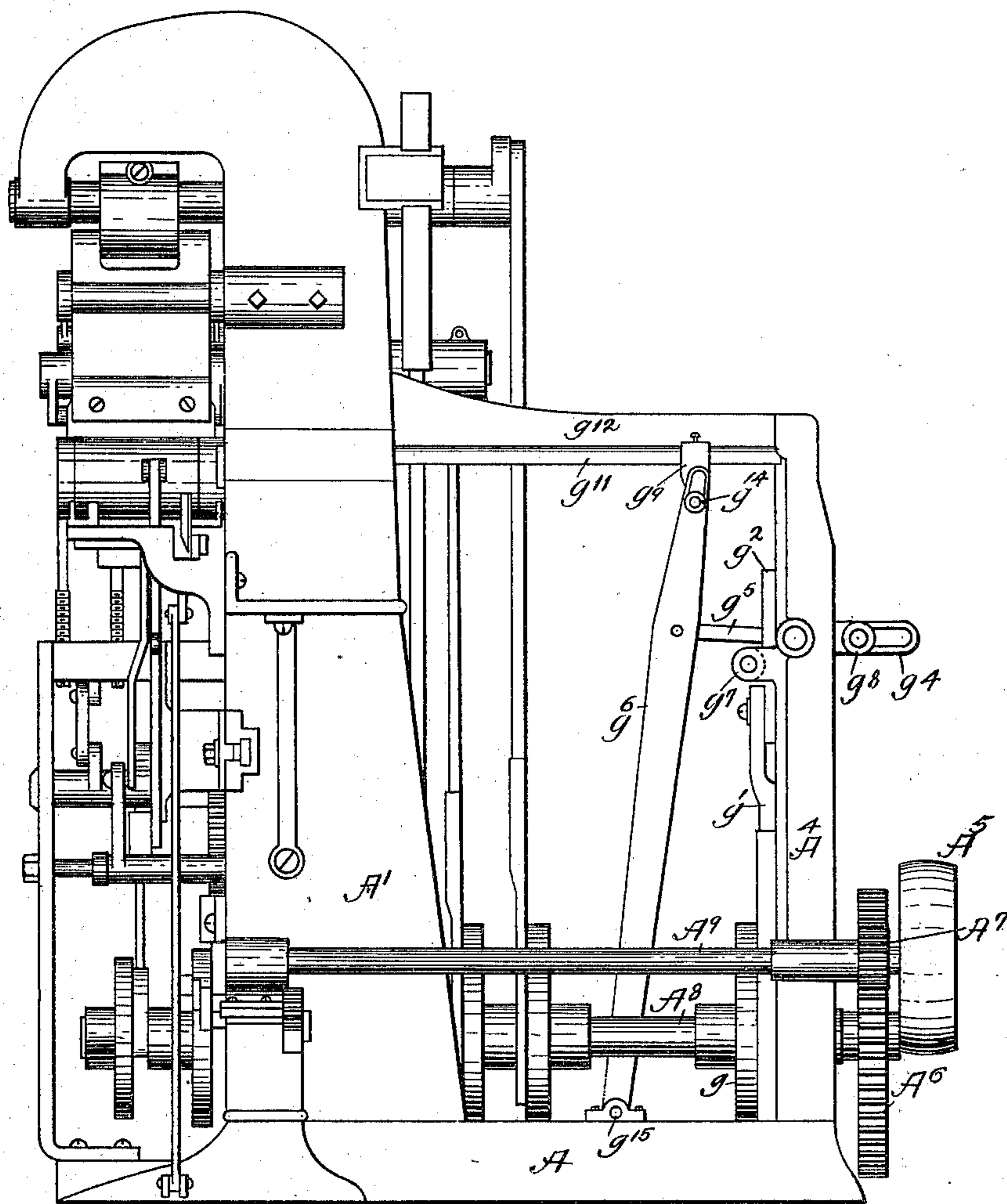


Fig. 1.

WITNESSES:

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George M. Reed

INVENTOR:

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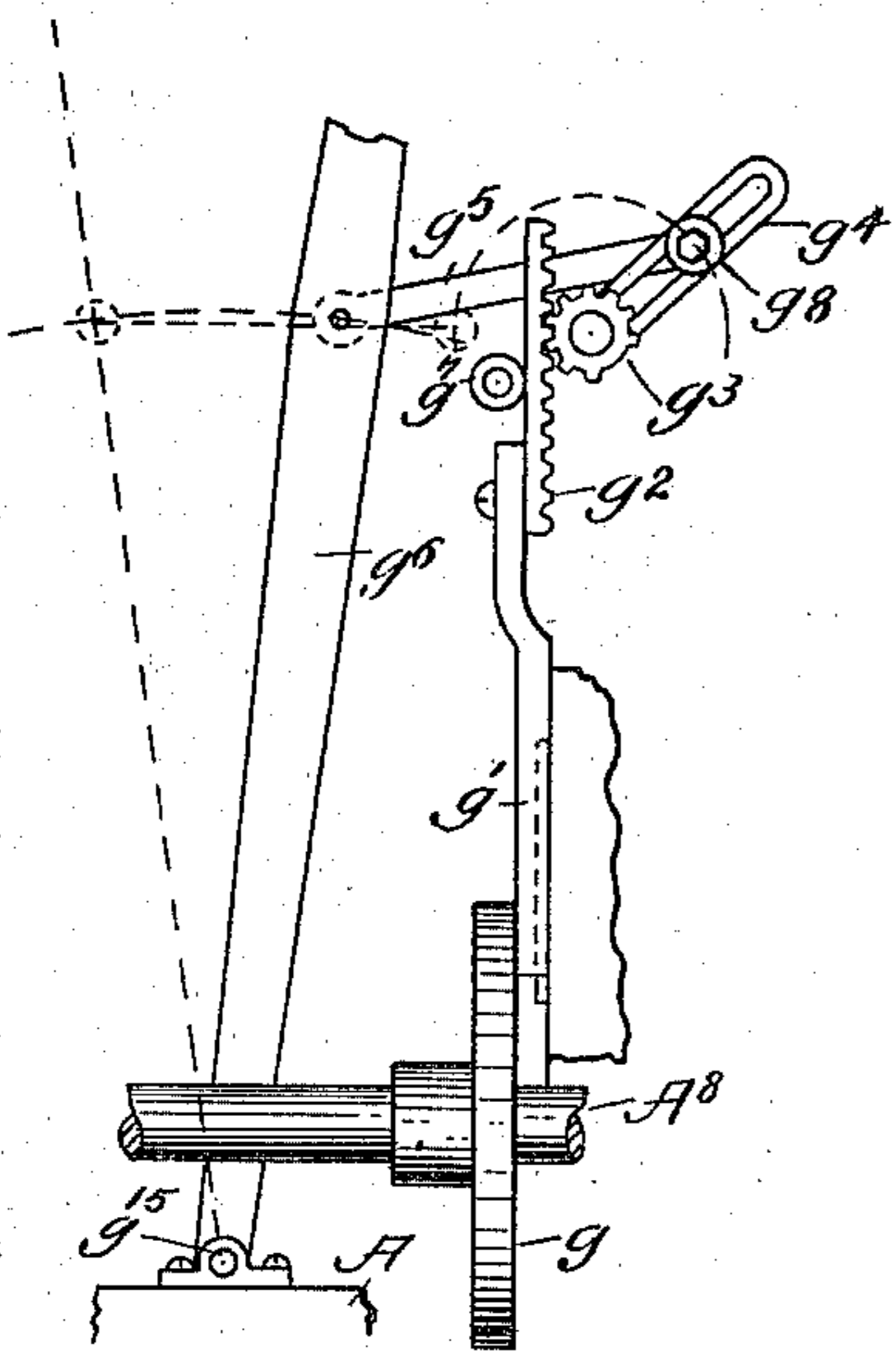


Fig. 2.

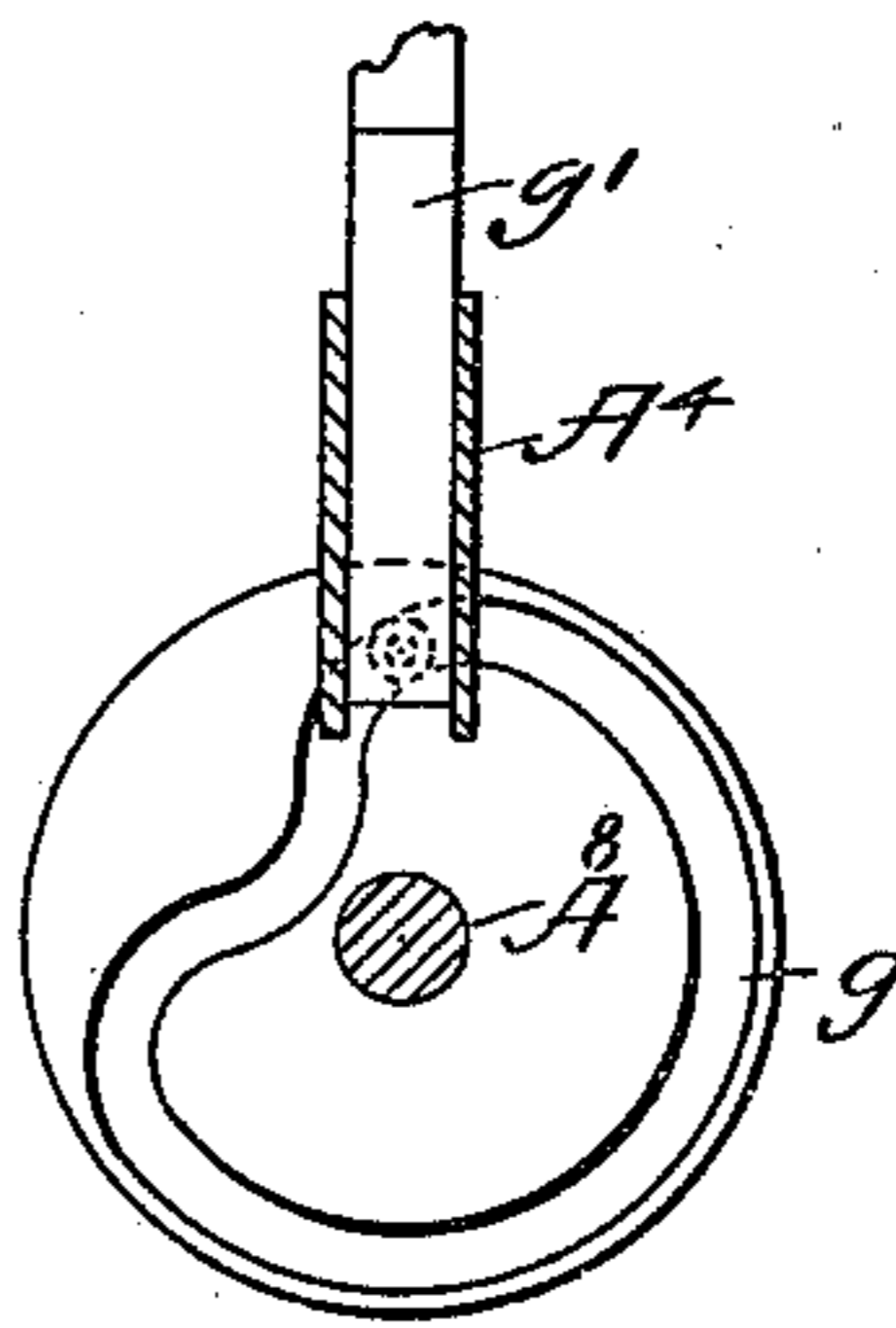


Fig. 3.

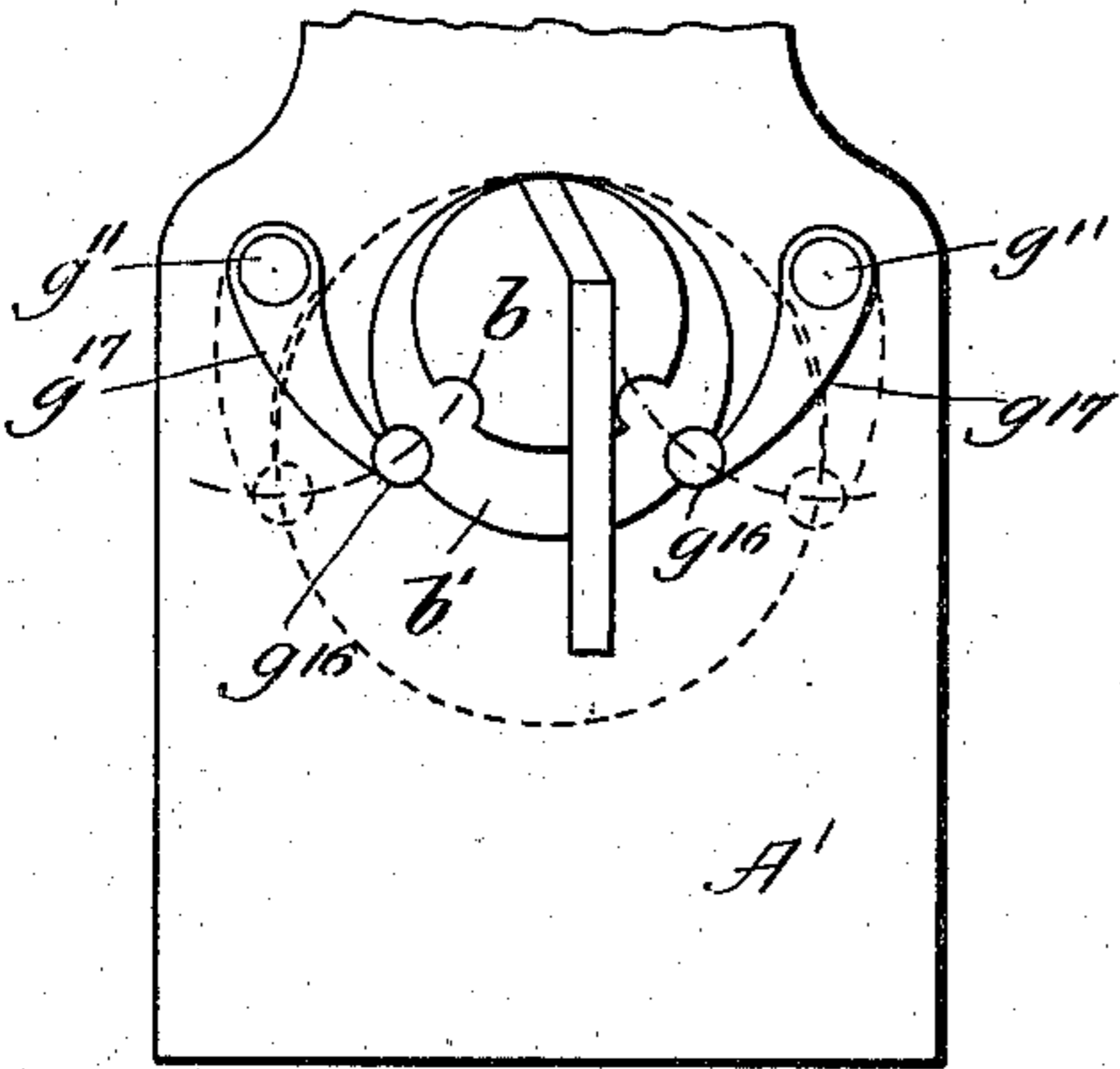


Fig. 5.

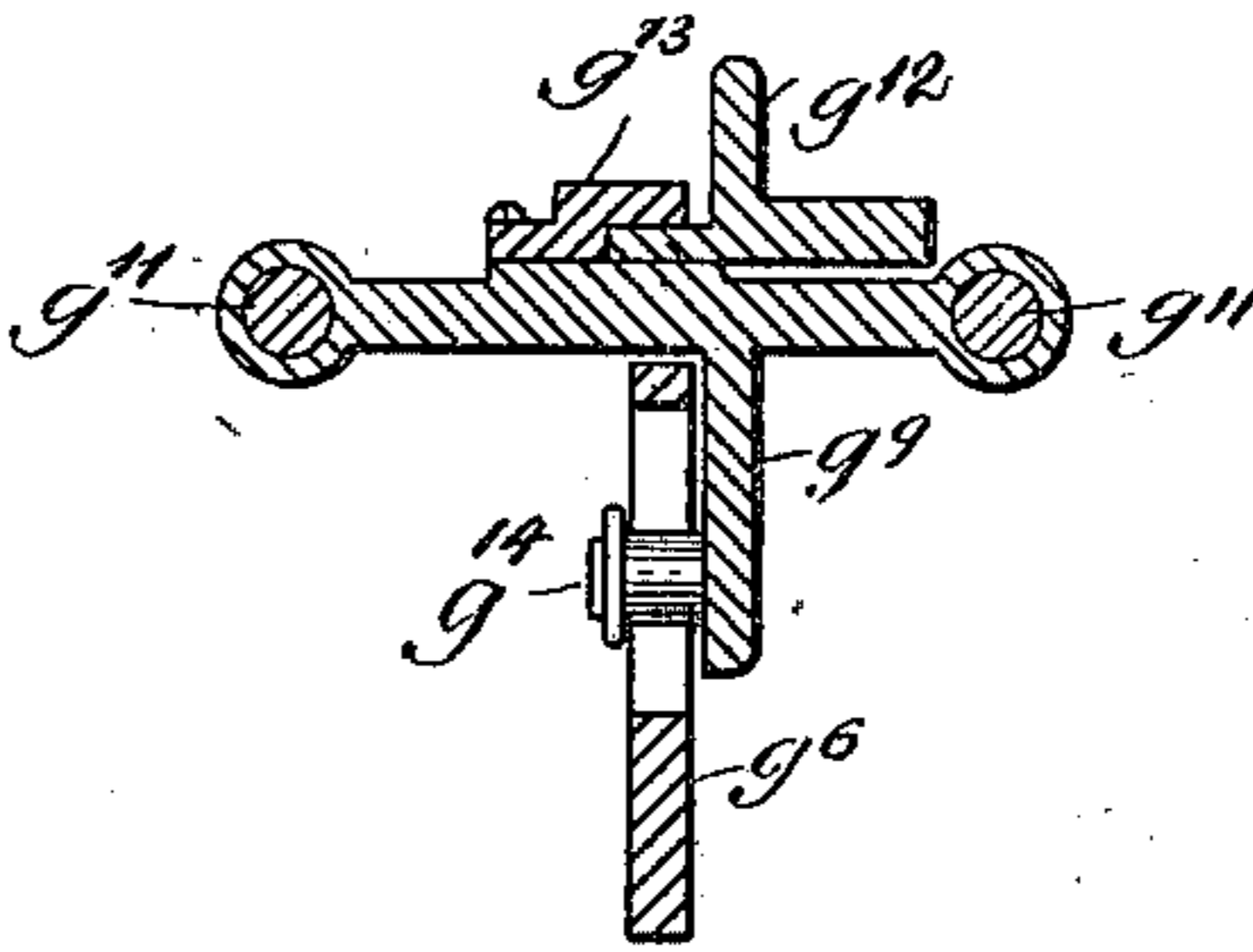


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES W. SLEEPER, OF LANCASTER, NEW HAMPSHIRE, ASSIGNOR TO
AMERICAN CAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION
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EJECTOR FOR SIDE-SEAMING MACHINES.

SPECIFICATION forming part of Letters Patent No. 734,759, dated July 28, 1903.

Application filed January 19, 1903. Serial No. 139,540. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SLEEPER, a subject of the King of Great Britain and Ireland, residing at Lancaster, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Ejectors for Can-Seaming Machines, of which the following is a specification.

My invention has special relation to improvements in the ejecting mechanism described in Letters Patent of the United States, No. 585,635, dated June 29, 1897; and it consists in improvements in the mechanism for operating the ejectors and also in the form and construction of the ejectors, adapting them to be used in making cans of different diameters.

In the drawings annexed to this specification, Figure 1 is a side view of the entire seaming-machine with the mechanism for operating the ejectors. Fig. 2 is a detail showing a part of the mechanism for giving reciprocating motion to the ejectors. Fig. 3 is a detail of ejector-cam and cam-rod. Fig. 4 is a cross-section of the ejector-rods and mechanism connected therewith. Fig. 5 is an end view of the ejector and the can-carrying mandrel.

The seaming-machine illustrated in Fig. 1 is fully described in the specification forming a part of application for Letters Patent filed by me February 12, 1901, and subsequently divided as required by the Commissioner of Patents. It consists, substantially, in mechanism for forming the cylindrical portion of a tin can by wrapping a sheet of tin of suitable size and form around a cylindrical mandrel projecting from the face of the machine and joining the edges of the blank by folding and soldering them and mechanism for pushing the completed cylinder from the mandrel after the seam is thus formed.

As the invention claimed in the present application relates only to the ejecting mechanism, only that portion of the machine is now specifically described.

A is the base of the machine, upon which is the column A', upon which is mounted the greater part of the operating mechanism.

A⁹ is a shaft supported by the column A'

and standard A⁴ and operated by the driving-pulley A⁵. On the shaft A⁹ is a pinion A⁷, engaging a gear A⁶ on the cam-shaft A⁸, carrying the cam *g*, by which the ejector mechanism is operated.

g' is a cam-rod guided between suitable projecting ribs on the face of the standard A⁴ and carrying a rack *g*², which engages a segment-gear *g*³ on a slotted arm *g*⁴, mounted on a short shaft journaled in the standard A⁴.

*g*⁵ is a link carrying a shoulder-stud *g*⁸, which works in the slot of the arm *g*⁴ and connecting the arm *g*⁴ with the lever *g*⁶, pivoted to the base A of the machine.

*g*⁷ is a guide-roll mounted on a pin projecting from the standard A⁴ and acting to hold the rack *g*² in engagement with the segment-gear *g*³.

The position of the shoulder-stud *g*⁸ on the arm *g*⁵ is made adjustable, thereby regulating the extent of movement of the lever *g*⁶ and adapting the ejector to cans of different lengths.

*g*⁹ is a cross-head sliding upon the guide *g*¹².

*g*¹¹ *g*¹¹ are ejector-rods adjustably secured to the cross-head *g*¹² and passing through the column A', one on each side of the mandrel *b*.

*g*¹³ is a cleat secured to the cross-head *g*⁹ and holding the same in contact with the guide *g*¹².

*g*¹⁴ is a pin and roller on a projecting ear of the cross-head *g*⁹ and engaged by a slot in the lever *g*⁶.

*g*¹⁵ is a pivot on which the lever *g*⁶ works.

Upon the ends of the ejector-rods *g*¹¹ are arms *g*¹⁷, terminating in circular projections *g*¹⁶ *g*¹⁶, fitting in corresponding grooves in the sides of the mandrel *b*. The operation of the cam *g* is so timed that the ejector-rods are drawn back before the formation of the can-body commences, and during the making of the seam the projections *g*¹⁶ lie behind and in contact with the rear edge of the can-body. After the operation of forming the seam is completed the ejector-rods move forward and the projections *g*¹⁶ push the can-body off from the mandrel.

The ejector-rods *g*¹¹ are so placed in relation to the mandrel *b* that the arc described by the projections *g*¹⁶ when moved about the center

of the ejector-rod will intersect the surface of the mandrel b nearly at the intersection of its horizontal diameter with its surface, and the grooves in the sleeve b' , which is placed over the mandrel b when cans of a size larger than the mandrel are to be made, are so located as also to intersect this arc, so that one pair of ejectors may serve to eject cans of all sizes within the capacity of the machine.

10 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine of the class described having ejector-rods g^{11} mounted upon a sliding cross-head operated by a lever g^6 means for giving said lever oscillating motion, consisting of the rack g^2 to which vertical reciprocating motion is given by means of the cam g and cam-rod g' , segment-gear g^3 engaging said rack, slotted arm g^{10} rigidly attached to the shaft on which said segment-gear is mounted and link g^5 pivoted at one end to the lever g^6 and at the other end carrying a shoulder-stud

g^8 working in the slot of the arm g^{10} substantially as described.

2. In a machine of the class described, in combination with a grooved can-forming mandrel b having removable grooved sleeves adapted to cans of different sizes, ejector-rods g^{11} situated on opposite sides of the mandrel, means for giving said ejector-rods reciprocating rectilinear motion, adjustable arms g^{17} attached to said ejector-rods and terminating in projections g^{16} adapted to slide in grooves in the sides of said mandrel and sleeves, said arms g^{17} being adjustable in a plane at a right angle with the axes of said ejector-rods to conform to the varying diameter of the mandrel-sleeves, substantially as described.

CHARLES W. SLEEPER.

Witnesses:

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