

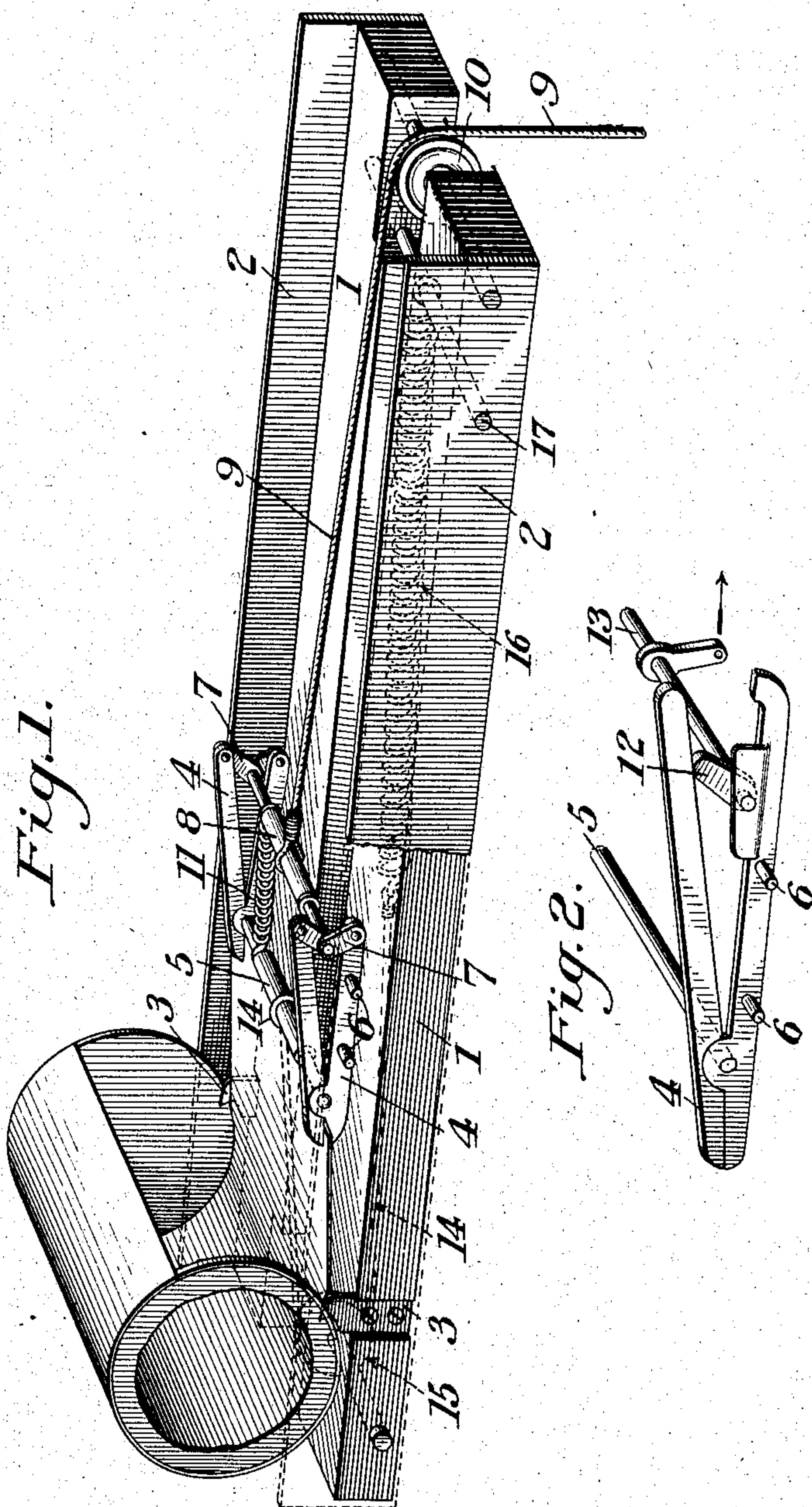
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B. E. FERNOW.

MACHINE FOR CUTTING OFF HEADS OF OLD METAL CANS.

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Witnesses:
R. H. Baldwin.
J. B. Hill.

Inventor:
Bernhard E. Fernow,
by Rynnes & Townsend,
Att'ys.

UNITED STATES PATENT OFFICE.

BERNHARD E. FERNOW, OF ITHACA, NEW YORK.

MACHINE FOR CUTTING OFF HEADS OF OLD METAL CANS.

SPECIFICATION forming part of Letters Patent No. 781,509, dated January 31, 1905.

Application filed September 30, 1904. Serial No. 226,700.

To all whom it may concern:

Be it known that I, BERNHARD E. FERNOW, a citizen of the United States, residing at Ithaca, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Machines for Cutting Off the Heads of Old Metal Cans, of which the following is a specification.

This machine is designed to simultaneously remove the heads and straighten out the body portion of old tin and other sheet-metal cans to enable the body of the can to be re-covered in the form of a squared flat sheet.

The machine comprises a horizontal bed having cutters in position to enter an opening left by the removal of the side seam of the can and a pair of movable grippers which engage one edge of the body and when drawn rearwardly rotate the can relatively to the cutters, and thereby simultaneously remove the heads and straighten out the body.

Referring to the accompanying drawings, Figure 1 is a perspective view of the machine, and Fig. 2 is a perspective view of mechanism for closing one of the grippers.

The machine comprises a horizontal bed 1, from the sides of which rise guide-strips 2. A cutter 3, having a hook-shaped knife at its upper end, is secured in a vertical recess at each side of the bed, the knives projecting above the bed and spaced slightly away from the guide-strips 2. A pair of grippers 4, the jaws of each of which are pivoted on the ends of a transverse shaft 5, is arranged to slide on the bed and between the guides 2. Outwardly-projecting pins 6 guide the grippers between the strips 2. The ends of a toggle 7 are pivoted to the rear ends of the handles of each gripper 4. The inner ends of the arms of each toggle are pivoted on one end of a transverse shaft 8, to the middle of which is secured a rope 9, passing rearwardly and downwardly over a pulley 10, journaled in the bed. A spiral spring 11 is secured at each end to the shafts 5 and 8, which connect the grippers. This spring tends to flex the toggles 7, and thus open the jaws of the grippers. A pull on the rope 9, overcoming the tension of spring 11, straightens the toggles and closes the jaws of the grippers. The grip-

pers may be operated by cams 12 on a rock-shaft 13, as shown in Fig. 2, instead of by toggles. A cord 14 is secured to the middle of the transverse gripper-shaft 5, and thence extends forwardly and downwardly over a pulley 15, journaled in the bed, and thence rearwardly, the end being secured to one end of a spiral spring 16, the other end of which is fastened to a transverse pin 17 near the rear of the bed. This spring 16, acting through the cord 14, normally retains the jaws of the grippers between the cutters 3.

In using the machine the can is placed between the guides 2, and the cutters 3 are inserted in the space left by the removal of the side seam or a similar strip. One jaw of each gripper is then inserted into the same space and the toggles 7 are straightened, so that the grippers take a firm hold upon one edge of the can-body. The pair of grippers is now pulled rearwardly by means of rope 9, thereby rotating the can relatively to the cutters 3 and cutting off the heads. The body portion is progressively straightened out as it is drawn rearwardly between the cutters and over the bed of the machine.

The squared sheet produced by cutting off the heads may be cleaned and washed and run between rolls to remove any indentations. It may be recoated with tin, if necessary, and is then suitable for use in the manufacture of small cans and for other purposes. The side seam portion and the heads may be heated to recover the solder and scrap-iron used for castings. Both the squared sheet and the heads may be treated by an electrolytic process to separately recover the tin and the iron, if preferred.

The machine which is preferably employed to cut out the side seam or a similar strip from the can-body is shown and claimed in my application Serial No. 168,162, filed August 4, 1903.

I claim—

1. A machine for cutting off the heads of sheet-metal cans, comprising two spaced cutters arranged to enter the ends of the space left by the removal of the side portion of the can, and means for rotating the can relatively to said cutters, as set forth.

2. A machine for cutting off the heads of sheet-metal cans, comprising two spaced cutters arranged to enter the ends of the space left by the removal of the side portion of the can, said cutters having downwardly and rearwardly inclined knife-edges, and means for rotating the can relatively to said cutters, as set forth.

3. A machine for cutting off the heads of sheet-metal cans, comprising cutters arranged to enter the space left by the removal of the side portion of the can, and means for rotating the can relatively to said cutters and progressively straightening out the body portion of the can as the cutters remove the heads, as set forth.

4. A machine for cutting off the heads of sheet-metal cans, comprising a bed, a pair of cutters rising from the bed in position to enter the space left by the removal of the side portion of the can, a gripping device to seize one edge of the can-body, and means for drawing said gripping device along the bed, thereby rotating the can relatively to the cutters and cutting off the heads and simultaneously straightening out the body portion, as set forth.

5. A machine for cutting off the heads of sheet-metal cans, comprising a bed, a pair of

cutters rising from the bed in position to enter the space left by the removal of the side portion of the can, a gripping device having a pair of jaws arranged to seize the edge of the can-body near said cutters, and means for drawing said gripping device along the bed, thereby rotating the can relatively to the cutters and cutting off the heads and simultaneously straightening out the body portion, as set forth.

6. A machine for cutting off the heads of sheet-metal cans, comprising a bed, a pair of cutters rising from the bed in position to enter the space left by the removal of the side seam of the can, a gripping device having a pair of jaws arranged to seize the edge of the can-body near said cutters, automatic mechanism for operating said jaws, and means for drawing said gripping device along the bed, thereby rotating the can relatively to the cutters and cutting off the heads and simultaneously straightening out the body portion, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BERNHARD E. FERNOW.

Witnesses:

EDWARD H. BROWN,

JOHN G. GUDMUNDSEN.