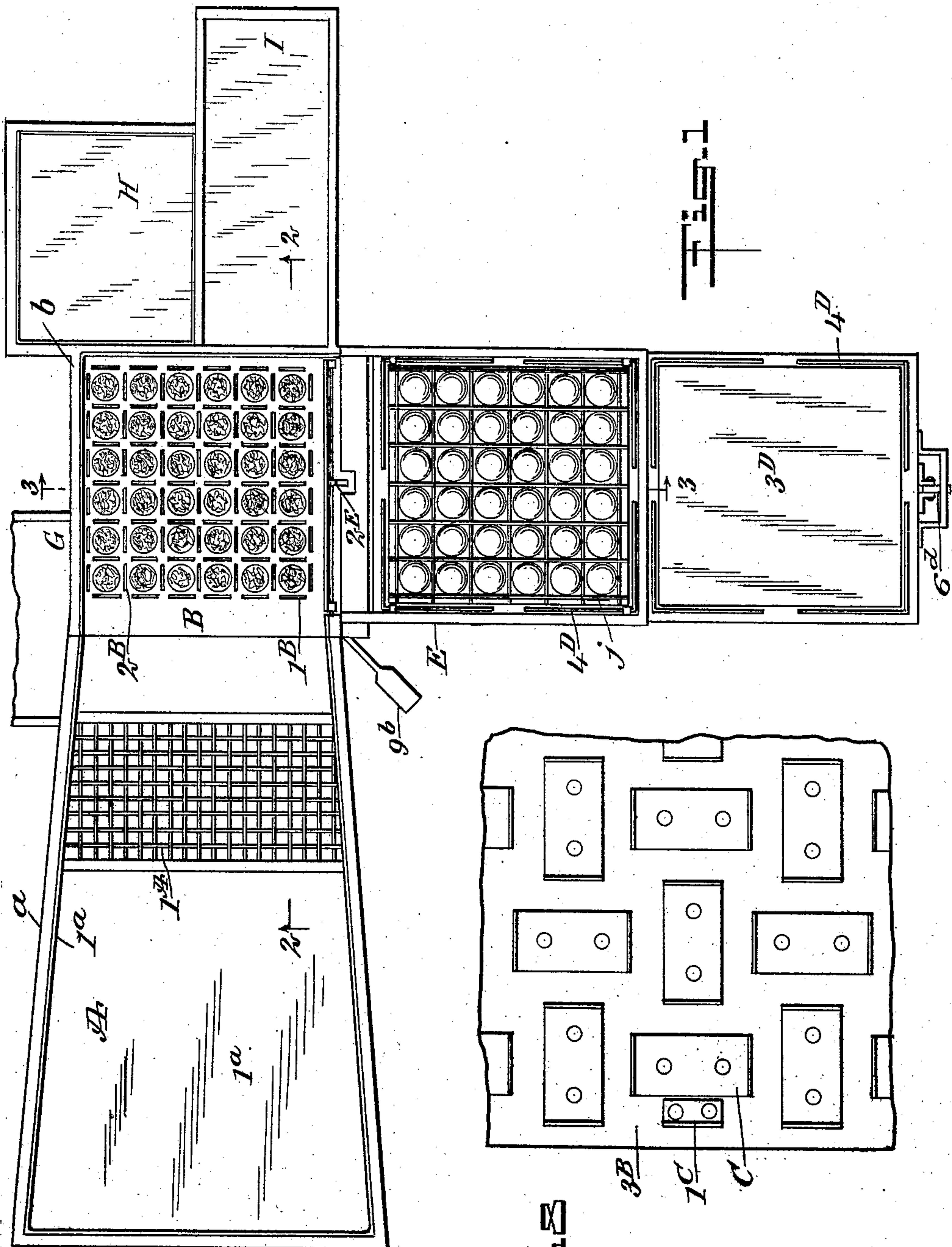


915,501.

H. H. STORY.
EGG PACKING MACHINE.
APPLICATION FILED MAY 28, 1908.

Patented Mar. 16, 1909.

4 SHEETS—SHEET 1.



WITNESSES
F. D. Sweet.
J. C. Kinnon

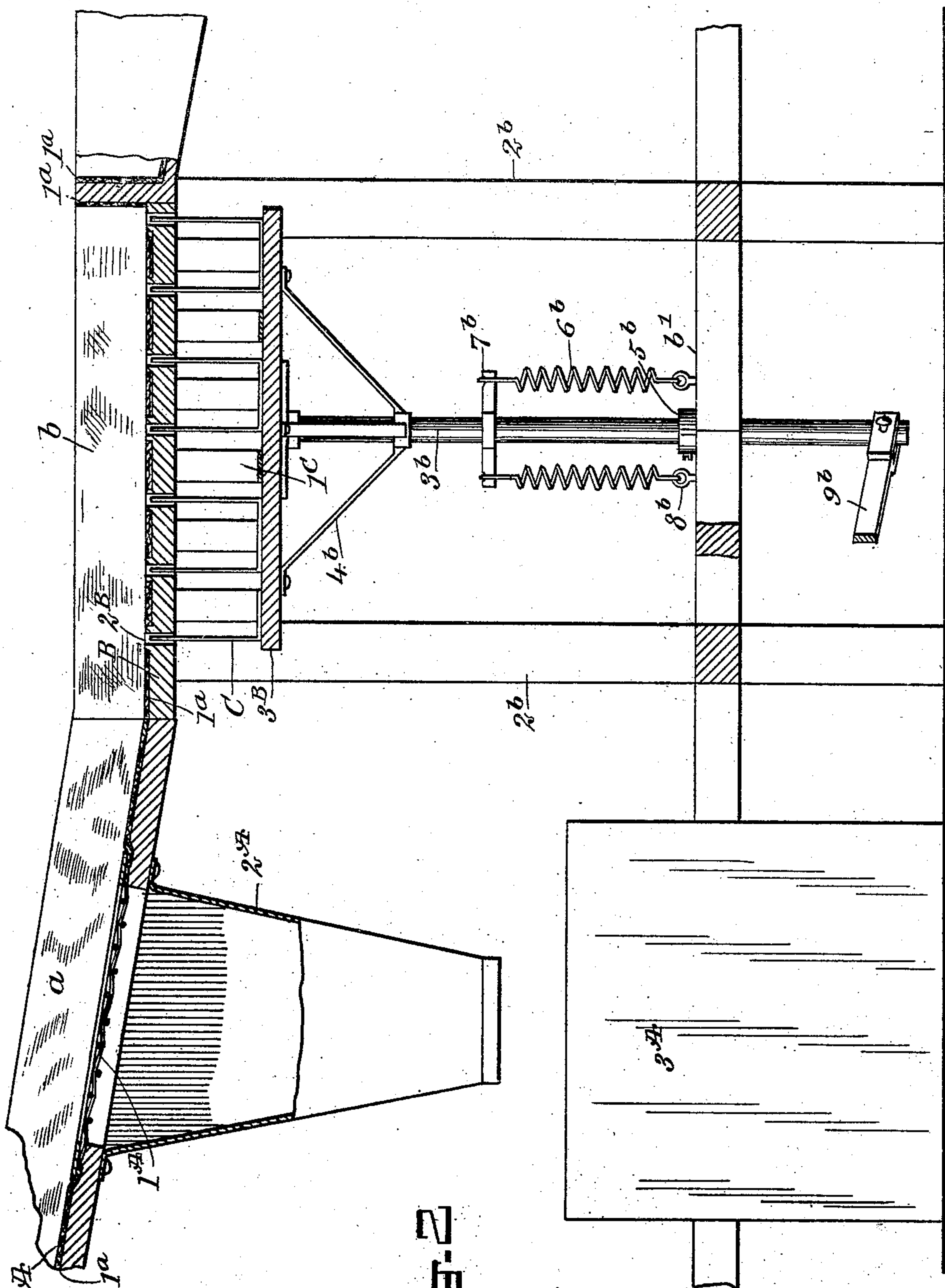
Fig. 1

INVENTOR
Harvey H. Story
BY *Mum Co.*
ATTORNEYS

915,501.

H. H. STORY.
EGG PACKING MACHINE.
APPLICATION FILED MAY 28, 1908.

Patented Mar. 16, 1909.
4 SHEETS—SHEET 2.



WITNESSES
F. D. Sweet
A. C. Remon

FIG. 2

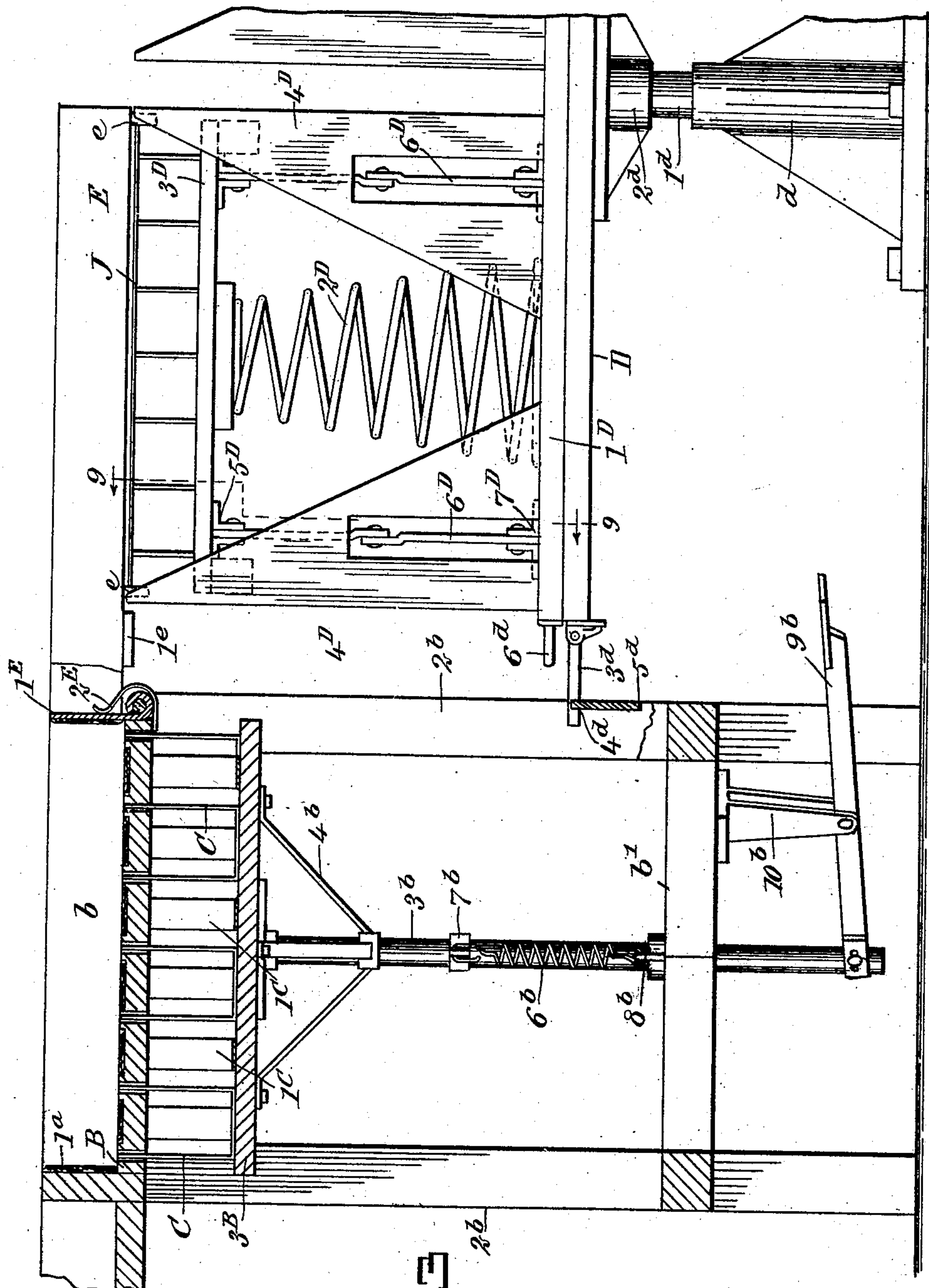
INVENTOR
Harvey H. Story
BY *Mumford*
ATTORNEYS

915,501.

H. H. STORY.
EGG PACKING MACHINE.
APPLICATION FILED MAY 28, 1908.

Patented Mar. 16, 1909.

4 SHEETS—SHEET 3.



WITNESSES
F. W. Smith
A. C. Remon

FIG. 3

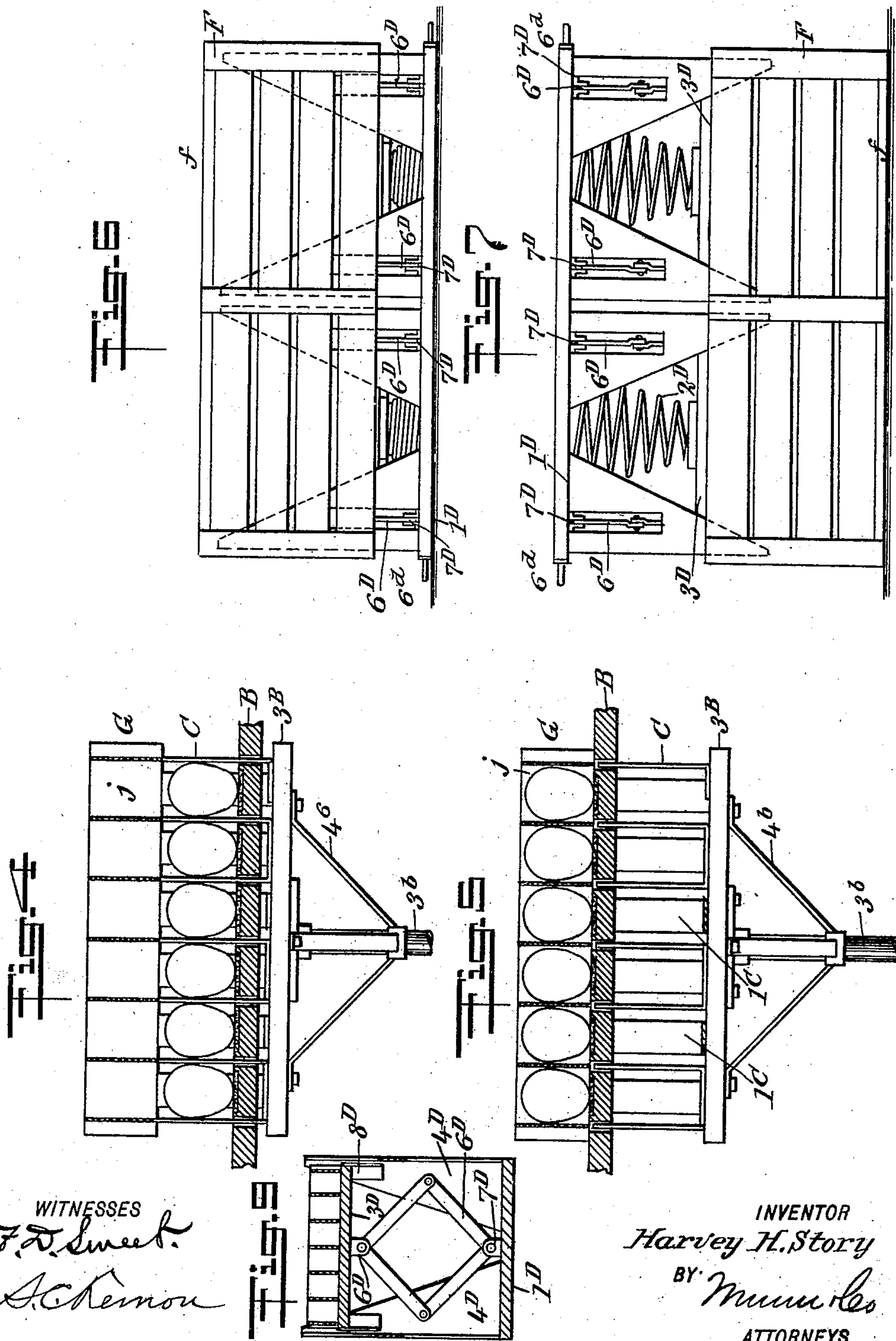
INVENTOR
Harvey H. Story
BY *Mum & Co.*
ATTORNEYS

915,501.

H. H. STORY.
EGG PACKING MACHINE.
APPLICATION FILED MAY 28, 1908.

Patented Mar. 16, 1909.

4 SHEETS-SHEET 4.



WITNESSES
F. D. Sweet
A. C. Remon

INVENTOR
Harvey H. Story
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HARVEY HURBERT STORY, OF BUTTE, NEBRASKA.

EGG-PACKING MACHINE.

No. 915,501.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 28, 1908. Serial No. 435,425.

To all whom it may concern:

Be it known that I, HARVEY HURBERT STORY, a citizen of the United States, residing at Butte, in the county of Boyd and State of Nebraska, have invented a new and useful Egg-Packing Machine, of which the following is a full, clear, and exact description.

My improvements relate to a novel means of assembling a number of eggs transferred from a container in bulk, to nest with a standard packing cap, and to transfer the eggs thus assembled to the cap; and the objects of my invention are first, to provide a simple and efficient means of transferring a quantity of eggs in bulk to a numerical container, whereby facility is afforded in dealing them out to a purchaser in number; and second, to facilitate their packing for transportation and insure their protection against breakage, all of which I accomplish by the mechanism illustrated in the accompanying drawings forming part of this specification, in which—

Figure 1 is a top plan view of my improved egg packing machine, together with a number of eggs introduced in a cap after being assembled by the machine; Fig. 2 is an enlarged longitudinal sectional elevational view of a portion thereof, taken on the line 2—2 of Fig. 1 looking in the direction indicated by the arrows, the remaining portion of the machine beyond and being partly broken away; Fig. 3 is a similar transverse section taken on the line 3—3 of Fig. 1, in the direction indicated by the arrows; Fig. 4 is an enlarged fragmentary detail sectional, elevational view of the egg assembling or adjusting table of the machine, with a section of a superimposed cap in register with the assembled eggs carried thereby; Fig. 5 is a similar view showing the cap resting upon the assembling table and the eggs transferred to the cap; Fig. 6 is a detail side elevational view of my improved packer detached from the machine and superimposed on the packing table carrying the battening springs and guides; Fig. 7 is a like view showing the packer inverted and the packing table uppermost; Fig. 8 is an enlarged fragmentary detail plan view of the plunger head which carries the partitioning forks for grouping the eggs for assemblage with the cap or frame; and Fig. 9 is a contracted cross sectional elevational view of one end of the packer adjacent to the assembling table of the machine, taken on the line 9—9 of Fig. 3.

In the several figures, similar characters of reference designate like parts.

A is a padded chute, around the marginal edges of which rises a framing *a*. This, together with the chute, converges at its inner extremity where it meets the assembling table B. From the assembling table B rises a rectangular framing *b*, which registers with the framing *a* of the chute A. The latter is preferably of wood and is padded on the bottom and sides, as indicated at 1^a. A transverse screen of wire mesh or strong fabric 1^a interrupts the continuity of the floor of the chute A and is adjacently situated to the assembling table B, and depending from the chute is an open hopper 2^a and vertically beneath the hopper is a receptacle 3^a, adapted to receive from the hopper 2^a any material sifted through the screen 1^a.

It is expedient to state at this juncture that the disposition of the chute A carrying the screen 1^a and depending hopper 2^a and the receptacle 3^a, with respect to the assembling table B, is such as to provide a carrier for the delivery of the eggs to the machine and a cleaner for the eggs in bulk, when packed in sawdust or bran. The eggs being dumped from a bulk packing together with said packing material, upon the chute A, roll down and pass over the screen 1^a, and bran or other packing material falls through the screen 1^a into a hopper 2^a and is deposited in the receptacle or box 3^a, while the eggs roll on to the assembling table B. It will be understood, however, that in most instances the eggs are marketed in pails, crates, baskets and boxes, without packing material, and in such cases a heavy cloth is placed over the eggs in the container and the container is inverted and it and the cloth are removed, leaving the eggs in the chute A. The assembling table B likewise carries a padding 1^a and throughout protects the shells of the eggs from cracking while they are tumbling in passing over the chute A and assembling table B. The latter is provided with a plurality of transverse and longitudinal perforations 1^b and 2^b, respectively, in parallel rows and in a manner to form rectangular nesting divisions of the table B. In the instance illustrated, the said table has its surface divided into six parallel rows of nestings, in transverse and longitudinal alignment, which affords thirty-six nests or compartments.

Vertical columns 2^b, secured to the under

side of the table B, support it, as well as the chute A. Playing vertically between the columns 2^b under the table B and parallel thereto, is a plunger head 3^b, carried by a cylindrical metal reciprocatory column 3^b and brackets 4^b. The column 3^b passes in bearing relation through a cross bearing b' and has a set screwed, slidingly adjustable stop collar 5^b, which is normally supported together with the column 3^b and table 3^b by the horizontal cross bearing b' between the columns 2^b of the machine. The stop collar 5^b is positively seated on the cross bearing b' by a pair of retracting springs 6^b, which are parallel with the column 3^b and are secured thereto at one of their extremities, by a yoke 7^b, while their opposite extremities engage eye bolts 8^b driven into the cross bearing b' and exert a downward pull upon the column 3^b and table B. The lower terminal of the column 3^b is coupled with a horizontal pedal lever 9^b, pivoted to a bracket 10^b depending from and secured to the cross bearing b', whereby upon the depression of the pedal lever 9^b, the column 3^b together with the plunger head 3^b, will be raised against the tensional force of the retraction springs 6^b and gravitation, until the plunger head 3^b abuts on the under side of the table B, and further upward motion of the column 3^b will be arrested.

Secured to and carried by the plunger head 3^b, are a plurality of vertical, upwardly-projecting forks C, formed preferably of strips of tin plate bent to form substantially staples, and are disposed upon the plunger head 3^b in groups, to register respectively with oppositely situated parallel slots 2^b in the table B, and correspondingly nesting slots 1^b at right angles thereto. The arrangement of the said forks C upon the plunger head 3^b is such as to present the two opposite, parallel limbs of one fork C to the corresponding perforations 2^b of the table B, and the adjacent limbs of two neighboring forks to corresponding perforations of the same nest or compartment of the table B. Half forks 1^c secured to and carried by the plunger head 3^b, provide for deficiencies in the unequal divisions afforded by the fork groups along the margins of the head 3^b. The altitude of the forks C and 1^c is made equal to the vertical distance from the padding 1^a of the table B to the upper surface of the head 3^b, when the latter is in its normal position or that indicated in Figs. 2 and 3, and equal to the major axis of the eggs together with the thickness of the table B and padding 1^a plus a limited amount of clearance, as indicated in Fig. 4. When the lever 9^b is depressed to an extent which will bring the head 3^b in contact with the table B, the forks C and 1^c will be projected through the slots 1^b and 2^b respectively, presenting in the instance illustrated, six rows of nests or

compartments in transverse alinement respectively, making thirty-six pockets for the assembling table B, thus providing for the assembling of thirty-six eggs at one operation of the lever 9^b.

In lateral alinement with the assembling table B is my improved packing table D. This is carried revolubly by a stand d in which revolves a pillar 1^d, carrying a cap 2^d. One terminal of the revolving table D, adjacent to the columns or legs 2^b of the assembling table B, is provided with a pivoted latch 3^d, which engages a notch 4^d in the cross tie 5^d of the legs 2^b of the assembling table B. Carried by the table D is the floor 1^p of the packer, of the same dimensions as the table D, and is provided at both extremities, longitudinally with respect to the assembling table B, with handles 6^d. The packer floor 1^p carries helical compression springs 2^p at opposite extremities, in alinement with the handles 6^d, upon which springs are carried filler boards 3^p, adapted to play vertically between the four angular corner guides 4^p, two of which rise from and are secured to the two outer corners and the remaining two to the opposite corresponding portions of the floor 1^p to that of the terminal of the filler board 3^p adjacent to the axial line of the pillar 1^d. To the under side of the filler board 3^p and at opposite extremities thereof, are secured brackets 5^p, to which are pivotally swung the transverse expanding and contracting lazy-tongs 6^p; these are correspondingly secured to the packer floor 1^p by similar brackets 7^p. The office of these lazy-tongs 6^p is to effect a sort of damping to the activity of the springs 2^p, by virtue of the stiffness of their joints, due to friction, whereby when the filler board 3^p is slightly depressed against the tension of the springs 2^p, it will remain so depressed by virtue of the friction at the joints of the lazy-tongs 6^p. The filler boards 3^p carry on their under sides and at their terminal edges, cross frames 8^p, which stiffen the filler board and as well, afford parallel guidance to the latter while it is playing vertically in the corner guides 4^p. The upper terminals of these guides lie in the same plane with the upper surface of the assembling table B, and the surface of the filler board 3^p is adapted to be carried upwardly by its springs 2^p to surface therewith.

A rectangular removable top frame E, provided with corner studs e engaging the upper terminals of the angular guides 4^p, registers with the framing b of the assembling table B, and at this juncture, the frame E is cross braced by a cleat 1^e. Adjacent to the cleat 1^e and carried normally vertically by the assembling table B, is a transverse hinged door 1^e, held upright by a leaf spring 2^e. The hinged door 1^e, when forced downward (or open) against the force of the spring

2^b, will lie upon the cleat 1^c, and when the filler board 3^d is uppermost, a continuous path is thus established between the packer and assembler for the transportation of eggs from the latter to the former. This is effected by sliding the eggs from the surface of the assembling table B to the alined filler board 3^d, by means of a cap or nest, as will be more fully hereinafter explained.

10 In Figs. 6 and 7, F indicates an egg case or crate having a bottom *f*, and which contains the egg caps or fillers, each containing thirty-six eggs, and the number of layers in the height of the case which will be accommodated by the same, is limited by the capacity of the case and packer, while the length of the case is sufficient for two caps or nests of thirty-six eggs.

20 G is a rack or table for carrying a supply of caps or, as they are sometimes termed, fillers or nests, and I is a similar rack or table, adapted to carry cardboard or other suitable separators, and H is a padded box for eggs which have been removed from the assembling table B, in case more eggs than are necessary at any particular time are assembled upon said table.

It will be understood that the eggs are delivered to the retailer by the producer in 30 varying quantities, and to operate my improved egg packing machine, it being assumed that the assembling table B is in alinement with the filler board 3^d, and the plunger 3^b in the position illustrated in Figs. 2, 3 and 5, I take a quantity of eggs, say, 35 seven dozen, the same being dumped from the container upon the chute A, and due to the inclination of the chute the eggs will roll over its padded surface, together with 40 the packing material, if any be present, until the screen 1^a is reached, whereupon said packing material will be precipitated through the screen to the hopper 2^a and thence to the receptacle 3^a, while the eggs will pass 45 on or be manually moved by the operator until the eggs reach the assembling table B, whereupon the pedal lever 9^b which carries the column 3^b against the force of its springs 6^b upwardly together with the 50 plunger 3^b and assembling or grouping forks C and 1^c, and due to the vibratory motion of these members, imparted by the operator, the eggs will be shaken into the position indicated in Fig. 4 on the assembling table 55 B and will be nested between the said forks as shown likewise in plan in Fig. 1. While the eggs are thus nested, the operator maintains his downward pressure on the pedal 9^b and takes a folded cap or filler from the 60 rack G and unfolding it, to square the nests, places it over the forks C and 1^c and the eggs in register, and while thus holding it, he lowers the forks C and 1^c by relaxing his pressure on the pedal 9^b until the cap rests 65 upon the assembling table B, and the cap

or filler and the forks will assume the position illustrated in Fig. 5. I have indicated this cap in Figs. 1, 4 and 5 as *j*. The operator throws down the door 1^e, preferably by the right hand, and with the left hand slides the cap 70 together with the eggs up the slight incline now presented by the upper surface of the door 1^e and upper surface of the filler board 3^d, onto the latter until it is within the bounding edges thereof. The next operation is to depress the filler board 3^d against 75 the thrust of the springs 2^d and the friction, due to the stiffness of the joints of the lazy-tongs 6^d, until the upper surface of the cap is in alinement with the surface of the door 80 1^e. The door is automatically released as soon as the filler is slid over it, or before the filler is pressed down.

A separating board J is next applied to the upper surface of the filler cap over the eggs, 85 and the operation for filling is repeated. The separating board J, in this instance, answers for the filler board, and after a number of caps in layers within the capacity of the packer (which in the instance illustrated 90 is for five layers) has in this way been filled, the operation is interrupted and the frame E is removed, whereupon the table D is unlatched from the cross bar 5^d and swung 95 through an angle of 180° and the opposite end thereof is automatically latched at the same point; and upon the positioning of the frame E, the operation of laying up an equal number of similar layers at the opposite extremity of the packer is similarly proceeded 100 with, until filled. The packer will now be filled with ten caps of thirty-six eggs each and upon the removal of the frame E, the eggs will be in readiness for casing, to accomplish which, the case is placed on the 105 packer and the floor 1^p of the packer is then grasped by the handles 6^d and the same, together with its contents, is removed and placed upon a table or floor or other support. An uncovered, transversely partitioned egg 110 packing case F is next slipped telescopically over the packer and caps as illustrated in Fig. 5, bottom up, until the bottom *f* of the case rests upon the separator board of the adjacent caps on either side of the partition, 115 whereupon it is inverted, together with its contents, and will assume the position illustrated in Fig. 7. The packer may now be grasped by the handles 6^d and removed from the case F and the exposed eggs being 120 covered with the necessary protecting material, such as straw or packing board, the case may be nailed up and transported.

Referring again more particularly to the box H, we will assume that seven dozen eggs 125 have been brought together upon the assembling table B. From this number I proceed to pack two layers (six dozen) leaving one dozen upon the assembling table and such excess is then transferred to the box H, to 130

be resorted to in the event of any shortage of eggs for the next packing.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an egg packing machine, the combination of a chute, a device for assembling the eggs, each in a separate compartment, and a packing device cooperating therewith.
2. In an egg packing machine, the combination of a chute, a device cooperating with the chute for assembling the eggs, each in a separate compartment, means in the chute for separating the eggs from the packing material, and a packing device cooperating with the assembling device.
3. In an egg packing apparatus, a table for receiving the eggs, and means for nesting the eggs on the table, each in a separate nest.
4. In an egg packing apparatus, a table for receiving the eggs, a chute for delivering the eggs to the table, and means for nesting the eggs on the table, each in a separate nest.
5. In an egg packing apparatus, a table for receiving the eggs, and reciprocating means for nesting the eggs on the table, each in a separate nest, said means serving as a support for a cap whereby when the nesting means is lowered the eggs will be nested in the cap.
6. An egg packing apparatus comprising a table for receiving the eggs, reciprocating means for nesting the eggs, each in a separate nest, when moved in one direction and transferring them to a packing cap when moved in the other direction, and a packing device for receiving the cap of eggs from the said table.
7. In an egg packing apparatus, an egg conveyer, an egg grouping and nesting device communicating with the conveyer and adapted to receive eggs from the conveyer and nest the same each in a separate nest, and a packing device cooperating with the nesting device adapted to pack the nests of eggs in layers.
8. In an egg packing apparatus, an egg delivery chute, and an egg grouping and nesting device cooperating therewith, adapted to first assemble the eggs delivered by the chute each in a separate nest, and then transfer them to a packing cap.
9. In an egg packing apparatus, an egg delivery chute, an egg grouping and nesting device cooperating therewith, adapted to first assemble the eggs delivered by the chute

each in a separate nest and then transfer them to a packing cap, and an egg packing device adapted to receive and pack the caps and coacting with the nesting device.

10. In an egg packing apparatus, a chute provided with a screen, a nesting device communicating with the chute and adapted to receive eggs therefrom and nest them, each in a separate nest, and then transfer them to packing caps and packing mechanism, adapted to superimpose the capped eggs, coacting with the nesting device.

11. In an egg packing machine, a perforated table, a chute coacting therewith, partitions registering with the perforations in the table, means for projecting the partitions above the table, and a second communicating table depressible with relation to the perforated table.

12. In an egg packing machine, a perforated nesting table, partitions disposed in the perforations in the table, and means for projecting the partitions above the table in said perforations.

13. In an egg packing machine, a perforated nesting table, partitions disposed in the perforations in the table and normally projecting below the table, and means for projecting the partitions above the table to provide nests.

14. In an egg packing machine, a perforated nesting table, nesting partitions disposed in the perforations in the table and normally retracted from the surface thereof, a vertically acting plunger carrying the partitions, and means coacting with the plunger and partitions for projecting the latter above the surface of the table.

15. In an egg packing machine, a perforated nesting table, nesting vertically disposed partitions having their upper terminals disposed in the perforations and normally retracted to the surface of the table, a vertically-acting plunger beneath the table carrying the partitions, and means coacting with the plunger and partitions for projecting the latter above the surfaces of the table and nesting the same.

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

HARVEY HURBERT STORY.

Witnesses:

M. L. HONKE,
J. A. ADAMSON.