

Dec. 27, 1927.

J. O. HUNT

1,653,908

PAPER NAPKIN MACHINE

Filed Sept. 2, 1926

10 Sheets-Sheet 1

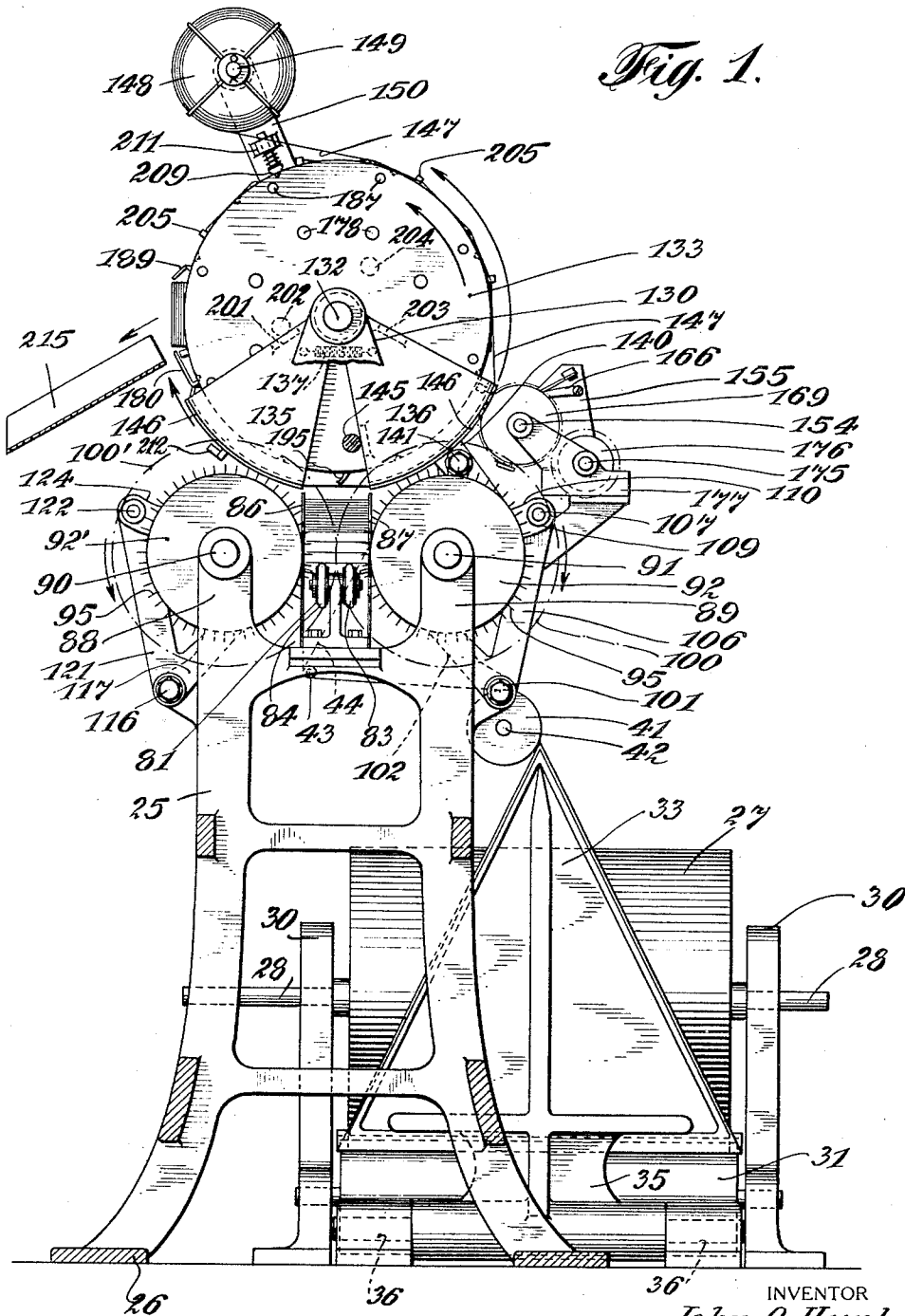


Fig. 1.

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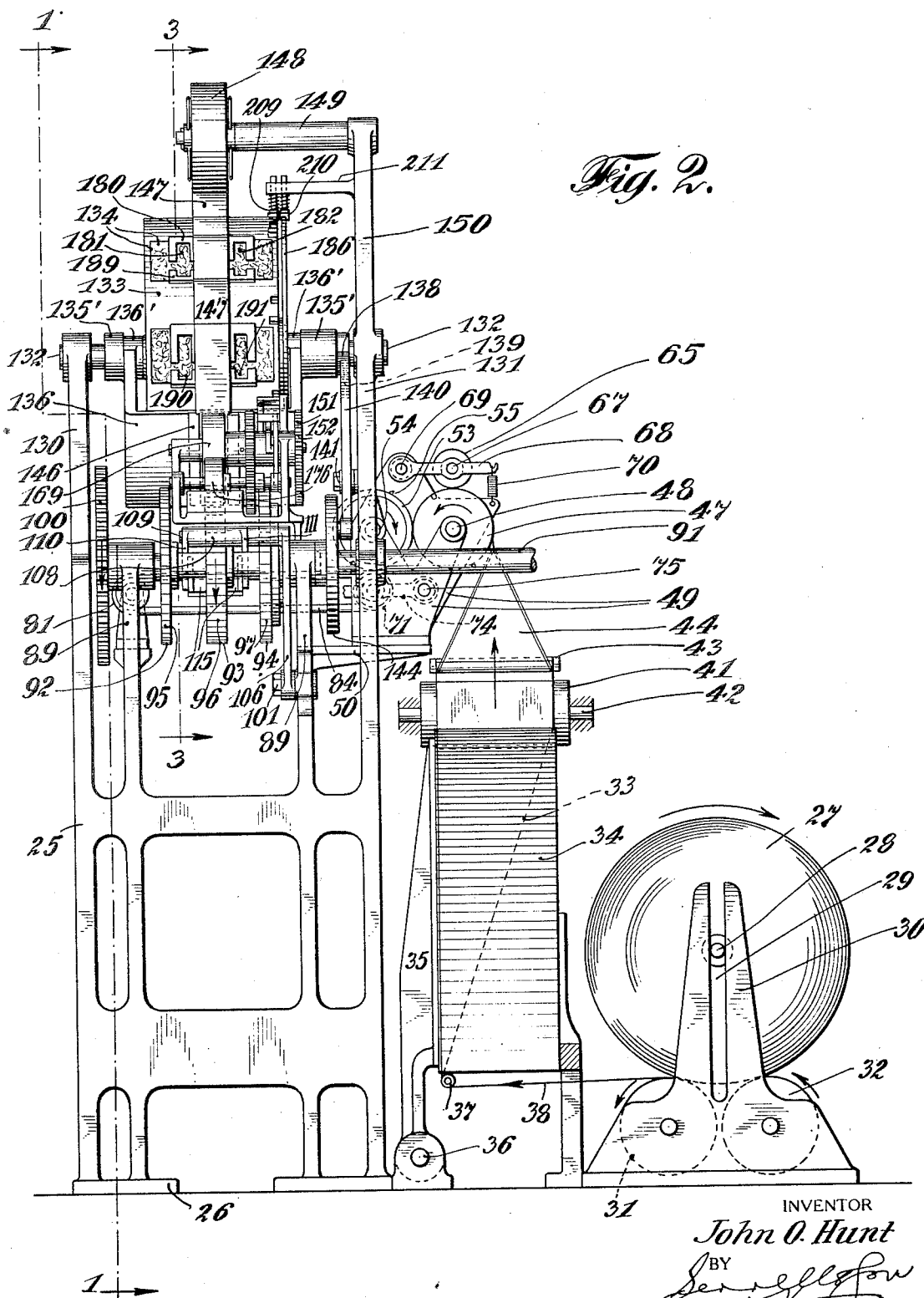
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# PAPER NAPKIN MACHINE

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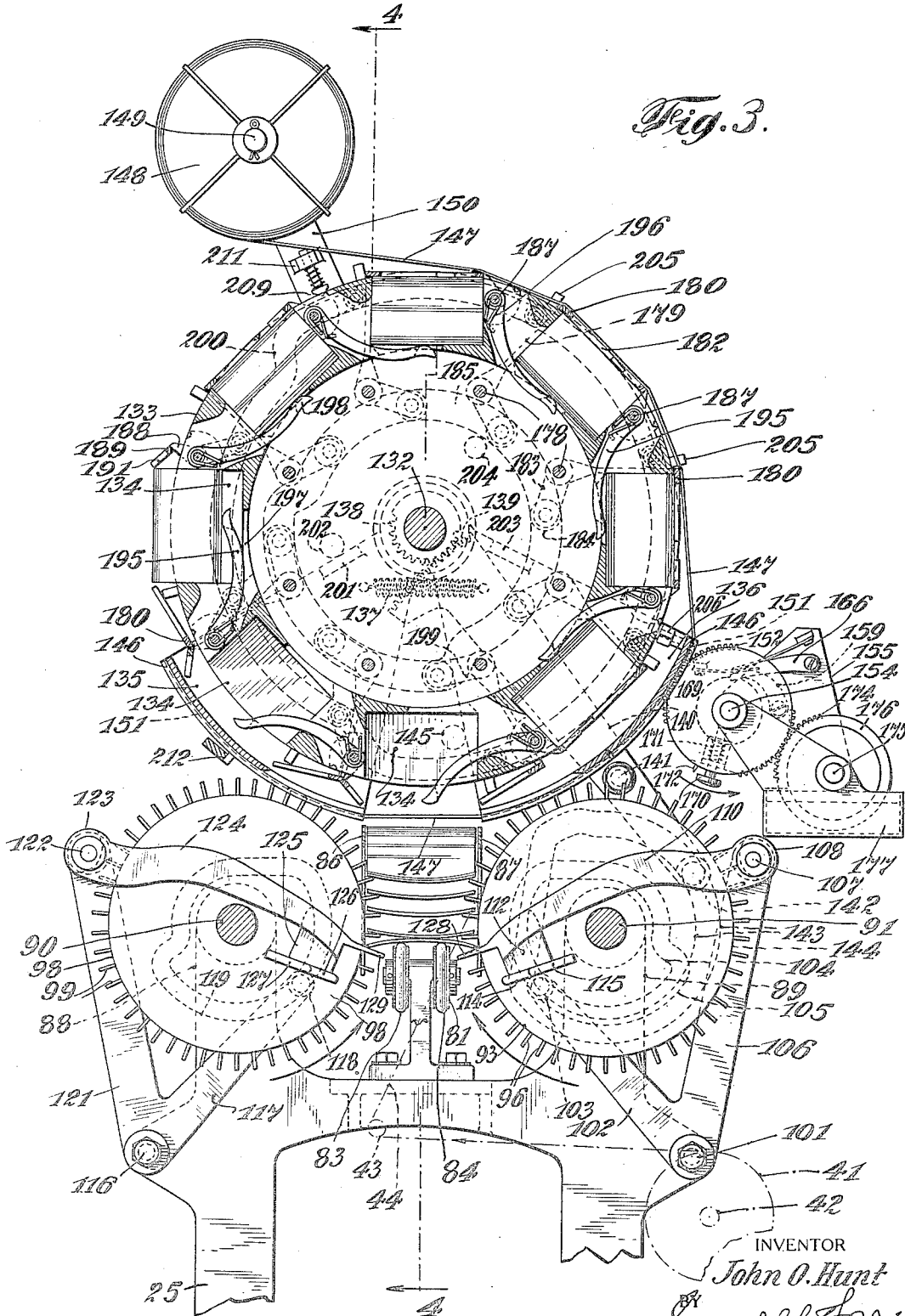
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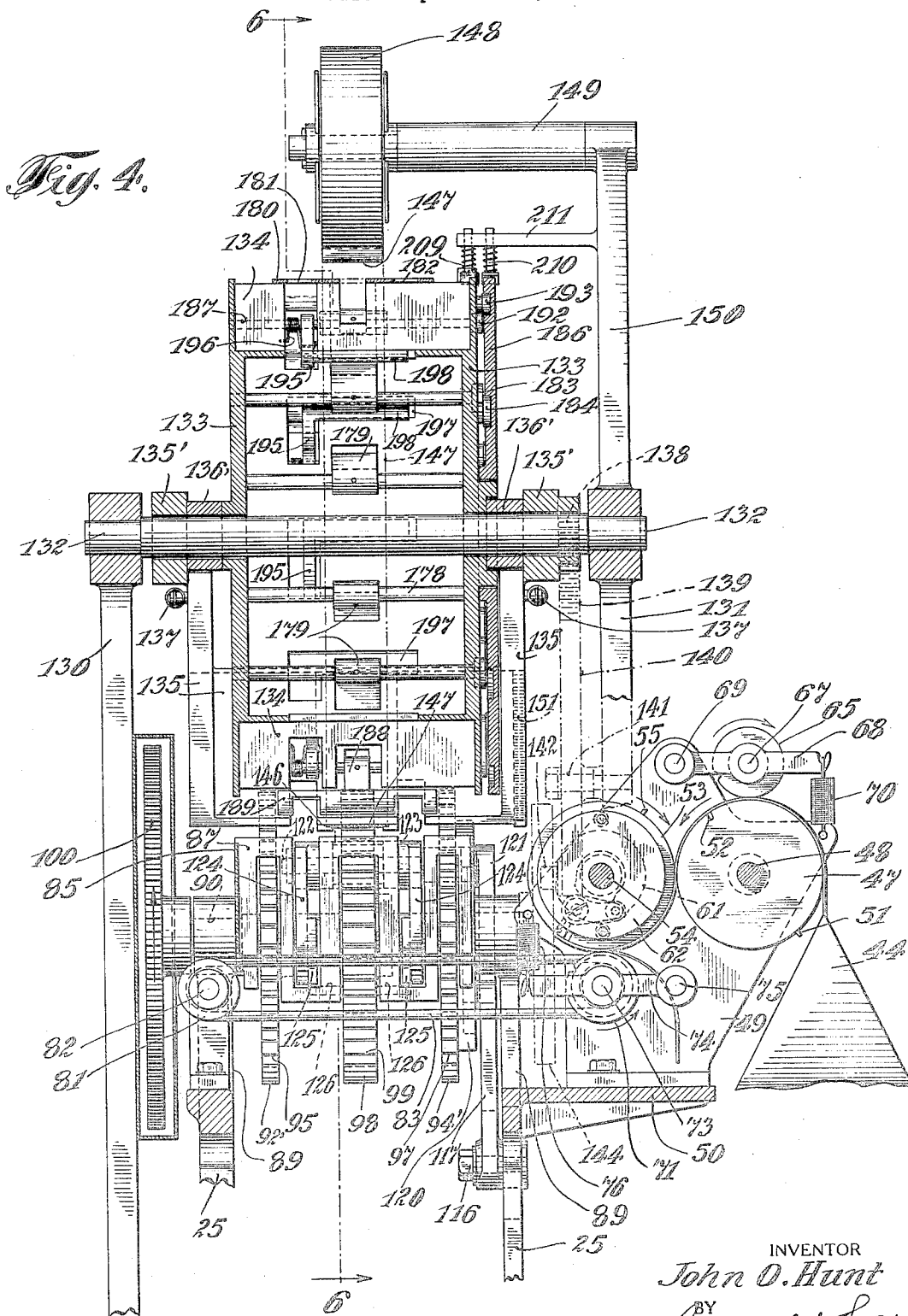
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10 Sheets-Sheet 4



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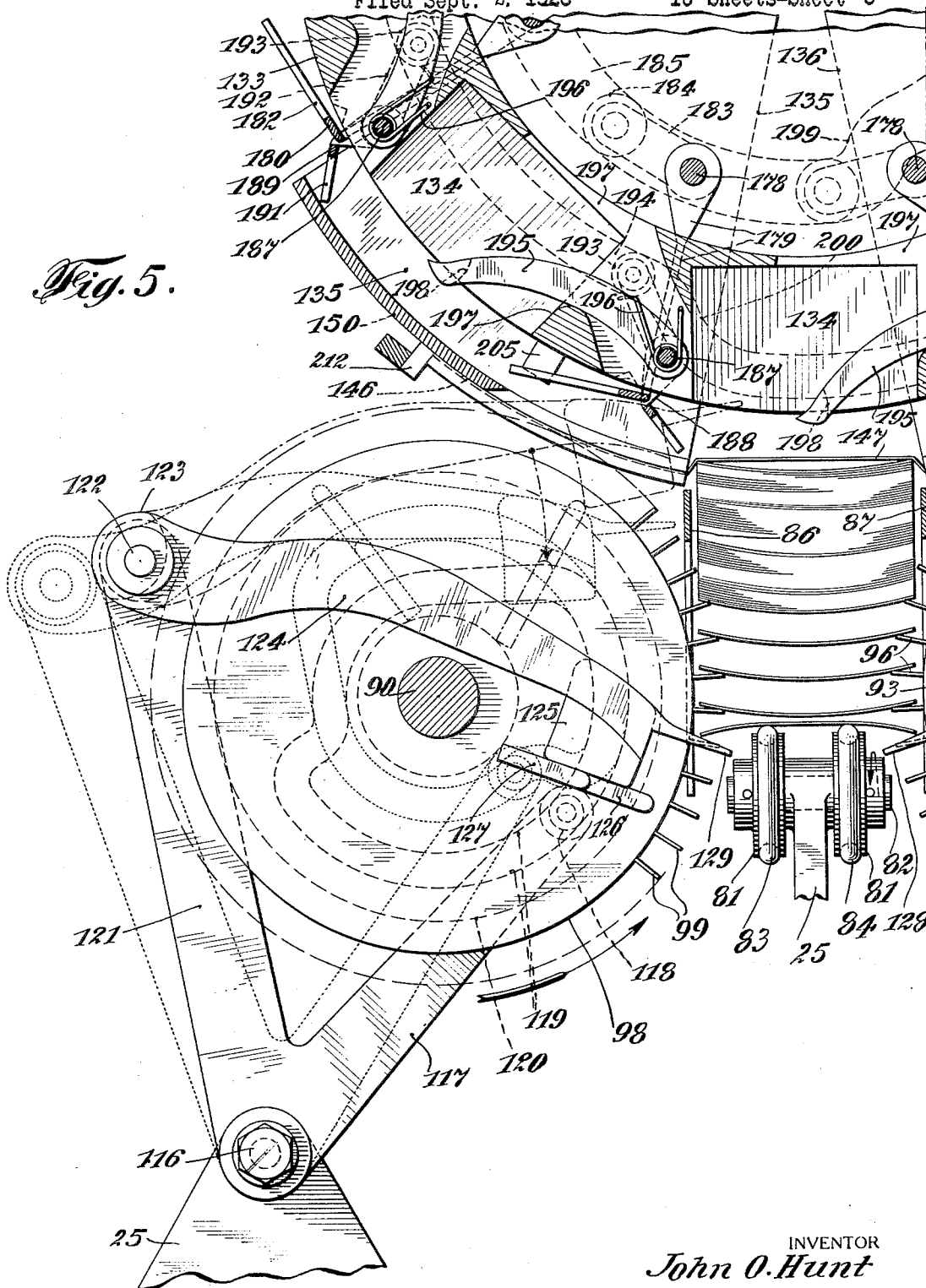
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*Fig. 5.*



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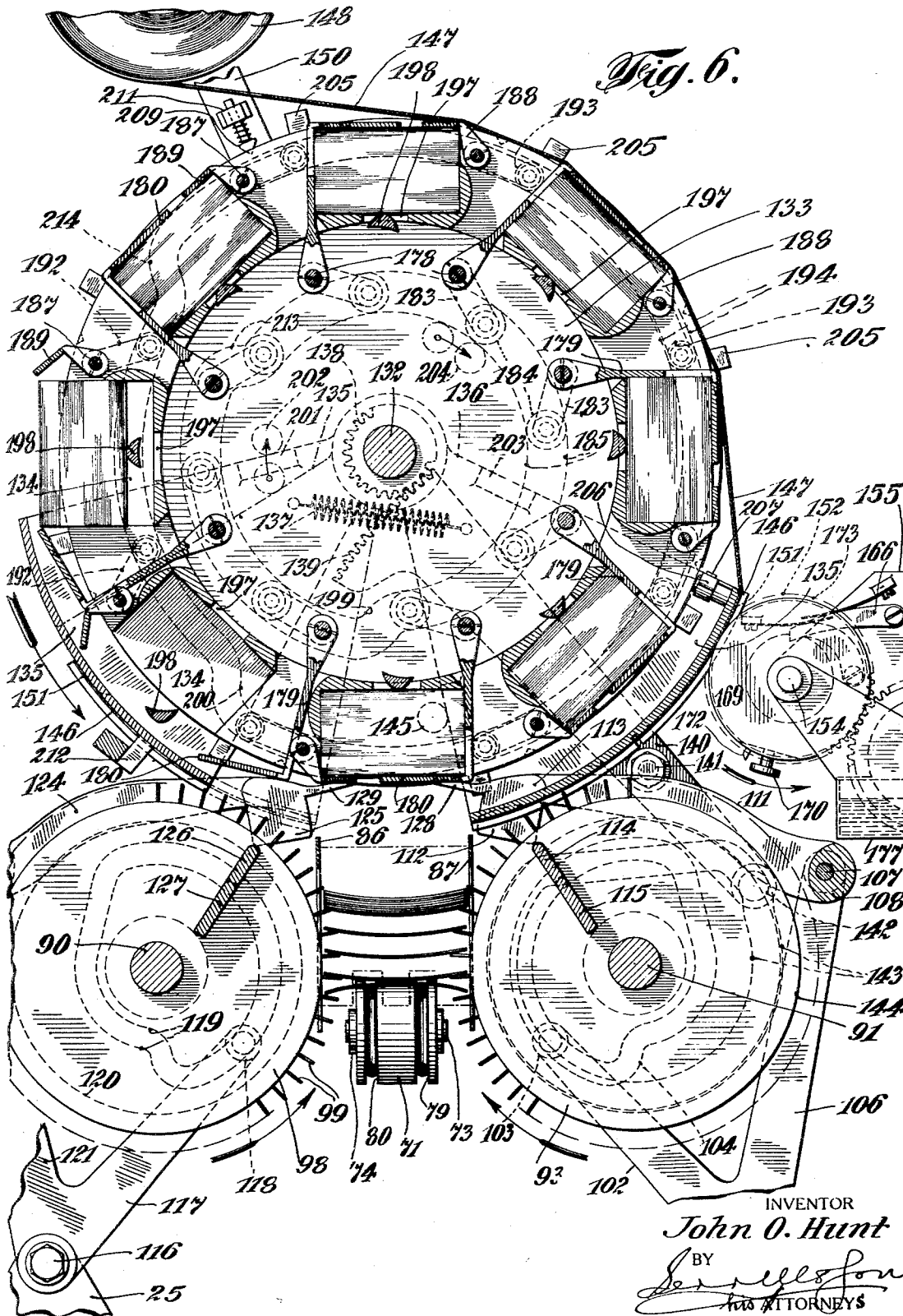
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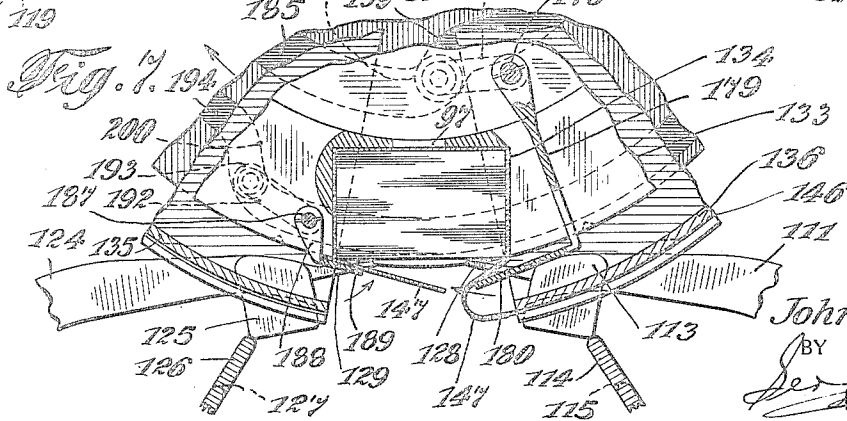
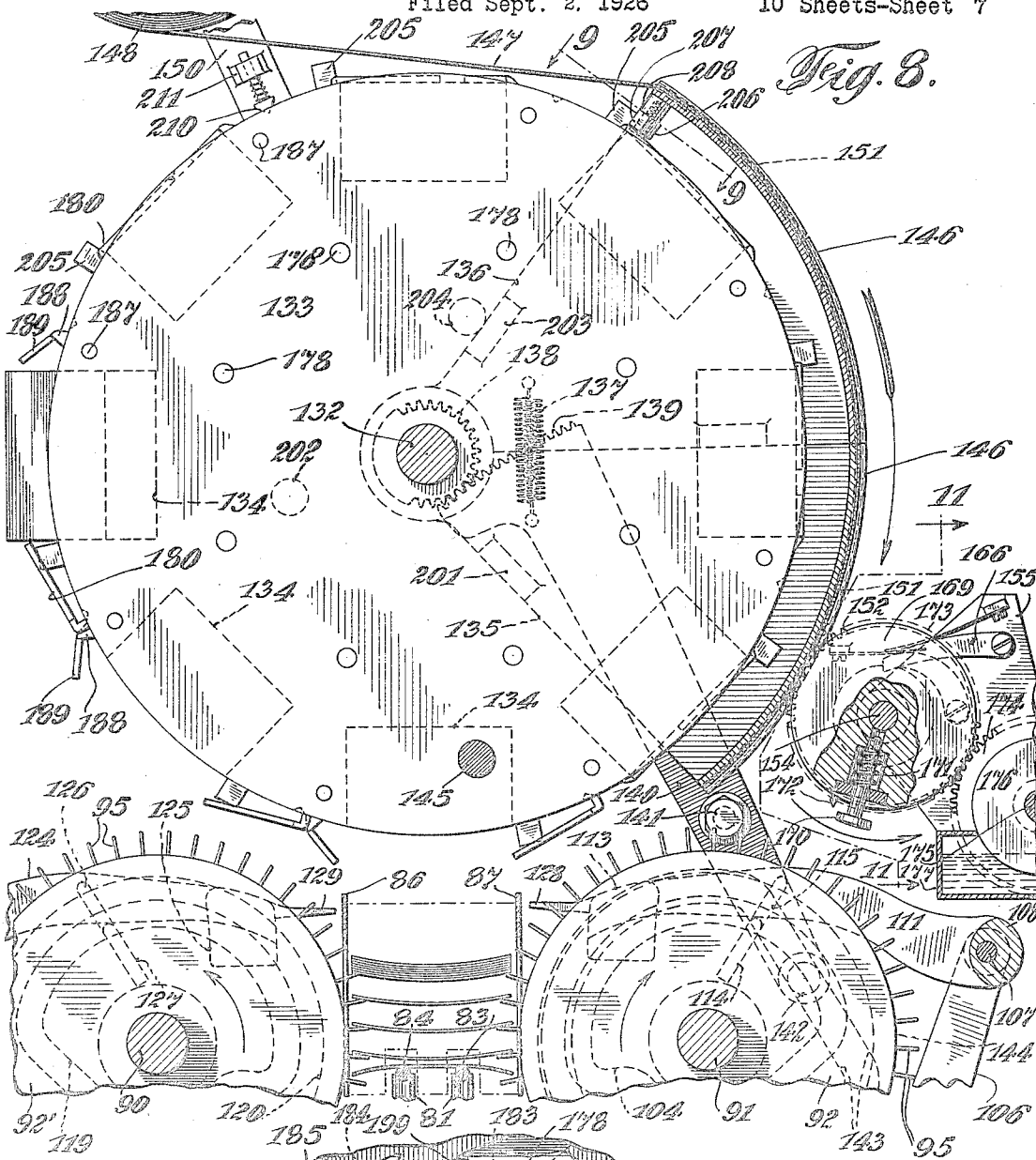
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10 Sheets-Sheet 7



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*Fig. 9.*

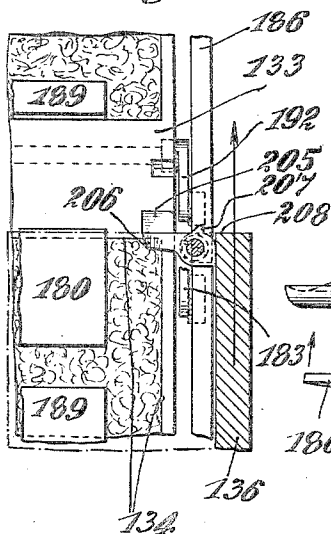


*Fig. 10.*

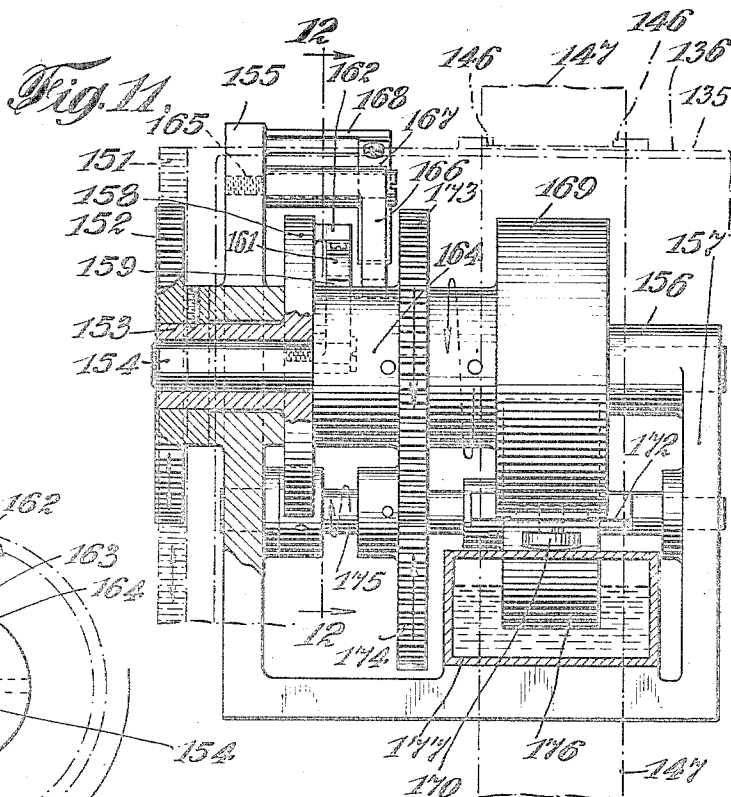
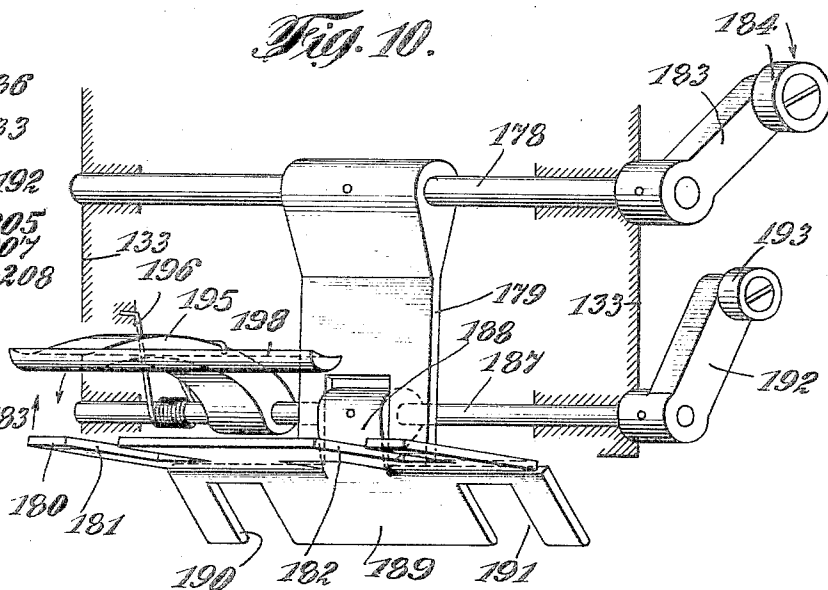
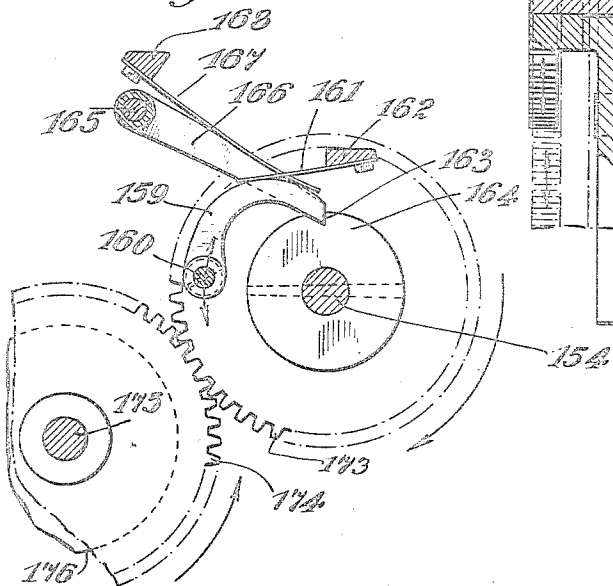


*Fig. 12.*



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*Fig. 13.*

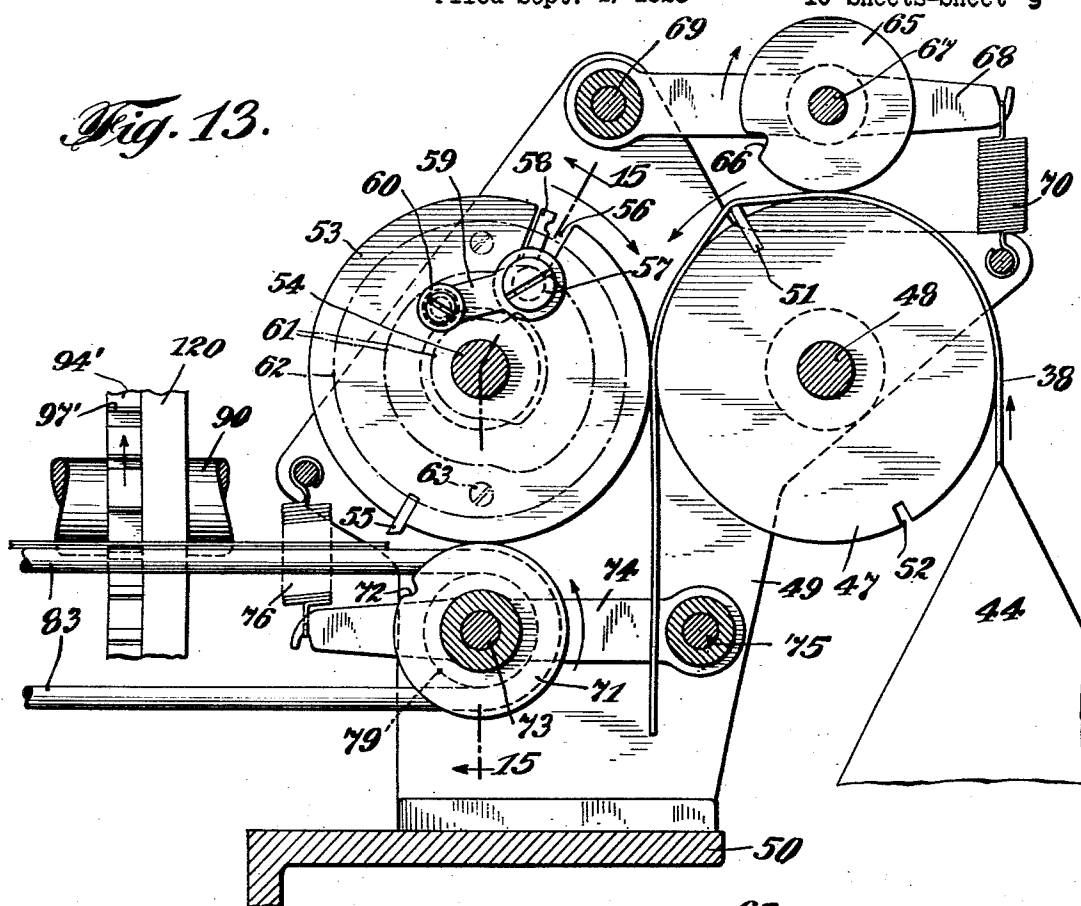
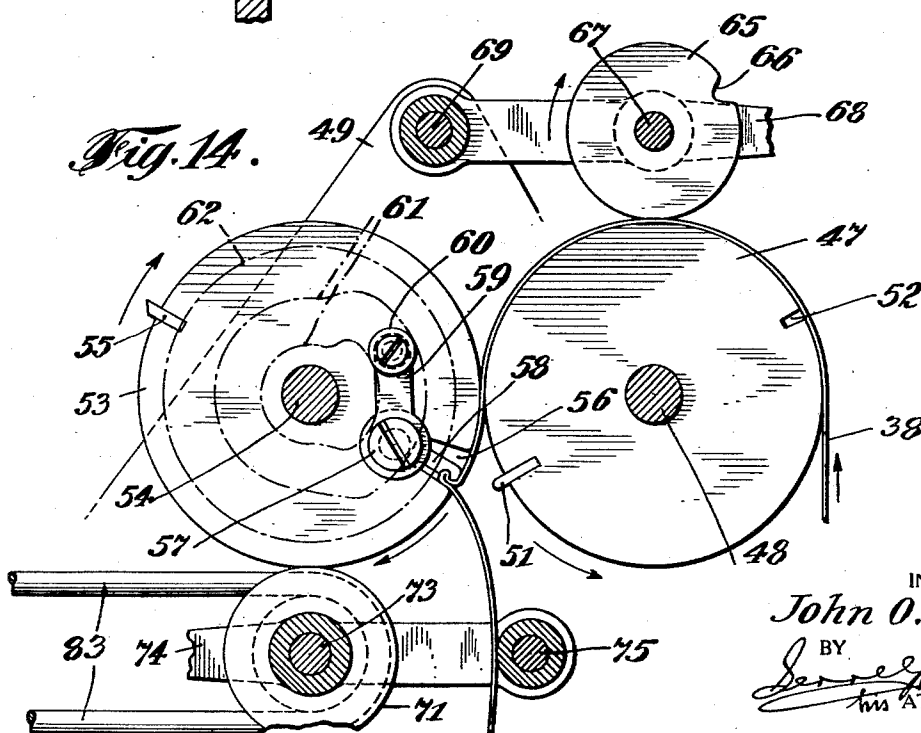


*Fig. 14.*



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*Fig. 15.*

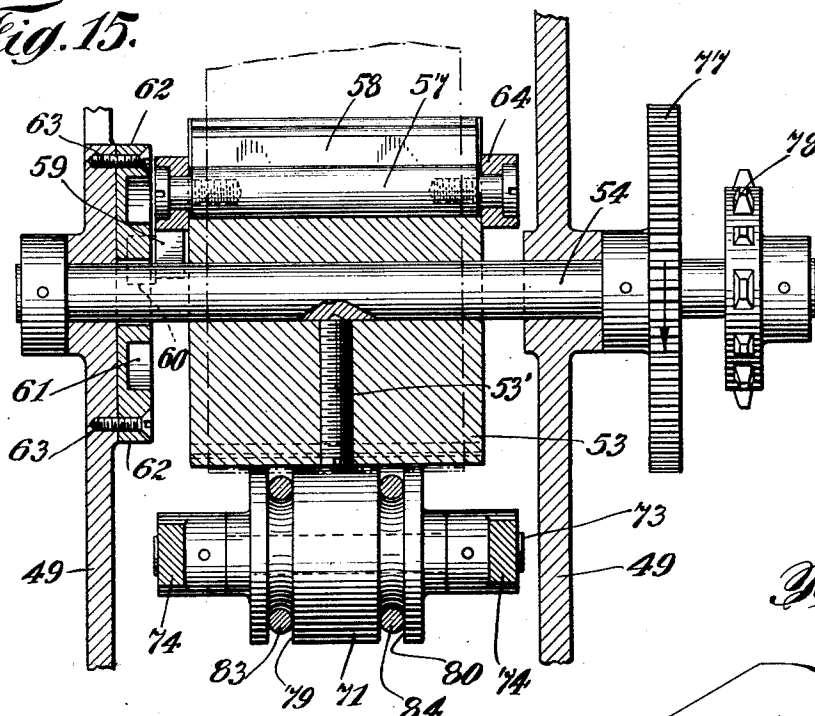


*Fig. 17.*

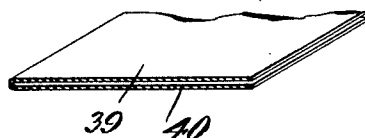


*Fig. 16.*

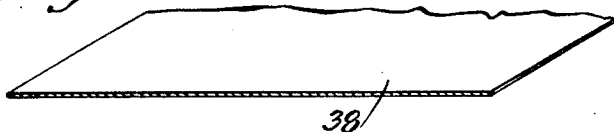


*Fig. 18.*

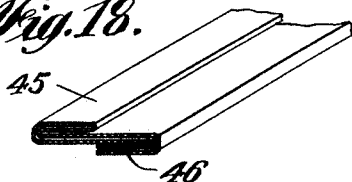


*Fig. 19.*

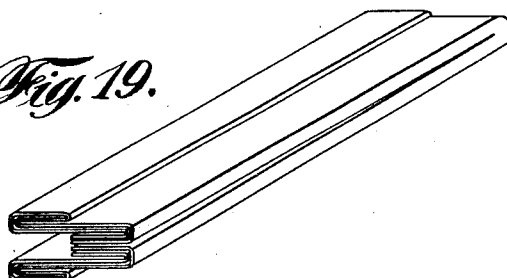


*Fig. 20.*

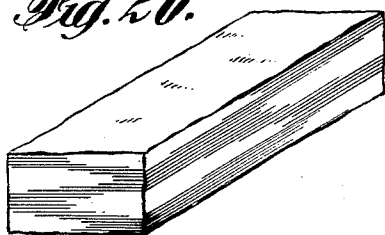
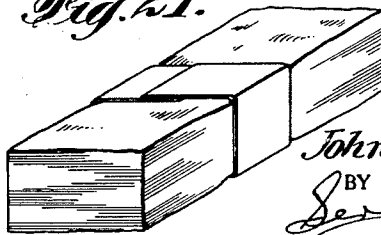


*Fig. 21.*



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## UNITED STATES PATENT OFFICE.

JOHN O. HUNT, OF BROOKLYN, NEW YORK, ASSIGNOR TO HUNT'S MODERN PAPER PRODUCTS, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## PAPER-NAPKIN MACHINE.

Application filed September 2, 1926. Serial No. 133,093.

My present invention relates to a paper napkin machine, that is to say a machine constructed to fold, stack and bundle paper napkins, towels or other similar articles.

5 In carrying out the invention the machine made in accordance therewith is so constructed that paper from a roll is folded longitudinally into predetermined sections of a given arrangement and is then cut into  
10 predetermined lengths and each length of paper folded transversely at substantially its middle portion. When thus folded the paper forms a napkin, towel or other similar article, and as thus formed each article is  
15 conveyed to a station from which by suitable means it is transferred, being preferably lifted to be included in a pile or stack of a predetermined number of articles which are to form a bundle, and as such, together  
20 with a band are moved into a pocket in a revoluble drum and simultaneously the band is wrapped around the articles forming a bundle and the revoluble drum caused to turn a predetermined portion of a revolution, each  
25 bundle of articles being maintained in position in the drum until a delivery point is reached at which each successive bundle of articles is delivered from the drum. The construction of the apparatus as well as the  
30 parts for operating the various portions as hereinbefore stated will be hereinafter more particularly described.

In the drawing Figure 1 is a sectional elevation taken on line 1—1, Fig. 2.

35 Fig. 2 is a front elevation of the machine comprising my present invention.

Fig. 3 is a sectional elevation on an enlarged scale on line 3—3, Fig. 2.

40 Fig. 4 is a sectional elevation on line 4—4, Fig. 3.

Fig. 5 is a sectional elevation on a still larger scale illustrating the stacking devices and the means for raising a bundle of articles into position in a pocket in the drum.

45 Fig. 6 is a sectional elevation on line 6—6, Fig. 4.

Fig. 7 is a sectional elevation illustrating the devices for holding the band around the bundle and maintaining the bundle in  
50 position in the pocket in the drum.

Fig. 8 is a view similar to Fig. 6, showing the parts of the apparatus in another position.

55 Fig. 9 is a sectional elevation illustrating the mechanism for causing the tape feeding

devices to actuate the drum, taken on line 9—9, Fig. 8.

Fig. 10 is a perspective view illustrating the devices for folding the tape and securing the bundles in position in the pockets, 60 and also for ejecting the bundles from the pockets.

Fig. 11 is a sectional elevation on an enlarged scale taken on line 11—11, Fig. 8.

Fig. 12 is a section taken on line 12—12, 65 Fig. 11.

Fig. 13 is an enlarged sectional elevation illustrating the feeding and cutting devices.

Fig. 14 is a view similar to Fig. 13 showing the parts in another position. 70

Fig. 15 is a section on line 15—15, Fig. 13.

Fig. 16 is a perspective view showing a portion of the web of paper.

Fig. 17 is a view showing a portion of the web of paper folded longitudinally. 75

Fig. 18 is a perspective view showing the edge sections of the folded web turned over in opposite directions.

Fig. 19 is a perspective view of the folded article. 80

Fig. 20 is a perspective view of an unwrapped bundle of napkins, and

Fig. 21 is a perspective view of a wrapped bundle of napkins. 85

In carrying out my invention the operative parts of the apparatus are mounted in a suitable frame, the parts of which are indicated at 25 and are supported upon a suitable base 26. The paper napkins or similar articles to be formed in the apparatus are made from a roll of paper 27. This roll of paper is mounted on a shaft 28 extending through slots 29 provided for this purpose in brackets 30 in which rollers 31 and 32 are mounted so as to support the roll of paper and also to cause the same by its own weight to unwind without any appreciable slip. The paper web is carried through a folder device comprising members 33 and 34. The folder device 34 is preferably mounted in a stationary manner and the folder device 33 secured to a bracket 35 which is pivotally mounted at 36 so as to be movable relatively to the folder member 34 to make it possible to easily fit the paper between the folder members by moving the folder member 33 relatively to the folder member 34 in initially placing the paper web in the apparatus. The paper web as it comes from the roll 27 is indicated at 38. The web is caused to pass 110

over a roller 37 before entering the folder members 33 and 34. These folder members are so constructed as to fold the web longitudinally into sections 39, 40 which are of substantially the same width as indicated in Fig. 17 of the drawing. After being thus folded the web is caused to pass over a roller 41 mounted on a shaft 42 which is suitably journaled in the frame of the machine and also over a roller 43 to an auxiliary folder member 44, the parts of which are so constructed that in passing through the same the outer longitudinal portions of the web are folded over each other in opposite directions as indicated at 45 and 46 in Fig. 18. It will be understood that the particular manner in which the web is folded longitudinally in passing through the folder member is only illustrative of one manner in which the paper may be thus folded, as this particular feature forms no part of my present invention, in fact the folder members may be so constructed as to fold the web longitudinally in many different manners without departing from the nature and spirit of the invention, it being necessary as will be understood to so construct these folder members as to produce the particular longitudinal fold which may be desired. Heretofore, similar folder members have been made for numerous purposes, and the construction of the folder devices forms no part of my invention.

After the web is folded longitudinally as hereinbefore stated and as shown in Fig. 18 of the drawing, the web is caused to pass to a set of feeding, transversely folding and cutting devices as particularly shown in Figs. 13, 14 and 15 of the drawing. These devices include a cylinder 47 mounted on a shaft 48 which is suitably journaled in an auxiliary frame 49 carried by a bracket 50 which is suitably secured to the frame of the machine. The cylinder 47 is fitted with an insertion bar 51 extending across the same and appreciably from the surface of the cylinder in a radial direction. In an oppositely disposed position the cylinder 47 is provided with a groove or recess 52. Co-operating with the cylinder 47 there is a cylinder 53. This cylinder 53 is mounted on a shaft 54 which is also suitably journaled in the auxiliary frame 49. The cylinder 53 may be fixed on the shaft by means of a set screw 53' and the cylinder 47 similarly fixed on the shaft 48 or otherwise. The cylinder 53 is fitted with a knife or cutting edge 55 coacting with the faces defining the groove 52 to transversely sever the traveling web as hereinbefore described. In a position oppositely disposed to the knife 55 the cylinder 53 is provided with a recess 56. Journaled in a bearing provided therefor in the cylinder there is a rocker shaft 57. Extending

from the rocker shaft is a gripper bar 58. This gripper bar lies within the recess 56. The rocker shaft is provided with a crank arm 59 mounted at the free end of which is a roller 60. The roller 60 is adapted to move in a cam groove 61 provided for this purpose in a cam plate 62 which is secured by means of screws 63 or otherwise in the side of the auxiliary frame 49. On the opposite end of the rocker shaft 57 there is a collar 64 which may be employed for maintaining the rocker shaft longitudinally in position in its bearing in the cylinder 53. Coacting with the cylinder 47 there is a roller 65. In the surface of this roller there is a notch 66 for receiving the insertion bar 51. The roller 65 is mounted on a shaft 67 journaled in levers 68. At one end the levers 68 are pivotally mounted in the sides of the auxiliary frame 49 as indicated at 69 and a predetermined relationship between the roller 65 and the cylinder 47 is maintained by means of a spring 70, connected at one end to the free ends of the levers 68 and at the opposite end to a pin mounted for this purpose in the auxiliary frame. Cooperating in a similar manner with the cylinder 53 there is a roller 71 in the surface of which there is a notch 72 permitting the knife 55 to pass freely. The roller 71 is mounted on a shaft 73 journaled in levers 74. At one end the levers 74 are pivotally mounted in the parts of the auxiliary frame 49 as indicated at 75. A predetermined relationship between the cylinder 53 and the roller 71 is maintained by means of a spring 76, one end of which is connected to the free ends of the levers 74 and the opposite end to a pin mounted in the auxiliary frame for this purpose. The shaft 54 is fitted with a gear 77 which meshes with a similar gear mounted on the shaft 48 whereby the cylinders 53 and 47 may be turned in unison. The shaft 67 is also suitably geared to the shaft 48 so as to maintain the revoluble relationship between the cylinder 47 and the roller 65 and similarly the shaft 73 is geared to the shaft 54 to maintain the revoluble relationship between the roller 71 and the cylinder 53. Inasmuch, however, as the usual form of spur gears may be employed for this purpose, they are not illustrated in the drawing. The parts forming the devices for feeding, cutting and transversely folding the paper web may be driven from the shaft 54 by means of a sprocket 78 and suitable devices for connecting the same to a source of power. The roller 71 is provided with peripheral grooves 79 and 80. Cooperating with this roller 71 there is a similarly constructed roller 81 which is mounted on a shaft 82 suitably journaled in the frame of the machine, and extending between and traveling in the

peripheral grooves in the rollers 71 and 81 there are belts indicated at 83 and 84.

As will now be understood the paper web in passing from the auxiliary folder members is caused to travel over the surface of the cylinder 47 and between the same and the surface of the roller 65. The web is then caused to pass between the surface of the cylinders 47 and 53. As the knife 55 comes into contact with the face defining the groove 52 the web is severed transversely to cut a section thereof from the web. In the continued movement of the cylinders the insertion bar 51 causes the adjacent portion of the web to enter the recess 56, the gripper bar having been moved by the portion of the rocker shaft and the cam for shifting the same to make this possible. The insertion bar forces a small section of the web into the recess and then the gripper bar is operated to engage the same between the notched face of the gripper bar and the adjacent face defining the recess 56 as clearly indicated in Fig. 14 of the drawing. With the web thus transversely gripped the continued movement of the cylinders carries the web to a position in which the transversely folded section thereof is conveyed between the cylinder 53 and the roller 71, when as will be understood, the cam again actuates the gripper bar to release the web which is then carried forward by the feeding action of the cylinder 53 and the roller 71 so as to place the web on the conveyor belts 83 and 84 by which the movement of the section of the web is continued so that the web is carried forward to a stop indicated at 85. In this movement of the web the next section is cut therefrom so that the completed article is moved to position by the conveyor belts against the stop 85 and between guide plates 86 and 87 so that the article is in a positive position to be engaged by the devices hereinafter described.

In oppositely disposed positions the side members of the frame of the machine are provided with upward extensions 88 and 89. Extending between and journaled in these extensions there are shafts 90 and 91. Mounted on the shafts 90 and 91 are complementary sets of disks each having a series of a predetermined number of blades extending radially from the surfaces thereof. The disks mounted on the shaft 91 are indicated at 92, 93 and 94. The blades extending respectively from these disks are designated by 95, 96 and 97. It will be understood from the foregoing that on the shaft 90 there is a complementary disk for each of the disks 92, 93 and 94, these are indicated at 92', 93', and 94'. The disk complementary to the disk 93 is designated by 93', and the blades extending from the surface thereof at 99. On the shaft 91 there is a gear 100

meshing with a similar gear on the shaft 90 so that these shafts are revolved in unison to impart corresponding movements to the sets of disks. Associated with each set of disks is a bell crank lever. The bell crank lever associated with the disks on the shaft 91 is pivotally mounted in the frame as indicated at 101. One arm of this bell crank lever as indicated at 102, is provided at its extremity with a cam roller 103 adapted to run in a groove 104 in a cam disk 105 carried by the disk 94. The other arm of this bell crank lever is indicated at 106 and at its outer or free end is fitted with a pin or stub shaft 107 on which there is mounted a swinging sleeve 108. The sleeve 108 is maintained in position on the pin by a nut 109 or otherwise. Extending from the sleeve 108 there are arms 110 and 111 adapted to lie between the disks 92, 93, and 93 and 94. On these arms there are depending lugs 112 and 113. On the opposite faces of the disk 93 there are ribs which are preferably stepped, one portion of these ribs is indicated at 114 and the other portion at 115.

On the other side of the machine there is a corresponding bell crank lever pivotally mounted at 116. The short arm of this bell crank lever as indicated at 117 is provided at its extremity with a cam roller 118 running in a cam groove 119 in a cam disk 120 which is the complement of the cam disk 105 and is secured to the disk 94' which is the complement of the disk 94. The other arm 121 of this bell crank lever is provided at its outer or free end with a pin 122 similar to the pin 107. Mounted on the pin 122 is a sleeve 123. Extending from the sleeve 123 there are arms 124 which correspond with the arms 110 and 111. On these arms there are lugs 125 depending therefrom in the same manner that the lugs 112, 113 depend from the arms 110 and 111. Also the disk 98 complementary to the disk 93 is provided with stepped ribs, the parts of which are indicated at 126 and 127. The ends of the arms 110 and 111 are indicated at 128, and the corresponding projecting ends of the arms 124 are indicated at 129.

The side members of the frame are also constructed to include upward extensions 130 and 131. Extending between and journaled in these extensions there is a shaft 132. Mounted to turn freely on the shaft 132 is a drum 133 having provided therein a plurality of pockets 134 preferably placed in equally spaced positions therein. Also mounted to swing on the shaft 132 there is a divided segment. One member of this segment is designated at 135 and the other member at 136. The segmental member 135 is provided with hubs 135' by means of which it is mounted on the shaft 132, and similarly the segmental member 136 is provided with hubs 136' by which it is mounted on the

shaft 132. These hubs lie in abutting positions on the exterior of the drum, and while the hubs 135' are offset the bodies of the segmental members are in alignment with each other. These segmental members 135 and 136 span the drum or a portion thereof and are yieldingly connected with each other by means of suitable springs 137 or otherwise. Furthermore, in their peripheral portions these segmental members are provided with circumferential grooves. Suitably connected to one of the hubs 135' there is a mutilated gear 138. Meshing with this gear 138 is a rack 139. The rack 139 is carried at one end of a rocker lever 140. This rocker lever 140 is pivotally connected to the frame of the machine as indicated at 141. A cam roller 142 is connected to the opposite end of the rocker lever and is adapted to run in a cam groove 143 in a cam disk 144 suitably secured on the shaft 91. As the shaft 91 revolves the rocker lever is moved in opposite directions to swing the segmental members from the position shown in Fig. 8 to the positions shown in Figs. 3 and 6 for example, and then to return the segmental members to the position shown in Fig. 8 which may be assumed their initial position. During their forward or downward travel the segmental member 136 is carried with the segmental member 135 by means of a yielding or spring connection between them. After the segmental member 136 has reached the positions indicated in Figs. 3 and 6, its movement is discontinued by a suitable stop 145, whereas the travel of the segmental member 135 is continued until it reaches the positions shown in Figs. 3 and 6 in which the adjacent edges of the segmental members are sufficiently spaced to clear the ends of a pocket in the drum as hereinafter described.

In their outer faces the segmental members are provided with a track or groove 146 adapted to receive and guide a tape 147 which as hereinafter described is employed for tying a predetermined number of articles into a bundle. This tape 147 is drawn from a roll 148. The roll is moved on an arm 149 in any suitable manner and the arm 149 is connected to an upward extension 150 of the frame of the machine. Also on the outer faces of the segmental members 135 and 136 there is a rack 151 employed to operate a mechanism for applying an adhesive to a predetermined portion of the tape as the same is fed to position in the apparatus.

The adhesive applying devices are particularly illustrated in Figs. 8, 11 and 12. Referring now especially to these figures, the rack 151 meshes with a gear 152 which is suitably secured on a sleeve 153. The sleeve 153 is mounted on a shaft 154 and the sleeve 153 is journaled in a suitable bearing provided therefor in an auxiliary frame 155.

At the end of the shaft 154 opposite the sleeve 153 this shaft is journaled in a bearing 156 provided therefor in another portion of the auxiliary frame as indicated at 157. Made integral with or suitably connected to the sleeve 153 there is a disk 158 so that the disk is driven by the sleeve through the gear 152. The disk 158 carries a drive pawl 159 which may be pivotally connected thereto as indicated at 160 or otherwise. Bearing against the drive pawl 159 is a spring 161. This spring 161 may be connected to a support 162 also carried by the disk so as to normally maintain the end or nose of the pawl in engagement with a notch 163 in a drum 164 which is mounted on the shaft 154. Connected in a suitable manner in the auxiliary frame 155 there is a pin 165. Pivotally mounted on this pin there is a pawl 166. The free end of this pawl also engages the notch 163 and the drum 164 and acts as a stop to prevent the turning of the drum and the parts associated therewith in a counter-clockwise direction as viewed in Fig. 12. The stop pawl 166 is normally maintained in position by a spring 167 suitably connected to a support 168 associated with the auxiliary frame 155. Also mounted on the shaft 154 there is a drum 169. This drum and the drum 164 are connected to each other in any suitable manner. The drum 169 is provided with a plunger 170 which is actuated by a spring 171. The head of the plunger is adapted as hereinafter described to apply an adhesive to the tape 147. Adjacent the plunger 170 the drum 169 is provided with a knife or cutting edge 172. Associated with the drums 164 and 169 there is a gear 173. This gear 173 meshes with a gear 174 connected to a shaft 175 which is journaled in suitable bearings provided therefor in the auxiliary frame. On the shaft 175 there is a roller 176 adapted to extend into a tank 177 in which there is a quantity of liquid adhesive. In the operation of these parts, as the segmental members 135 and 136 move from their initial position downwardly the gear 152 is turned in a clockwise direction as viewed in Fig. 12 to thereby turn the disk 158 and drive the drums 164 and 169, and the gear 173 by the engagement of the drive pawl 159 with the notch 163 in the drum 164. This movement also turns the shaft 175 through the actuation of the gear 174 by the gear 173 and therefore turns the roller 176 in the adhesive tank. As the drum 169 revolves the surface of the plunger 170 contacts with the gummed surface of the roller 176 and is therefore supplied with a quantity of adhesive. During the continued movement of the drum at a predetermined time before the tape is brought to position the surface of the plunger transfers the adhesive to the tape. In the opposite or return movement

of the segmental members the gear 152 is turned in the opposite direction in which as will be understood the disk 158 turns with the gear and the drive pawl 159 is withdrawn from the notch 163 and the nose of the pawl rides on the surface of the drum 164, which latter is then maintained in a stationary position by means of the engagement of the end or nose of the stop pawl 166 in the notch 163. During this movement the tape lying in the track 146 merely slides over the adjacent face of the drum 169 which is then also stationary, whereas in the feeding of the tape when the segmental members move in the opposite direction this drum 169 cooperates with the base of the track or groove to feed the tape.

Associated with each of the pockets in the drum 133 is a shaft 178 which extends across and is suitably journaled in bearings provided therefor in the walls of the drum. As these shafts and the devices actuated by the same are similarly constructed and operated, only one of them will be described. As illustrated particularly in Figs. 3, 6 and 10 of the drawing, each shaft 178 is fitted with an arm 179. The arm terminates in a plate 180 at substantially right angles thereto and in which plate there are notches 181 and 182. The shaft 178 together with the arm and the plate associated therewith are operated by a crank 183 secured to one end of the shaft and provided with a cam roller 184 running in a cam groove 185 in a cam disk 186 which is preferably mounted on a hub provided for this purpose on the drum 133. Also associated with each of the pockets in the drum and extending across the same and journaled therein is a shaft 187. These shafts 187 and the parts operated thereby, together with the devices for actuating the same are similar, and therefore, but one of them will be described. As will be seen by reference to the same figures in the drawing each shaft 187 carries an arm 188 having a plate 189 at substantially right angles thereto, and in this plate 189 there are notches 190 and 191. Each shaft 187 is operated by a crank arm 192 suitably secured to one end of the shaft and provided with a cam roller 193 running in a cam groove 194 in the cam disk 186. Also associated with each of the pockets in the drum there is an ejector arm 195 mounted freely on the corresponding shaft 187 and actuated by a spring 196. As shown particularly in Fig. 10, one end of each of these springs is secured in a wall of the drum, a portion of the spring is wound on the corresponding shaft 187, and the other end of the spring engages the ejector arm 195. Each ejector arm 195 extends through a slot 197 in the drum so that the free end of each arm lies in the corresponding pocket and is provided with an extension 198 which extends substantially across the correspond-

ing pocket. In the cam groove 185 there is a shoulder 199 and similarly in the cam groove 194 there is a shoulder 200.

In a suitable position on the segmental member 135 there is a lug 201 adapted to contact with a pin 202 placed in an adjacent position on the cam disk 186. Similarly in a suitable position on the segmental member 136 there is a lug 203. This is adapted to engage with a pin 204 extending from the cam disk 186 so as to be engaged by this lug. In the periphery of the drum there are suitably spaced lugs 205 as particularly illustrated in Figs. 3, 4, 6 and 9 of the drawing. The segmental member 136 is provided with a latch 206 having a boss 207 adapted to engage with a stop 208 whereby as the segmental members return to their initial positions the latch 206 engages one of the lugs 205 and in the continued movement of the segmental members a partial revolution is thereby imparted to the drum, the extent of this movement being sufficient to shift the pockets so that one pocket is moved from the station at which it is filled and the next succeeding pocket is moved into position to be filled. As will be understood when the segmental members are actuated in the opposite direction the latch 206 slides over the next succeeding lug 205 so as to permit the drum to remain fixed in place. The drum is normally maintained in place by means of a stop pin 209 which may be spring actuated and the cam disk 186 is normally maintained in position in a similar manner by a pin 210 which may also be spring actuated. These pins engage the notches provided for this purpose in the peripheries of the drum and disk and as illustrated in Figs. 4 and 6 of the drawing, may be mounted in an arm 211 extending from the frame member 150.

In the operation of the apparatus the paper web from the reel 27 is moved through and folded in and by the folder devices 33 and 34 and the folder device 44 into the form as shown in Figs. 17, 18 and 19. The web thus folded longitudinally is then carried between the cylinder 47 and the roller 64 and between the cylinders 47 and 53 where it is engaged by the gripper bar transversely and substantially midway of the length of an article to be folded and after being cut or severed from the reel transversely by the cutter edge or knife 55 is carried by the gripper bar to a position in which it is engaged between the cylinder 53 and the roller 71 and thence upon the conveyor belts 83 and 84 to a position against the stop 85 as hereinbefore described. As each succeeding napkin or other article is thus carried to this position it moves between succeeding blades on the disks 92, 93, 94, and 92', 98, and 94' so that by the revolution of these disks each succeeding article is raised to form a pile between the guide 130

members 86 and 87 as is clearly illustrated in Figs. 3, 6 and 8 of the drawing. The number of napkins or other articles comprising a pile or bundle is determined by the number of blades on these disks. For the purposes of this description the parts may be assumed in their normal condition as indicated in Fig. 3. In this position one of the pockets 134 in the drum 133 lies immediately above the napkins as being stacked by the turning disks and the blades carried by the same. The ejector arm 195 associated with this pocket extends into the same as illustrated in this figure. The plates 180 and 189 which form doors to close the pocket are swung aside as indicated in this figure and also in Fig. 8 so that the entrance to the pocket is clear. The segmental members 135 and 136 have been moved to the position shown in Fig. 3 in which the adjacent edges of these members are separated so as to also leave the entrance to the pocket clear. In so doing a portion of the binder tape 147 has been fed by the segmental members with the cooperation of the drum 169 as hereinbefore described to a position in which a portion of this tape extends across the open end of the pocket. It will be understood that the feed of the tape ceases at the time the segmental member 136 abuts against the stop and ceases its movement in this direction at which time the forward end of the tape strikes against a stop 212 so that with the continued movement of the segmental member 135 the tape does not move but remains stationary. Now after the disks with the blades thereon have turned a complete revolution the arms 106 and 121 of the bell crank levers are moved inwardly or toward each other to cause the ends 128 and 129 of the arms carried by these bell crank levers to move into the position shown in Fig. 3, wherein they underlie and engage with the edge portions of a napkin, and as the disks continue to revolve the arms 110 and 124 as well as their complementary arms are raised to lift a bundle of napkins and to place the same in the pocket, forcing them therein against the action of the ejector arm 195 which swings inwardly against the action of the spring to permit the bundle of napkins to enter the pocket. This movement of the arms 110 and 124 and their complementary arms is effected by the engagement between the stepped portions 114 and 126 of the ribs on the disks 93 and 98 and the adjacent faces of the lugs 112 and 125 and the complementary lugs. In so doing as will be understood, the binder tape is carried into the pockets so as to extend across the innermost napkin and along sides of the napkins forming the bundle thereof. As the segmental member 135 approaches the extreme end of its travel in a clockwise direction as viewed in Figs. 3 and 6, the lug 201 strikes the pin 202. This action causes a partial revolution of the cam disk 186 by which as will be understood the shoulder 200 in the cam groove 194 through its action against the corresponding roller 193 swings the crank arm and oscillates the shaft 187 so as to move the plate 180 to the position shown in Fig. 6. At substantially the same time the shoulder 199 in the cam groove 185 coacting with the corresponding roller 184 swings the crank arm 183 and oscillates the shaft 178 so as to move the arm 179 and the plate 189 to the position shown in Fig. 6. In moving to these positions the plate 180 which is narrower than the plate 189 first moves to place and carries one end of the binder tape with it. Immediately after the longer plate 189 is moved to position carrying with it the other end of the binder tape which has been provided with an adhesive as hereinbefore described so as to cause this end of the tape to which the adhesive has been applied to overlap the other end of the tape so that when the adhesive is dried the tape forms a wrapper to bundle the pile of napkins as particularly illustrated in Fig. 7. In the meantime the arms 106 and 121 of the bell crank levers are moved away from each other to withdraw the ends 128, 129 of the arms 110 and 124 and the complementary arms from the pocket, the ends of these arms being withdrawn through the notches 181 and 182 and 190 and 191 by means of which as will be understood it is possible for the plates 180 and 189 to be moved to position while the napkins are still maintained in place by the ends of the arms. In being withdrawn from the pockets the lugs 112 and 125 and the complementary lugs run off the ends of the stepped portions 114 and 126 of the ribs on the disks 93 and 98 permitting the arms 110 and 124 and their complementary arms to drop until these lugs bear against the stepped portions 115 and 127 of these ribs as indicated in Fig. 5 of the drawing, after which the arms are supported and gradually lowered to their lowermost position by the ends of these stepped portions 115, 127, riding along the lower edges of the arms until eventually the arms reach their lowermost positions in contact with the shafts 91 and 90 respectively. Upon a bundle of napkins being placed in the pocket as hereinbefore described, the segmental members 135 and 136 are quickly moved to their initial position by the swinging movement of the lever 140 and in so doing the tape remains stationary due to the greater frictional contact between the same and the then stationary drum 169, the surface of which is preferably made of rubber and the surface of the groove in the segmental members are made of steel or other metal. At the same time after the segmental members 135 have come into con-

tact with the segmental member 136 and caused the latter to move with it the latch 206 contacts with the next successive lug 205 on the drum and carries the drum forward with it a predetermined portion of a revolution, releasing the drum from the stop 209 and causing the stop to engage the next successive notch in the periphery of the drum to maintain the same in place for the succeeding pocket to be filled with a bundle of napkins. Immediately before the segmental member 136 reaches its initial position as shown in Fig. 8, the lug 203 comes in contact with the pin 204 and returns the cam disk 186 to its initial position against the action of the stop 210 which then engages the other notch in the periphery of the cam disk to so maintain the cam disk until it is moved into position to operate the plates or doors for closing the next succeeding pocket in the drum. The bundles of napkins as thus placed in the several pockets remain therein until the drum has been turned substantially three-quarters of a revolution. This of course, applies to the construction as illustrated. During this time the adhesive has sufficiently set to maintain the band of strips in position. By shoulders 213 and 214 in the cam grooves 185 and 194 the cam rollers 184 and 193, for operating the shafts 178 and 187 corresponding to the pocket from which the bundle of napkins is to be ejected operate these shafts to swing the plates 180 and 189 to the open position as shown in Fig. 6 in which as will be understood the bundle of napkins being released is ejected by the action of the ejector arm 195 and may be delivered to a chute 215 as indicated in Fig. 1 and conveyed by the chute to any suitable position for being placed in a carton or otherwise suitably packed.

I claim as my invention:

1. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, means for raising each successive article, means for lifting a predetermined number of said articles and placing the same in a pocket in the said movable member, means for closing the said pocket, devices for shifting the position of the movable member, and means for ejecting the articles from the said pocket.

2. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, a plurality of sets of revoluble disks, means associated with the disks for successively raising each successive article, means for lifting a predetermined number of articles and placing the same in a pocket in the said movable member, means for closing the said pocket, devices for shifting the position of the mov-

able member, and means for ejecting the articles from the said pocket.

3. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, a plurality of revoluble disks, series of blades carried by each of the disks and adapted to engage and raise each successive article, a plurality of arms operated by the said disks for lifting a predetermined number of articles and placing the same in a pocket in the movable member, means for closing the said pocket, devices for shifting the position of the movable member, and means for ejecting the articles from the said pocket.

4. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, a plurality of oppositely disposed disks adapted to engage and raise each successive article, arms actuated by the disks for lifting a predetermined number of articles and placing the same in a pocket in the movable member, a set of plates associated with the said pocket, means for actuating the plates to close the pocket after the articles have been placed therein and for opening the pocket after the movable member has been shifted a predetermined distance, devices for shifting the position of the movable member, and means for ejecting the articles from the pocket after the said plates have been moved to open the pocket.

5. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, a plurality of oppositely disposed disks adapted to engage and raise each successive article, a plurality of arms actuated by the disks for lifting a predetermined number of articles for placing the same in a pocket, a set of plates associated with each pocket, means for shifting the movable member, means for actuating the said plates to close the pocket after the articles have been placed therein and for opening the pocket after the movable member has been shifted a predetermined distance, and an ejector bar for ejecting the articles from the pocket after the said plates have been operated to open the same.

6. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, means for successively raising each article as it reaches the said station, means for lifting a predetermined number of articles and placing the same in a pocket in the said drum, means for closing the pocket in the drum, means for shifting the drum a predetermined portion of a revolution, and

means for ejecting the articles from the pocket after the drum has been turned a predetermined portion of a revolution.

7. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, a plurality of sets of revoluble disks, a series of radially placed blades on each disk adapted to engage and raise each succeeding article as it reaches the said station, means for lifting a predetermined number of articles and placing the same in a pocket in the revoluble drum, means for closing the pocket, devices for shifting the position of the drum, and means for ejecting the articles from the pocket after the drum has been moved a predetermined portion of a revolution.

8. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, a plurality of oppositely disposed revoluble disks for raising each successive article as it reaches the said station, a plurality of arms actuated by the said disks for lifting a predetermined number of articles and placing the same in a pocket in the revoluble drum, means for closing the pocket, devices for shifting the position of the drum, and means for ejecting the articles from the pocket after the drum has been moved a predetermined portion of a revolution.

9. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, a plurality of oppositely disposed disks arranged in pairs and adapted to engage and raise each successive article as it reaches the said station, a plurality of arms for lifting a predetermined number of the said articles and placing the same in a pocket in the revoluble member, means for operating the said arms from the said disks, a set of plates associated with each of the pockets, means for operating the plates to close and open the pocket, devices for shifting the position of the revoluble drum, and means for ejecting the articles from the pocket after the drum has been moved a predetermined portion of a revolution.

10. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, a plurality of oppositely disposed disks arranged in pairs and adapted to engage and raise each successive article as it reaches the said station, a plurality of arms for lifting a predetermined number of the said articles and placing the same in a pocket in the revoluble member, means for operating the said arms from the said disks, a set of plates

associated with each of the pockets, means for operating the plates to close and open the pockets, devices for shifting the position of the revoluble drum, and a spring actuated ejector for removing the articles from each pocket after the drum has been turned a predetermined portion of a revolution.

11. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, devices for feeding a binder tape across the entrance to a pocket in the drum, devices for raising each successive article as it reaches the said station, devices for lifting a predetermined number of articles to form a bundle and for placing the same with a portion of the tape in a pocket in the revoluble drum, means for closing the pocket and wrapping the tape around the bundle of articles therein, means coacting between the drum and the devices for feeding the tape for periodically moving the drum a portion of a revolution, and means for ejecting the bundle of articles from the pocket after the drum has been turned a predetermined portion of a revolution.

12. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, devices for feeding a binder tape to extend across the entrance to a pocket in the revoluble drum, means for applying an adhesive substance to a portion of the tape, devices for engaging and raising each successive article as it reaches the said station, means for lifting a predetermined number of articles to form a bundle thereof and placing the same together with the tape in a pocket in the revoluble drum, means for closing the pocket and wrapping the tape around the bundle of articles therein, means operative by the devices for feeding the tape for periodically shifting the drum a portion of a revolution, and means for ejecting the bundle of articles from said pocket after the revoluble drum has been turned a predetermined portion of a revolution.

13. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members adapted to swing over a portion of the revoluble drum for feeding a binder tape across the entrance to a pocket in the drum, means for operating the said segmental members, a plurality of oppositely disposed devices for engaging and raising each successive article as it reaches the said station, means for lifting a predetermined number of articles to form a bundle thereof and placing the same together with the tape in a pocket in the rev-

oluble drum, means for closing and opening the pocket in the drum and upon closing the same to wrap the tape around the bundle of articles therein, means actuated by the segmental members for periodically moving the revoluble drum a predetermined portion of a revolution, and means operative upon the opening of the pocket for ejecting the bundle of articles therefrom.

14. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for swinging said segmental members in opposite directions over portions of the said drum, means cooperating with the said segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operative by the segmental members when moved in the other direction for shifting the revoluble drum a predetermined portion of a revolution, a plurality of oppositely disposed devices for engaging and raising each successive article as it reaches the said station, means for lifting a predetermined number of articles to form a bundle thereof and forcing the same together with the tape into a pocket in the said drum, means for closing and opening the pocket in the said drum and when closing the same to fold the tape around the articles therein, and means operative after the pocket has been opened for ejecting the bundle of articles therefrom.

15. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for operating the said segmental members in opposite directions, means cooperating with the segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operated by the segmental members when moved in the other direction for shifting the drum a predetermined portion of a revolution, a plurality of oppositely disposed sets of revoluble disks, radially placed blades extending from the said disks and adapted by the revolution of the said disks to engage and raise each successive article as it reaches the said station, means for lifting a predetermined number of the said articles to form a bundle thereof and placing the same with the tape in a pocket in the drum, means for closing and opening the pocket in the drum and when closing the same to wrap the tape around the bundle of articles, and means for ejecting the bundle of articles from the pocket after the same has been opened and the drum turned a predetermined portion of a revolution.

16. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for operating the said segmental members in opposite directions, means cooperating with the segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operated by the segmental members when moved in the other direction for shifting the drum a predetermined portion of a revolution, a plurality of oppositely disposed sets of revoluble disks, radially placed blades extending from the said disks and adapted by the revolution of the said disks to engage and raise each successive article as it reaches the said station, a plurality of arms actuated by the said disks and adapted to lift a predetermined number of articles to form a bundle and to place the same with the tape in a pocket in the drum, means for closing and opening the pocket in the drum and when closing the same to wrap the tape around the bundle of articles, and means for ejecting the bundle of articles from the pocket after the same has been opened and the drum turned a predetermined portion of a revolution.

17. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for operating the said segmental members in opposite directions, means cooperating with the segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operated by the segmental members when moved in the other direction for shifting the drum a predetermined portion of a revolution, a plurality of oppositely disposed sets of revoluble disks, radially placed blades extending from the said disks and adapted by the revolution of the said disks to engage and raise each successive article as it reaches the said station, a plurality of arms actuated by the said disks and adapted to lift a predetermined number of articles to form a bundle and to place the same with the tape in a pocket in the drum, a set of plates associated with each pocket in the said drum, means for successively operating the set of plates associated with each pocket after a bundle of articles has been placed therein and simultaneously wrapping the tape around the bundle and also for operating the said plates to open the pocket after the drum has been turned a predetermined portion of a revolution, and means operative after the said plates have been moved to open the pocket for ejecting the bundle of articles therefrom.

18. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for operating the said segmental members in opposite directions, means cooperating with the segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operated by the segmental members when moved in the other direction for shifting the drum a predetermined portion of a revolution, a plurality of oppositely disposed sets of revoluble disks, radially placed blades extending from the said disks and adapted by the revolution of the said disks to engage and raise each successive article as it reaches the said station, a plurality of arms actuated by the said disks and adapted to lift a predetermined number of articles to form a bundle and to place the same with the tape in a pocket in the drum, a set of plates associated with each pocket in the said drum, a cam disk, a plurality of shafts mounted in the said drum, a connection between each of the said shafts and one of the plates for closing and opening the pocket in the drum, the said cam disk being actuated by the movement of the said segmental members to operate the said plates to close the pockets in the drum, and means after the plates have been actuated to open the pocket for ejecting the bundle of articles therefrom.

19. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a revoluble drum having a plurality of pockets therein, segmental members, means for operating the said segmental members in opposite directions, means cooperating with the segmental members when moved in one direction for feeding a binder tape across the entrance to a pocket in the drum, means operated by the segmental members when moved in the other direction for shifting the drum a predetermined portion of a revolution, a plurality of oppositely disposed sets of revoluble disks, radially placed blades extending from the said disks and adapted by the revolution of the said disks to engage and raise each successive article as it reaches the said station, a plurality of arms actuated by the said disks and adapted to lift a predetermined number of articles to form a bundle and to place the same with the tape in a pocket in the drum, a set of plates associated with each pocket in the said drum, a cam disk, a plurality of shafts mounted in the said drum, a connection between each of the said shafts and one of the plates for closing and opening a pocket in the drum, the said cam disk being actuated by the movement of the said segmental members to operate the said plates

to close the pockets in the drum, and an ejector member associated with each pocket and adapted after the pocket has been opened to eject the bundle of articles therefrom.

20. In a paper napkin machine having a station at which folded articles are delivered, a set of disks, shafts upon which the disks are mounted, means carried by the disks for raising each successive article as the same reaches the said station, a plurality of arms, and means for actuating the said arms to lift a predetermined number of the said articles with each revolution of the said disks and to place the same in a receptacle.

21. In a paper napkin machine having a station at which folded articles are delivered, sets of disks, shafts upon which the said disks are mounted, a plurality of blades extending radially from each of the disks and adapted to engage and raise each successive article as it reaches the said station, a plurality of arms, and means operated by the said disks for actuating the arms to cause the ends of the same to lift a predetermined number of articles with each revolution of the said disks and to place the said articles in a receptacle.

22. In a paper napkin machine having a station at which folded articles are delivered, sets of disks, shafts upon which the disks are mounted, means carried by the disks for engaging and lifting each successive article as the same reaches the said station, a set of levers, arms carried by the said levers, means for swinging the said levers toward and away from each other to cause the ends thereof to move into and out of the path of the means carried by the disks for lifting each successive article, and means for swinging the said arms to cause the ends thereof to engage and lift a predetermined number of articles with each revolution of the disks and to place the articles in a receptacle.

23. In a paper napkin machine having a station at which folded articles are delivered, sets of disks, shafts upon which the disks are mounted, a plurality of blades extending radially from each disk and adapted to engage and lift each successive article as the same reaches the said station, a set of levers, a plurality of arms carried by each lever, means for swinging the levers to and away from each other to cause the ends of the arms to move into and out of the path of the blades on the disks, and means carried by the disks for engaging the said arms with each revolution of the disks to raise the arms to thereby cause the ends thereof to lift a predetermined number of articles to place the same in a receptacle.

24. In a paper napkin machine having a station at which folded articles are delivered, sets of disks, shafts upon which the

disks are mounted, a plurality of blades extending radially from each disk and adapted to engage and lift each successive article as the same reaches the said station, a set of  
 5 levers, a plurality of arms carried by each lever, cams for moving the levers toward and away from each other to cause the ends of the arms to move into and out of the path of the said blades, a lug depending from each  
 10 of the said arms, and stepped ribs carried by predetermined disks and adapted with each revolution of the disks to engage the arms swinging the same upwardly to thereby cause the end of the arms to lift a predetermined number of articles and place the same  
 15 in a receptacle.

25. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of  
 20 pockets therein, a shaft upon which the said drum is mounted, means for raising a bundle of articles and placing the same in a pocket in the drum, a segmental member mounted on the said shaft, means for moving the said  
 25 segmental member, a set of plates associated with each pocket for closing and opening the same, means actuated by the segmental member for actuating the said plates to close a pocket with which they are associated, means  
 30 actuated by the segmental member for intermittently moving the drum a predetermined portion of a revolution and means operative after the drum has been turned a predetermined portion of a revolution and a pocket  
 35 therein opened for ejecting the articles from the said pocket.

26. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of  
 40 pockets therein, a shaft upon which the said drum is mounted, means for lifting a bundle of articles and placing the same in a pocket in the drum, a segmental member mounted on the said shaft, means for swinging the segmental member in opposite directions to and from an initial position, means operative by the segmental member when returning to its initial position for imparting a predetermined portion of a  
 45 revolution to the drum, a set of rocker shafts mounted in the drum for each of the said pockets, an arm carried by each rocker shaft, a plate connected to each of the said arms, the plates associated with each pocket being adapted to close and open the same, a cam  
 50 disk on the said drum, connections between the said cam disk and rocker shafts, means carried by the segmental member for engaging the cam disk to revolutely shift its position when the segmental member is moved from its initial position for actuating the rocker shafts, arms and plates thereby to close the pocket associated therewith, and means carried by the segmental member for  
 55 engaging the cam disk to shift the same in

the opposite direction when the segmental member is returned to its initial position.

27. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of  
 70 pockets therein, a shaft on which the drum is mounted, a segmental member also mounted on the said shaft, means for swinging the segmental member to and from an initial position, devices cooperating with the segmental member when moving from its  
 75 initial position for feeding a binder tape to position with a portion thereof extending across the entrance to a pocket in the drum, means for placing a bundle of articles together with binder tape in a pocket in the drum, means for closing each pocket after a bundle of napkins has been placed therein and for folding the binder tape around the  
 80 same, means operated by the segmental member in returning to its initial position for shifting the revoluble drum a predetermined portion of a revolution, and means for discharging the articles from each pocket after the drum has traveled a pre-  
 85 determined distance.

28. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of  
 90 pockets therein, a shaft on which the drum is mounted, a segmental member also mounted on the said shaft, means for swinging the segmental member to and from an initial position, means cooperating with the segmental member in moving from its initial position for feeding a binder tape to cause a portion thereof to extend across the entrance to a pocket in the drum, devices for placing a bundle of articles and a strip of binder tape in a pocket in the drum, a  
 95 set of plates carried by the said drum and associated with the pocket therein, means operated by the segmental member in moving from its initial position for actuating the plates associated with the pocket to close the same and to fold the binder tape around the articles in the pocket, means operative in the movement of the segmental member to its initial position for shifting the revoluble drum a predetermined portion of a revolution, and means operative after the drum has traveled a predetermined distance for ejecting the articles from the pockets therein.

29. In a paper napkin machine having a station at which folded articles are delivered,  
 100 a revoluble drum having a plurality of pockets therein, a shaft on which the drum is mounted, a segmental member also mounted on the said shaft, means for swinging the segmental member to and from an initial position, means cooperating with the segmental member in moving from its initial position for feeding a binder tape to cause a portion thereof to extend across the entrance to a pocket in the drum, devices  
 105 110 115 120 125 130

for placing a bundle of articles and a strip of binder tape in a pocket in the drum, a set of rocker shafts associated with each pocket, the said rocker shafts being mounted  
 5 in the said drum, a plate actuated by each of said rocker shafts, a cam disk mounted on the said revoluble drum, means for normally maintaining the cam disk in an initial position, means operative by the seg-  
 10 mental member in moving from its initial position for shifting the cam disk to operate a set of rocker shafts and plates carried thereby to close a pocket and to fold the binder tape around the articles therein,  
 15 means actuated by the movement of the segmental member to its initial position for returning the cam disk to its initial position, and means for ejecting the articles from the said pockets after the revoluble drum has  
 20 traveled a predetermined distance.

30. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of pockets therein, a shaft on which the drum  
 25 is mounted, a segmental member also mounted on the said shaft, means for swinging the segmental member to and from an initial position, means cooperating with the segmental member in moving from its initial  
 30 position for feeding a binder tape to position and applying a quantity of adhesive thereto, means for placing a bundle of articles together with binder tape in a pocket in the drum, means for closing each pocket after  
 35 a bundle of napkins has been placed therein and for folding the binder tape around the same, means operated by the segmental member in returning to its initial position for shifting the revoluble drum a prede-  
 40 termined portion of a revolution, and means for discharging the articles from each pocket after the drum has traveled a predetermined distance.

31. In a paper napkin machine having a  
 45 station at which folded articles are delivered, a revoluble drum having a plurality of pockets therein, a shaft on which the drum is mounted, a segmental member also mounted on the said shaft, means for swing-  
 50 ing the segmental member to and from an initial position, means cooperating with the segmental member in moving from its initial position for feeding a binder tape to position and applying a quantity of adhesive thereto,  
 55 devices for placing a bundle of articles and a strip of binder tape in a pocket in the drum, a set of plates carried by the said drum and associated with said pocket therein, means operated by the segmental member in mov-  
 60 ing from its initial position for actuating the plates associated with the pocket to close the same and to fold the binder tape around the articles in the pocket, means operative in the movement of the segmental member  
 65 to its initial position for shifting the rev-

oluble drum a predetermined portion of a revolution, and means operative after the drum has traveled a predetermined distance for ejecting the articles from the pockets therein.

32. In a paper napkin machine having a  
 70 station at which folded articles are delivered, a revoluble drum having a plurality of pockets therein, a shaft on which the drum is mounted, a segmental member also mounted  
 75 on the said shaft, means for swinging the segmental member to and from an initial position, means cooperating with the segmental member in moving from its initial position for feeding a binder tape to position and  
 80 applying a quantity of adhesive thereto, devices for placing a bundle of articles and a strip of binder tape in a pocket in the drum, a set of rocker shafts associated with each pocket, the said rocker shafts being mounted  
 85 in the said drum, a plate actuated by each of said rocker shafts, a cam disk mounted on the said revoluble drum, means for normally maintaining the cam disk in an initial position, means operative by the segmental mem-  
 90 ber in moving from its initial position for shifting the cam disk to operate a set of rocker shafts and plates carried thereby to close a pocket and to fold the binder tape around the articles therein, means actuated  
 95 by the movement of the segmental member to its initial position for returning the cam disk to its initial position, and means for ejecting the articles from the said pockets after the revoluble drum has traveled a pre-  
 100 determined distance.

33. In a paper napkin machine having a  
 105 station at which folded articles are delivered, a revoluble drum having a plurality of pockets therein, a shaft upon which the revoluble drum is mounted, a two part seg-  
 110 mental member, means for yieldingly connecting the parts of the segmental member, devices for swinging the segmental members to and from an initial position, means whereby one segmental member is arrested in its travel from its initial position and the other  
 115 segmental member continues its travel a predetermined distance whereby the segmental members are spaced to clear the entrance to a pocket in the drum, means cooperating with the segmental members in moving from their  
 120 initial position for feeding a binder tape to a position in which a portion thereof extends across the entrance to a pocket in the drum and applying a quantity of adhesive to the binder tape, means for placing a plurality of articles and a strip of binder tape in a pocket in the drum, a set of plates associated with each pocket in the drum, means for actuating the  
 125 said plates for closing the pocket and folding the binder strip around the articles therein, means for shifting the revoluble drum a predetermined revolution in the return of the parts of the segmental member to their initial  
 130

position, and means for ejecting the articles from the pocket after the revoluble drum has traveled a predetermined distance.

34. In a paper napkin machine having a station at which folded articles are delivered, a revoluble drum having a plurality of pockets therein, a shaft upon which the revoluble drum is mounted, a two part segmental member, means for yieldingly connecting the parts of the segmental member, devices for swinging the segmental members to and from an initial position, means whereby one segmental member is arrested in its travel from its initial position and the other segmental member continues its travel a predetermined distance whereby the segmental members are spaced to clear the entrance to a pocket in the drum, means cooperating with the segmental members in moving from their initial position for feeding a binder tape to a position in which a portion thereof extends across the entrance to a pocket in the drum and applying a quantity of adhesive to the binder tape, means for placing a plurality of articles and a strip of binder tape in a pocket in the drum, sets of rocker shafts mounted in the said drum, there being a set of the same associated with each pocket in the drum, a set of plates carried by each set of rocker shafts, a cam disk mounted on the revoluble drum, means connecting the cam disk and the rocker shafts, devices actuated by one of the segmental members before reaching the end of its forward movement for shifting the cam

disk to actuate the rocker shafts and a set of plates to close a pocket and fold a strip of binder tape around the articles therein, means actuated by the return of the parts of the segmental member to their initial position for re-shifting the cam disk, means also actuated by the return of the segmental members to their initial position for moving the revoluble drum a predetermined portion of a revolution, and means for ejecting the articles from the pocket after the revoluble drum has traveled a predetermined distance.

35. In a paper napkin machine in which folded articles are successively delivered at a predetermined station, a movable member having a plurality of pockets therein, devices for feeding a binder tape across the entrance to a pocket in the said movable member, devices for raising each successive article as it reaches the said station, devices for lifting a predetermined number of said articles to form a bundle and for placing the same with a portion of the tape in a pocket in the said movable member, means for closing the pocket and wrapping the tape around the bundle of articles therein, means for periodically shifting the position of the movable member, and means for ejecting the bundle of articles from the pocket in the movable member.

Signed by me this 26th day of August, 1926.

JOHN O. HUNT.