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MACHINE FOR CUTTING HEADS FROM CANS.

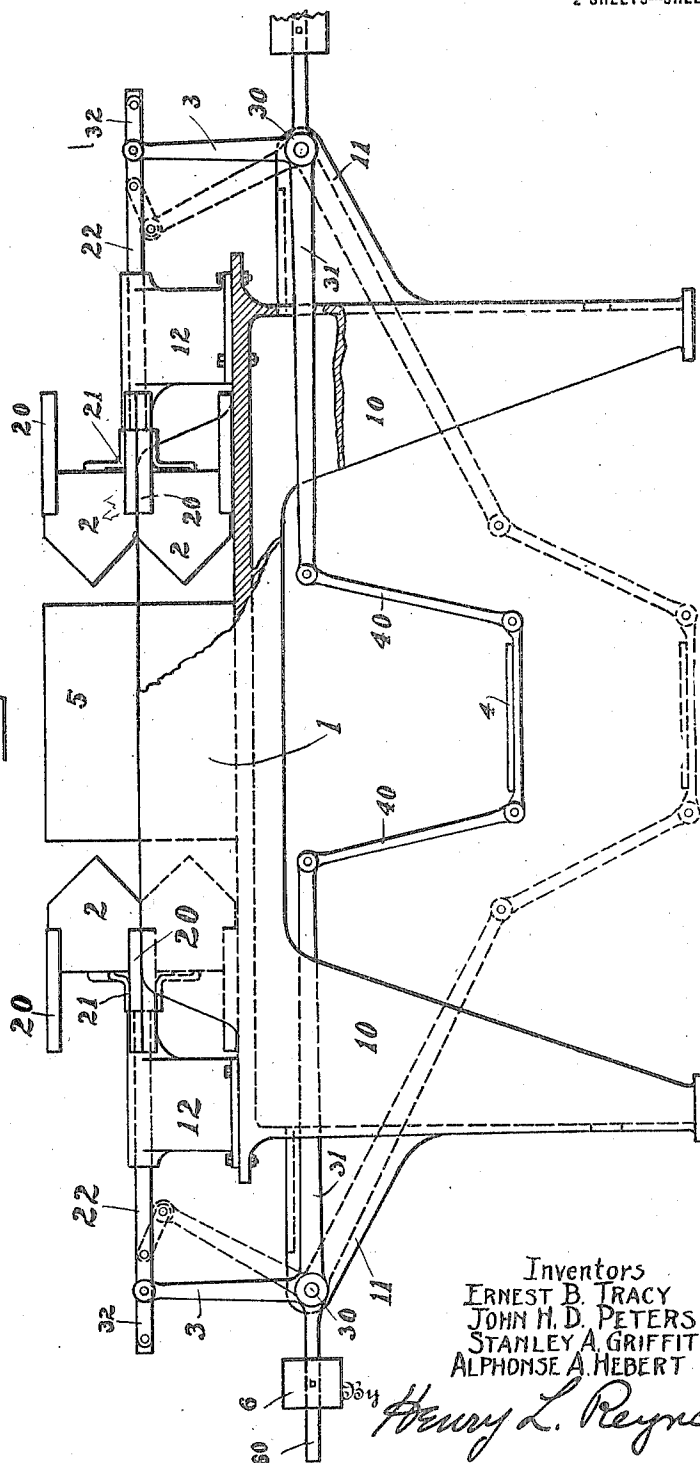
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2 SHEETS—SHEET 1.

Fig 1



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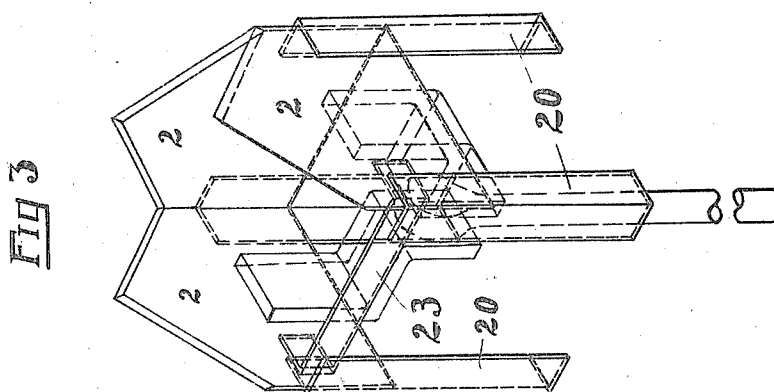
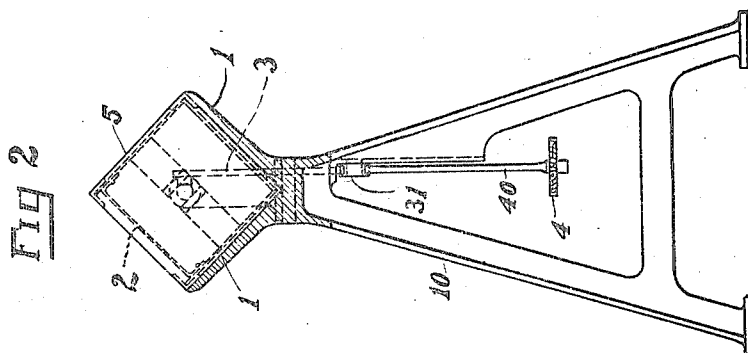
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UNITED STATES PATENT OFFICE.

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MACHINE FOR CUTTING HEADS FROM CANS.

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Specification of Letters Patent.

Patented Nov. 5, 1918.

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To all whom it may concern:

Be it known that we, ERNEST B. TRACY, JOHN H. D. PETERS, STANLEY A. GRIFFITHS, and ALPHONSE A. HEBERT, citizens of the United States, and residents of the city of Seattle, county of King and State of Washington, have invented certain new and useful Improvements in Machines for Cutting Heads from Cans, of which the following is a specification.

Our invention relates to an apparatus employed in cutting the heads from cans and is particularly designed for use upon the square cans which are commonly used for shipping kerosene, the same having a capacity of five gallons. The same principles and features of construction may, however, be applied to other kinds of cans under analogous conditions.

The object of our invention is to provide a machine which is capable of rapidly and cheaply cutting the heads from these cans so that the cans may be collapsed into flat condition such that they may be shipped to points where the material may be used.

Our invention comprises the novel features which will be particularly defined in the claims.

In the accompanying drawings we have shown our device in what is now its preferred form.

Figure 1 is a side elevation of the machine, having a part thereof at one end broken away and in section.

Fig. 2 is a vertical transverse section taken through the central part of the machine.

Fig. 3 is a perspective view of the cutting head.

There are large quantities of kerosene shipped abroad in square five-gallon cans, of which two cans are usually placed within a case. These cans, after being emptied, are made use of in such ways as are possible. A large number of these have been used for shipping soy bean oil from the Orient to this country, and are emptied at port of receipt, the contents being finally placed in tank cars for shipment to the points of final use. This produces an accumulation of a large number of cans for which there is no local use. We have discovered that by cutting the heads from these cans so that they may be collapsed, the cans may then be baled and shipped back to the Orient, where the material in the cans is used for various pur-

poses, particularly roofing material. The device which is the subject of this invention is one which is designed for economically and cheaply preparing these cans for shipping.

In this work we employ a cutter which will cut about the margin of three sides of the head, the fourth side being left uncut and the head being folded within the side before the same is collapsed. The cutter, in its preferred form, consists of three blades 2, which are each made with inclined cutting edges forming a blade in the general shape of the tooth of a saw. These three blades may be made separately and secured to a central frame, or, as we prefer to do and have herein shown, they are made as opposed parts of a single piece which is bent to form three sides of a square. The fourth side may be formed by a bar 23 which support the two opposed blades at their other ends. A transverse bar or bars 21 connect these blades and to this is secured a rod 22, which, as herein shown, extend substantially parallel with the axis of the cutter and the central axis of the can, in the position which the can occupies while being cut.

If such a cutter be forced against the end of a can and it is so positioned that the cutting edges cut immediately inside the margin of the head, the head will be cut from the sides along three sides of the can. The head may thus be folded inward against the sides of the can. When opposite heads of the can have been thus treated, the sides of the can may be collapsed into flat shape.

The manner of holding the can and applying the cutter thereto to cut the can heads may be varied. The means for doing this, which have been herewith illustrated, are those which we prefer to use where both heads are to be cut at once. These means employ a frame having a cradle 1, which has two wings or planes at right angles to each other, thus forming a trough-shaped structure of a size and shape to receive a can being operated upon. The can placed in this cradle will be accurately registered.

The edges of the cutter should be spaced away from the sides of the trough or cradle sufficiently to insure their engagement with the ends of the can head just inward from its sides. A convenient way of securing this result is to mount short sections of angle

bars 20 at the corners of the cutter head, the flanges of these being of such thickness as to hold the cutting edge the required distance away from the inner surfaces of the trough. The angle bars 20 thus form slides upon which the cutter head is carried.

The bar 22, which is secured to the cutter heads, is mounted to slide in a bracket or guide 12, which is carried by or secured to the frame. The frame is herein shown as provided with legs 10 upon which it is carried at a convenient level for operation.

The reciprocation of the cutter heads may be secured in various ways. The means herein shown consists of the bell crank levers which are pivoted at 30 and of which the arm 3 is connected with the rod 22 by a short link 32, and the arm 31 extends toward the center of the machine and to which power is applied in any convenient manner.

As herein shown, this is done by means of links 40 and a foot board 4. The return of these levers and the cutter heads to their proper position may be secured in any convenient manner, such for instance, as by the use of a weight 6, mounted upon arm 60 which is secured to the bell crank lever, or to the pivot upon which said lever is mounted.

In operating this device, the can is laid in the trough formed by the two blades 1. The levers 31 are then depressed. This forces the two cutter heads toward each other. They engage the heads of the can just within the side edges and cut the same loose on three sides. These cutter heads are preferably placed so that the edge which is uncut by one cutter is not the same as that uncut by the other cutter, the two being edges which are adjacent to each other so that when the heads are folded inward they will not be superposed.

We have shown this device as operated by the foot of the attendant. It is evident that the same may be connected to be operated by power, or by any other means which is found suitable or necessary. We do not, therefore, wish to limit the operation of the device to foot power.

What we claim as our invention is:

1. A cutter for square cans comprising a cradle for receiving and holding the cans, three cutting blades secured together and each adapted to cut its respective side of the can head, wear plates secured exteriorly to said cutters and having sliding support from the can holding cradle, and means for reciprocating the cutter.

* 2. A cutter for square cans comprising a trough shaped cradle and guide adapted to receive the can, a cutter mounted to slide in said cradle and having three blades, each adapted to cut its respective side of a can head, a rod secured to the cutter and extending rearwardly, a guide for said rod carried by the cradle and an actuating mechanism secured to said rod and adapted to reciprocate the same.

3. A cutting device for the heads of square cans comprising a frame having a cradle adapted to receive and position the cans, said cradle extending in each direction from the can position and forming cutter guides, two cutters mounted to slide in said guides, each cutter having knives positioned to cut about the margins of the can heads, and actuating levers operatively connected with said cutters.

Signed at Seattle, Washington, this 27th day of June, 1917.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."