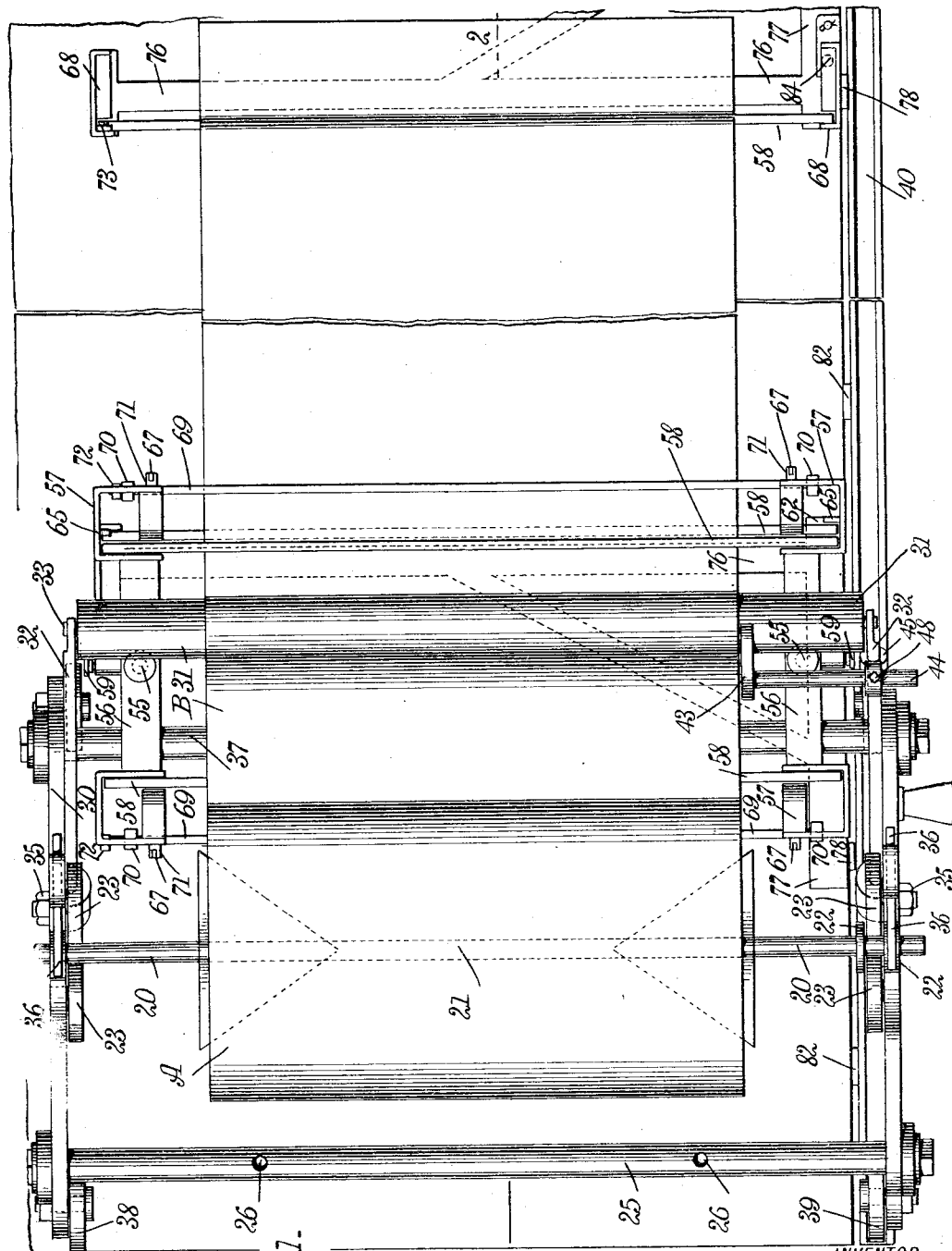


C. J. PRIESTER.  
MACHINE FOR PILING TEXTILE FABRICS.  
APPLICATION FILED MAR. 6, 1912.

Patented June 11, 1912.

1,029,316.

4 SHEETS-SHEET 1.



WITNESSES  
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Fig. 1.

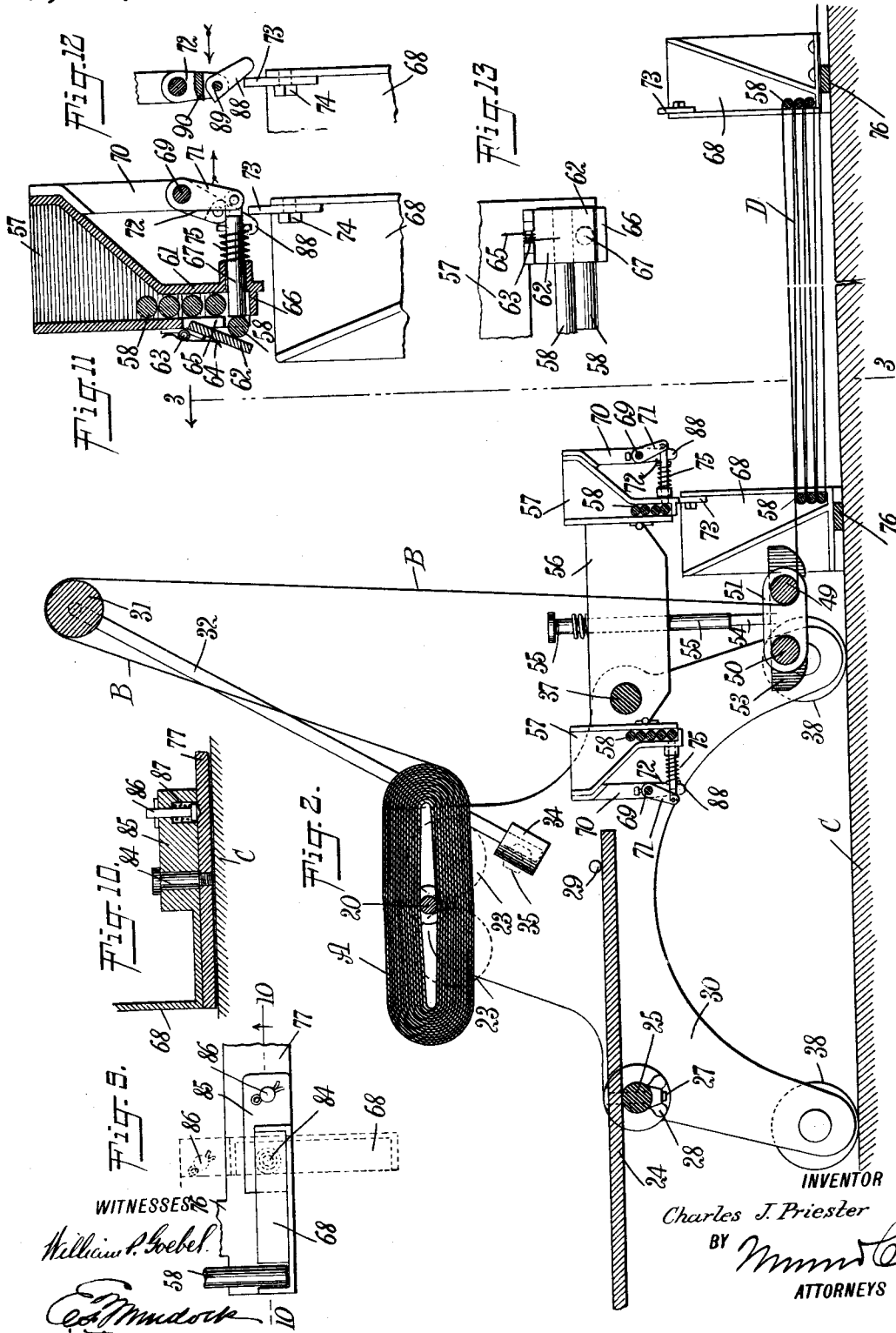
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4 SHEETS—SHEET 2.

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4 SHEETS-SHEET 3.

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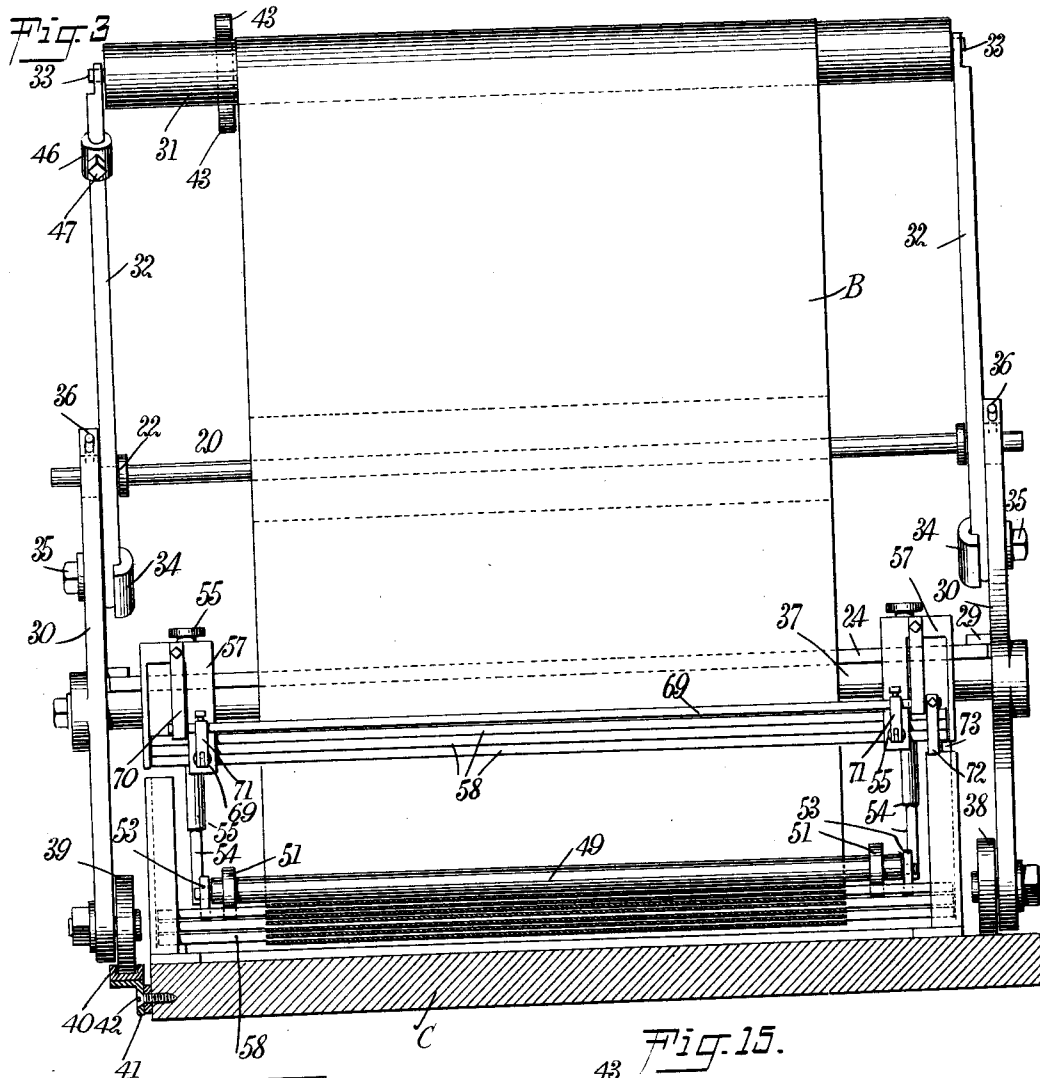


Fig. 14.

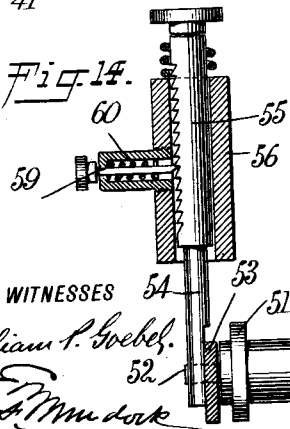
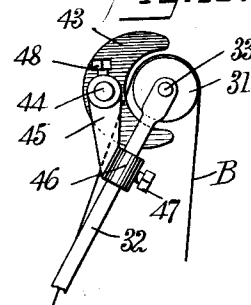


Fig. 15.



WITNESSES  
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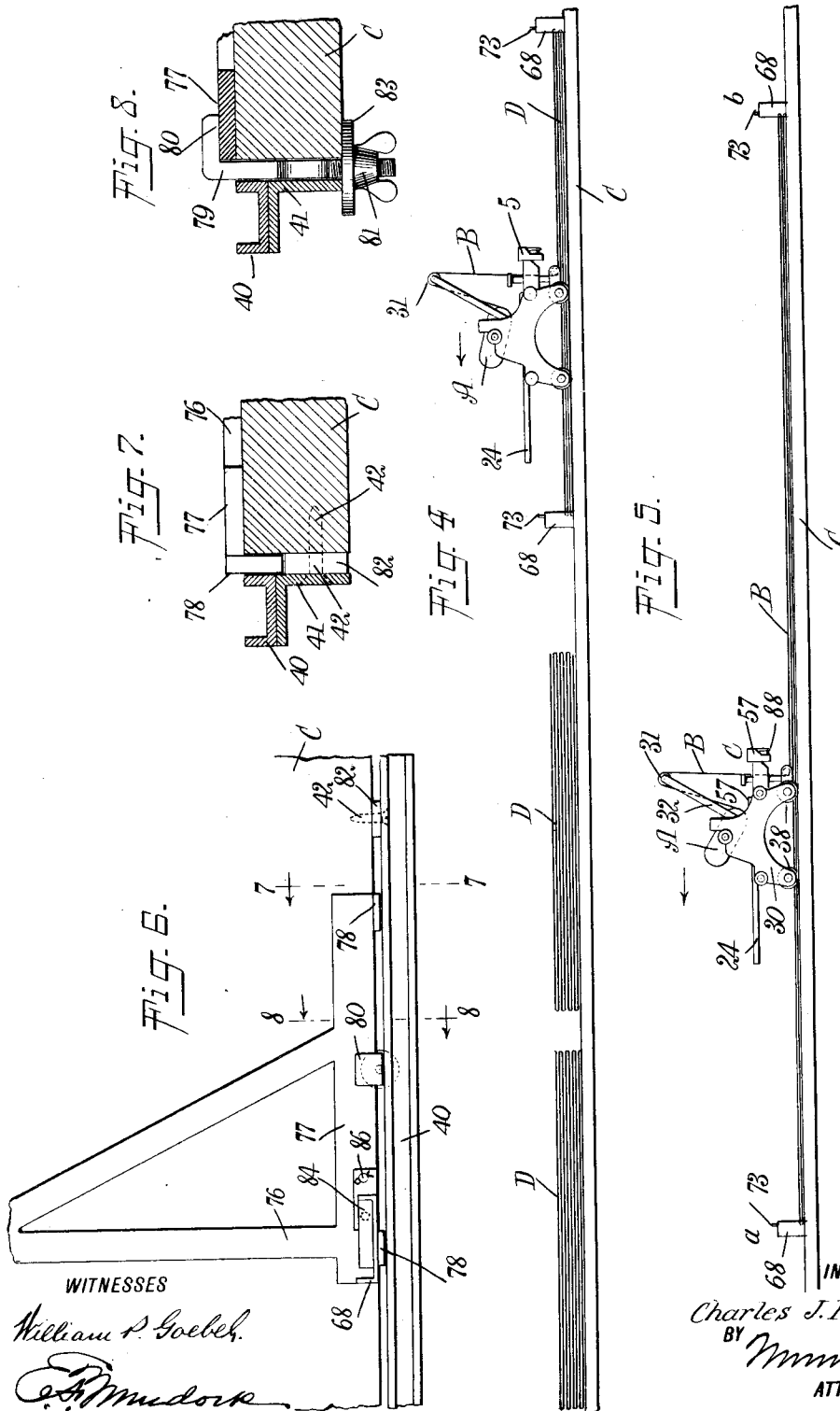
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# UNITED STATES PATENT OFFICE.

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HARRIS L. ROSENTHAL, OF NEW YORK, N. Y.

MACHINE FOR PILING TEXTILE FABRICS.

1,029,316.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed March 6, 1912. Serial No. 681,894.

*To all whom it may concern:*

Be it known that I, CHARLES J. PRIESTER, a citizen of the United States, and a resident of Hackensack, in the county of Bergen and State of New Jersey, have invented a new and Improved Machine for Piling Textile Fabrics, of which the following is a full, clear, and exact description.

The present invention relates to improvements in the construction of, and mountings for, machines of the class substantially as set forth in a co-pending application filed by me under date of June 22, 1911, bearing No. 634,660, and entitled "Machine for piling textile fabrics", to which application cross reference is here made.

Among the principal objects which the present invention has in view are: to provide a machine of the character indicated with means for supporting and at predetermined intervals depositing in holding devices, rods or other retaining means for holding the fabric at each end of the lay performed by the machine; to provide suitable magazines for a machine of the character set forth, wherein anchoring devices of an approved type for holding the cloth at the ends of the lay, are carried, and from which they are automatically fed; to provide means for feeding the cloth to a cutting table in such a manner as to prevent trapping the air between the layers of cloth to disturb the regularity of the lay; to provide simple, efficient and quickly-adjustable means for guiding the cloth from the piling machine to the lay; to provide adjustable receptacles for the cloth-anchoring devices; to provide a suitable track for the machine; and to provide means adjustable to the machine, for feeding the cloth therefrom when delivered thereto in either bolt or piled form.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a plan view of a machine, supporting table therefor, and cloth-anchoring devices, all constructed and arranged in accordance with the present invention; Fig. 2 is a vertical longitudinal section taken on the line 2—2 in Fig. 1; Fig. 3 is a vertical cross section taken on the line 3—3 in Fig.

2, showing in side elevation the piling machine and one set of cloth-anchoring devices connected therewith; Figs. 4 and 5 are views showing in side elevation a cutting table having mounted thereon a machine of the character herein disclosed, and showing the operative position of the same and the cloth as piled on said table; Fig. 6 is a detail view, on enlarged scale, showing one of the braced clamping ends of the frame for supporting the receptacles for the cloth-anchoring devices; Fig. 7 is a detail view, on enlarged scale, showing a fragment of the cutting table, machine-supporting track, and pocket-supporting frame for the cloth-anchoring devices, the section being taken on the line 7—7 in Fig. 6; Fig. 8 is a detail view in vertical section, taken on the line 8—8 in Fig. 6, showing a fragment of the cutting table, supporting track and anchoring frame above referred to; Fig. 9 is a detail view in top plan and on enlarged scale, showing a pocket employed for holding the cloth-anchoring devices; Fig. 10 is a vertical cross section of said pocket, taken on the line 10—10 in Fig. 9; Fig. 11 is a detail view on enlarged scale and in vertical section, showing the cloth-anchoring-device magazines, and in conjunction therewith a pocket receptacle therefor; Fig. 12 is a detail view illustrative of the action of the trip latch with which the feeding mechanism for the cloth-anchoring devices is provided; Fig. 13 is a detail view of a small fragment of the delivery end of the above-mentioned magazines, showing in conjunction therewith a controlling gate therefor; Fig. 14 is a detail view, showing partly in vertical elevation a fragment of one of the cloth-guiding roller mechanisms and support therefor; and Fig. 15 is a detail view of a fragment of the cloth-feeding spreader arm, and an adjustable guide block therefor.

The machine, when constructed as shown in the accompanying drawings, is employed as a traveling support for cloth, when the same is furnished in the piece, either rolled upon a forming-board, or folded in short sections. When the piece is wound upon a forming-board, suitable shaft sections 20 are employed to support the bolt A (see Figs. 1 and 2). One of the shaft sections 20 is rigidly secured to a connecting blade 21.

The other of said sections 20 is hollowed to form a sheath for the said blade 21, any suitable locking device being provided to hold the sheath and blade-provided sections 5 united as adjusted. One section 20 is provided with collars 22, the office of which is to center the shaft sections relative to the machine, said collars bearing against the sides of supporting rollers 23.

10 When the fabric is furnished in folded form, it is placed on a table 24. The table 24 and the shaft sections 20 are interchangeable, each being removed during the employment of the other. When the table 24 15 is employed, it is supported upon a tie rod 25, which structurally connects the side frames 30 of the machine. The rod 25 is provided with perforations 26, designed to receive screw bolts 27. The bolts 27 are headed, and each provided with a wing nut 20 28, the manipulation whereof clamps the table 24 rigidly in position. The major portion of the table 24 is extended from the machine beyond the rod 25. To relieve said 25 rod of the torsional strain which this extension of the table might impose thereon, pins 29 are set out from the inner side of each of the frames 30.

When using the machine for piling fabric 30 from both the bolt and folded forms of the piece, the fabric B is carried over a spreader roller 31. The roller 31 is lifted above the supply of fabric by the side arms 32, said roller being provided with suitable trunnions 33, adapted for mounting in suitable 35 bearings formed in the ends of the side arms 32. The inner end of each of the side arms 32 is held in a socket clamp 34. The socket clamps are pivotally mounted to provide for any desired adjustment of the arms 40 32 and roller 31. The clamps are held in adjusted position by nuts 35. The purpose of the adjustment is primarily to provide a weight of cloth on the side of the roller 31 45 juxtaposed to the cloth supply. The object of this arrangement is to provide a slight drag on the cloth while being delivered, to straighten the cloth on the pile, without imposing a stretching strain thereon.

50 The sections 20 are supported on the supporting rollers 23. Said sections are held in engagement with the rollers by a pin 36, which bridges the space between said rollers, to prevent any disengaging lift of the 55 sections 20.

The side frames 30 are structurally connected by the tie rods 25 and 37. The frame thus formed is mounted upon carrying wheels 38 and 39. The wheels 39 are arranged to track in a channel rail 40. The 60 rail 40 is mounted on the edge of the cutting table C, being provided for that purpose with a vertical flange 41, the same being pierced at suitable intervals to receive holding screws 42 (see Fig. 3 of drawings).

The wheels 38 are provided to track on any part of the surface of the table C. In this connection, it would be well to remark that, while the machine shown in the accompanying drawings is provided with two of the 70 wheels 38, the frame being arranged for a four-point support, this may be varied, giving a three-point support to the said frame, one of the wheels 38 only being employed, and this preferably in a situation centrally 75 alined between the wheels 39.

To guide the fabric B in its passage over the roller 31, I have provided a guide block, 43. The block 43 is best seen in Fig. 15 of the drawings, where, it will be observed, 80 the block 43 is semi-circular in form, to partly surrounded the roller 31, and is integrally connected with a supporting shaft 44. The shaft 44 is slidably mounted in a bracket 45, which is supplied with a socket 85 46, for attachment upon one of the arms 32. A set screw 47 is employed to fasten the socket 46 upon the arm 32. A set screw 48 is employed to fix the connection between the shaft 44 and the bracket 45, to prevent 90 the rotation of said shaft. When the set screw 48 is loosened, the shaft 44, with the block 43, may be adjusted until the said block is alined with the edge of the fabric B.

It will be understood that, while I have 95 shown one block 43 and its attachments, a second block may be employed if it be found necessary. In my own experience, I have found that one block answers all of the purposes for which the blocks are intended. 100

The fabric B is delivered from the roller 31 to the pile D as the same is laid on the table C. To provide that the length of fabric being at any time delivered from the machine, be held close to the top of the pile 105 or to the layer of cloth immediately preceding in the order of operation of the machine, I have provided rollers 49 and 50. The rollers 49 and 50 are rotatably mounted in side plates 51. The side plates 51 are 110 each pivotally mounted by means of stud shafts 52 on runners 53. The runners 53 are secured to supporting rods 54. The rods 54 are each provided with a ratchet section 55, mounted to extend through a 115 socket formed in side bars 56 of a supporting frame for hoppers 57. The side bars 56 and the hoppers 57 connected therewith are held rigid upon the side frames 30, the tie rods 37 passing through the side bars 56. 120 The ends of the runners 53 are cut away or curved, as seen best in Fig. 2 of drawings, to over-ride the end of the fabric pile D, and of anchor rods 58, which hold the fabric at both ends of the pile. When the inclined 125 or curved ends of the runners 53 strike upon the rods 58, said runners and the frame connected therewith are lifted to pass over the uppermost of the said rods. As the rods 54 and the ratchet sections 55 connected 130

therewith are lifted, the detent bolt 59 is moved by a spring 60 to engage the teeth of the ratchet section 55, to maintain the elevation of the rods 54 and frames connected therewith. This arrangement insures that the frame formed by the rods 54 and the runners 53 does not rest upon, to drag over, the pile D.

The anchor rods 58 are carried in the hoppers 57. As seen best in Fig. 11 of drawings, the hoppers are each provided with a narrow delivery neck 61. The side of each of the necks 61 facing the opposite hopper is provided with a gate 62. Each gate 62 is hinged at 63, and is normally closed by a spring 64. Each neck is also provided with guide flanges 65, to aline with the gate 62, and to retain those rods 58 which are held in the necks 61 above the lowermost rod. The flanges 65 are terminated above the bottoms 66 of the hoppers, sufficiently to form a passage for only one of the rods 58.

Through the passage above mentioned for the delivery of the lowermost rod 58, the same is forced by plungers 67, of which one is supplied for each of the hoppers 57. The plungers 67 at said sides of the frame formed by the side bars 56 operate simultaneously, engaging the opposite ends of the rods 58, to deliver the same evenly into pockets 68. The unity of action between the oppositely-disposed plungers 67 is secured by a cross rod 69, which is mounted in bearings in an arm 70 depended from each of the hoppers 57. The plungers 67 are pivotally connected each with a crank arm 71, fixedly mounted each upon the rod 69. Each of the rods 69 is provided with a swinging arm 72, the ends whereof are extended into the path of striker plates 73, adjustably mounted on one of the pockets 68 of each pair of pockets, by means of a clamping bolt 74. The plungers 67 are normally retained in retracted position by spiral springs 75, with which each of the said plungers is provided.

In the operation of the machine, the length of the piles D varies to accommodate the pattern of the article to be cut. For this purpose, the pockets 68 are adjustably mounted on the table C. The pockets 68 are fixedly mounted at the end of an extension bar 76. The bar 76 is held perpendicular to the edge of the table C and to the rail 40 thereof by a T-head 77, the length of which is sufficient to secure the rigidity of the bar 76, and the ends of which are provided with alining slide plates 78. To hold the bar 76 in adjusted position, I provide a clamp hook 79. The hook 79 is furnished with an extension 80, adapted to overlies the T-head 77, as shown best in Fig. 8 of drawings. The lower end of the hook 79 is provided with a screw thread to register with the thread of a wing nut 81. To pro-

vide for the passage of the plates 78 between the tables C and the rail 40, and for the insertion of the pendent portion of the hook 79 between said table and rail, I provide at intervals spacing blocks 82, through which, as seen in Fig. 7 of drawings, the holding screws 42 are inserted. To provide a base for the pressure of the wing nut 81, I employ any simple washer, such as 83 of drawings. It will be understood that by relieving the pressure of the nut 81, the hook 79 and parts connected therewith may be moved lengthwise of the table C, to accommodate the adjustment of the bar 76 to the work to be performed.

The pockets 68 may be each pivotally mounted, or the pivotal mounting may be confined to the said pockets adjacent the edge of the table. As seen best in Figs. 9 and 10 of drawings, when the pockets 68 are thus mounted, a pivot pin 84 is provided, to extend through a thickened portion 85 of the frame of the pocket. A short threaded portion of the pins 84 registers with threads in the head 77. To normally hold the pivoted pockets 68 in operative position, a detent bolt 86 is mounted in the thickened portion 85 of the frame, said bolt having a head to seat within the recess or spot formed in the head 77. The bolt 86 is of usual construction, being provided with a spring 87, to press the head of the said bolt against the surface of the head 77 to cause the same to seat in the recess or spot formed therein.

It will be understood that in the operation of the machine, the plungers 67 connected with the hoppers 57 are alternately operated, and when traveling in one direction only. It becomes necessary, therefore, that the swinging arms 72 connected with each of the rods 69 should engage when the machine is traveling in one direction only. For this purpose, each of the arms 72 is provided with a swinging end 88, which is pivoted by means of a pin 89 to the arms 72. The end 88 is so constructed as to avoid engagement with a flat surface 90 formed on the arm 72, when the said end is swung in one direction, and to engage the same when swung in the opposite direction (see Figs. 11 and 12, where the operation of the rocking arm as effected by engagement of the ends 88 thereof with the plate 73, is shown).

With a machine thus constructed and arranged, the operation is as follows:—The desired length of the pile D having been ascertained, the bars 76 are adjusted upon the table C, and by means of the clamp hook 79, each of the said bars is held in fixed position on said table. The bolt A is arranged on the machine employing either the shaft sections 20 or table 21, to accord with the arrangement of the fabric. The fabric is passed over the roller 31 and between the rollers 49 and 50. The fabric B is an-

chored in any suitable manner adjacent one of the bars 76, over which anchorage the machine is moved until both of the hoppers 57 have passed from between the pockets 68 and bars 76. In the reciprocative movement of the machine, each of the hoppers 57 is alternately in the following position. When the machine, having passed to the extreme of its path in one direction, starts to return, the hopper which was the following hopper becomes the leading hopper, and it is the leading hoppers which are operated to deposit one of the anchoring rods 58 contained therein. Thus, referring to Fig. 5 of drawings, it will be seen that when the machine, traveling as indicated by the arrow in said figure, passes the station marked *a*, the hopper 57, marked *c*, passes the pocket 68 at said station. The end 88 of the arm 72 avoids the plate 73 at the station marked *a*, and assumes a position immediately thereafter to be impinged upon by the said plate to rock the shaft 69 connecting the hoppers 57 indicated by the letter *c* when said machine is returned toward the station marked *b*. The rocking of the shaft 69, as above described, effects the release of one of the rods 58, which passes into the oppositely-disposed pockets 68 at the station *a*, to rest upon the cloth which now stretches between the stations *b* and *a*. In this position, the frame carrying the rollers 49 and 50 and supported by the rods 54, rests close to the surface of the table C. When, on the return trip of the machine the runners 53 strike upon the rod 58 just deposited in the pockets 68, the runners and members connected therewith are elevated sufficiently to pass over the said rod 58. The rods 54 are engaged by the bolts 59, and maintained in the suspended position, so that the weight of the members supported by the said rod 54 is not impressed upon the fabric between the stations *a* and *b*. The rod 58 deposited at the station *a* now holds the fabric while the machine passes to the station *b*. The machine passes the station *b* in the manner described with reference to the station *a*, so that the plate 73 at the station *b* operates upon the hoppers 57 at the lifting of the vertical extension of the fabric B, as seen in Fig. 5. This operation effects a deposit of a rod 58 in the pockets 68 at the station *b*, which rod holds the fabric while the machine is returned toward the station *a*. During the passage of the machine from one station to the other, it is desirable that the top layer of cloth just previously deposited should be lightly pressed to eliminate any air trapped thereunder. It is for this purpose that the side plates 51 are pivoted. The light pulling strain of the fabric B on the following roller 50 or 49, as the case may be, presses the advance roller upon the cloth of the pile D. This pressure on the advance roller is

commensurate with the pull on the fabric B, and results in the production of just the desired pressure needed to eliminate the air from under the previously laid length of fabric.

As shown in Fig. 4 of drawings, the machine may be operated to pile at various sections on the table C, fabric suitable for different patterns. Whether the pile be long or short, the operation is substantially that above described. The operation is not varied by substituting for the bolt A a folded supply of fabric. At the expiration of the operation, when the pile has been laid, the rods 58 are withdrawn from engagement with the fabric, and replaced in the hoppers 57. To aid in withdrawing the rods 58, one of the pockets 68 of each pair is rotated on its pivot pin 84, to uncover the ends of the rods. Being thus uncovered, the rods are merely drawn from the folds of the cloth.

It will be understood that two machines of the present construction may be operated on the cutting table simultaneously, it being preferable that the machines should operate adjacent the opposite edges of said table.

It will be understood that while I have herein described the construction and arrangement of the rollers 49 and 50 as mounted in a pivoted rocking frame, I may substitute therefor non-rotary rods rigidly held in the yielding rods 54.

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

1. A machine of the character described, having a movable carrying frame; a plurality of guide members disposed transversely to the path of said machine, and spaced apart; supports for said members to prevent the fall thereof when lifted; means for anchoring fabric carried by said machine at predetermined stations, said means employing a plurality of rods for folding thereover said fabric; a hopper carried by said machine, for said rods; and means for extracting said rods from said hopper at said stations.

2. A machine of the character described, having a plurality of guide members spaced apart and disposed transversely to the path of said machine; a plurality of receptacles disposed approximately parallel to and at opposite sides of said guide members to hold suitable anchor rods; a plurality of anchoring members adjustable adjacent the path of said machine to hold said rods; and means for extracting said rods from said receptacles to deposit the same outside and adjacent said anchoring members.

3. A machine of the character described, adapted to travel about a cutting table and to carry a supply of fabric for piling there-



on, said machine having a plurality of parallel guide members spaced apart and disposed transversely to the path of said machine, adapted to receive the fabric of the supply carried by said machine, between said members; a plurality of hoppers carried by said machine approximately parallel to said guide members and at opposite sides thereof; a plurality of pockets adjustably mounted on said table, to determine the length of the pile; a plurality of rods carried in said hoppers for delivery to said pockets; and means mounted on said hoppers and said pockets, coöperative to deliver from each of said hoppers one of said rods as said hoppers pass said pockets.

4. A machine of the character described, adapted to travel about a cutting table and to carry a supply of fabric for piling thereon, said machine having a plurality of parallel guide members spaced apart and disposed transversely to the path of said machine, adapted to receive the fabric of the supply carried by said machine, between said members; a plurality of hoppers carried by said machine approximately parallel to said guide members and at opposite sides thereof; a plurality of pockets adjustably mounted on said table, to determine the length of the pile; a plurality of rods carried in said hoppers for delivery to said pockets; a plurality of extracting plungers, each mounted on one of said hoppers; and a plurality of engaging members, one for each of said plungers, mounted on said pockets, to extract said rods from said hoppers singly and from alternate pockets.

5. A machine of the character described, adapted to travel above a cutting table and to carry a supply of fabric for piling thereon, said machine having a plurality of parallel guide members spaced apart and disposed transversely to the path of said machine, adapted to receive the fabric of the supply carried by said machine, between said members; a plurality of hoppers carried by said machine approximately parallel to said guide members and at opposite sides thereof; a plurality of pockets adjustably mounted on said table, to determine the length of the pile; a plurality of rods carried in said hoppers for delivery to said pockets; a plurality of delivery members mounted one on each of said hoppers for the extraction therefrom of said rods singly; and a plurality of interference members mounted on said pockets, each member being arranged to operate the plungers of one of said hoppers.

6. A machine of the character described, having a plurality of hoppers disposed transversely to the path of the machine and spaced apart, each of said hoppers being adapted for storage of elongated anchor rods wherever the fabric carried by said ma-

chine is folded; means for guiding between said hoppers said fabric for piling; means adjustable in the path of said machine for operating said hoppers to deliver singly and successively the anchor rods contained therein, said means being adapted to operate the hopper first arriving at the initial edge of the pile being formed, to deposit the rods upon the fabric prior to the arrival of the means for guiding said fabric; and means for holding said rods at the ends of each pile when delivered from said hoppers.

7. A machine of the character described, comprising a wheel-carried fabric-supporting frame adapted to track on a cutting table; a plurality of hoppers mounted on said frame to hold by the ends anchor rods, each of said hoppers being provided with contracted delivery ends; a plurality of reciprocating members mounted at the delivery ends of said hoppers; a plurality of guide members disposed between said hoppers to yield upwardly; a supporting means for said guide members, to normally prevent the lowering thereof; a plurality of pockets adjustably mounted on the cutting table, said pockets being adapted to receive and to hold in vertically superposed relation said rods; and means for fixedly attaching said pockets on said table.

8. A machine of the character described, comprising a wheel-carried fabric-supporting frame adapted to track on a cutting table; a plurality of hoppers mounted on said frame to hold by the ends anchor rods, each of said hoppers being provided with contracted delivery ends; a plurality of reciprocating members mounted at the delivery ends of said hoppers; a plurality of guide members disposed between said hoppers to yield upwardly; a supporting means for said guide members to normally prevent the lowering thereof; a plurality of pockets adjustably mounted on the cutting table, said pockets being adapted to receive and to hold in vertically superposed relation said rods; and a plurality of extension bars, said bars having sliding members to engage the edge of the cutting table, to hold said extension bars perpendicular thereto.

9. A machine of the character described, comprising a wheel-carried fabric-supporting frame adapted to track on a cutting table; a plurality of hoppers mounted on said frame to hold by the ends anchor rods, each of said hoppers being provided with contracted delivery ends; a plurality of reciprocating members mounted at the delivery ends of said hoppers; a plurality of guide members disposed between said hoppers to yield upwardly; a supporting means for said guide members to normally prevent the lowering thereof; a plurality of pockets adjustably mounted on the cutting table, said pockets being adapted to receive and to

hold in vertically superposed relation said  
rods; means for fixedly attaching said  
pockets on said table; and means extended  
between said hoppers and said pockets to  
5 operate said plungers, said means avoiding  
engagement when the machine is moved in  
one direction.

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

CHARLES J. PRIESTER.

Witnesses:

E. F. MURDOCK,  
JOHN P. DAVIS.

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