March 9, 1937. A. SMITH 2,073,320

FEEDING AND BLANKING MACHINE

Filed June 7, 1934 4 Sheets-Sheet 1

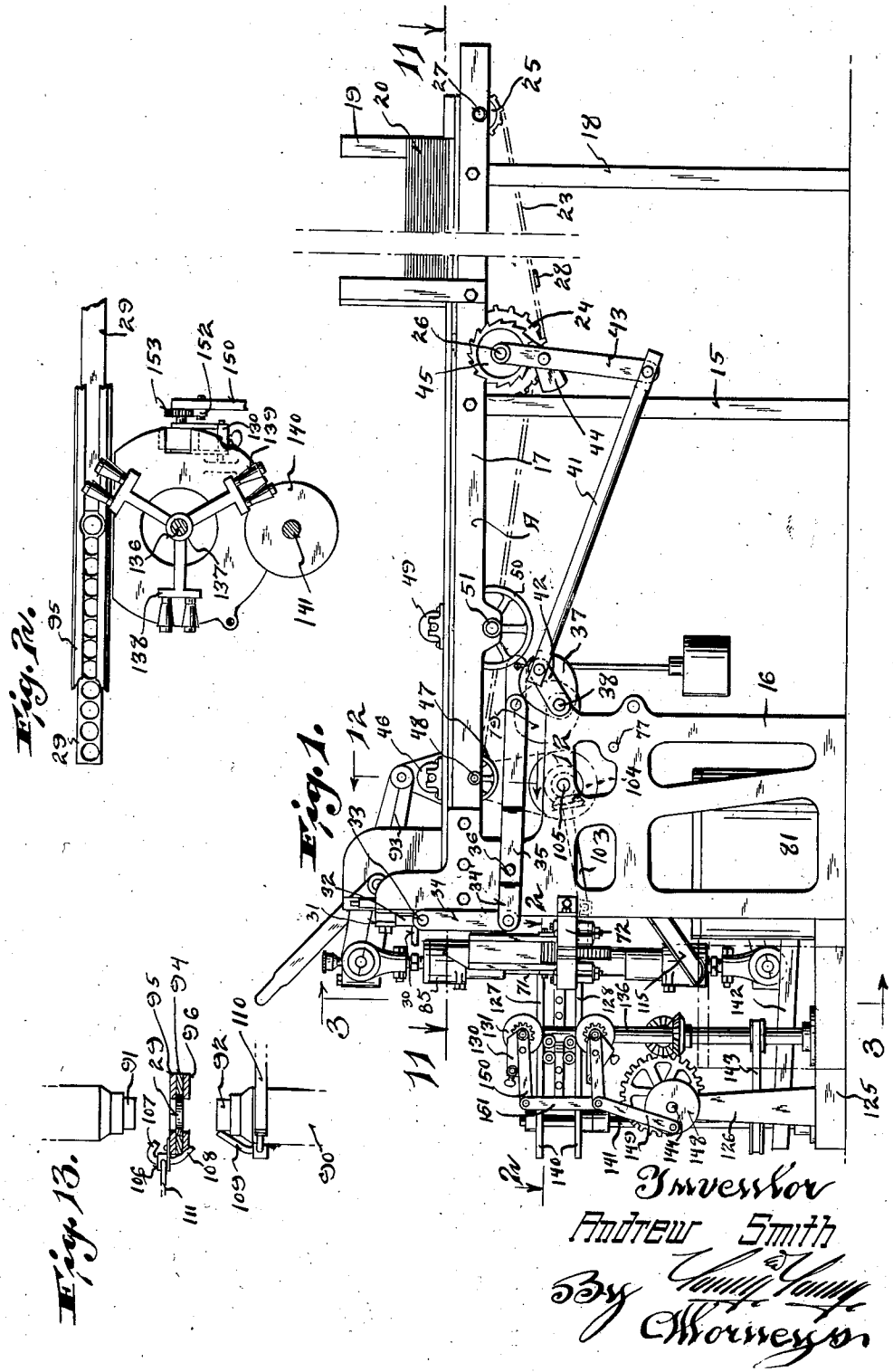


Fig. 1.

Fig. 1a.

Fig. 1b.

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FEEDING AND BLANKING MACHINE

Filed June 7, 1934 4 Sheets-Sheet 2

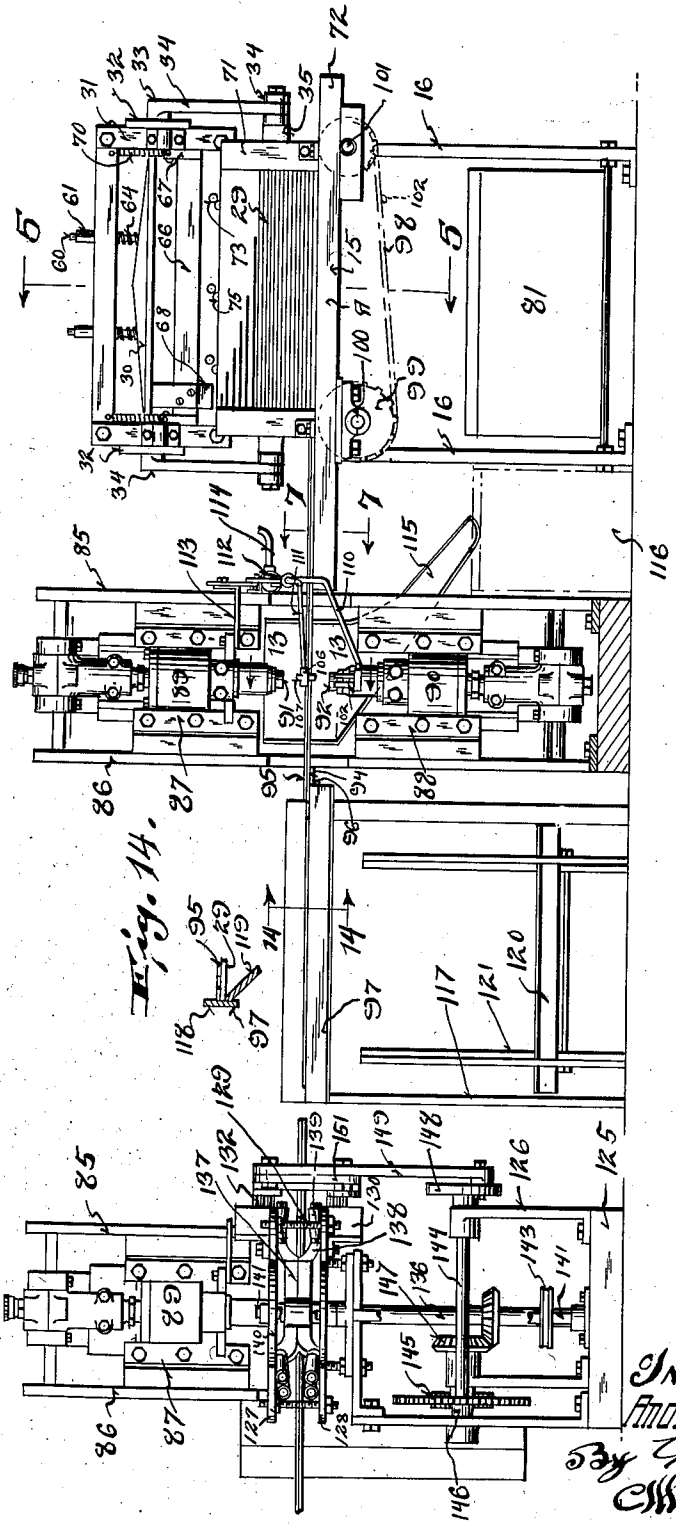


Fig. 3.

Fig. 14.

Fig. 4.

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FEEDING AND BLANKING MACHINE

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Fig. 5.

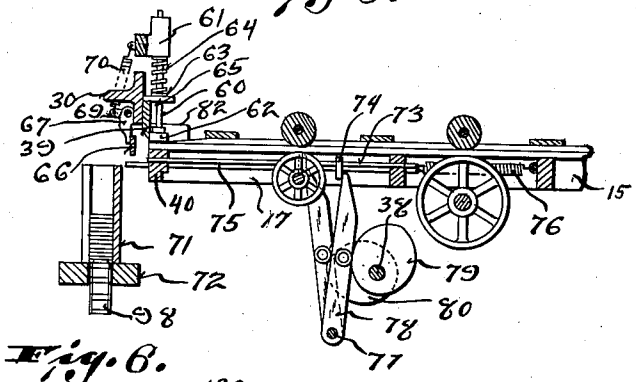


Fig. 6.

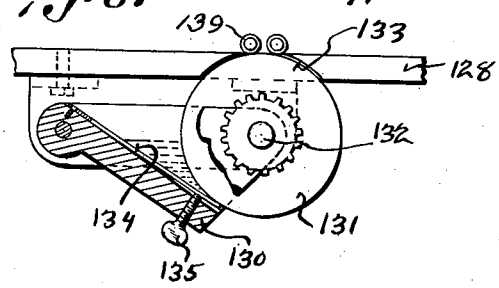


Fig. 7.

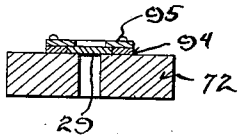


Fig. 8.

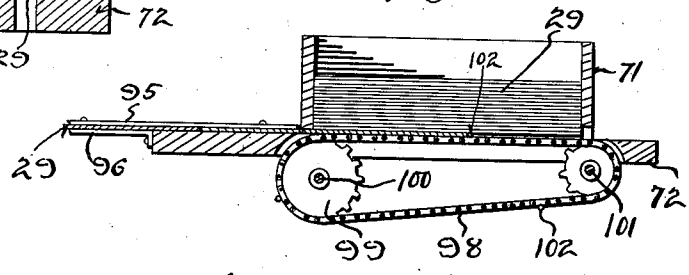


Fig. 9.

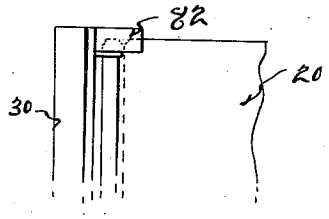
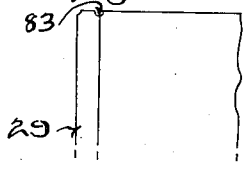


Fig. 10.



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FEEDING AND BLANKING MACHINE

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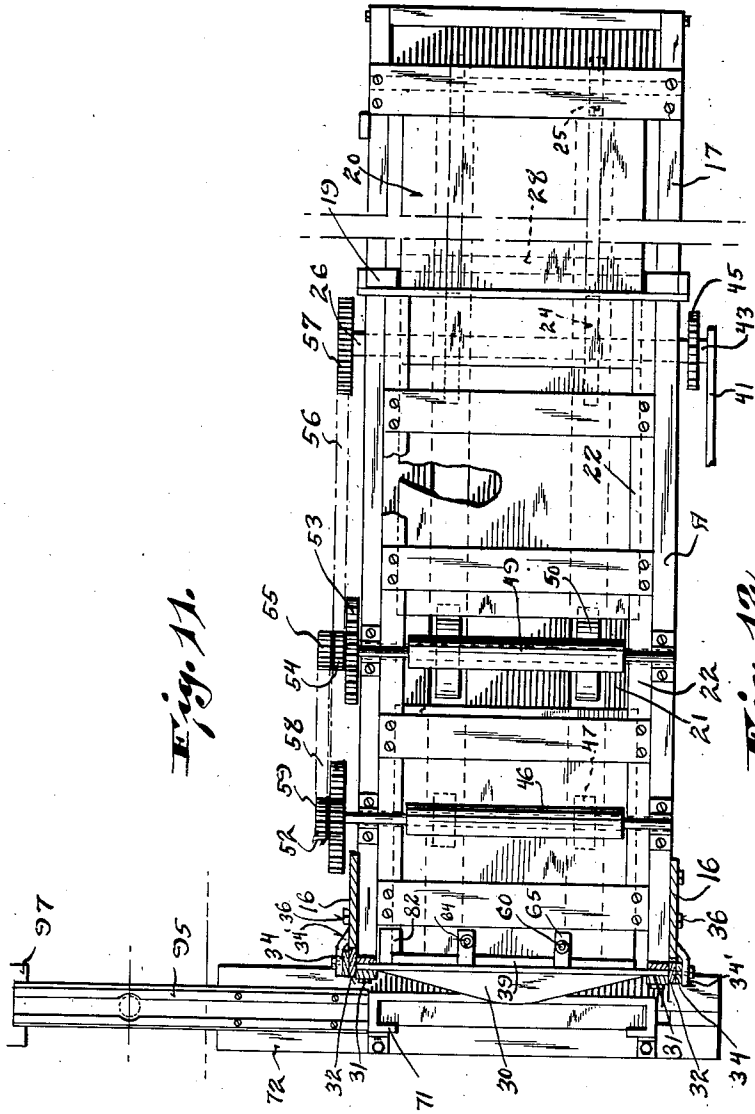


Fig. 11.

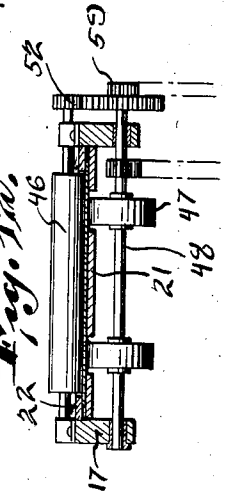


Fig. 12.

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UNITED STATES PATENT OFFICE

2,073,320

FEEDING AND BLANKING MACHINE

Andrew Smith, Milwaukee, Wis., assignor to Van Dyke Knitting Co., Milwaukee, Wis.

Application June 7, 1934, Serial No. 729,539

2 Claims. (Cl. 164—20)

This invention appertains to machines for forming discs or similar objects from sheets of material, and more particularly to a novel machine especially susceptible for the making of counters of the type commonly referred to as "poker chips."

One of the primary objects of my invention is to provide a machine for making poker chips from sheets of cardboard or similar material, which machine is of such a character that high grade chips can be quickly and expeditiously manufactured in quantities at a small expense.

Another salient object of my invention is to provide a poker chip-making machine having a magazine for receiving a stack of sheets of cardboard or similar material, with novel means for feeding the sheets one at a time in a step by step movement to a timed cutter utilized for cutting said sheets transversely into strips of a width slightly greater than the diameter of the disc to be formed.

A further object of my invention is to provide novel means for releasably holding the sheets during the strip-cutting process, whereby the twisting of the sheets incident to the passage of the knife therethrough is prevented.

A further object of my invention is the provision of novel means for feeding and stacking the cut strips into a suitable receiving hopper, with means for advancing the strips one at a time and in a step by step movement to dies utilized for simultaneously stamping out the disc from the strips and embossing the same, said feeding means being of such a character as to eliminate the carrying of strips of a less width than desired to the hopper, the strips of unrequired width falling to a suitable waste container.

A further object of my invention is to provide means for notching the corners of the strips at one end during the cutting process, whereby to facilitate the feeding of the strips into the hopper and into the guide utilized for the strips during the punching and embossing process.

A further object of my invention is the provision of means for inking the raised portions of the dies, whereby the indented parts of the chips (made incident to the embossing process) can be formed of a contrasting color from the body of the chips.

A further object of my invention is the provision of novel means for releasing the cut-out chips from the strips and from the dies, whereby all danger of cut chips hanging after the punching and embossing process is eliminated.

A further object of my invention is the provision of novel means for receiving the waste material of the strips after the punching process, so that this waste material can be rapidly handled without any attention on the part of the operator of the machine.

A still further object of my invention is to provide a novel disc-cutting and embossing machine of the above character, which will be durable and efficient in use, and one which can be placed upon the market at a reasonable cost and operated at a small cost with the employance of a minimum amount of manual labor.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:—

Figure 1 is a side elevation of my improved machine.

Figure 2 is a detail horizontal section taken substantially on the line 2—2 of Figure 1, looking in the direction of the arrows, illustrating the means for inking the dies of punch members.

Figure 3 is a vertical section taken substantially on the line 3—3 of Figure 1, looking in the direction of the arrows, the machine being shown in front elevation with the inker removed to illustrate the construction of the punch.

Figure 4 is a detail front elevation of the inker attachment showing the same applied to the punch.

Figure 5 is a fragmentary longitudinal section taken substantially on the line 5—5 of Figure 3, illustrating the means for stacking the cut strips into the hopper, the view being of a diagrammatic nature, with parts eliminated for the sake of simplicity.

Figure 6 is an enlarged, detail sectional view illustrating the means employed for supplying and feeding ink to the ink rollers for the dies.

Figure 7 is an enlarged detail section through the guide for the cut strips, the view being taken substantially on the line 7—7 of Figure 3, looking in the direction of the arrows.

Figure 8 is a longitudinal section through the hopper and guide for the cut strips, the view also illustrating the means for feeding the cut strips one at a time from the hopper to the guide.

Figure 9 is a schematic plan view showing the notching of the strips.

Figure 10 is a fragmentary plan view of one sheet, showing a strip cut therefrom and one end notched.

Figure 11 is a horizontal section through the machine taken on the line 11—11 of Figure 1,

looking in the direction of the arrows, showing the feeding table and magazine for the sheets in plan.

Figure 12 is a transverse section through the feeding table, the view being taken substantially on the line 12—12 of Figure 1, looking in the direction of the arrows, the view illustrating the novel feed rollers for the sheets.

Figure 13 is a detail transverse section through the guide for the strips, taken on the line 13—13 of Figure 3, looking in the direction of the arrows, illustrating the means employed for releasing the cut chips, or discs, from the strips and the dies, or punches.

Figure 14 is a detail transverse section through the stacking table for the strips after the chips have been punched therefrom, the view being taken on the line 14—14 of Figure 3.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates my improved disc-forming machine, which comprises a frame 15 of any desired character and form.

This frame may comprise a pair of front, spaced parallel pedestals 16, to which are bolted, or otherwise secured, the rearwardly extending, spaced, longitudinally extending side rails 17, which form a part of the feed table for the sheets of cardboard. The rails 17 are supported in rear of the pedestals 16 by means of legs 18, which can be bolted, or otherwise secured, to the rails.

On the upper face of the table, at its rear end, is disposed a magazine 19 for receiving a stack of the cardboard sheets 20 from which the chips are to be made. This magazine is mounted above a longitudinally extending table top 21, which is secured to and disposed slightly below the upper edge of the longitudinally extending rails 17.

Secured to the inner face of the rails 17, in spaced relation to the table top 21, are longitudinally extending guide strips 22, and the sheets of material are fed one at a time from beneath the magazine (by means which will be later described) onto the table top and underneath the guide strips 22. Thus, an effective guide is formed for the sheets during their travel from the magazine to the cutting mechanism, which will also be later described.

The means for feeding the sheets 20 one at a time from the magazine 19 to the guide includes a pair of spaced sprocket chains 23, which are trained over front and rear pairs of sprocket wheels 24 and 25. These sprocket wheels are keyed respectively to shafts 26 and 27, which extend transversely below the table. Any desired type of bearings can be provided for these two shafts.

The upper runs of the sprocket chains 23 travel through longitudinally extending slots formed in the table top 21 directly below the magazine, and the sprocket chains are connected at spaced points by transversely extending pusher strips, or flights, 28. Thus, during movement of the sprocket chains, one flight will engage the rearmost edge of one sheet of material and move the same from under the stack and into the guideway. As the sheet leaves the magazine, another flight will engage the next sheet and push the same into the guide, forcing the first mentioned sheet ahead of the same.

It is preferred to impart a step by step movement to the sheets, and consequently means is provided for intermittently operating the shaft 26, which is utilized as a drive shaft for the sprocket chains.

As the sheets are fed to the front of the machine, these sheets are severed transversely into strips 29 by a novel cutting mechanism, which will now be described.

This cutting mechanism embodies a reciprocating head 30, which is disposed in front of the table and transversely thereof. The reciprocating head is slidably mounted in upright guideways 31 carried by the front pedestals 16, and the ends of the head have secured thereto slide blocks 32. The slide blocks 32 in turn have pivotally connected thereto, as at 33, links 34 which are pivotally received in the yoked ends 34 of operating levers 35.

The operating levers 35 are rockably mounted intermediate their ends on pivot pins 36 secured to the pedestals 16. The extreme rear ends of the levers 35 may carry rollers, which are adapted to travel on cams 37. The cams 37 are rigidly secured to a drive shaft 38, which extends transversely across the machine. The drive shaft 38 is suitably supported in bearings carried by the pedestals 16, and is driven from any preferred type of prime mover, such as an electric motor (not shown).

From the construction so far, it can be seen that during rotation of the shaft 38, the levers 35 will be rocked and thus bring about the reciprocation of the head 30.

The inner face of the head 30 has rigidly secured thereto the shear knife 39, which travels in front of a transversely extending shear bar 40 rigidly secured to the pedestals. As the paper sheets are intermittently fed forwardly, the knife reciprocates and cuts the sheets transversely into the strips 29.

Additional means is provided for feeding the sheets intermittently in predetermined timed relation to the cutter other than the intermittently operated chain conveyor. This means will now be described.

By referring to Figure 1 of the drawings, it will be noted that the driven shaft 26 of the chain conveyor is intermittently operated from the drive shaft 38, and this means may comprise a pitman rod 41, operated from a crank 42 rigidly connected with the drive shaft 38. The pitman rod 41 rockably actuates a work lever 43 which is loosely mounted on the driven shaft 26. This lever 43 carries a weighted dog 44, and the tooth end thereof is adapted to engage a ratchet wheel 45 keyed, or otherwise secured, to the driven shaft.

On movement of the pitman rod to the right (Figure 1 of the drawings), the pawl, or dog, 44 catches the teeth of the ratchet wheel 45 and turns the driven shaft 26 in a counter-clockwise direction. On reverse movement of the pitman rod, the pawl, or dog, 44 merely rides over the teeth of the ratchet wheel, and no movement is imparted to the driven shaft.

The additional feeding means for the sheets can either be intermittently operated from the main drive shaft 38, or from the intermittently operated driven shaft 26. In the present instance, I have shown the additional feed means for the sheets actuated from the driven shaft.

This additional feed mechanism for the sheets includes front and rear actuating means. The front actuating means embodies a rotatable top feed roller 46, which rests on top of the sheet, and the ends of this roller shaft are received in

suitable journals carried by the side rails, or beams, 17.

Acting in conjunction with the top roller 46 is a pair of friction feed wheels 47, which are keyed, or otherwise secured, to a bottom shaft 48. The feed wheels 47 operate through slots in the table top 21 and engage the bottom face of the sheets.

The rear feed mechanism is of similar construction and includes a top roll 49 which engages the top face of the sheets, and a pair of spaced feed wheels 50 which engages the lower face of the sheets. The top roll 49 has its terminals mounted in suitable journals carried by the side rails 17, and the feed wheels 50 are keyed, or otherwise secured, to a bottom shaft 51, also journaled in the side rails.

The roller 46 and the shaft 48 are operatively connected together by means of intermeshing gears 52 keyed respectively to the roller and the shaft. The roller 49 and the shaft 51 are likewise operatively connected together by means of intermeshing gears 53. The shaft 51 also has keyed thereto two sprocket wheels 54 and 55.

Trained about the sprocket wheel 54 is a sprocket chain 56, which is also trained about and driven from a sprocket wheel 57 keyed to the driven shaft 26 of the conveyor chains. Trained about the sprocket wheel 55 is a sprocket chain 58, which is also trained about a sprocket wheel 59 keyed to the shaft 48. Thus, the additional feed mechanism is operated intermittently from the driven shaft 26.

It can be seen that as the sheets are pushed forwardly by the conveyor chains, the same are first grasped by the roller 49 and the feed wheels 50, and are then gripped and fed forwardly by the roller 46 and the feed wheels 47. Obviously, as the sheet reaches the shear knife 39 and the motion thereof is temporarily stopped, a strip will be severed from the sheet by said knife.

It is essential that the sheet by firmly held against twisting movement during the cutting of the sheet, and I have provided means for gripping, or releasably holding, the sheet during this cutting process. This means includes slide rods 60 mounted for vertical movement in guide sleeves 61 secured to the frame for the reciprocating head 30. The lower ends of the slide rods 60 are provided with gripper feet 62, and these feet are normally disposed directly above the shear bar 40. Rigidly connected to the slide rods 60 are collars 63, and bearing against these collars are relatively strong expansion springs 64. The springs can be coiled about the slide rods, and the upper ends thereof engage the guide sleeves 61. Thus, the springs normally function to hold the slide rods in a lowered position, with the feet 62 in gripping contact with the sheet.

Rigidly connected with the reciprocating head 30 are rearwardly extending arms 65. These arms slidably receive the rods 60. As the head 30 lifts for carrying the shear knife 39 above the sheet, the arms 65 engage the collar 63 and lift the push rods up, carrying the gripping feet 62 away from the sheet. This allows the advancement of the sheet, and as the shear knife lowers to make its cut, the arms 65 move away from the collars to permit the feet 62 to again engage and grip the sheet.

Hingedly connected to the front face of the head 30 is a transversely extending gauge bar 66. This gauge bar 66 is secured to pivot ears 67 rockably mounted on pivots carried by said reciprocating head. The gauge bar normally lies directly in front of the sheet in spaced relation to the shear knife 39 and the shear bar 40, and thus when the sheet is pressed forwardly, the same will abut against the gauge plate, and this plate, or bar, will act in the nature of a stop for the sheet.

Secured to one end of the gauge bar, or plate, 66 is a flexible flap 68, the purpose of which will later appear. Formed on, or secured to, the pivot ears 67 are forwardly extending lugs 69. These lugs 69 have connected thereto light tension springs 70, and the upper ends of the springs are connected to the frame which supports the reciprocating head.

As the sheet is cut by the downwardly moving head, the tension of the springs 70 is increased and the springs pull up on the ears 67 and raise the gauge bar, or plate 66 from in front of the severed strip.

Directly in front of and below the gauge bar 40, I provide a hopper 71 for receiving the cut strips. This hopper is preferably of such a nature as to receive a stack of the cut strips, and the length and width of the hopper is substantially the same as the length and width of the cut strips. This hopper is mounted upon a transversely extending feed board 72, which can be secured to the pedestals 16 in any preferred manner. Novel means is provided, as will be later described, for feeding the cut strips along the feed board 72 to the punch and die machine, as will also be later described.

I utilize novel means for insuring the correct delivery of the cut strips to the magazine, and the gauge bar, or plate, 66 and its flap 68 form a part thereof. The means for delivering the cut strips to the magazine is of such a character that should any of the strips be of a less width than desired, such strips will be discarded and not delivered to the magazine. It often happens that as the last strip is cut from the sheet, a narrow margin strip is left, and this is the strip that is discarded.

The means for delivering the strips to the magazine 71 embodies a series of top push rods 73 mounted for reciprocatory movement below the table top 21. These series of top push rods 73 are slidably mounted in the shear bar 40, and an intermediate portion thereof carries abutment collars 74. Directly below the top push rods 73 are a series of bottom push rods 75. These bottom push rods are also provided with the abutment collars 74, and the same also extend through the shear bar 40.

Connected with the rear ends of the top and bottom push rods 73 and 75 are contractile coil springs 76, and the rear ends of these springs are connected with a part of the table frame.

Rockably mounted on a cross rod 77 is a series of push levers 78, and the upper ends of these levers are adapted to engage the push collars 74. There is a push lever for each of the push rods 73 and 75, and these levers are operated in proper timed relation by two sets of cams 79 and 80. The set of cams 79 are utilized for actuating the levers of the top push rods 73, and the cams 80 are utilized for operating the bottom push rods 75, and the cams 79 and 80 are set at different angles relative to one another, as can be seen by referring to Figure 5 of the drawings. All of the cams are rigidly connected to the main drive shaft 38.

In operation of the means for delivering the cut strips to the magazine, the push rods 73 and 75 are alternately moved backwards and forwards longi-

tudinally of the table. During the cutting of the strip, the push rods 73 are in their retracted position, as shown in Figure 5, and the bottom set of push rods 75 are in their extended position.

Considering that a strip has just been cut, the same will fall on the front ends of the push rods 75. This is permitted due to the raising of the gauge bar 66. Immediately upon the resting of the strip upon the push rods 75, the upper set of push rods 73 are fed forwardly by their levers 78 and the cams 79, and consequently the strip is pushed forwardly toward the magazine over the bottom push rods. This motion is relatively quick, and the cut strips will be moved over the magazine.

As the strip moves over the magazine, the bottom push rods 75 will have started on their return retracted position by the springs 76, and, if the strip is of a narrow width, the push rods 75 will be withdrawn prior to the delivery thereof to the magazine. Hence, the strip of narrow gauge will fall in rear of the magazine, and a suitable waste receptacle 81 receives the same.

As the strip of full width is delivered to the magazine, the flap 68 wipes over one end thereof and tends to cant this end of the strip downwardly, which facilitates the dropping of the strip into the magazine.

In conjunction with the reciprocating head, I employ means for notching this end of the strip. By notching the end of the strip, I have found that I can eliminate rough corners and thus facilitate not only the dropping of the strip into the magazine, but also the feeding of the various cut strips into the guide carried by the feed board 72, incident to the punching and embossing process.

The means for notching the corners of the strip merely includes a die 82, secured to the reciprocating head at one end thereof. This die is provided with a semi-circular cutting edge and forms a semi-circular cut 83 in the edge of the sheet (Figures 9 and 10).

Arranged at one side of the feed board 72 is the punching and embossing machine, which is generally indicated by the reference character 85. The punching and embossing machine includes an upright frame 86 having pairs of upper and lower guides 87 and 88 for the reciprocating top and bottom plunger heads 89 and 90.

These plunger heads 89 and 90 carry the top and bottom cutting and embossing dies 91 and 92. The heads 89 and 90 are reciprocated toward and away from each other in any desired manner, and, as shown, the heads are rockably connected to top and bottom operating levers 93 of the walking beam type. These levers 93 are operated in timed relation relative to one another, and in timed relation to the strips as the same are fed past the dies 91 and 92. Obviously, the strip is fed between these dies, and I have provided a guide and support for the strips as the same are punched.

Secured to the feed board 72, at the inner end of the magazine 71, is this guide, and the same may include spaced, parallel guide bars 94 secured to the feed board 72. These bars 94 engage the side edges of the strips, and secured to the top faces of the bars 94 are top guide bars 95, which overhang the inner edges of the bars 94 for engaging the upper faces of the strips.

To support the strips as the same ride off the feed board 72, bottom supporting bars 96 are provided. These bottom bars 96 lie under the top bars 95 and are separated therefrom by the side guide bars 94. This entire guide extends past the punching and embossing machine to a feed rack 97 for the scrap. The guide lies directly between the dies 91 and 92, and consequently the guide at this point is provided with an enlarged opening to permit the passage of the dies therethrough.

To feed the strips one at a time from the hopper 71 into the guide and to intermittently feed the strips along the guide to the dies, I provide a feed conveyor chain 98. The feed conveyor chain is trained over a pair of spaced sprocket wheels 99, which are keyed, or otherwise secured, to rotatable supporting shafts 100 and 101.

The top of the feed board 72, directly under the magazine, is cut away to receive the top run of the conveyor sprocket chain, and this chain is provided at spaced points with pusher lugs, or flights, 102. Thus, obviously as the chain is driven by the sprocket wheels, the lugs 102 will engage the outer end of the rearmost strip and move the same from out of the bottom of the hopper into the guideway.

The chain is intermittently operated, so that the cut strips are fed in a step by step movement, and each time the strip comes to a rest, the dies will be brought together for punching out a disc and embossing the same.

Any preferred means can be provided for intermittently operating either one of the shafts 100 and 101. In the present instance, I have shown a drive shaft 103 connected to the shaft 101 by a universal joint, and this shaft 103 is driven by means of bevelled gears 104 from a cross shaft 105. This cross shaft 105 can be actuated through the use of sprocket wheels and chain from the intermittently driven shaft 48 of the sheet feed mechanism.

As the discs, or chips, are cut out from the strip and embossed by the dies 91 and 92, there is danger of the chips, or discs, sticking in the strip or to the bottommost die. In all events, it is essential that the cut chips, or discs, be quickly removed from the strip and the die, as the dies separate and before the strip is advanced for the next punch.

Thus, I have provided means for removing the cut discs from the strip. This means is of a pneumatic nature, in that a blast of air is utilized. Arranged at the front edge of the guide for the strip is an air distributing head 106, having connected therewith arcuate nozzles 107 and 108. The nozzle 107 is inclined downwardly over the strip between the bars of the guide, and the nozzle 108 is inclined downwardly below the guide and toward the bottom die 92.

Carried directly by the bottom plunger 90 is an air nozzle 109, and this nozzle points over the face of the die. A flexible hose 110 is connected with the nozzle 109, so that the nozzle can freely move with the die. The hose 110 and a pipe 111 for the distributor head 106 lead to a valve casing 112, and the valve is automatically actuated from the plunger 89 through the medium of a link motion 113 during the operation of said plunger.

An air feed pipe 114 leads to the valve casing from any suitable source of compressed air, and as the plungers separate, the valve is opened for causing jets of air to be impinged on the chip. The air admitted from the nozzle 107 will blow the chip from the strip, should the same stick therein, and the air from the nozzle 108, and from the nozzle 109, will blow the chip from the bottom die 92.

Arranged alongside of the dies is a delivery chute 115 for catching the chips, and this chute can deliver the chips into a suitable removable receptacle 116.

The dies 91 and 92 are of such a character as to not only make an annular insertion through the strip for severing a disc therefrom, but to also emboss a design on the top and bottom faces of the chip. Thus, the dies, inward of the annular cutter, are provided with raised indenting means.

As the chips, or discs, are cut from the strip, the strip is gradually fed past the dies into a guide rack 97 for stacking the perforated strips. The guide rack merely includes supporting legs 117 for supporting a vertically disposed face plate 118 and a downwardly inclined guide plate 119. Thus, the strips are fed onto the inclined guide plate 119, and as the strips leave their guide, the same fall off the inclined guide plate 119 by gravity onto a receiving board 120. This board is supported by crossed legs 121 and the board 120, and the legs 121 can be lifted as a unit for carrying the scrap material away.

In making a cheaper form of chip, paper sheets are utilized, having top and bottom layers of the desired color of paper, such as red, blue, or white. However, when a higher grade of chip is desired, the stock utilized consists of white sheets only, having a finished surface.

During the embossing process of these chips formed from the white stock, the raised portions of the dies 91 and 92 can be inked, so that as the chips are indented to form the raised parts, the intended portions can be printed in a contrasting color from the body of the chip. In Figures 1, 2, and 4, I have shown the means for supplying the desired colored ink to the raised portions of the dies.

The inking means comprises a suitable base 125, upon which a supporting structure 126 is built to receive the various operating parts. Supported by the frame 126 is a pair of spaced plates 127 and 128, which lie directly in front of the guide for the paper strips and the dies 91 and 92. Adjusting screws 129 can be provided for holding these plates in their preferred spaced relation, and each plate supports an ink supply fountain 130.

The ink is fed from the fountain to the inner faces of the plates 127 and 128 by means of supply rollers 131. These ink supply rollers 131 are rigidly connected with rotatable shafts 132, suitably mounted in bearings supported by the supply fountain.

The outer faces of the plates 127 and 128 are cut away, as at 133, to receive a portion of the peripheries of the rollers, and thus these rollers protrude through the plates to the inner surfaces thereof.

It is desirable to control the quantity of ink carried by the rollers 131 from the fountains to the inner faces of the plates, and consequently a resilient scraping plate 134 is disposed in each fountain. These plates are adapted to engage the periphery of the rollers 131 during the rotation thereof, and the degree of pressure of the plates on the rollers can be varied by means of adjusting screws 135, carried by the fountains, and which bear against the scraping plates.

Extending rotatably through the axial centers of the plates 127 and 128 is a vertically disposed shaft 136. This shaft 136 carries a head, or spider, 137 therewith. Projecting radially from the spider, or head, at equi-distantly spaced points, are upper and lower sets of arms 138, which arms carry inking rollers 139. These rollers 139 constantly travel over the inner faces of the plates 127 and 128 and over the portions of the ink carrying rolls 131, which protrude through the mentioned plates. Thus, during rotation of the head, the distributing rollers constantly wipe over the ink carrying rolls.

The distributing rollers, during their travel, sweep past and over the active faces of the dies 91 and 92, and supply the desired amount of ink to the raised portions thereof, to bring about the coloring of these raised portions, so that the formed chips can be indented with the desired contrasting color.

It is essential that the ink be equally distributed throughout the length of the distributing rollers 139, and thus rotating distributing discs 140 are provided for this purpose. The distributing discs 140 are rigidly secured to a rotatable vertically disposed shaft 141, which is also journaled in suitable bearings carried by the frame 126 and base 125.

Portions of the periphery of the plates 127 and 128 are cut away to receive the discs, and thus the discs 140 lie in the same horizontal plane with the plates. Consequently, the distributing rollers 139 also ride over the discs 140, and as these discs are rotating (in a direction opposite to the movement of the rollers), the ink will be wiped over the entire periphery of said rollers.

While any preferred means can be provided for actuating the ink carrying rollers 131, the head 137, and the distributing discs 140, I have shown one means for bringing this about. At this time, it is well to note that the head 137 rotates in proper timed relation to the dies 91 and 92, whereby, as these dies recede from the strip, the rollers will wipe past the same.

The shaft 141 can be considered as the drive shaft, and the same may be provided with a pulley wheel, and have trained thereabout a drive pulley belt 142, leading from any suitable source of power. This shaft 141 can be operatively connected to the vertical shaft 136 in any desired manner, such as by a belt 143. Thus, the shafts 141 and 136 are driven in unison.

Extending across the frame is a counter-shaft 144, and this shaft is connected by means of gears 145 with a stub shaft 146. The stub shaft 146 is in turn driven by means of bevelled gears 147 from the shaft 136. The counter, or cross, shaft 144 is utilized for imparting the desired means to the ink feeding rolls 131. Thus, a crank wheel 148 is keyed to the cross-shaft, and a link 149 is eccentrically pivoted to the crank wheel.

Rockably mounted on the fountains 130, intermediate their ends, are actuating levers 150, and these levers are operatively connected together by means of a link 151. The crank link 149 is in turn pivotally connected to the link 151. Thus, during rotation of the crank wheel, the levers 151 are rocked.

The forward ends of the levers 150 carry weighted, or spring-pressed, dogs 152, which are adapted to engage ratchet wheels 153 secured to the shafts 132 of the feed rolls 131.

From the foregoing description, it can be seen that a poker chip making machine has been provided for making chips from sheets of paper, and in which the material is handled in predetermined steps for forming the desired resultant article.

Changes in details may be made without departing from the spirit or the scope of this invention, but what I claim as new is:—

1. In a machine for cutting discs from sheets of material, a feed table, a guide frame at the front of said table, a reciprocatory head supported by the frame, a cutter knife movable with the head, means for feeding sheets of material along the table in a step by step movement to the knife, push rods slidably supported by the frame, gripper feet carried by the push rods for engaging the sheet, stops carried by the push rods, expansion coil springs on said rods confined between the frame and the stops for normally urging the feet into gripping contact with the sheet, and arms carried by the head slidable on the push rods for engaging said stops to lift the rods and feet above the sheet during the advancing of said sheet.

2. In a machine for cutting discs from sheets of material, a feed table, a guide frame at the front of said table, a reciprocatory head supported by the frame, a cutter knife movable with the head, means for feeding sheets of material along the table in a step by step movement to the knife, push rods slidably supported by the frame, gripper feet carried by the push rods for engaging the sheet, stops carried by the push rods, expansion coil springs on said rods confined between the frame and the stops for normally urging the feet into gripping contact with the sheet, arms carried by the head slidable on the push rods for engaging said stops to lift the rods and feet above the sheet during the advancing of said sheet, and dies carried by the head for notching the corners of the strip at one end during the cutting of said strip.

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