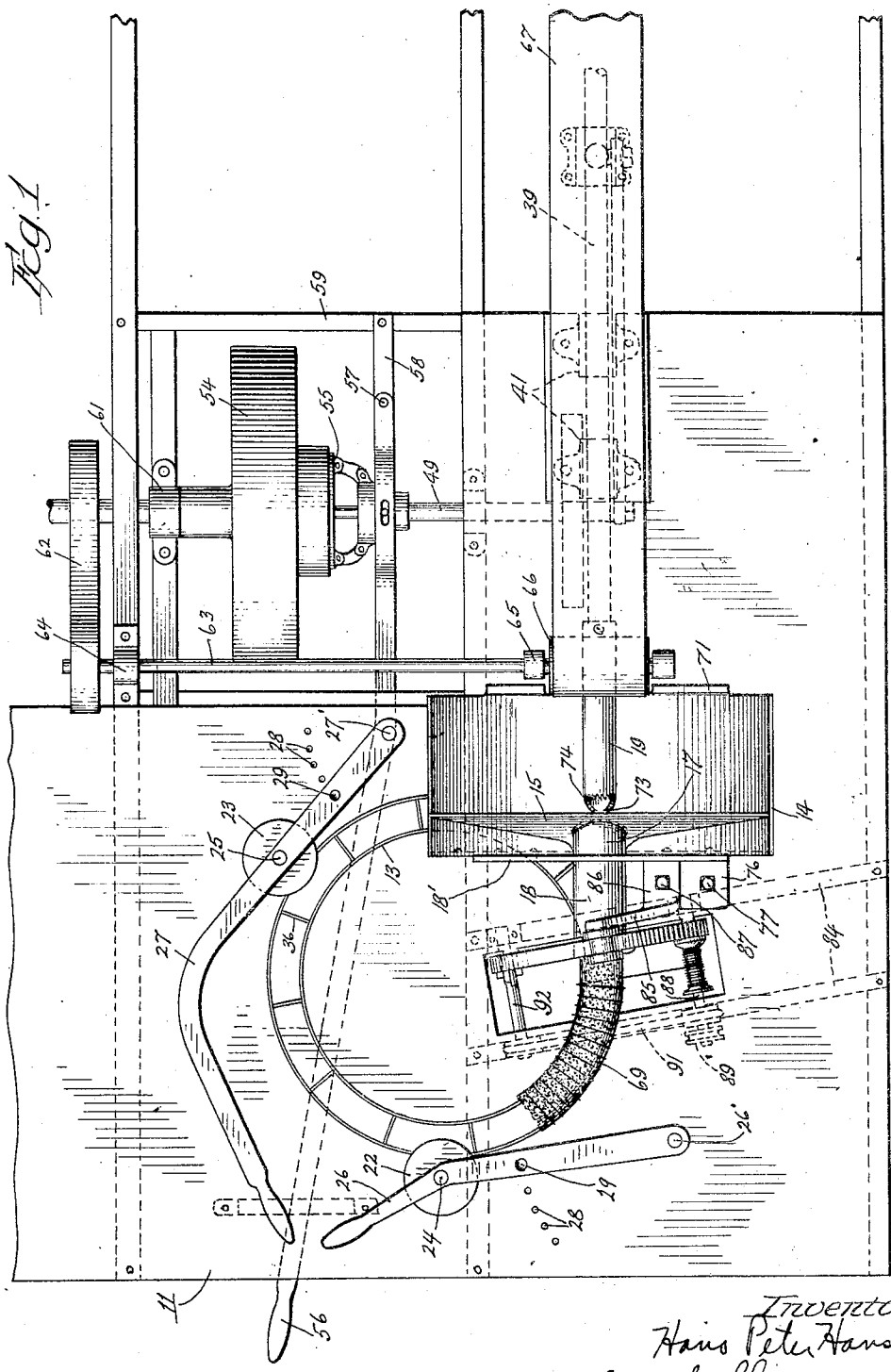
April 12, 1927. 1,624,238

H. P. HANSON

MACHINE FOR PREPARING MOSSED FRAMES FOR FLORAL WREATHS

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Fig. 1.



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Fig. 2

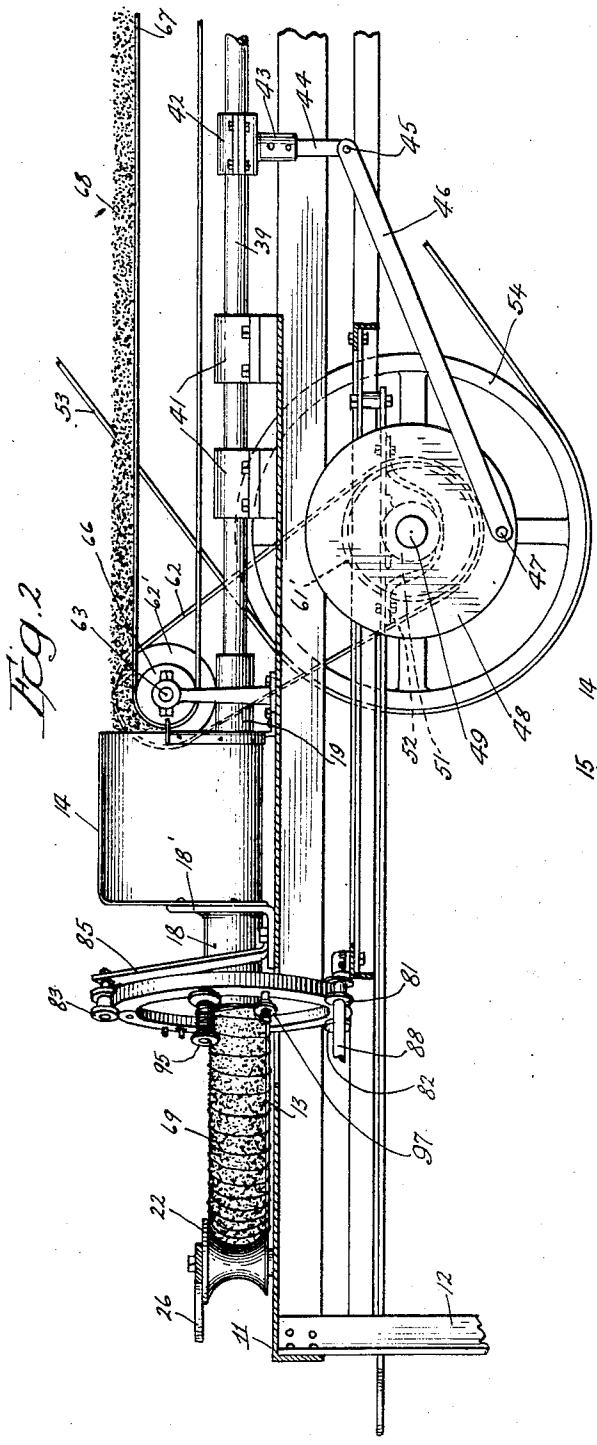
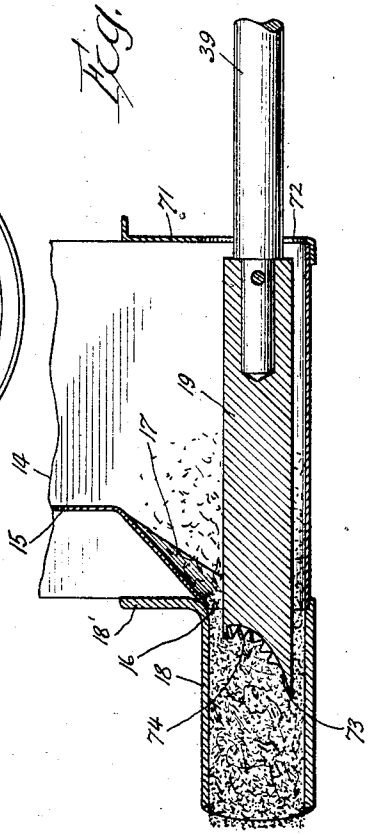


Fig. 3



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Fig. 4

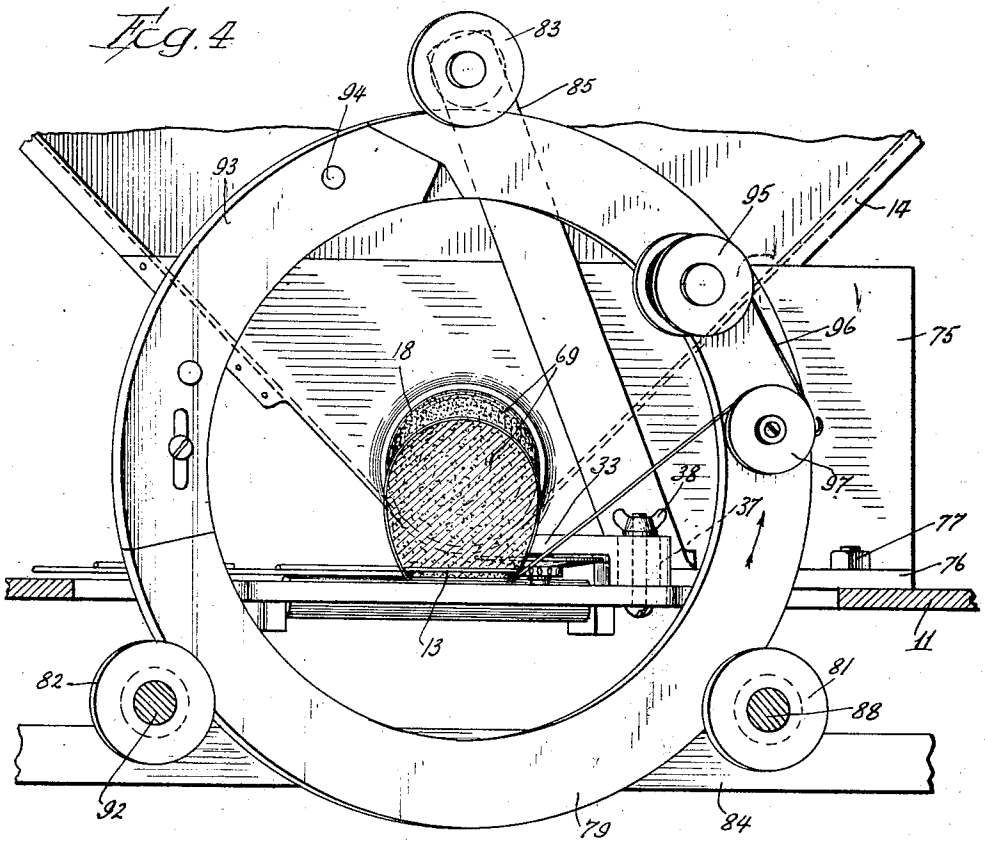
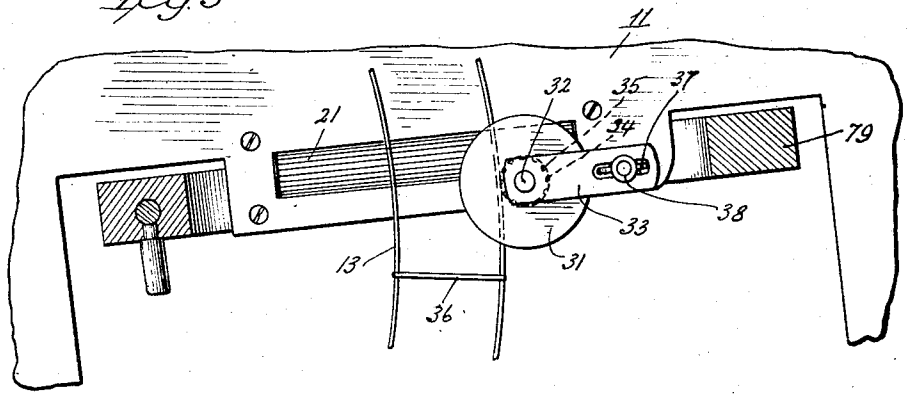


Fig. 5



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UNITED STATES PATENT OFFICE.

HANS PETER HANSON, OF CHICAGO, ILLINOIS.

MACHINE FOR PREPARING MOSSED FRAMES FOR FLORAL WREATHS.

Application filed November 20, 1925. Serial No. 70,236.

The purpose of this invention is to provide a machine adapted to automatically apply and appropriately bind a body of moss or the like to a rigid and ordinarily circular frame or base, preferably made of wire, to form the center element of a floral wreath, said element being sufficiently rigid to preserve a predetermined form and, at the same time, perforable to permit the attachment of flowers, either natural or artificial, by the usual U-shaped wire pins, or other fastening devices.

Heretofore, this operation has been performed by hand and is laborious and tedious to such an extent that the rate of production is very slow and consequently costly. In an establishment of considerable size, the services of several operatives are required for this operation alone and the time and space necessary to maintain a sufficiently high rate of production to meet the requirements of such an establishment are out of proportion to the cost at which the articles should be produced. I have devised a machine for doing this work which is automatic in operation and adapted to a rate of production which would require the services of a large number of operatives if the work were done by hand, as it heretofore has always been, so far as I am aware.

An important object of the invention is the provision, in combination, of means for forming a moss body of desired consistency and of means for securing said body, as it is formed, to a rigid base arranged and movable in desired relation to the moss body forming mechanism.

A further object of the invention is the provision of a moss compacting mechanism and moss feeding means coordinated and synchronized therewith in such manner as to provide the moss in appropriate quantity and timed relationship for the most efficient operation of said compacting mechanism.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a top plan view of a machine in which my invention is embodied;

Figure 2 is a longitudinal sectional view of the frame of the machine, showing certain of the operating elements in side elevation and certain thereof in perspective;

Figure 3 is an enlarged sectional view of the rammer and feed chute forming a part of the moss-compacting mechanism;

Figure 4 is an enlarged sectional and elevational view, showing a part of said compacting mechanism and the device for binding the moss to the wire support upon which it is placed; and

Figure 5 is an enlarged sectional and plan view, taken horizontally through said binding device and showing certain of the guides for facilitating and controlling the movement of the article during the formative operations thereon.

On said drawings, I have shown, for illustrative purposes only, a frame comprising a table 11, supported by legs 12 and in turn supporting the several operating elements of the machine. A wreath frame 13 is adapted to be positioned upon the table 11 adjacent a hopper 14, which latter is provided with a forward wall 15, having an opening therein indicated at 16 in Figure 3, said wall being of substantially tubular shape about said opening, as shown at 17. A tubular member 18 embraces and extends forwardly from the tubular wall part 17 and has a flange 18′ secured to the table in manner to be hereinafter described. The wreath frame 13, when positioned for operation of the machine, has a portion thereof beneath the outer end of said tubular member 18 through which the moss is delivered and by which it is shaped through the action of a compacting member, or ram 19, the operation of which will be presently described. A knurled roller 21 is mounted idly in the table 11 adjacent the point of delivery of the moss and facilitates the rotation of said frame 13 as said moss is applied. Rollers 22 and 23 are mounted on vertical axes 24 and 25 in manually operable levers 26 and 27, pivoted to the table at 26′ and 27′, and are adapted to guide the frame

during the rotation thereof, said rollers being concave, as shown in Figure 2, and adapted to conform to the shape of the mossed frame. The levers 26 and 27 are adapted to be swung in and out at will to cause the rollers 22 and 23 to engage and release the frames as they are successively positioned for mossing. Suitable friction means are, or may be, provided to hold said rollers in desired position, there being shown, in the present instance, a plurality of depressions 28 in the top of the table adapted to receive studs 29 on the bottoms of the levers 26 and 27 to hold the latter in desired position of adjustment.

A rotatable disk 31 is mounted on an axis 32 in a bar 33 adjustably mounted on the table 11 adjacent the roller 22 and beneath said disk is a roller 34, which is serrated, as indicated at 35, and adapted to engage the outer wire of the frame 13 (the latter being ordinarily made of wire), the serrations being adapted to accommodate irregularities in the periphery of the frame which are likely to occur particularly at the junction of the circular wires with cross pieces 36 to bind them together. Said bar 33 has a slot 37 therein and is adapted to be clamped in place by means of a wing nut 38, this construction permitting adjustment for wreath frames of different size. The frames are adapted to be rotated in the present instance by the feeding of the moss onto the same and by the hand of the operator, though it will be apparent that they could be automatically rotated, if desired.

The ram, or plunger, 19 is mounted on a horizontal shaft 39, mounted for reciprocation in bearings 41 on the table 11. A split collar 42 on said shaft is provided with a downward extension 43, to which a link 44 is adapted to be secured, said link being pivotally connected at its lower end, as indicated at 45, with an arm 46, pivoted eccentrically, as indicated at 47, to a disk 48 carried upon a cross shaft 49 having bearings 51 secured to the under side of the table, as indicated at 52, said shaft being adapted to be driven by means of a belt 53, taking over a pulley 54 with which is associated a clutch 55 adapted to be manually operated by means of a hand lever 56, pivoted at 57 to a support 58 extended from a cross-iron 59 forming a part of the frame work. The shaft 49 is extended beyond the pulley 54 and has a bearing 61 in the frame. A pulley 61′ is mounted upon said shaft 49 and is connected by a belt 62 with a pulley 62′ on a cross shaft 63 journaled in bearings 64 and 65 and carrying at its opposite end a pulley 66 adapted to drive a belt conveyer 67, which is adapted to deliver moss 68 from any suitable source to the hopper 14. The moss may be placed upon said conveyer by hand, or in any preferred manner, and the conveyer is of such size and so coordinated and synchronized with respect to the plunger 19 that the moss is delivered to said hopper in proper timed relationship to the operation of the plunger 19, so that the latter will substantially clear said hopper at each stroke, the feeding action being such that desired consistency in the moss body 69 is maintained as the latter is formed upon the wire frame 13. The rear wall 71 of said hopper is provided with an opening 72, through which the shaft 39 extends, and the operation of said plunger, as well as the conveyer 67, from the shaft 49 will be readily understood from the foregoing description.

Said plunger 19 is formed with an inclined or arcuate forward face 73, which is formed with serrations, or teeth, 74 on the upper part thereof, the formation being such as to inter-weave the moss and arrange the successive charges in overlapping relationship so that said charges may be bound together by means of the thread, or cord, which is wrapped around the mossed frame, as will hereinafter appear.

The flange 18′ is formed with a horizontal attaching portion, which is bolted to the table, as indicated at 77. After the moss has been compacted in said tubular member 18 and forced through the same, it is discharged onto the frame 13 in a continuous body 69 of tubular form.

Mechanism is provided to bind said moss body to said frame 13 as the same is positioned thereon, and this mechanism will now be described in detail, though it is not, in itself, of novel construction, the invention, so far as this part of the apparatus is concerned, residing in the combination thereof with the other elements of the machine. An annular thread carrier 79 is mounted for rotation between three rollers 81, 82 and 83, the first two being mounted in bearings upon diagonal bearing members 84 supported beneath the table 11, and the third being journaled in a bracket 85 extending upwardly from the table, to which a horizontal flange 86 of said bracket is bolted, as indicated at 87. One of said rollers (as shown, the roller 81) is mounted on a shaft 88, which carries a pulley 89 and is adapted to be driven from any suitable source of power, as by a separate motor, and a belt drive 91 is provided between said shaft 88 and a shaft 92 upon which the roller 82 is mounted, the upper roller 83 being idle. The annulus 79 is mounted in a plane substantially at right angles to the plane of the annular frame 13 and passes through the latter, a segment 93 of said annulus 79 being pivoted at 94 to the fixed part of the annulus and having a latch (not shown in detail) at its opposite end adapted to releasably hold it in fixed relation to the remainder of the annulus. Obvi-

ously, this pivoted section permits arrangement of the frame 13 within said annulus in the manner shown in the drawings, so that the annulus may rotate around the portion of the frame to which the moss is to be bound. A spool 95 is secured to one side of said annulus 79 and the thread 96 is adapted to be unwound therefrom during rotation of the annulus, said thread passing around a tensioning roller 97 and thence around the mossed wreath, the rotation of the thread-carrying annulus and of said mossed frame being in such timed relation as to space the strands of the thread a desired distance apart which will be such as to firmly bind the moss to the frame around the entire periphery thereof. The frame, in the embodiment shown is adapted to be held by the hand of an operator as the moss is positioned on the same and is rotated by hand and by the moss body as the same is forced out of the tubular member 18. After completion of the winding of the thread around the mossed frame, it may be tied by hand, or in any suitable manner, and the frame, with the moss applied throughout the entire extent thereof, may be removed by swinging the rollers 22 and 23 out of the way and opening the pivoted segment 93 of the annulus 79, the machine being stopped for this purpose by means of the clutch control lever 56 and by manipulation of a suitable control (not shown) for the drive of the roller shaft 88. Another wire frame may then be positioned and the operation repeated.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts, without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, and mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means.

2. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, and means for guiding the frame during the operation of the machine.

3. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, and adjustable means for guiding the frame during the operation of the machine.

4. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, and mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, said means comprising a hopper adapted to receive the moss and having a tubular outlet member in which the moss is adapted to be compacted and shaped and through which it is adapted to be forced onto the frame, and a compacting and feeding plunger operating in said hopper and said tubular outlet member.

5. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, and mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, said means comprising a hopper adapted to receive the moss and having a tubular outlet member in which the moss is adapted to be compacted and shaped and through which it is adapted to be forced onto the frame, a compacting and feeding plunger operating in said hopper and said tubular outlet member and means for feeding moss into said hopper in quantity to permit the plunger to substantially clear the hopper upon each stroke.

6. A machine for applying moss or the like to wreath frames, comprising a support for the frame, a hopper for the moss having an outlet opening therein, a plunger operating in said hopper and adapted to substantially clear the same upon each stroke, said plunger being adapted to compact and shape the moss and place the same on said frame, and means for feeding the moss to said hopper.

7. A machine for applying moss or the like to wreath frames, comprising a support for the frame, a hopper for the moss having an outlet opening therein, a plunger operating in said hopper and adapted to substantially clear the same upon each stroke, said plunger being adapted to compact and shape the moss and place the same on said frame, means for feeding the moss to said hopper, and winding mechanism associated with said plunger and hopper and adapted to automatically wind a thread or the like about the frame and moss to bind the latter onto the frame.

8. A machine for applying moss or the

like to wreath frames, comprising a support and guides for an annular frame, automatic means for compacting and forming the moss and placing the same on said frame, there being no separate means for moving said frame, and automatic means for binding the moss onto the frame as it is placed thereon by said means.

9. A machine for applying moss or the like to wreath frames, comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, a reciprocating member operating in said hopper, said member having an inclined serrated face adapted to arrange the moss in overlapping, compacted formation, and means for binding the moss, thus formed, onto said frame as it is forced through said outlet opening and onto the frame by said member.

10. A machine for applying moss or the like to wreath frames, comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, a reciprocating member operating in said hopper, said member having an inclined serrated face adapted to arrange the moss in overlapping, compacted formation, means for binding the moss, thus formed, onto said frame as it is forced through said outlet opening and onto the frame by said member, and separate driving mechanisms for said compacting means and said binding mechanism.

11. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, and mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, said compacting means including a hopper and a plunger acting therein, and said binding mechanism comprising an annular thread carrier adapted to encircle and rotate around a section of the frame.

12. A machine for applying moss or the like to wreath frames, comprising a support for the frame, means for compacting the moss and placing the same on said frame, and mechanism automatically operable adjacent said means for binding said moss to said frame as it is placed thereon by said means, said compacting means including a hopper and a plunger acting therein, and said binding mechanism comprising an annular thread carrier, having an axis at an angle to the plane of the frame, the latter being also of annular formation and the annuli operating each within the other.

13. A machine for applying moss or the like to wreath frames comprising a hopper adapted to receive the moss and having a reduced outlet passage, compacting means adapted to act upon the moss in said hopper and to eject it in a formed body through said passage, means for supporting a wreath frame in position to receive said formed body of moss from said passage, and means offering resistance to the outcoming moss body to thereby cooperate with said compacting means in increasing the compactness of said body.

14. A machine for applying moss or the like to wreath frames comprising a hopper adapted to receive the moss and having a reduced outlet passage, compacting means adapted to act upon the moss in said hopper and to eject it in a formed body through said passage, means for supporting a wreath frame in position to receive said formed body of moss from said passage, and means offering resistance to the outcoming moss body to thereby cooperate with said compacting means in increasing the compactness of said body, said means serving also to guide said wreath frame and permit movement thereof as the moss is progressively applied thereto.

15. A machine for applying moss or the like to wreath frames comprising a hopper adapted to receive the moss and having a reduced outlet passage, compacting means adapted to act upon the moss in said hopper and to eject it in a formed body through said passage, means for supporting a wreath frame in position to receive said formed body of moss from said passage, and adjustable means offering resistance to the outcoming moss body to thereby cooperate with said compacting means in increasing the compactness of said body.

16. A machine for applying moss or the like to wreath frames comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, and a reciprocating member operating in said hopper, said member having an inclined, serrated face and being adapted to arrange the moss in overlapping, compacted formation and to deposit the same upon said frame.

17. A machine for applying moss or the like to wreath frames comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, a reciprocating member operating in said hopper, said member being adapted to compact and form the moss and place the same upon said frame, and means for guiding said frame so that the moss may be applied to successively presented portions thereof.

18. A machine for applying moss or the like to wreath frames comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, a reciprocating member operating in said hopper, said member being adapted to com-

pact and form the moss and place the same upon said frame, and means for guiding said frame so that the moss may be applied to successively presented portions thereof, said guiding means being adjustable.

19. A machine for applying moss or the like to wreath frames comprising a support for the frame, a hopper adjacent said support having an outlet opening therein, a reciprocating member operating in said hopper, said member being adapted to compact and form the moss and place the same upon said frame, and means for guiding said frame so that the moss may be applied to successively presented portions thereof, said guiding means being adjustable and including rollers movable into and out of engagement with said frame.

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