

(No Model.)

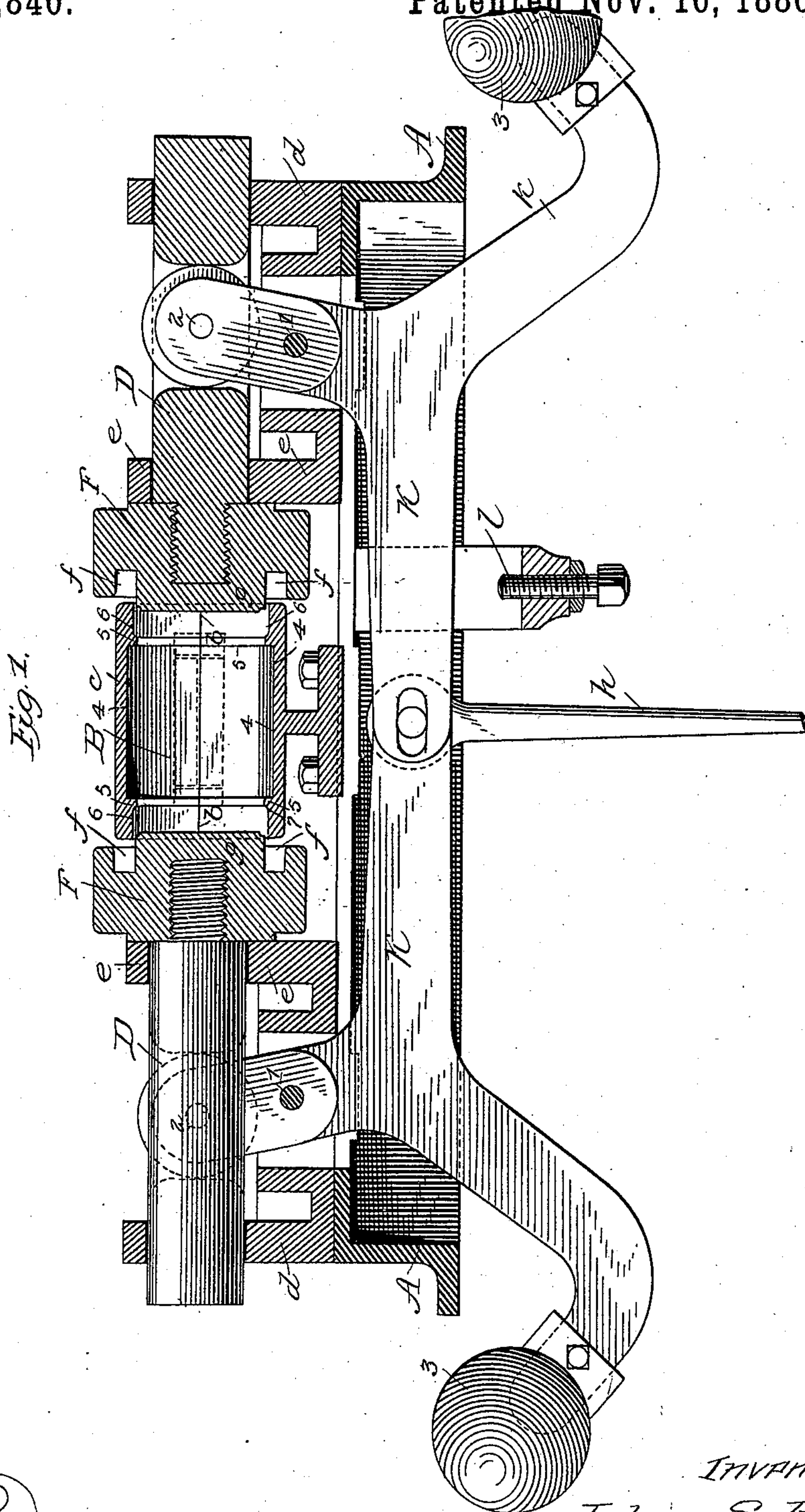
2 Sheets—Sheet 1.

J. SOLTER.

CAN HEADING MACHINE.

No. 352,840.

Patented Nov. 16, 1886.



Attest:
Walter Donaldson
J. L. Middleton

INVENTOR:
John Solter
By Joyce Spear
Att'y's.

(No Model.)

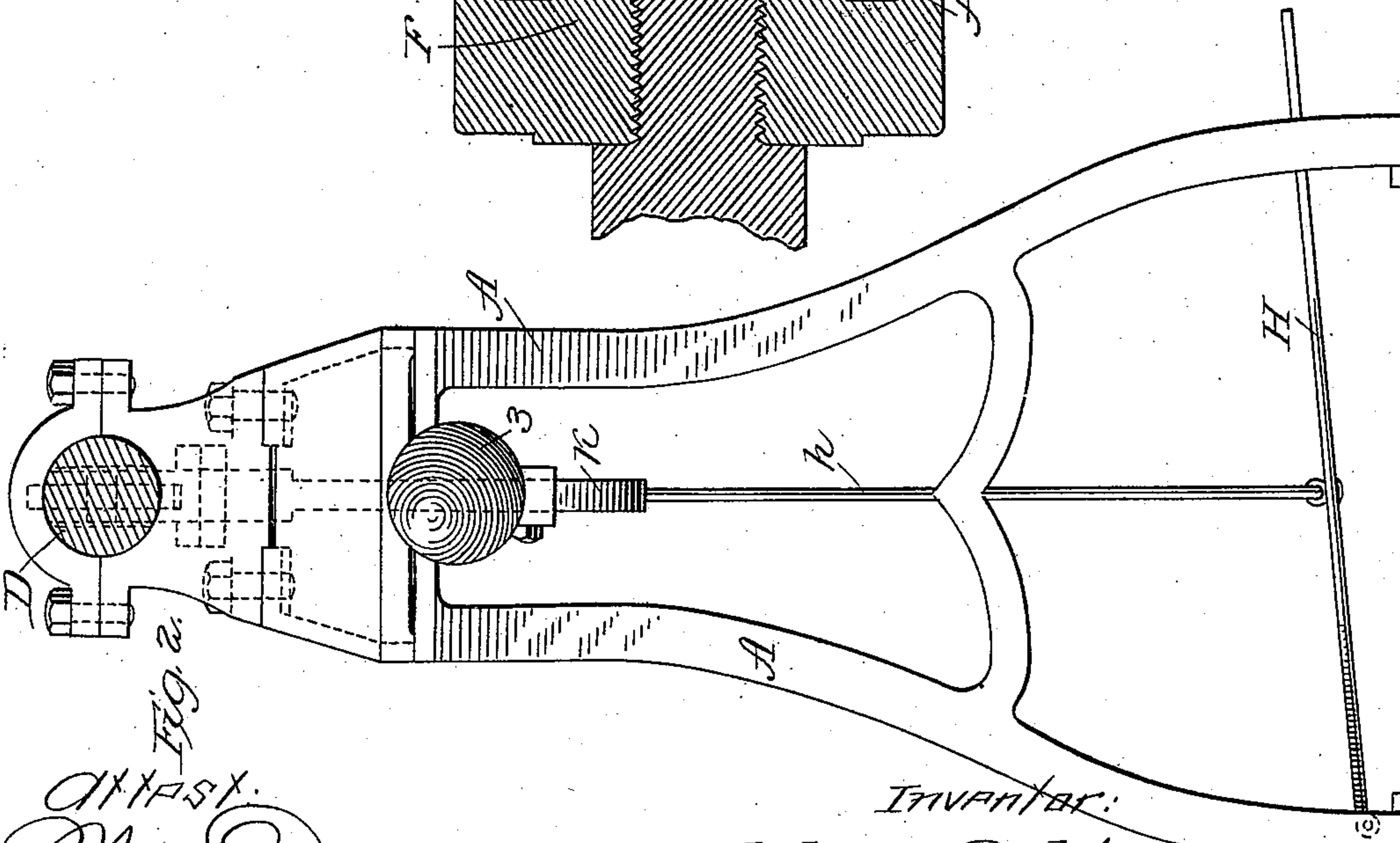
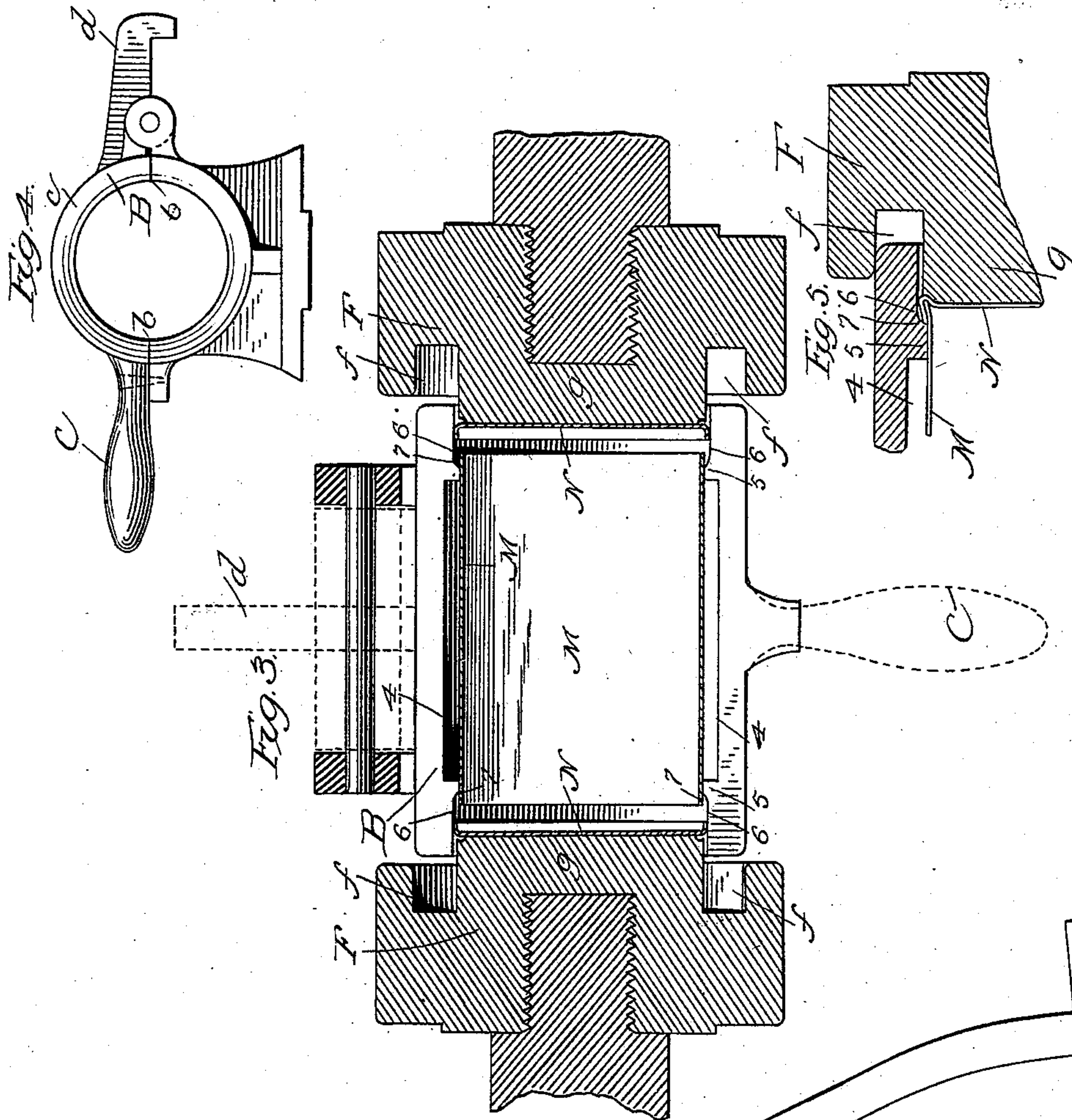
2 Sheets—Sheet 2.

J. SOLTER.

CAN HEADING MACHINE.

No. 352,840.

Patented Nov. 16, 1886.



ATTEST.
Haltera Swadson
J. L. Middleton

INVENTOR:
John Solter
By Joyce Spear
ATTY:

UNITED STATES PATENT OFFICE.

JOHN SOLTER, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO
GEORGE L. KREBS, OF SAME PLACE.

CAN-HEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 352,840, dated November 16, 1886.

Application filed March 13, 1886. Serial No. 195,125. (No model.)

To all whom it may concern:

Be it known that I, JOHN SOLTER, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Can-Heading Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to machinery for putting on the tops and bottoms of cans, such as those ordinarily used for provision-cans.

The general construction of the machine is adapted for putting on either inside or outside heads; but the form of dies and holding-case shown hereinafter is designed for use in connection with cans having outside heads.

The object of my invention is to enable me to put on both the top and bottom of the can at the same time; to hold the can in its proper round shape; to guide the edge accurately into the flange of the top or bottom, and also, whenever it may be desired, to crimp the edge of the can-body about the seam.

In the accompanying drawings, Figure 1 shows the machine in side elevation, with the dies and holding-case in longitudinal section. Fig. 2 is an end view of the machine. Fig. 3 is an enlarged horizontal section of the dies with the upper part of the case removed. Fig. 4 is an end view of the case. Fig. 5 is a longitudinal section of part of the can.

The mechanism is mounted upon a suitable standard or table, A. On the top of this, and centrally, is fixed a clamping-case, B, fitted exactly to the required size of the can, and adapted to bring the can to its proper shape, and to hold it during the operation of putting on the heads. The form represented in the drawings is cylindrical, and this is the form ordinarily used; but the invention is not necessarily confined to that form. The case is divided horizontally on the line *b b*, and the upper part is hinged to the lower, as shown more clearly in Fig. 4. The upper part (marked *c*) is provided with a handle, C, and has a stop-piece, *d*, on the hinged side. In line with the axis of the cylindrical case are mounted two reciprocating plungers, D, in standards *e*, fixed to the table. The inner ends of these plungers carry dies F. The faces of these dies have annular grooves *f*, the annular groove in each face being fitted

to receive the end of the case, while the central part of the die, *g*, enters into the end of the case, as hereinafter explained.

The plungers are operated by means of bell-crank levers K K, pivoted upon the table at 1, and to the plungers at 2. The inner arms of the bell-crank levers are connected to a treadle, H, by means of a rod, *h*. These levers are also provided with outwardly-extending arms *k*, on the ends of which are set weights 3, the construction being such that by depressing the treadle H the plungers are forced inward, and when the treadle is released the weights throw the plungers outward. This outward motion is sufficient to draw the central parts, *g*, of the dies away from the case, so as to leave spaces between the faces of the dies and the ends of the case wide enough to receive the can-heads. The reverse movement is just sufficient to force these heads onto the can-body, and this movement is limited by a set-screw, *l*, which may be adjusted to the proper position, so that when the lever K strikes it it will arrest the lever and plungers at the proper point.

The interior of the case is chambered out, as shown at 4, so that the case bears upon the can only at two narrow peripheral surfaces. (Shown in sectional Figs. 1 and 3 at 5.) This is for the purpose of preventing the surface of the can-body from being soiled or marred by contact with the iron. The case at these points 5 is exactly of the exterior form and dimension of the can-body. In the machine shown this form is cylindrical, and when the can-body is placed within the case and the upper part is closed snugly down it forces the can-body into perfectly cylindrical shape, and so holds it. Outside of these peripheral ribs, and between them and the ends, the interior of the case is enlarged, as shown more clearly in Fig. 3, to receive the head, which is larger in diameter than the can-body. This enlarged space extends inwardly to the rib far enough to receive the flange of the head.

In Fig. 3 the can-body is represented at M. It will be observed in that figure that the ends of the can-body extend beyond the ribs, and that the enlarged end of the case outside of these ribs (marked in this figure at 6) is just fitted to receive the head N, which is pushed

forward by the central part of the die behind it. The head and the body of the can are therefore accurately held and guided in the movement caused by the dies, and are simultaneously brought together at both ends.

It will be observed in Fig. 3 that the inner surface of the case at the ends is slightly flared from the ribs outwardly, as shown at 7—that is to say, the surface is slightly concave from the outer edge of the rib down to the straight part 6. This serves to crimp in the edge of the flange upon the head closely around the body of the can, and that part of the die which bears upon the head being made smaller in diameter than the head, as shown in Fig. 5, and it being advanced far enough to press in the head or countersink it after the head is brought up to the end, it will give the flange a crimped form and make a very close-fitting joint, as shown in Fig. 5. This crimping arrangement is not essential to a machine to carry out the principal idea thereof. The part *g* of the die which bears upon the head may be as large in diameter as the head itself, and may be adjusted to move only far enough to put the head upon the can-body. The annular groove *f* in each die passes over the end of the case before the heads are in place, and thus holds the hinged part of the case accurately while the dies are operating upon the heads. The case, as shown in Fig. 1, is made removable from the table, and the dies can be unscrewed from the plungers, so that they may all be removed and others set in their places for different standard sizes of cans.

In the operation of the machine, supposing the treadle to be released and the dies thrown back by the weights, the operator throws up the upper part of the case and inserts the can-body. He then drops in it each end, on edge, a head or top and bottom, with the flanges faced toward the end of the can-body. He then brings down the upper part of the case to cover the can-body, and with his foot depresses the treadle. This brings forward the dies and forces the heads into place.

It will be obvious that the treadle mechanism may be omitted and the plungers operated by power which may cause them to work intermittently, giving the operator time to take out the can operated upon and insert the body and heads for a fresh can.

It will be observed that in Figs. 1 and 3 the central part of the dies is represented as extending inward farther than that part of the face which is outside of the grooves. This allows the hinged part of the case to be lifted from the fixed part while the central part of the dies is within the case, so that when the heads are dropped in they are held in position by the case and the dies.

In order to secure good results in the operation of crimping, the edge of the die is beveled, preferably on a curve, so that as the die moves up to countersink the head the rim of the metal head is directed outwardly at the top and crimped inward at the bottom.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The case having the upper hinged part, and fitted to receive and hold the can-body, in combination with reciprocating dies having grooves *f* and central parts, *g*, adapted to enter the ends, and mechanism for operating the dies, substantially as described.

2. A case having a hinged section, and fitted to receive and hold the can-body, and having the bearing-ribs 5 and chambered part 4 between the same, combined with dies for putting on the heads, and mechanism for operating the dies, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN SOLTER.

Witnesses:

LÉONA RABILLON, Jr.,
C. C. POULTNEY.