

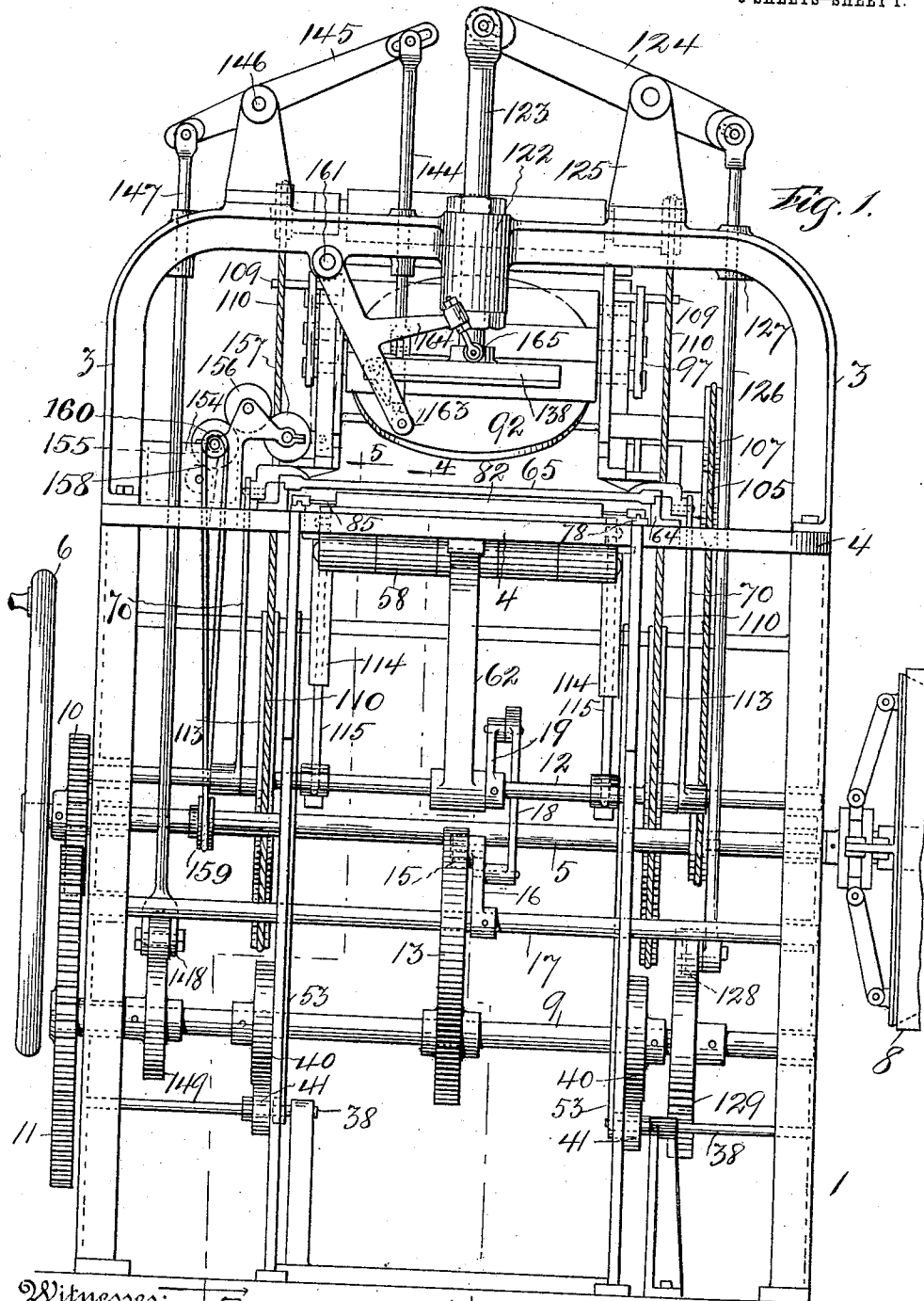
P. ROTTER & H. M. SMITH.
FABRIC SAMPLE CARDING MACHINE.

APPLICATION FILED APR. 26, 1912.

1,062,607.

Patented May 27, 1913.

5 SHEETS—SHEET 1.



Witnesses:
Benjamin
Anna L. Bauer.

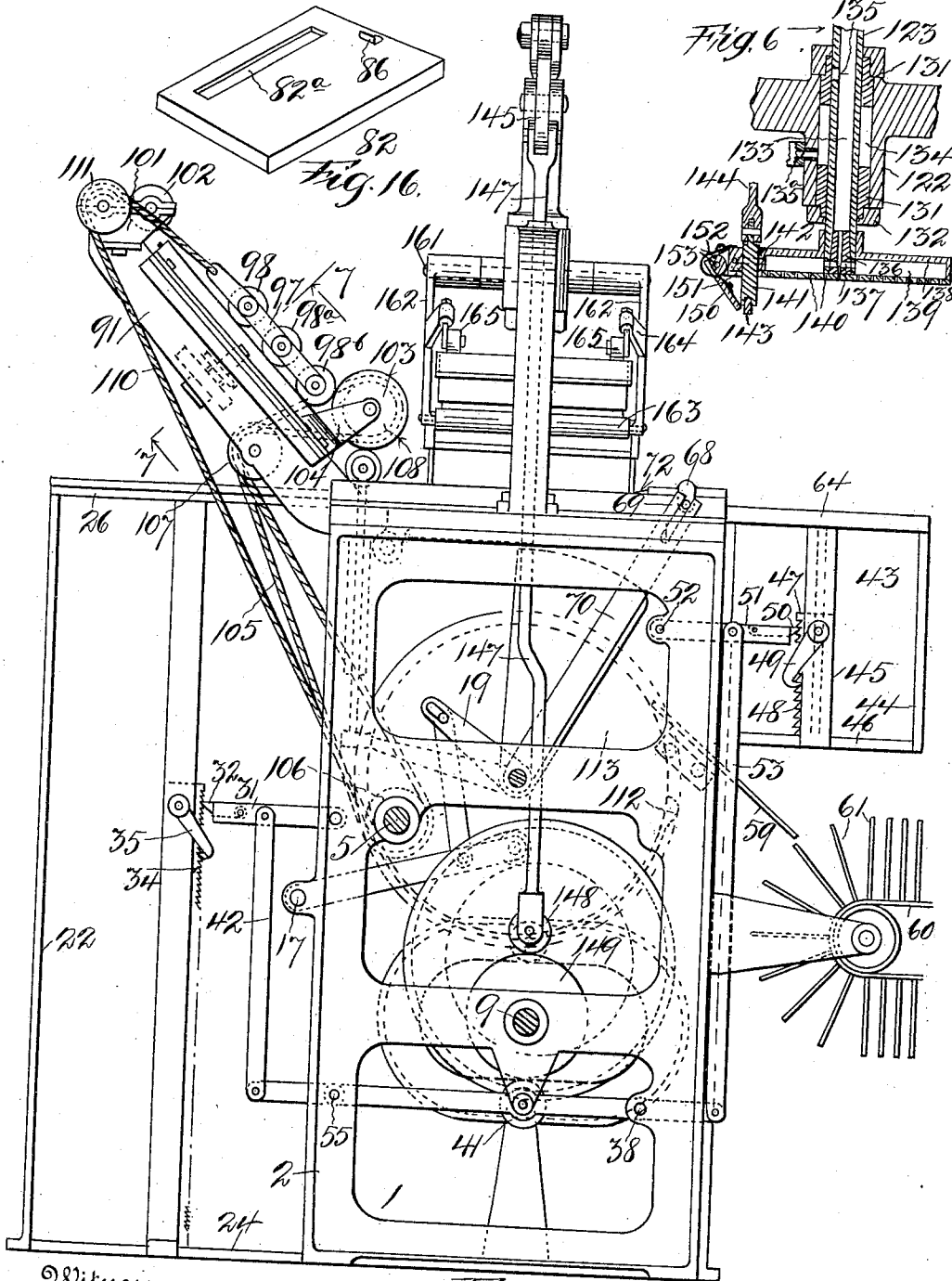
Philip Rotter and
Henry M. Smith
By their Attorneys
Charles G. Newley.

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5 SHEETS—SHEET 2.



Witnesses:
Anna K. Bauer.

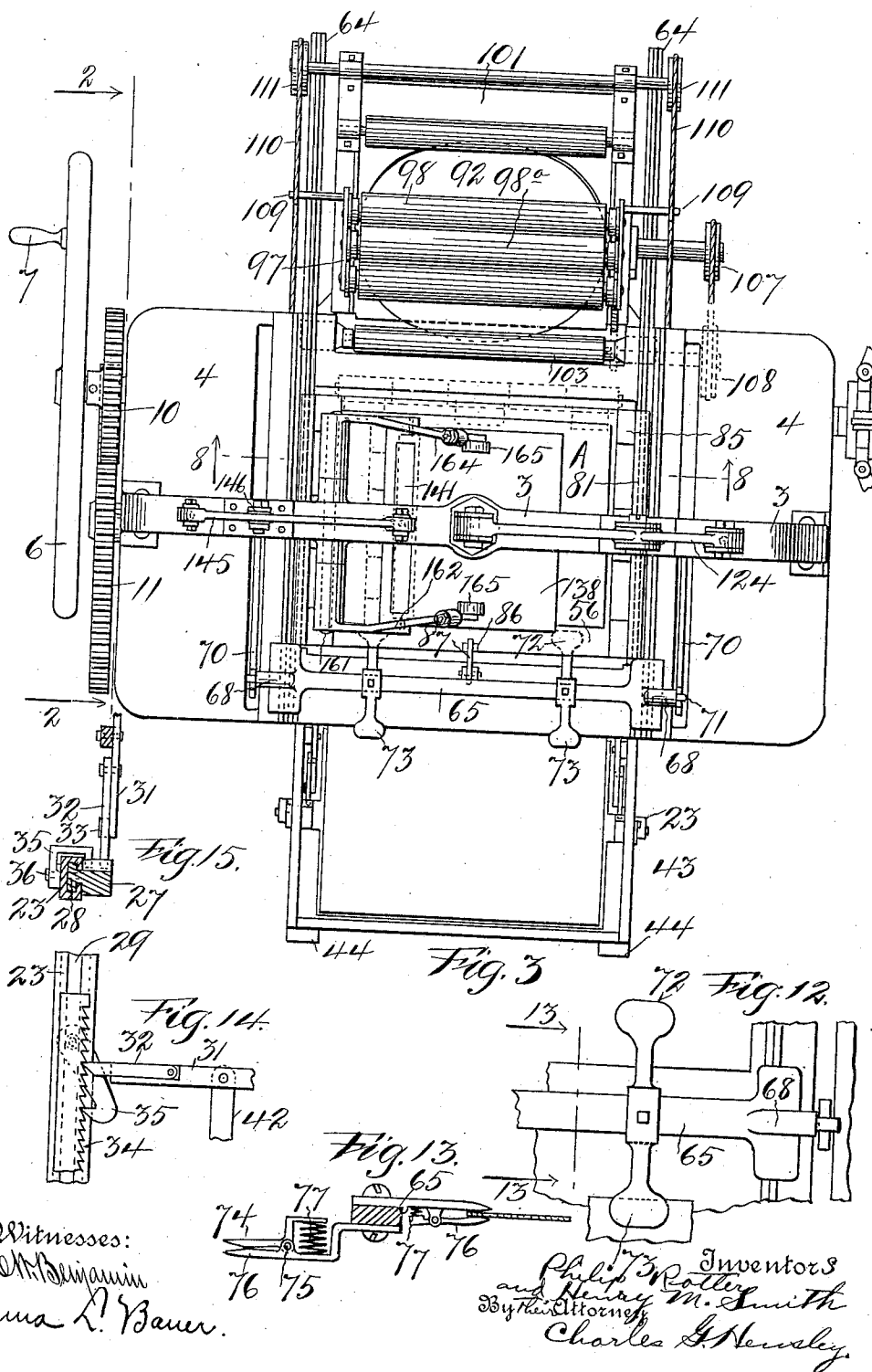
Fig. 2. Philip Rotter and Henry M. Smith
Inventors
By Charles Hensley

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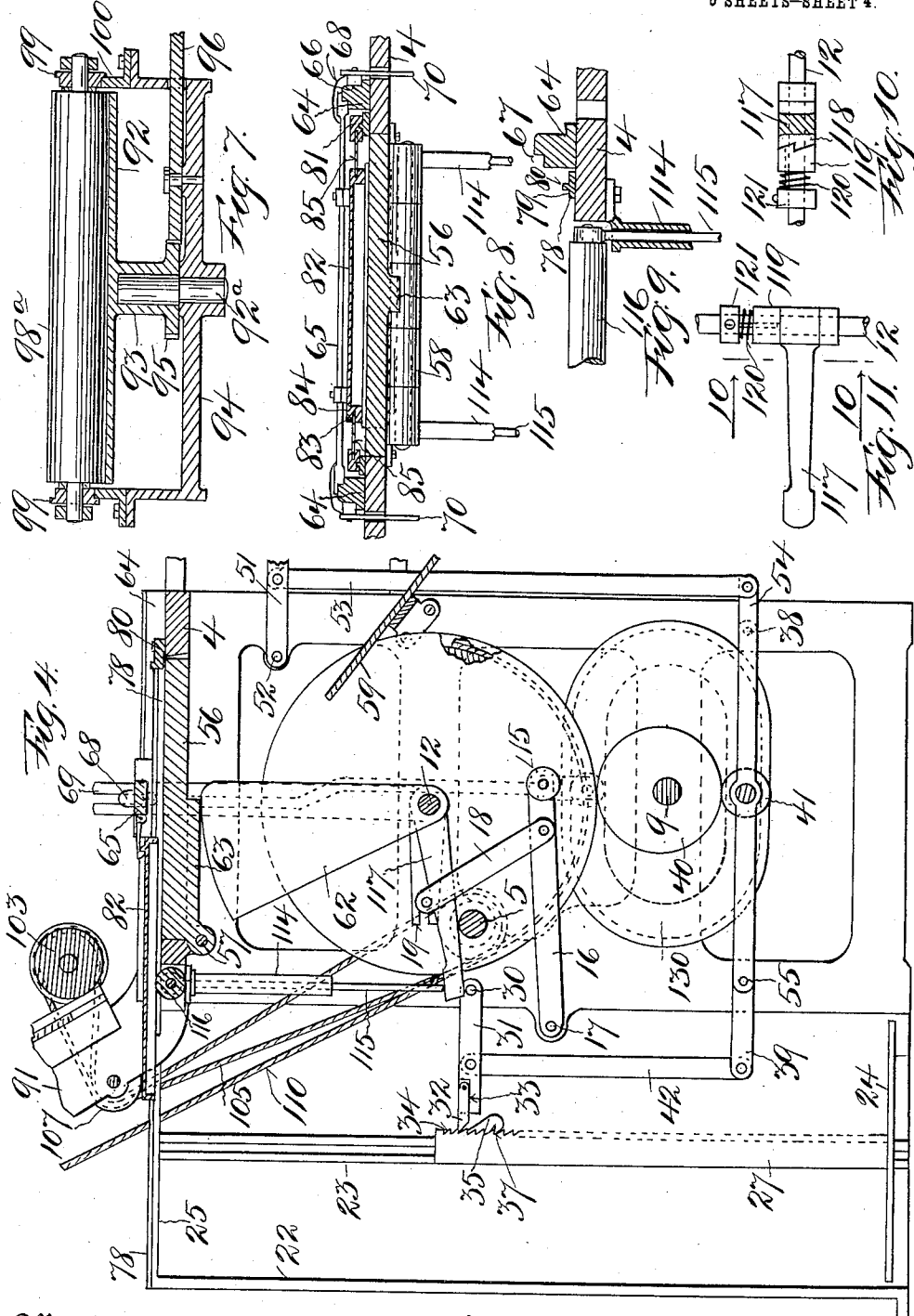
5 SHEETS-SHEET 3.



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5 SHEETS—SHEET 4.



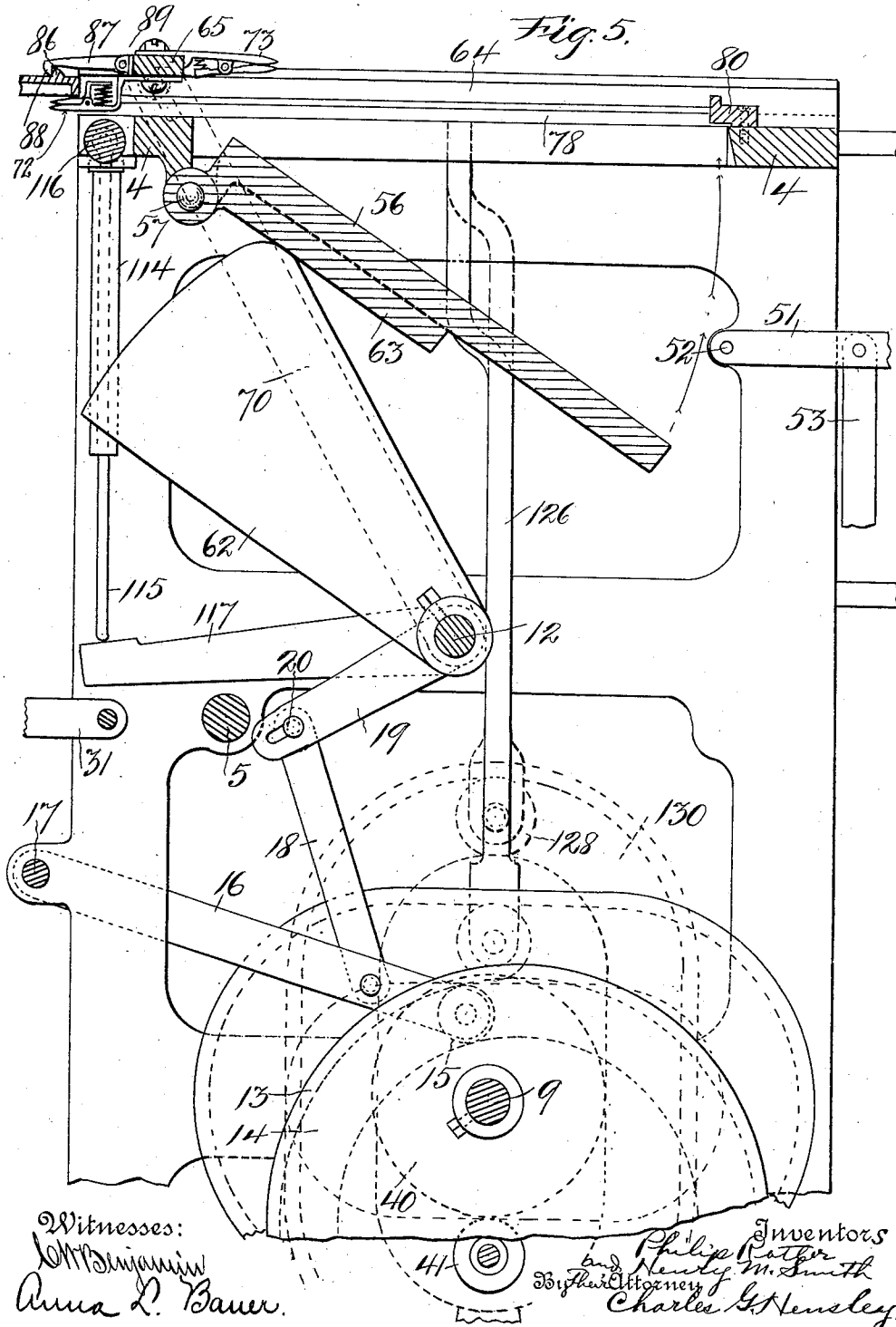
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5 SHEETS—SHEET 5.



UNITED STATES PATENT OFFICE.

PHILIP ROTTER AND HENRY M. SMITH, OF NEW YORK, N. Y.

FABRIC-SAMPLE-CARDING MACHINE.

1,062,607.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed April 26, 1912. Serial No. 693,470.

To all whom it may concern:

Be it known that we, PHILIP ROTTER and HENRY M. SMITH, citizens of the United States, and residents of the city, county, and State of New York, have jointly invented certain new and useful Fabric-Sample-Carding Machines, of which the following is a specification.

Our invention relates to a machine for attaching samples of fabric to cards to form sample cards such as are used to display samples of woollens, cottons and various textile fabrics, embroideries, laces, and in fact all flat materials which are to be attached to a sample card.

Heretofore fabric samples have been attached to the sample cards by hand labor, the general method being to paste or glue a portion of the fabric at one end to the card; and this is an expensive operation where thousands of samples are to be mounted.

The principal object of our invention is to provide a machine which will take the cards from a suitable source of supply, such as a regularly fed stack, apply an adhesive, such as glue or paste, preferably to a portion of the card; take the pieces or samples of the fabric from a source of supply, such as a regularly fed stack, and apply the samples to the card, so that each card will have a sample attached thereto.

Our object is also to provide a machine wherein the work will be very rapidly performed and at a much lower cost than heretofore; and to provide a device which will turn out more uniform and even work than was heretofore possible.

Another object of our invention in its fullest embodiment is to provide means for printing any desired name, trademark, lot numbers, prices and other description which may be desired, upon the sample card while the latter is being manipulated in the machine, so that the sample card when delivered by the machine will be complete in every respect, and so that the same may be produced by one complete operation of the machine, thus eliminating a separate handling for printing the card and attaching the fabric.

Our object is to produce a device of the above character wherein all devices will be positively, smoothly and rapidly operated, so that uniform and maximum results will be obtained.

A complete description of our invention

in the preferred form will be set forth hereinafter.

In the drawings forming a part of this application, Figure 1 is an elevation of a machine embodying our invention, taken from what may be considered the front thereof, Fig. 2 is a vertical sectional view thereof, taken on the line 2—2 of Fig. 3, and showing most of the machine in side elevation, Fig. 3 is a plan view, Fig. 4 is a vertical sectional view, taken on the line 4—4 of Fig. 1, Fig. 5 is a similar view taken on the line 5—5 of Fig. 1 but showing the parts in a somewhat different position, Fig. 6 is a vertical sectional view through the plungers, Fig. 7 is a sectional view taken on the line 7—7 of Fig. 2 showing an ink transferring roller of the printing device, Fig. 8 is a sectional view taken on the line 8—8 of Fig. 3, showing the printing form, track etc. Fig. 9 is a sectional view showing the details of the device for operating the inking roller, Fig. 10 is a detail view of a clutch associated with the inking roller operating device, and taken on the line 10—10 of Fig. 11, Fig. 11 is a plan view of the device for operating the inking roller, Fig. 12 is a detail view of the device for gripping and conveying the cards and fabrics, Fig. 13 is a sectional view taken on the line 13—13 of Fig. 12, Fig. 14 is a detail view of the device for feeding the stacks, and Fig. 15 is a plan view thereof. Fig. 16 is a perspective view of the printing form.

Our invention in the preferred embodiment thereof, includes means for taking cards and cloth alternately from the stacks or sources of supply, providing an adhesive, and depositing the card and cloth in superimposed relation; for pressing the card and cloth together to insure their adhesion to each other; and to print suitable indicia upon the card, preferably when the latter has been transferred to the position where it receives the fabric; and the various devices are so arranged and operated that, operating in the most advantageous order, the complete operation of the machine is made very rapid.

In the drawings our machine is shown constructed upon a supporting frame 1, which is preferably of cast metal and arranged to support the various working parts in the relative positions herein referred to. This frame consists principally of the standards 2, an upper arch 3, a supporting table

4, and parts forming receptacles or guides for the card and fabric stacks.

A main shaft 5 mounted in the supporting frame is operated in any suitable manner, such as by an operating wheel 6 and handle 7 on the outer end of the shaft, but preferably by applying the operating power to a pulley 8 arranged on the opposite end of such shaft. Preferably all operations are caused either directly or indirectly from this main shaft, so that all parts operate in proper sequence. A secondary shaft 9, also mounted in the framework of the machine, is operated from the main shaft, preferably at half the speed of the latter, by means of a gear 10 on the main shaft, meshing with a gear 11 on the secondary shaft. There is a third shaft 12 shown mounted in the stationary frame above the secondary shaft 9 and this is here shown as an oscillating shaft, operated from the secondary shaft. On the secondary shaft there is a grooved cam 13 in the groove 14 of which travels a roller 15 and the end of a lever 16 which fulcrums upon a stud 17 mounted on the stationary frame. To the lever 16 is fulcrumed a link 18 which in turn is also fulcrumed to an arm 19 on the shaft 12, through a pin and slot connection 20. Through these elements the shaft 12, is periodically rocked from the shaft 9. Preferably the operating force is directly applied to the several working devices of the machine from these several shafts.

Preferably at opposite sides of the printing and pasting bed are arranged the pockets or receptacles wherein the cards and pieces of fabric are stacked and automatically fed. For this purpose we have, shown a stack receptacle 21 on one side of the machine, for the stack of cards or card boards, and which consists of upright posts 22 at opposite corners of the receptacle and side posts 23, which latter not only serve to retain the stack in position but also as guide ways for the stack feeder. The stack of cards is adapted to be guided by this open receptacle and to be fed preferably upwardly. For feeding the stack we have provided a plate or platform 24 on which the cards in the receptacle 21, rest; and by an upward movement of this plate the stack is fed so that the uppermost card of the stack is retained in contact with the top rails 25, 26 of the receptacle, whereby as the cards are removed from the top of the stack, the latter will be fed upwardly to furnish a continuous supply for the card carrier.

The stack plate 24, is connected with guide bars 27, at each side thereof, which are shown as arranged in vertical position; and as shown in Figs. 14 and 15 these bars have ribs 28 which fit into a vertical groove 29 in each of the side uprights 23 of the stack receptacle, so that the plate 24 will be guided

vertically as the bars 27 slide in the grooves of the uprights. Upon studs 30 fastened to the main frame of the machine, are fulcrumed levers 31 which project toward the bars 27; and on their forward ends they are provided each with a pawl 32 which is free to swing upwardly but is limited in its downward movement by a stop shoulder 33 upon which the pawl is adapted to rest. The pawls 32 are adapted to act upon toothed racks 34 on the side bars 27 for the purpose of operating to raise the stack feeder or elevator plate 24 by an intermittent feeding action. As means for holding the stack feeder during the escapement of the pawls 32 we have provided engaging dogs 35, one fulcrumed at 36 upon each of the uprights 23, and having their free ends 37, arranged to engage in the rack teeth 34 for the purpose of supporting the stack feeder. Gravity keeps the dogs in engagement with the rack teeth.

On studs 38, there are fulcrumed levers 39, one end of each of which is periodically rocked by means of the cams 40 on the secondary shaft 9, acting upon rollers 41. These levers are connected with the lever arms 31, which carry the feed pawls, by means of the links 42, fulcrumed thereto. At each revolution of the shaft 9, the levers will be depressed at one end by the cams 40, and this will cause, through the links 42, the upward movement of the lever arms which carry the feed pawls, sufficiently to raise the stack feeder one tooth. As the pawls 32 raise the rack bars 27, the dogs 35 will escape over the teeth of the racks and will reengage between the successive teeth brought into line therewith and they support the feeder in its elevated position. Upon the succeeding downward stroke of the lever arms the pawls 32 will escape one tooth of the racks 34 and will reengage the succeeding tooth now in line with the lower position of the pawls. During the downward movement of the pawls the feeder is supported by the dogs, and preferably at all times except during the actual upward movement of the feeder. In this manner a step by step upward movement is imparted to the stack feeder timed with relation to the other operations of the machine, so that the uppermost card of the stack is always retained at a given position, *i. e.*; against the top bars 22, 26.

Preferably upon the opposite side of the printing and pasting position to that on which the card stack receptacle is arranged there is provided a receptacle for holding a stack of pieces of fabrics which are to be pasted to the cards. For this purpose we have shown a receptacle and stack feeder similar to one just described, although for most purposes this receptacle may be of less depth. This receptacle 43, consists of the

corner posts 44, and the intermediate posts 45, corresponding with the posts 22 and 23 previously described. In the receptacle thus defined there is a vertically moving plate or platform 46 for elevating the stack of fabric resting thereon, the same as plate 24. Bars 47 extending upwardly from the plate 24 are guided by the posts 45 in the same manner as the bars 27 and they have racks 48, dogs 49, and pawls 50. The pawls 50 are carried upon lever arms 51, rocking from studs 52, and the lever arms are each connected by a link 53, with levers 54 fulcruming upon studs 55, similar to levers 39. The levers 54 are operated by cams 40 on shaft 9, similar to levers 39 but preferably in alternate relation thereto. At each operation of the shaft 9, the plate 46 will be elevated one tooth through the pawls 50 and dogs 49, so that the top piece of fabric will always be at the top of the receptacle 43.

The cards and fabrics are fed over a suitable bed where they are pressed together, and where the printing preferably also takes place; and for this purpose we preferably provide a bed plate 56 arranged between the sources of supply of cards and fabric. The top of this plate is preferably arranged on substantially the same horizontal line with the topmost card and fabric in the several stacks, but in order to facilitate the immediate discharge of the finished product we have formed this bed in the nature of a swinging trap, operated by a cam and adapted to swing downwardly to discharge the completed article following the pressing operation. For this purpose the bed 56 is hinged at one edge upon a hinge rod 57 held in suitable eyes 58 on a part of the supporting frame work of the machine, so that the bed plate may swing downwardly from the position shown in Fig. 4, to approximately that shown in Fig. 5, whereby the finished article will slide off the platform upon a fixed shelf 59. From the latter the product drops upon a conveyer belt 60. The latter is provided with suitable partitions 61 to receive the cards between them and to prevent the cards from sticking together while drying, if there should be an excess of paste or glue. The swinging bed 56 is operated by means of a cam 62, which is mounted upon the oscillating shaft 12, whereby the cam will partake of the oscillations of such shaft. The cam as shown contacts with a rib 63, at the middle of the bed, and is adapted to firmly hold the bed in its upper position as shown in Fig. 4, while pressure is placed upon the card by the plunger. When the bed is held by the cam 62, in its upper horizontal position its top surface is preferably flush with the stationary table 4, of the machine frame.

Arranged preferably to each side of, and extending above the plane of, the swinging

bed, are ways, or tracks 64, which guide the card and fabric carrier; and these ways are shown as extending not only along the table 4, at each side of the swinging bed, but they are also shown as extending outwardly and over both the card and fabric stack receptacles, whereby the carrier for the cards and fabrics will be caused to reciprocate in a horizontal plane to carry cards and fabrics from their respective stacks into a superimposed relation over the bed. The carrier here shown consists of a transverse bar 65, the ends of which are each cut out at 66 to correspond with the shape of the top surface 67 of the ways, whereby the carrier will be properly guided in its reciprocations. At each end of the bar 65 there is provided an extended arm 68 which curves over the ways 64; and the forked end 69 of a rod 70 straddles each of the studs 71 at the end of the arms 68. The arms 70 are each mounted upon the oscillating shaft 12, to rock therewith, so that the oscillations of such shaft will impart reciprocating movements to the carrier 65. These reciprocations are such as to cause the carrier to traverse the plane of the bed and to move to a position near the card and fabric stacks respectively, for the purpose of obtaining cards and fabrics for the pasting and printing operations. The arms 70 preferably follow the full oscillations of shaft 12 and by being operated in connection with the same source as the swinging bed plate, the relative movements of these two devices are properly timed. The carrier bar 65, is provided with laterally extending grippers 72, 73, at each end, the grippers 72, extending outwardly toward the card stack, while the grippers 73, extend outwardly toward the fabric stack. The card grippers 72, are preferably curved downwardly so as to lie under the printing form for gripping a card from the stack. The grippers are here shown as consisting of a stationary jaw 76, to which is hinged at 75, a movable cooperating jaw 74. The jaws are closed by light spiral springs 77 operating on one end of the movable jaws.

Preferably between the tracks or ways 64 are arranged a second set of ways 78 which are shown as straight bars having a top supporting surface 79, and a rib 80 extending above the same. The ways are shown as secured upon the table 4, of the frame just outside of the swinging bed; and they are preferably lower than the ways 64, that is, they are preferably of less depth. The ways 78, extend outwardly to the end of the card stack receptacle but they preferably terminate at a stop plate 80, secured to the table 4; the purpose of which latter is to arrest the movement of the printing form in a position directly over the card which has been fed to the position to receive the paste and fabric. Bars 81 having

a slot fitting the ribs 80 are supported upon, and are reciprocable along, the ways 78. A printing form 82, of any suitable character, but preferably rectangular, is arranged to reciprocate horizontally over the bed and to be supported by the bars 81 whereby it will travel upon the ways 78. The printing form here shown is of rectangular shape and consists of a form for holding the desired type or slugs in an inverted position. It is provided with slots 83, in its opposite edges 84, into which engage flat spring plates 85 the opposite ends of these spring plates engaging in slots in the bars 81 respectively. The spring plates support the printing form sufficiently above the surface of the bed to permit the form, and any type or slugs therein, to reciprocate freely above the bed and table and above a card while the latter is being conveyed to, or lying on the bed. The spring support however, is adapted to permit the form to be pressed downwardly by the plunger to cause the types to print the desired matter upon the card at the proper time. The form is therefore supported so as to travel above the bed and card but is subject to a depression by the plunger.

The printing form has a rib 86, at one end which is adapted to be engaged by a catch 87, carried upon the carrier bar 65. The catch has a downwardly turned nose 88, which engages the rib 86, of the form, so that the form will be reciprocated with the carrier from the extreme position over the card stack to the printing position over the bed. The return movement of the form is caused by the contact of the bar 65, with the end of the form.

The inking device for inking the type carried in the form is as follows: Preferably mounted upon standards 91, arranged to extend diagonally upward from the main frame, is a revoluble inking table 92, which has a sleeve 93, turning on a stud 92^a arranged upon a cross plate 94. The sleeve 93 is provided with a pinion 95, which is operated upon by a pawl 96 to impart an intermittent turning movement to the inking table. A frame 97 provided with ink transferring rollers 98, 98^a, 98^b, is adapted to be reciprocated over the inking table. The rollers journaled in this frame lie on the top surface of the table; and the frame is provided with flanged rollers 99, which travel upon the top edges 100 of the supports 91. Above the inking table is arranged an ink fountain 101 of any desired form, into which a roller 102, dips sufficiently to contact with the ink therein. Near the bottom of the inking table and at the extreme lower position of the ink transferring rollers, is arranged a roller 103, mounted upon arms 104. This roller is continually revolved by means of a belt 105,

traveling over a pulley 106 on the drive shaft, over an idler 107, and around a pulley 108 on the shaft of roller 103. The lowermost roller 98^b of the conveying rollers is adapted to contact with the roller 103 upon its extreme downward movement and thereby transfer ink thereto.

To laterally extending arms 109 on the transferring frame are attached belts 110 which travel over idlers 111 above the upper position of the transferring frame; and thence downwardly. The other ends of these belts 110 are connected at 112 to drums 113 on the oscillating shaft 12 so that the belts engage over more or less of the peripheries of the drums. Upon each complete oscillation of the shaft 12, the drums 113 will operate through the connected belts 110 to reciprocate the transferring frame, so that the roller 98, will contact with the roller 102 at one end of the movement and the roller 98^b will contact with the roller 103, at the other end of the movement, of the frame. The roller 98, receives the ink from the roller 102, and transfers it to the table 92, which latter is intermittently revolved to distribute the ink evenly on the various rollers. Rollers 98, 98^a, 98^b, all tend to distribute the ink evenly over the table: and roller 98^b contacting with roller 103 supplies the latter at intervals with ink.

Mounted upon the stationary table 4, of the main frame, are sleeves 114, in which reciprocate the upright rods 115. In the upper ends of the latter is journaled a roller 116, which finally transfers the ink to the type in the printing form, and for this purpose it is given a reciprocating movement so as to be retracted when a card is carried thereover; and so that it may receive its supply of ink from the roller 103. For this purpose there are fixed upon the oscillating shaft 12, arms 117, which oscillate therewith, and which engage the lower ends of the rods 115. At each upward movement of the arms 117 the rods 115 are moved upwardly until the roller 116 is made to contact with roller 103, whereby the former receives ink from the latter, after which the arms 117 and the roller 116, move downwardly until the latter is below the path of the printing form and in position to act upon the type in the form. As the movement of the roller 116, may be comparatively short we have provided a clutch for preventing the same from receiving the full movement of the oscillating shaft. The lower end of each arm 117 has a clutch member 118, journaled loosely on the oscillating shaft; while a clutch member 119 on the shaft is adapted to engage therewith to turn the clutch member 118 in one direction, that necessary to elevate the roller 116. A spring 120 interposed between a collar 121 on the shaft, and the clutch member 119

tends to move the latter into engagement with the member 118. When the shaft 12 oscillates in one direction the clutch members serve to positively raise the roller 116, but upon the opposite movement of shaft 5 the roller 116 will move downwardly until the arms 117 strike the shaft 5. Upon further movement of shaft 12 in the same direction the clutch members will be thrown out, leaving the arms 117, lying upon shaft 5 until the reverse movement of shaft 12 when they will reengage.

The next branch of the invention relates to the means for pasting the card, causing the printing impression, and the pressing of the fabric upon the card; and for this purpose we prefer to employ a double or compound plunger which will perform these operations in as short an interval as possible. We prefer to provide one element for supplying paste or other suitable adhesive to the card and another element for causing the printing impression and the pressing of the fabric upon the card to complete the attachment thereto.

In the upper arch 3 of the frame there is shown a sleeve 122, through which reciprocates a plunger 123. The plunger is fulcrumed at the top to a lever 124 which fulcrums upon the bracket 125. The other end of this lever is fulcrumed to a rod 126 which in turn passes through a socket 127 in the frame and is provided on its lower end with a roller 128. The roller 128 travels in the groove 130 of a cam 129 on the shaft 9, and by this connection the plunger 123 is periodically reciprocated.

Each end of the sleeve 122 through which the plunger 123 reciprocates is provided with a suitable packing 131 which is held in place by collars 132 or other suitable means. The plunger 123 is preferably hollow for at least a portion of its length at 133 and of a lesser diameter than the bore of the sleeve 122 whereby an annular air space 134 is formed between them. A port 135 in the plunger opens the space 134 with the space 133 during a portion of the plunger stroke for a purpose hereinafter described.

In the lower end of the plunger is preferably arranged a plug 136 having a lateral port 137. Upon the lower end of the plunger is arranged a head 138 which is preferably about as large in its lateral dimensions as the printing form. The head is here shown as a hollow body having an interior air chamber 139 which opens through the ports 140 distributed over the face of the head.

Preferably extending through one end of the plunger head is another plunger 141 or pasting member, which in the present use of our invention may be of such dimensions as to paste only along one side of the space to be covered by the fabric; thereby leaving

the fabric free from the card over the greater portion, as this is generally preferred in sample cards. The plunger 141 is arranged to reciprocate relatively to the plunger head 138 and for this purpose it is guided in a vertical slot 142 therein. The lower end of the pasting plunger is provided with a pad 143 of rubber, leather, or other suitable material, which contacts with the card. Fulcrumed to the upper end of the member 141 is a plunger rod 144 which passes through a socket in the main frame, and is fulcrumed at its upper end to a lever 145. The latter fulcrums at 146 upon supporting brackets and its opposite end is in turn fulcrumed to an operating rod 147 which also passes through a socket in the frame. The lower end of the rod 147 is provided with a roller 148 which travels in contact with a cam 149 on the shaft 9. Through these connections the plunger 141 is reciprocated independently of the plunger head 138. On the end of the head 138 we have hinged a trap or plate 150 which swings so as to lie in a pocket 151 in the head 138; in which position it lies flush with the under surface of the head and covers the end of plunger 141 as well as the opening through which the latter reciprocates. The trap may be swung downwardly by the plunger 141 to expose the end of the latter for the pasting operation. The purpose of this trap is to prevent the paste from getting on the top surface of the fabric, and to provide a proper contact with the fabric during the operation of pressing the fabric upon the card. A spring 152 coiled around the pin 153, on which the trap hinges, and pressing on the latter, tends to keep the trap in the closed position.

The device for supplying paste to the pasting plunger is as follows:—Upon a stationary part of the machine (see Fig. 1) we have mounted a pastefountain 154, into which dips a roller 155. Another roller 156 is mounted to contact peripherally with roller 155 and serves to transfer paste to a third roller 157 traveling in peripheral contact therewith. From the latter the paste is taken by a transfer roller to the plunger. Any suitable means may be employed to turn the rollers 155, 156, 157, such as a belt 158 traveling over pulleys 159 and 160. A shaft 161 mounted in the stationary frame serves as a fulcrum for a pair of arms 162, which are shown extending generally downwardly therefrom. Between the lower ends of the arms 162 is journaled a roller 163, which serves to transfer the paste from roller 157 to the end of the plunger 141. Arms 164 extending forwardly from the arms 162 carry rollers 165 which are engaged by the top of the plunger head 138 when the latter moves upwardly.

The operation of the machine is as fol-

lows: Assuming the parts to be in the position when a complete pasting, printing and pressing operation has been completed, the operation will be as follows. At this time the swinging bed 56, will be lowered as shown in Fig. 5, to discharge the finished product upon the shelf 59 and thence to the conveyer 60; the carrier will be in the left hand position as shown in this view; and the ink roller 116, will be in its lower position, or below the plane of movement of the printing form; the plungers will be in their elevated position; and the printing form will be over the card receptacle; at the same time the grippers 72, will have hold of the edge of the uppermost card of the stack. Following this condition the various elements will operate as follows: Upon a partial revolution of the shaft 9, the oscillating shaft 12, will be rocked to the right as viewed in Fig. 5. The cam 62, moving with this shaft will rock in contact with rib 63, and close the swinging bed 56, by bringing the top thereof in line with the table 4. At the same time the arms 70, will move the carrier 65, toward the right in Fig. 5. As the catch 87 engages the rib 86, on the form at this time the form will be moved with the carrier, until it strikes against the stop plate 80, when its movement will be arrested. The contact of the finger 90 with the stop 80 will release the catch 87, so as to disengage the carrier and form. This will leave the form directly over the bed 56, and in the printing position. As the grippers 72, had hold of the edge of the uppermost card in the stack, this card will be moved with the carrier during the movement just described, at the same time traveling under the printing form. At the moment the card has reached the proper position over the bed 56, and under the printing form, the pasting plunger 141 will be forced downwardly by its operating cam and will pass through an opening 82^a, in the printing form. The end thereof, which has been previously supplied with paste, will pass through the aperture in the form and will deposit paste upon a portion of the card. The contact of the plunger with the card will be sufficient to hold the card while the grippers 72 pull off the edge thereof, so that the card will remain in its position under the form. The carrier 65, will proceed to its extreme position, whereupon the grippers 73, will engage the edges of the uppermost piece of fabric in the stack in receptacle 43. By the time the shaft 12, has made its complete oscillation in the one direction, the arms 117, will have moved the rods 115, and roller 116 upwardly until the latter comes into contact with the roller 103, said roller 116 thereupon receiving a supply of ink on its surface. Before the return of the carrier, or while it is toward the right side of the bed plate, the pasting plunger 141 will be raised by its cam device, so that it recedes through the aperture in the printing form, and recedes upwardly until its lower end rises above the surface of the plunger head 138. This will permit the trap 150 to be closed by its spring 152, so that the lower end of the pasting plunger, and its aperture 142, will be covered. While the carrier is still to the right of the bed the plunger head 138, will be moved downwardly at which time the trap 150 will be closed. The plunger head will press downwardly upon the top of the printing form, overcoming the resistance of its supporting springs 85, and the type or slugs in the form will be pressed upon the card A, lying upon the bed. This will cause the desired matter to be printed upon the upper face of the card, preferably outside of the space to be covered by the fabric. Upon the completion of the impression, the plunger head 138, will be moved upwardly again by its operating cam; and as it moves away from the printing form the latter will be lifted by its springs 85, which were under tension during the printing, until the form rises to its previous position with its type or slugs above the surface of the card. The form is now free to be reciprocated.

The oscillating shaft 12, having reached its extreme movement in one direction will oscillate backwardly, or to the left as viewed in Fig. 5. Through the action of arms 70, the carrier 65 will be moved to the left; and as the grippers 73, have hold of the uppermost piece of fabric in the stack, such piece will be moved along with the carrier and will be moved across the top of the card A, until it has reached the desired position. As the carrier 65 thus moves to the left it contacts with the printing form, or rather with its bars 81, when it reaches the position of the form. After such contact, the printing form will be moved to the left with the carrier until it is away from under the plunger and preferably until it comes over the card receptacle. During this return movement of the form there is no card traveling under the same; and the inking roller 116 is in such a position as to cause its periphery to contact with the face of the type or slugs in the form and supply the necessary ink thereto for the next printing operation. When upon the last described movement of the carrier, the fabric has reached its proper position over the card on the bed, the plunger head 138 will again be depressed by its cam. This time the printing form is not under the plunger head, and therefore the latter will press downwardly upon the fabric and card, thus pressing them into close contact. Wherever there is adhesive on the upper face of the card the fabric will adhere to the card. Upon this downward movement of the plunger head 138, the trap

150 will be closed, so that there will be no chance for paste to come into contact with the upper surface of the fabric; and at the same time the trap serves to press upon that part of the fabric which lies over the pasted portion of the card. Upon the completion of this pressing operation the plunger head 138 will rise to its uppermost position. As it rises, it will contact with the rollers 165, thus rocking the arms 162, 164, to the right as viewed in Fig. 1. The roller 163, which was lying in contact with paste roller 157, will be moved across the face of the pad 143 on the lower end of the pasting plunger, thereby supplying the paste necessary for the next pasting operation.

When the shaft 12 oscillated to the right, the drums 113, turned therewith, and the belts 110, unwinding therefrom, allowed the inking frame to move downwardly upon the inking table 92, thereby spreading the ink received by roller 98, from roller 102, upon the table. Upon the extreme downward movement of the inking frame the roller 98^b contacts with roller 103, thereby transferring ink to the latter ready to be taken by roller 116. Upon the return oscillation of shaft 12, and drums 113, the belts 110, will wind up and draw the inking frame to its uppermost position. The pawls 32, and 51 cause an upward feed of the platforms 24, 46, but at different periods. The pawls 32 move the platform 24 upwardly when the card is taken from its stack; while pawls 51, move the plate 46 when the piece of fabric is taken from its stack, which will be in alternate relation to that of the card feed. Upon the return oscillation of shaft 12, the cam 62 will rock to the left to allow the bed plate 56 to swing downwardly and discharge the completed article therefrom.

There may be times when the fabric will have a tendency to follow the plunger head 138 upon its upward movement, following the pressing operation, and we prefer to avoid this in order that the fabric will not be displaced or folded. For this purpose any suitable and well known blower is connected with the port 135^a of the sleeve 122 for the purpose of forcing a current of air into the space 134. When the plunger 123 moves downwardly, the port 135 will come to register with the space 134. Thereupon air will pass through port 135, through the bore 133 of the plunger: through the plug 136; distribute through the chamber 139 and pass downwardly through apertures 140. The air passing out through these apertures will strike the fabric under the head 138 and prevent it from clinging thereto when the plunger rises.

From the above description it will be apparent that we have devised a machine for bringing sheets of card and fabric into superimposed relation for pasting and press-

ing the same and for printing desired matter on the card. These operations are all performed quickly and smoothly and in their proper relative order.

It is to be understood that our invention is not limited to the construction herein specifically described as many changes may be made therein without departing from the spirit and scope of the annexed claims.

It is to be understood that parts of the present machine may be used without other, for instance, the printing device may be disconnected or entirely omitted where it is not desired to print the cards in the same machine.

It is also to be noted that by referring to the product handled as cards and fabrics we do so to teach the use of our invention in a particular line of industry, but it will be apparent that the same may be utilized for attaching other articles besides sample cards and fabrics.

Having described our invention what we claim is:—

1. In a machine of the character described, having sources of supply for articles of the character described, a downwardly swinging bed, means for taking sheets from the sources of supply and arranging them in super-imposed relation on said bed, an adhesive supplying device, means for pressing the sheets together on said bed, and a cam engaging the bed to hold it in position during the pressing operation and adapted to allow the bed to swing downwardly to discharge the product therefrom.

2. In a machine of the character described, having sources of supply for articles of the character described, a bed, a reciprocable carrier movable over said bed and adapted to take sheets alternately from the sources of supply and to deposit them in superimposed relation upon said bed, means for supplying an adhesive to a sheet taken from one of the sources of supply and after it has been deposited upon the bed by the carrier, and means for pressing superimposed sheets together.

3. In a machine of the character described, having sources of supply for articles of the character described, a bed, means for taking sheets alternately from the sources of supply and depositing them in superimposed relation upon said bed, means for supplying an adhesive to a sheet when deposited upon said bed, and before another sheet is superimposed, means for pressing the sheets together, and means for rocking said bed to discharge the product.

4. In a machine of the character described, a bed, a plurality of means for feeding stacks of sheets upwardly to substantially the plane of said bed, a carrier reciprocated over said bed and adapted to take

sheets alternately from said stacks and to deposit them in superimposed relation on said bed, pasting means and means for pressing superimposed sheets together.

5 5. In a machine of the character described, a downwardly swinging bed, a plurality of means for feeding stacks of sheets to substantially the plane of said bed, a carrier reciprocable over said bed and between
10 said stacks and adapted to take sheets alternately from said stacks and to deposit them in superimposed relation on said bed, pasting means, means for pressing superimposed sheets together, and means for swinging
15 said bed to discharge the product.

6. In a machine of the character described, a bed, a plurality of means for feeding stacks of sheets, a carrier reciprocating over said bed and between said stacks, adapted
20 to take sheets alternately from said stacks and to deposit them in superimposed relation upon said bed, means for pasting alternate sheets deposited by said carrier, and means for pressing superimposed sheets together.
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7. In a machine of the character described, a support, sources of supply arranged at opposite sides of the support for supplying sheets, a reciprocating carrier movable over
30 the support, and adapted to deposit sheets from said sources of supply in superimposed relation upon the said support, means for reciprocating the carrier, and means for periodically pressing the sheets together.

35 8. In a machine of the character described, a support, sources of supply arranged at opposite sides of the support for supplying sheets, a reciprocating carrier movable over the support, and adapted to deposit sheets
40 from said sources of supply in superimposed relation upon the said support, means for reciprocating the carrier, a plunger above the support for periodically pressing the sheets together and means for moving the
45 support downwardly to discharge the product.

9. In a machine of the character described, a support, sources of supply on opposite sides of the support for supplying sheets,
50 a reciprocating carrier movable over the support, and adapted to deposit sheets from said sources of supply in superimposed relation upon the said support, tracks for guiding the carrier, means for reciprocating
55 the carrier along said track, and means for periodically pressing the sheets together.

10. In a machine of the character described, a support, means for feeding sheets in superimposed relation to the support, a
60 plunger for periodically pressing the sheets, a pasting plunger for periodically pasting sheets, and means on the pressing plunger for periodically replacing the pasting plunger to contact with the sheets whereby the

pasting and pressing operations will take 65 place alternately.

11. In a machine of the character described, a support, means for periodically feeding sheets in superimposed relation to the support, a plunger head for pressing the
70 sheets, a pasting member moving in said plunger head, a trap for seating in said pressing plunger and adapted to be opened to permit said pasting member to apply
75 paste to a sheet.

12. In a machine of the character described, a support, means for periodically feeding sheets in superimposed relation to the support, a plunger head for pressing the sheets, a pasting member moving in said
80 plunger head, a trap for seating in said pressing plunger and adapted to be opened to permit said pasting member to apply paste to a sheet, and a paste roller adapted to be operated by the pressing plunger to
85 apply paste to said pasting member.

13. In a machine of the character described, a support, a plurality of sources of supply, means for feeding sheets alternately from said sources of supply to said support
90 and in superimposed relation, and means for alternately pasting a sheet and pressing superimposed sheets.

14. In a machine of the character described, a support, sources of supply, reciprocating means for feeding sheets from the sources of supply to the support, pressing means, and means for operating the same to cause the release of said sheets from the
100 feeding means whereby the sheets will be deposited in superimposed relation on the support.

15. In a machine of the character described, a support, sources of supply, means for feeding sheets from the sources of supply to said support, a paste plunger and means for periodically operating the same to engage a sheet and release the same from said feeding means, a pressing plunger, and means for operating the same to cause the
110 release of different sheets from said feeding means and the pressing together of said sheets.

16. In a machine of the character described, a movable support, sources of supply, means for alternately feeding sheets from said sources of supply in superimposed relation upon said support, means for printing the sheets from one of the sources of supply while on the support, pasting means,
120 means for pressing superimposed sheets together, and means for periodically moving the support to discharge the product.

17. In a machine of the character described, sources of supply, a support, means for feeding sheets from the sources of supply in superimposed relation upon said support, printing means, means for periodically
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moving the printing means over the support, means for periodically pasting a sheet, and means for periodically pressing the printing means upon a sheet and periodically pressing superimposed sheets together.

18. In a machine of the character described, a support, sources of supply, means for feeding sheets alternately from the sources of supply in superimposed relation over the support, printing means and means for periodically positioning the printing means over the support upon alternate operations of the feeding means, means for simultaneously pasting a sheet and causing the printing impression, and for pressing superimposed sheets together upon the removal of the printing means.

19. In a machine of the character described, sources of supply, a support, a reciprocating carrier for feeding sheets alternately from the sources of supply in superimposed relation upon the support, a reciprocating printing form movable to and from a position over said support, means for periodically and alternately pressing the printing form and pressing the superimposed sheets, pasting means, and means for reciprocating the printing form.

20. In a machine of the character described, a support, sources of supply, means for feeding sheets alternately from the sources of supply in superimposed relation over the support, a reciprocable printing form, resilient supporting means for the form, means for reciprocating the form to bring it over said support and to move it away therefrom, pasting means, and means for pressing the printing form and pressing the superimposed sheets together.

21. In a machine of the character described, a bed, sources of supply at different sides of the bed, a reciprocating carrier movable over the bed and adapted to carry sheets alternately from said sources of supply to the bed, a track for guiding the carrier and means for reciprocating the carrier, a printing form reciprocable to and from a position over the bed, means for reciprocating the

form, a track for guiding the form and means for resiliently supporting the form above the bed, means for simultaneously pressing the form and pasting a sheet held on the support and adapted to press superimposed sheets together upon the removal of the form from over the bed.

22. In a machine of the character described, a support, sources of supply, a carrier for alternately feeding sheets from the sources of supply to said support, a printing form reciprocable to and from a position over the support, means for causing said carrier to move the printing form alternately to and from a position over the support, said carrier having means for carrying a sheet from one of the sources of supply and under the printing form, in one direction of movement, and adapted to return said form and to simultaneously feed a sheet from the other source of supply, over the said first sheet, and means for pressing the form and for pressing superimposed sheets together.

23. In a machine of the character described, a support, sources of supply, a carrier for alternately feeding sheets from the sources of supply to said support, a printing form reciprocable to and from a position over the support, means for causing said carrier to move the printing form alternately to and from a position over the support, said carrier having means for carrying a sheet from one of the sources of supply and under the printing form in one direction of movement, and adapted to return said form and feed a sheet from the other source of supply to said support, means adapted to ink the type in said form upon its said return movement, and pressing means for said form and the superimposed sheets.

Signed at the city, county and State of New York this 24th day of April, 1912.

PHILIP ROTTER.
HENRY M. SMITH.

Witnesses:

ANNA L. BAUER,
BENJAMIN FRANKLIN.