

No. 693,800.

Patented Feb. 18, 1902.

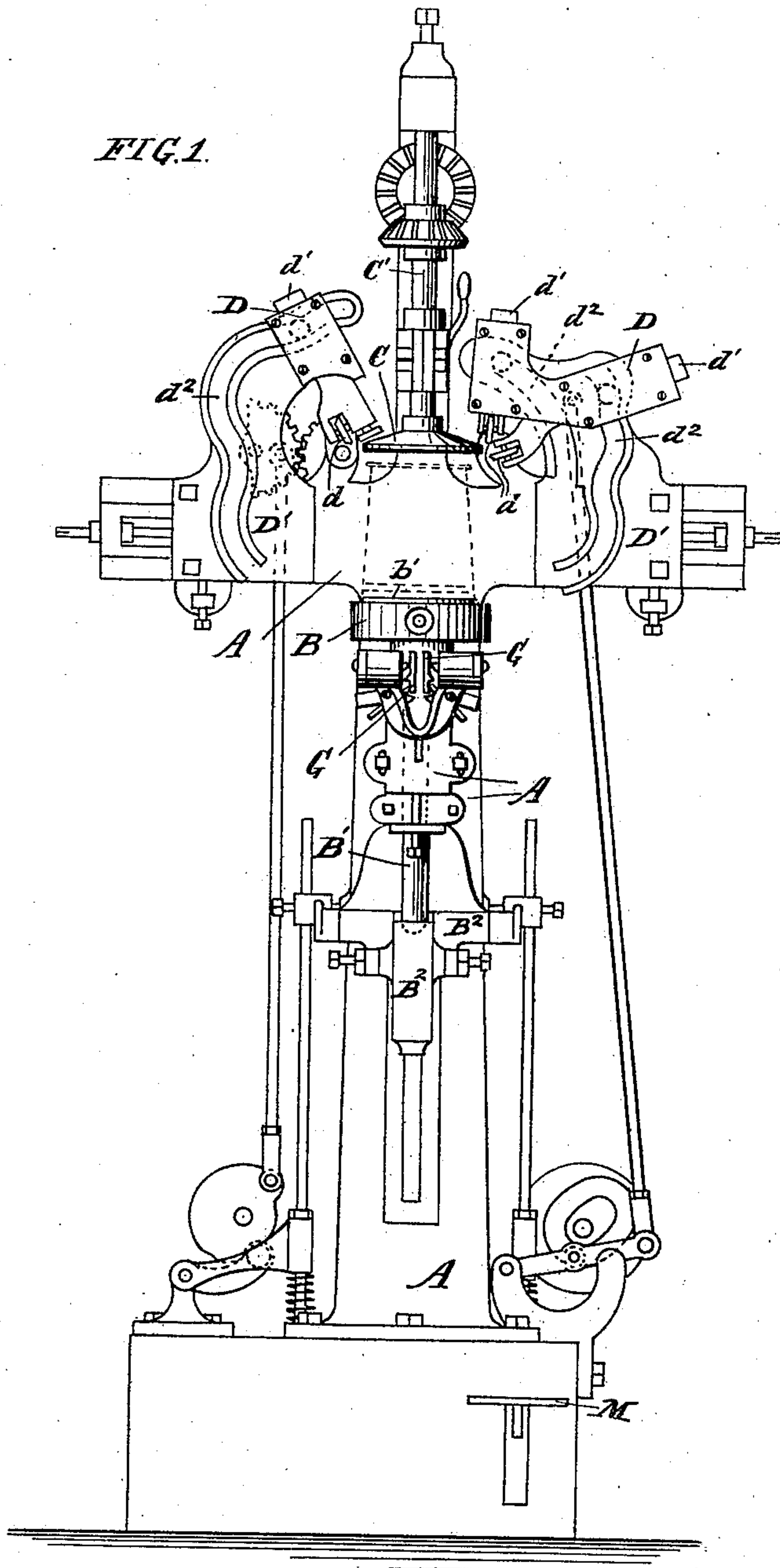
B. H. LARKIN.

COMBINED DOUBLE SEAMING AND EDGE ROLLING MACHINE.

(Application filed Oct. 22, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:  
F.B. Townsend,  
H.M. Munday

Bernard H. Larkin,  
INVENTOR.

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ATTORNEYS,

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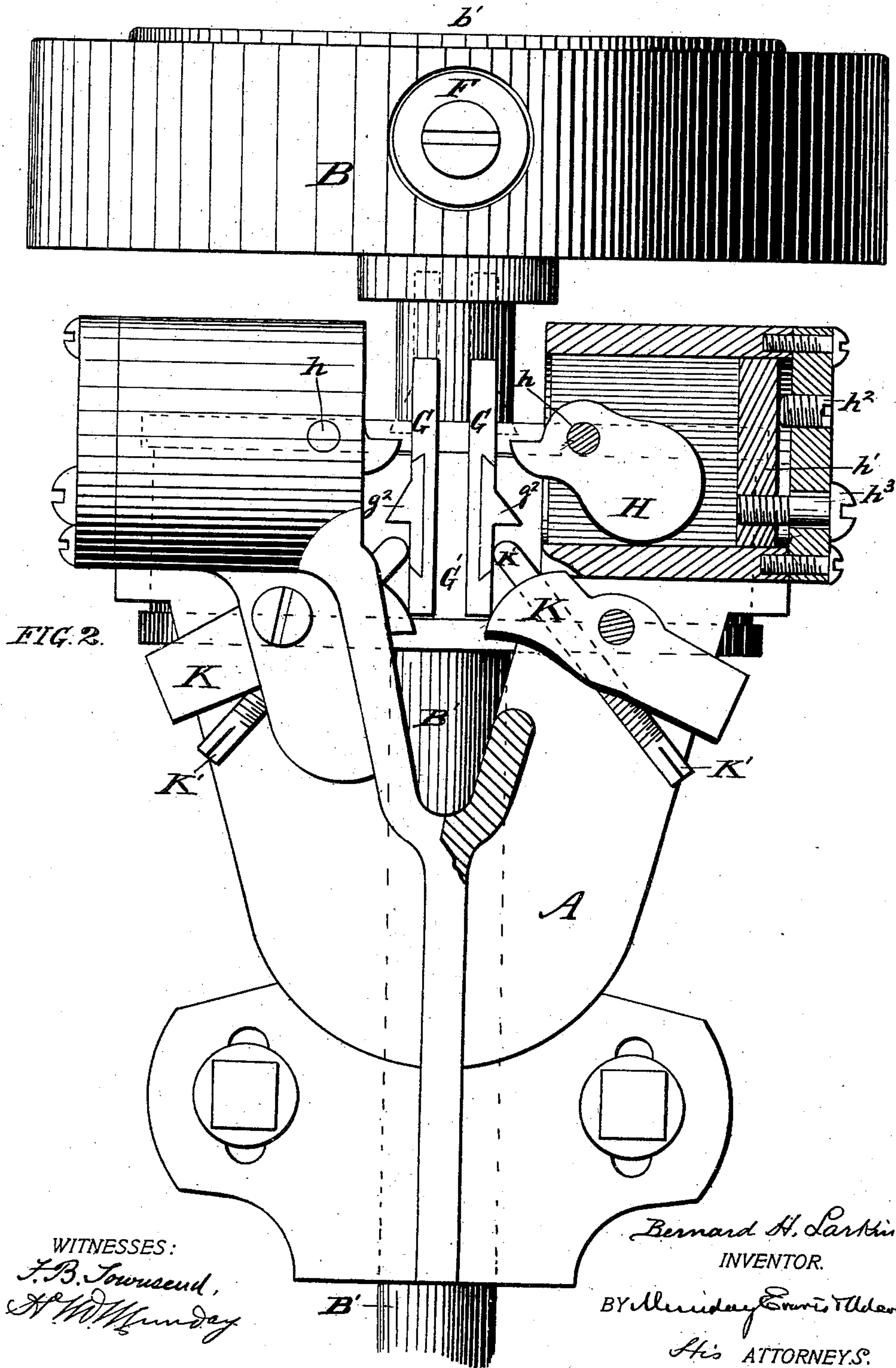
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# UNITED STATES PATENT OFFICE.

BERNARD H. LARKIN, OF RIVER FORREST, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN CAN COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## COMBINED DOUBLE-SEAMING AND EDGE-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 693,800, dated February 18, 1902.

Application filed October 22, 1900. Serial No. 33,925. (No model.)

*To all whom it may concern:*

Be it known that I, BERNARD H. LARKIN, a citizen of the United States, residing in River Forrest, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Combined Double-Seaming and Edge-Rolling Machine, of which the following is a specification.

This invention relates to improvements in sheet-metal-seaming machines. Its object is to provide a machine of a simple, efficient, and durable construction by means of which at one operation the bottom head of a sheet-metal can or other vessel may be seamed to its body, while at the same time the opposite end of the can-body is rolled, thus saving much time and labor, as well as the necessity for having a separate and distinct machine for the edge-rolling operation, as heretofore commonly practiced in the manufacture of cans or vessels.

It consists, essentially, in the combination, with the upper and lower revolving can-holder chucks or disks and the cooperating seaming-tools, sliding tool-holders, rocking heads, and cams for operating the tool-holder slides, by which the bottom head of the can or vessel is seamed to one end of the body, of edge-rolling tools or rollers journaled in the lower can-holder disk in position to engage the lower edge or end of the can-body and means for automatically grasping or holding the spindle of said lower chuck or disk from revolving, so as to cause the lower end of the can-body to ride or travel on or in respect to such revolving tools or rollers, and thus edge roll or wire its edge as required.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of a combined double-seaming and edge-rolling machine embodying my invention. Fig. 2 is an enlarged detail elevation, partly in vertical section. Fig. 3 is a detail plan view, partly in horizontal section, showing the lower can-holder chuck or disk provided with edge-rolling tools or rollers journaled thereon. Fig. 4 is a detail central vertical section of said lower chuck or disk, and Figs. 5 and 6 are detail views of the edge-rolling tool or roller.

In said drawings, A represents the frame of the machine.

C and B are the upper and lower can-holding chucks or disks secured, respectively, to the rotating spindles C' and B', journaled in suitable bearings on the frame of the machine.

D D are the rocking heads upon which the seaming rollers or tools  $d d$ , by which the bottom head of the can is seamed to the body thereof, are carried. These seaming-tools  $d d$  have each a sliding tool-holder  $d'$ , which is moved in and out as required by stationary cams  $d^2$ , formed in or secured to the adjustable cross-heads D', upon which the rocking heads D are pivoted. This mechanism D D'  $d d'$   $d^2$  for uniting or double-seaming the head to the body of the can may be of any suitable construction familiar to those skilled in the art, but is preferably of substantially the kind now generally in use and shown and described in Patent No. 378,143 to Edwin Norton and John G. Hodgson, dated February 21, 1888.

The lower can-holder disk or chuck B has an annular channel or recess  $b$  to receive the lower end of the can-body and is furnished with a series of edge-rolling tools or rollers F, each having a short shaft or stud  $f$  secured to said chuck or disk B and upon which said tools or rollers freely revolve. For convenience of construction the chuck or disk B is furnished with a removable center plate  $b'$ , which forms one wall of the channel or groove  $b$  and which is secured to the chuck-disk by screws  $b^2$ . The chuck-disk has a raised rim  $b^3$ , which forms the outer wall of said channel  $b$ . The chuck-disk is also furnished with recesses  $b^4$  to receive the revolving tools or rollers F. The lower chuck-disk B and its spindle B' have a reciprocating or up-and-down movement to cause the two chucks B C to clamp a can between them, and thus cause the can to revolve with them, as required to seam the can-head to the upper end of the can-body by the action of the seaming-tools  $d$ , and to form a rolled edge on the lower end of the can-body, as indicated in Fig. 6, by action of the tools or rollers F the spindle B' of the lower chuck B is automatically gripped and held from revolving by means of a spring clamp or brake G G, which embraces a brake wheel or disk G', secured to said spindle. The inner surfaces of the brake-jaws G G are furnished with gripping-pads  $g$ , preferably of leather.



The gripping or brake jaws G G are preferably pivoted together at  $g'$ , and the same are closed or moved toward each other at their free ends as the spindle B', carrying the brake-collar G', is moved upward by cams or inclines  $g^2$  thereon striking against stops or cams H, secured on the stationary frame of the machine. While the cam  $g^2$  is passing the cam H the chuck B and its spindle B' are gripped or braked, and thus held from revolving at all or from revolving at the same speed as the upper chuck or disk C, thus causing the can to rotate in respect to said chuck B and the rollers or tools F, carried thereby, and thereby causing said rollers or tools to form an edge roll on the lower end of the can-body. This operation of forming the edge roll of course somewhat shortens the length of the can-body, and as the chuck or disk B continues its upward movement in order to cause the can-body to be firmly grasped between chucks B and C the cam  $g^2$  on the gripping-jaws passes the pivoted cam or dog H, so that the gripping-jaws can again spring outward, and thus loosen their grip on the brake-collar and permit the spindle B' and chuck-disk B to again revolve freely with the upper chuck C while the tools  $d$  at the upper end of the can-body are performing or completing the seaming operation at that end. The cam or stop H is pivoted at  $h$ , so that when the spindle B' moves downward said cam can swing out of the way of the cam or projection  $g^2$  of the gripping-jaws. To quickly stop the revolution of the lower chuck B, so that another can can be conveniently placed therein, I provide cams, stops, or dogs K, which engage the gripping-jaws as the spindle B' approaches the downward limit of its movement, and thus causes said gripping-jaws to again grasp the brake-collar. The stop, dog, or cam H is pivoted to a block  $h'$ , which may be adjusted in or out by the screws  $h^2 h^3$ , as may be required, to cause the same to properly operate the gripping-jaws. The stop, dog, or cam K is provided with a screw-threaded or adjustable pin K'. The spindle B' rests at its lower end in a movable slide B<sup>2</sup>, which is moved up and down as required to clamp the can between the chucks B C and release the same, the slide being operated by a foot-treadle M in the usual or any suitable manner.

I claim—

1. In a metal-seaming machine, the combination with a pair of can-holder chucks or disks, of seaming-tools, sliding tool-holders, rocking heads and cams for seaming the can-head to the can-body at one end thereof, of edge-rolling tools journaled on the lower can-holder chuck, to roll the lower edge of the can-body, and means for stopping or arresting the rotation of the lower can-holder chuck during such edge-rolling operation, and mechanism for operating said stopping or arresting means by the upward movement of the lower can-holder chuck, substantially as specified.

2. In a seaming-machine, the combination with rotary can-holder chucks or disks, of seaming-tools and mechanism for operating the same to seam the can-head to the can-body at one end thereof, edge-rolling tools on the lower can-holder disk for edge-rolling of the lower end of the can-body, and a pair of braking or gripping jaws to stop or arrest the rotation of the lower chuck-spindle, and means for closing said jaws by the upward movement of the lower chuck-spindle, substantially as specified.

3. In a seaming-machine, the combination with rotary can-holder chucks or disks, of seaming-tools and mechanism for operating the same to seam the can-head to the can-body at one end thereof, edge-rolling tools on the lower can-holder disk for edge-rolling the lower end of the can-body, a pair of braking or gripping jaws to stop or arrest the rotation of the lower chuck-spindle, and provided with cams or projections to cause said gripping-jaws to be closed by the upward movement of the chuck-spindle, substantially as specified.

4. In a seaming-machine, the combination with rotary can-holder chucks or disks, of seaming-tools and mechanism for operating the same to seam the can-head to the can-body at one end thereof, edge-rolling tools on the lower can-holder disk for edge-rolling the lower end of the can-body, a pair of braking or gripping jaws to stop or arrest the rotation of the lower chuck-spindle, provided with cams or projections to cause said gripping-jaws to be closed by the upward movement of the chuck-spindle, and movable cams or dogs engaging the cams or projections on the gripping-jaws, to cause said jaws to be closed by passing said dogs on their upward movement but not on their downward movement, substantially as specified.

5. In a seaming-machine, the combination with rotary can-holder chucks or disks, of seaming-tools and mechanism for operating the same to seam the can-head to the can-body at one end thereof, edge-rolling tools on the lower can-holder disk for edge-rolling the lower end of the can-body, a pair of braking or gripping jaws to stop or arrest the rotation of the lower chuck-spindle, provided with cams or projections to cause said gripping-jaws to be closed by the upward movement of the chuck-spindle, movable cams or dogs engaging the cams or projections on the gripping-jaws, to cause said jaws to be closed by passing said dogs on their upward movement but not on their downward movement, and further cams or dogs to cause said gripping-jaws to be closed to again stop the rotation of the lower spindle to permit the cans to be placed therein, substantially as specified.

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Witnesses:

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H. M. MUNDAY.