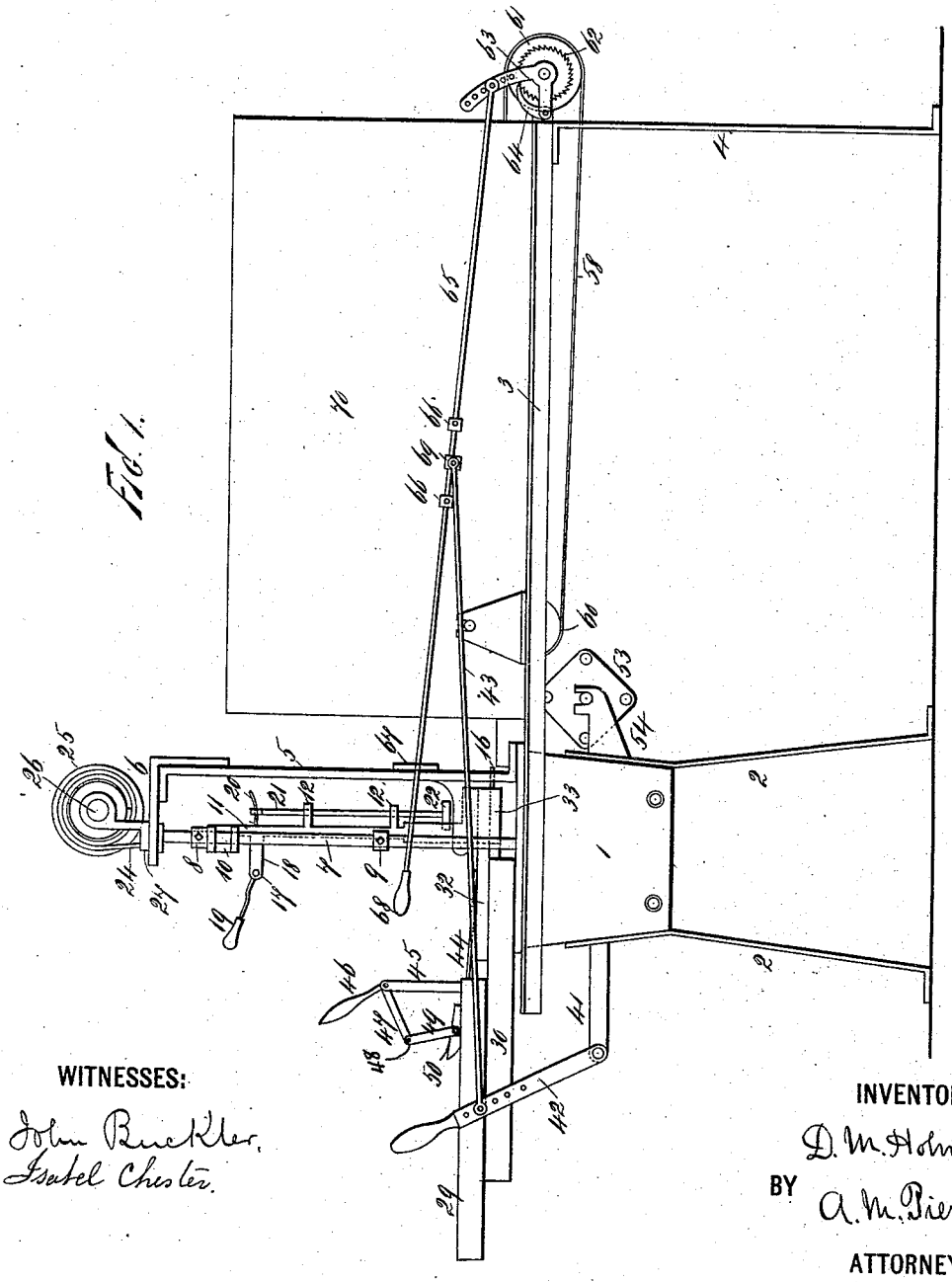
(No Model.) 4 Sheets—Sheet 1.

D. M. HOLMES.

MACHINE FOR COATING CONFECTIONERY.

No. 490,769. Patented Jan. 31, 1893.

FIG. 1.



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(No Model.) 4 Sheets—Sheet 2.

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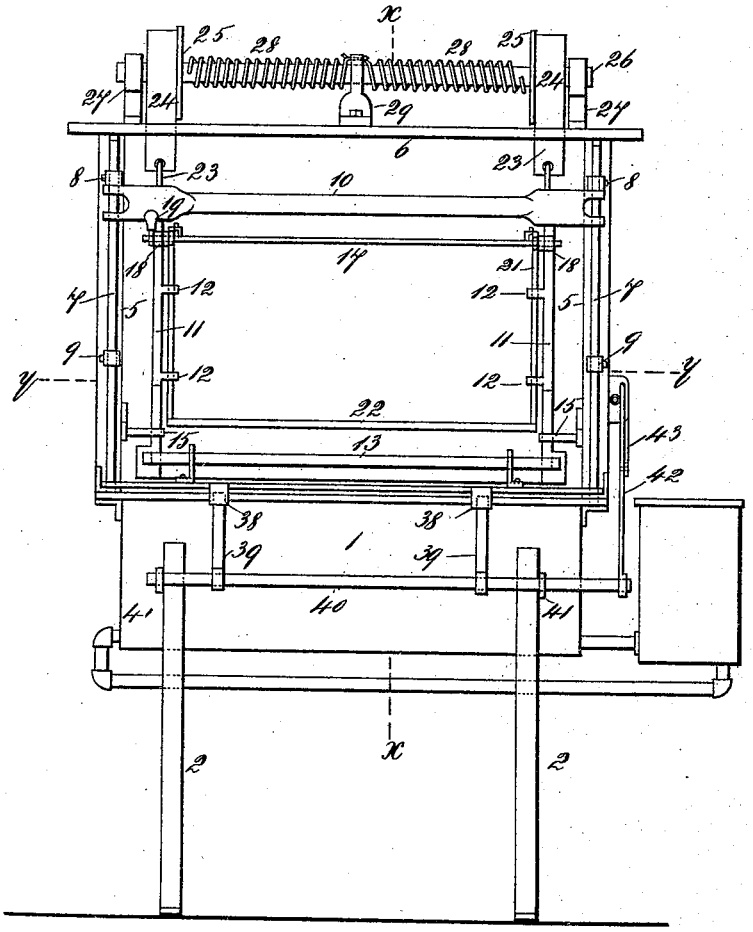
FIG. 2.



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MACHINE FOR COATING CONFECTIONERY.

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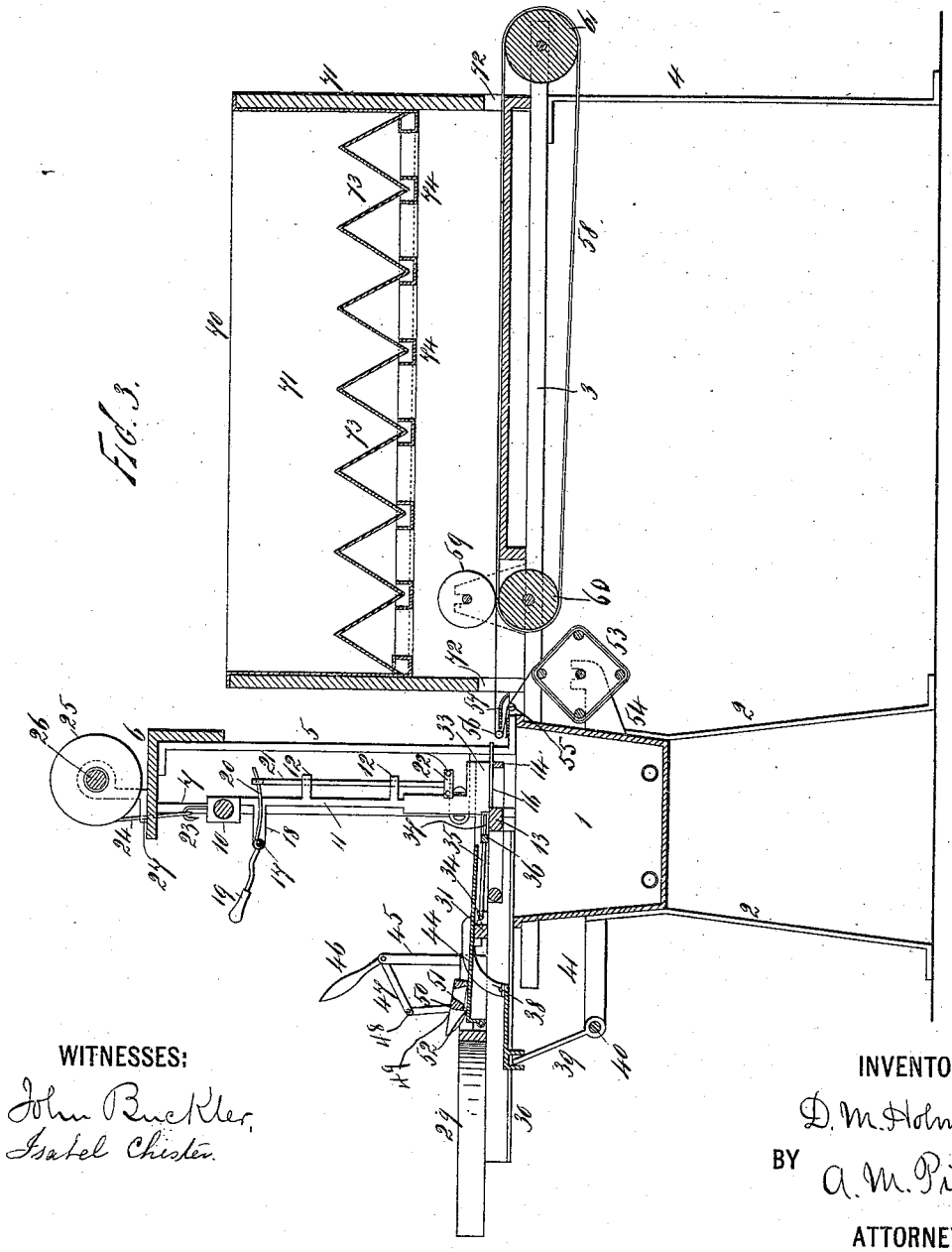
FIG. 3.



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(No Model.) 4 Sheets—Sheet 4.

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MACHINE FOR COATING CONFECTIONERY.

No. 490,769. Patented Jan. 31, 1893.

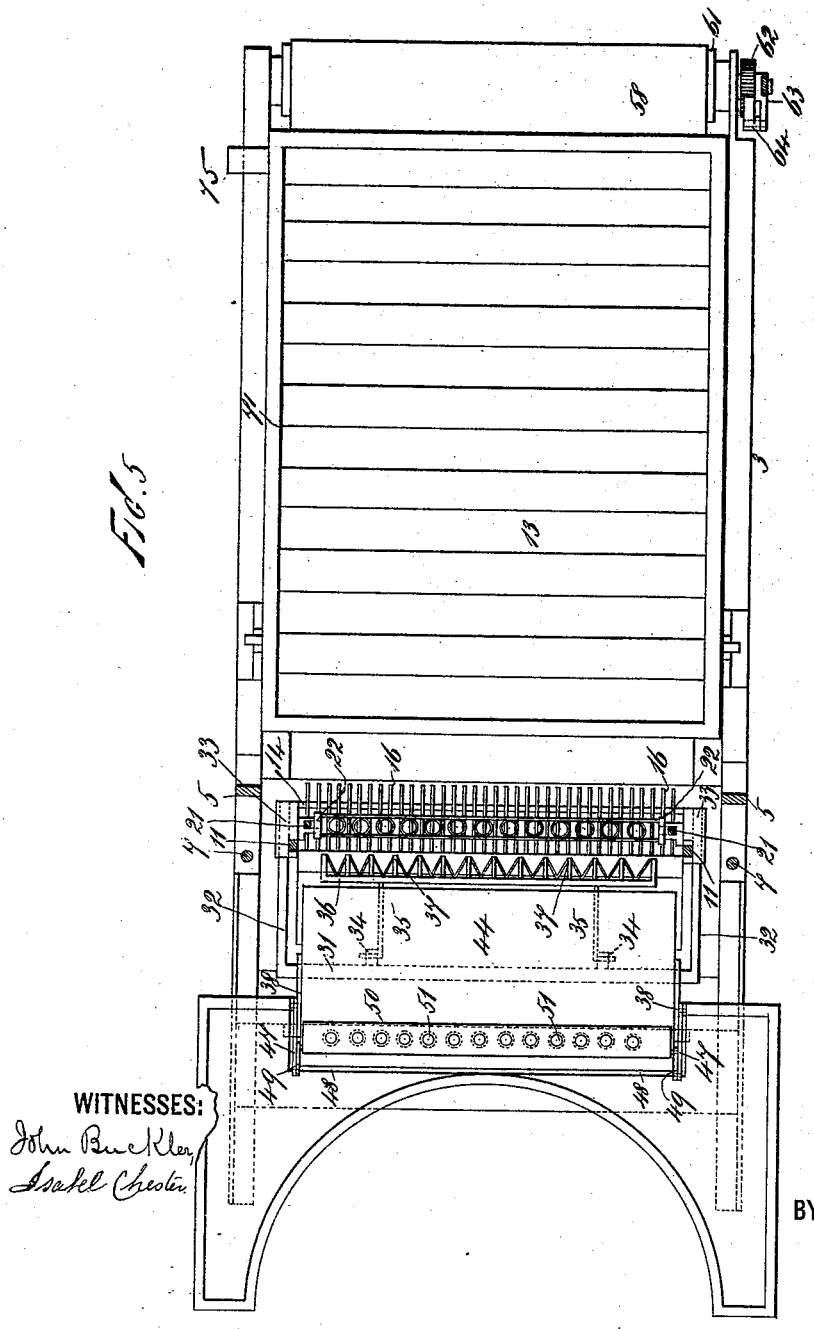

Fig. 5.

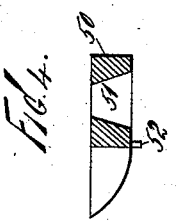

Fig. 4.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR COATING CONFECTIONERY.

SPECIFICATION forming part of Letters Patent No. 490,769, dated January 31, 1893.

Application filed June 2, 1892. Serial No. 435,237. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. HOLMES, a citizen of the United States, residing at Arlington, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Machines for Coating Confectionery, of which the following is a specification.

My invention relates especially to means and mechanism for applying a coating of chocolate, or other material to confectionery, and has for its object the provision of a device whereby such coating may be readily and rapidly applied, and then quickly cooled, giving the confectionery the proper appearance, and producing an article of high quality.

To attain the desired end, my invention consists essentially in certain novel and useful combinations or arrangements of parts, and peculiarities of construction and operation, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my device. Fig. 2 is an end elevation thereof, looking from the right, with the feed-board removed. Fig. 3 is a vertical, longitudinal section at line x—x of Fig. 2. Fig. 4 is an enlarged sectional view of the feed device shown at 50, in Fig. 3. Fig. 5 is a plan view, the portion of the machine above line y—y of Fig. 2 being removed.

Like numerals of reference, wherever they occur, indicate corresponding parts in all the figures.

1 is a tank for holding the material to be applied to the confectionery, said tank being provided with any suitable means for keeping the contained material in a melted condition.

2 are the legs which support said tank.

3 is a table extending from the tank1, and 4 are supporting legs at the extremity of said table.

5 are vertical posts fixed at each side of the coating tank.

6 is a cross-piece connecting said posts at the top.

7 are guide rods, extending between the cross-piece 6 and the table or main frame.

8, 9 are adjustable stops upon rods 7.

10 is a movable cross-bar, perforated at each end for the passage of rods 7, upon which said bar may play. Extending downward from the bar 10, are rods 11, having projecting perforated ears 12. At the bottom, rods 11 are connected together by cross-pieces 13 and 14 after passing through guides 15. Extending from cross-piece 13, is a series of narrow fingers, 16, which pass over and rest upon piece 14.

17 is a rod, pivoted in perforated ears 18, extending from rods 11.

19 is a manipulating handle fixed to the rod 17.

20 are spring arms extending from rod 17, and engaging with vertically movable bars 21, which pass through the ears 12 upon the rods 11, and engage at bottom with a holding device 22, preferably made of wire or equivalent open work material, as illustrated in Fig. 5.

23 are hooks, connected to the bar 10, and engaging with straps 24 which pass around pulleys 25, fixed to a shaft 26, mounted in bearings 27 upon the top of the cross-piece 6.

28 are springs coiled around the shaft 26, having their inner extremities fixed to a bearing 29, the tendency of said springs being to retain the cross-bar 10 and connected parts in an elevated position, and to facilitate the raising of the same after being depressed.

29 is a feed board secured upon pieces 30 extending from the top of the tank 1. Mounted beneath this feed board is a bar 31, having side arms 32 which movably extend through guide pieces 33 at the lower extremities of the rods 11. Pivoted to bar 31 at 34 are rods 35, which are connected to a cross-piece 36, having teeth 37 formed at its edge, as particularly shown in Fig. 5. The material of which this device is constructed being preferably openwork.

38 are rods which engage with the bar 31 extending to and engaging with arms 39 fixed to a shaft 40, journaled in bearings 41 extending from the tank 1.

42 is a manipulating handle, perforated for the adjustable reception of a pitman 43.

44 is a leaf, extending from or forming a portion of the feed table 29.

45 are standards, mounted at each side of the feed table 29.

46 is a handle pivoted to one of the stand-

ards 45 and having an arm 47, thereon which extends to a rod 48. At each end of rod 48 is pivoted an arm 49, which in turn is pivoted to a feeding device 50, consisting of a bar, having perforations 51 therein. Upon the under edge of bar 50 are projecting catch studs 52.

53 is a paper reel, mounted in bearings 54, the paper passing from said reel, over a roller 55, and around a second roller 56 and a supporting plate 57, to an endless apron 58, being held in place thereon by wheels 59. The apron passes around a roller 60 and a driving roller 61, the shaft of the latter roller being provided with a ratchet wheel 62, and an arm 63 bearing a pawl 64. Connected to the arm 63 is a rod 65, bearing adjustable stops 66, and passing through a guide 67, and terminating at a hand piece 68. The pitman 43 engages with a movable block 69, arranged to play upon the rod 65 between the stops 66.

70 is a refrigerator, consisting of sides 71, fitting over the table whereover the apron 58 passes, the ends of the refrigerator being cut away at 72 for the passage of the confectionery. The bottom 73, of the refrigerator is preferably made of deeply corrugated metal, to expose as much cooling surface as possible.

74 are troughs, arranged to receive any condensed moisture which may pass down beneath the bottom 73, the said moisture being conducted away through a spout 75.

The operation of my device is as follows: The coating material is placed in the tank 1, and kept at a proper temperature in any preferred manner. The confectionery drops are placed upon the table 29. The feeding device 50 is reversed in position by hand to that shown in the drawings, and the drops placed in the conical cavities in the feeder, when it is quickly reversed to the position shown. By drawing the handle 46 toward the operator, the feeding device is caused to slide down the leaf 44 until the drops pass onto the supporting fingers 16. The movement of the handle 46 is now reversed, and the studs 52 upon the under side of the feeding device will catch upon the edge of leaf 44, causing the said device to tilt, and pass back upon the leaf upon its edge, entirely freeing the drops. The centering device formed by the teeth 37 is now forced forward through the medium of the handle 42, the teeth embracing the drops and carrying them to a proper position upon the fingers 16 to permit the dropping of the holding device 22, and then the centering mechanism is drawn back to its initial position. The stops 9 are so set as to permit the depression of the parts connected with bar 10 to such a point as to entirely submerge the drops in the coating material, or only their lower portions, in accordance with the goods to be made. After dipping, the bar 10 is drawn upward, and the drops allowed to drain, removing the surplus material. If it is desired to mark the goods with the holding device, it is left in contact with them until they are partially cooled, but if it is not desired to mark them, the said device is raised. By pushing upon the handle 68 the apron 58 and the paper resting thereon are carried forward, and when a stop 66 comes in contact with block 69, the rod 43 is drawn forward, and through the medium of the connections between said rod and the centering device, the drops are moved forward off of the fingers 16 and are deposited upon the paper. The result of these movements is to first space the paper, and then move the same at the same speed as the forward movement of the drops, thus depositing them upon the paper without smearing it with the coating material. By the arrangement of the connections to the rod 65, the operator can move the apron and paper without disturbing the mechanism for moving the drops, if he so desires. In moving the drops off of the fingers 16, any surplus material hanging from their bottoms will be scraped off by the bar 14.

In order to produce goods of the best quality, it is necessary that they should be cooled after dipping, with the greatest rapidity. To accomplish this end, I have applied a refrigerating device directly to my machine, and made it a part of the same. The device 70 being filled with ice, or other refrigerating material, the space between its bottom and the carrying apron becomes a cold chamber. As the goods pass along said apron, they are exposed to the full cooling action of the refrigerating device, and by the time they pass from the belt to suitable receivers, they are thoroughly cooled and the coating material has become set and hard.

Having now fully described my invention, what I claim as new therein and desire to secure by Letters Patent is:—

1. In a machine for covering confectionery, a tank for holding the coating material; a frame fixed above said tank; a movable frame mounted within said fixed frame and bearing a series of fingers mounted upon crossbars, as set forth, and a movable holding device mounted within the movable frame, the whole combined and arranged to operate, substantially as shown and described.

2. In a device of the character herein specified, the combination with the support at the bottom of the movable frame, of the reciprocatable centering and moving device, substantially as shown and described.

3. In a device of the character herein specified, the combination with the dipping mechanism, of the means for feeding the drops thereto, substantially as shown and described.

4. In a device of the character herein specified, the combination with the dipping mechanism, of the drop feeding device, having means for moving the same forward and causing it to tilt and release the drops, and the

supporting leaf over which the drops are made to move, substantially as shown and described.

5. The combination with the supporting fingers forming a part of the dipping mechanism, of the drop centering and moving device, and the transverse scraping bar fixed beneath the supporting fingers, substantially as shown and described.

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