

July 13, 1937.

H. R. WILLIAMS

2,086,757

METHOD AND APPARATUS FOR MANUFACTURING ABSORBENT PADS

Filed April 10, 1929

4 Sheets-Sheet 1

Fig. 1.

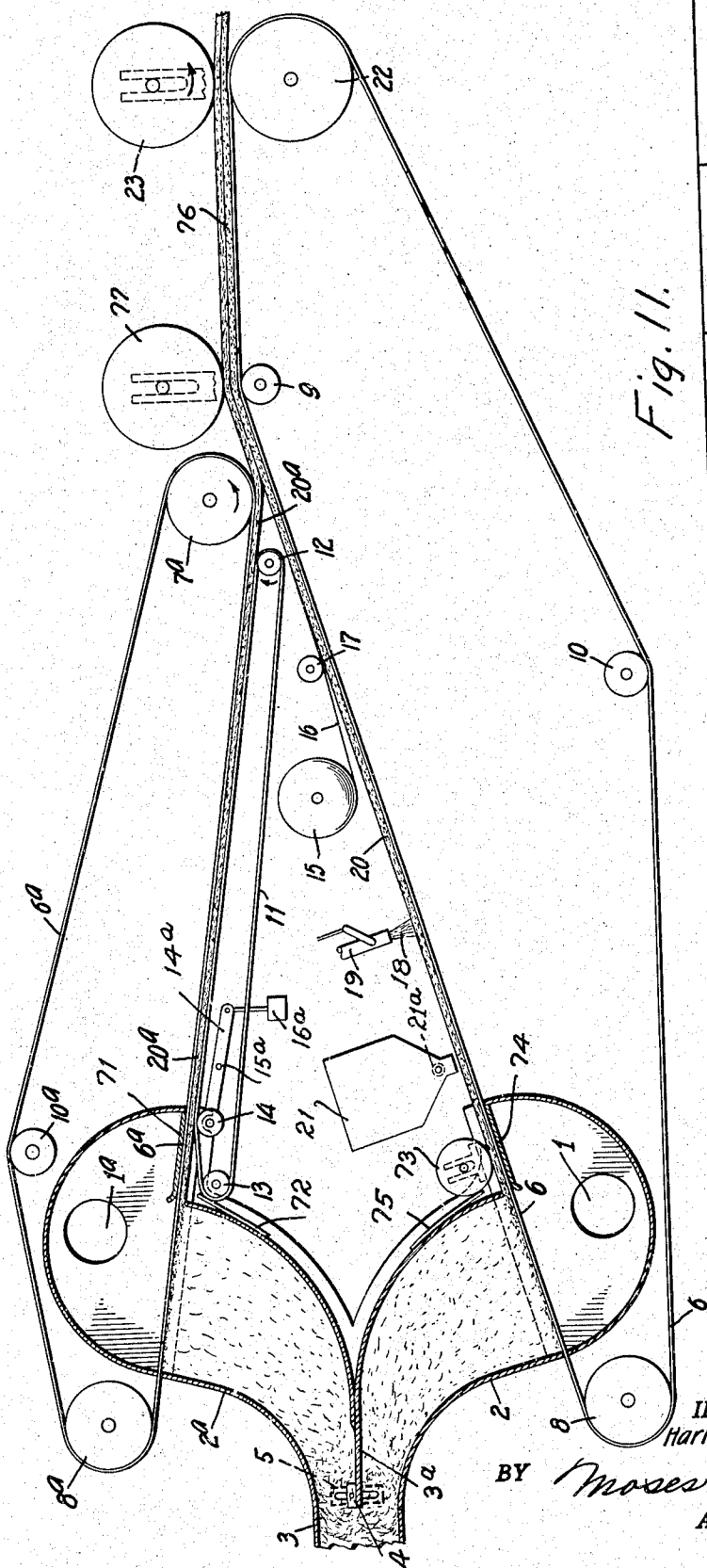


Fig. 11.

|         |         |         |         |
|---------|---------|---------|---------|
| Fig. 1. | Fig. 2. | Fig. 3. | Fig. 4. |
|---------|---------|---------|---------|

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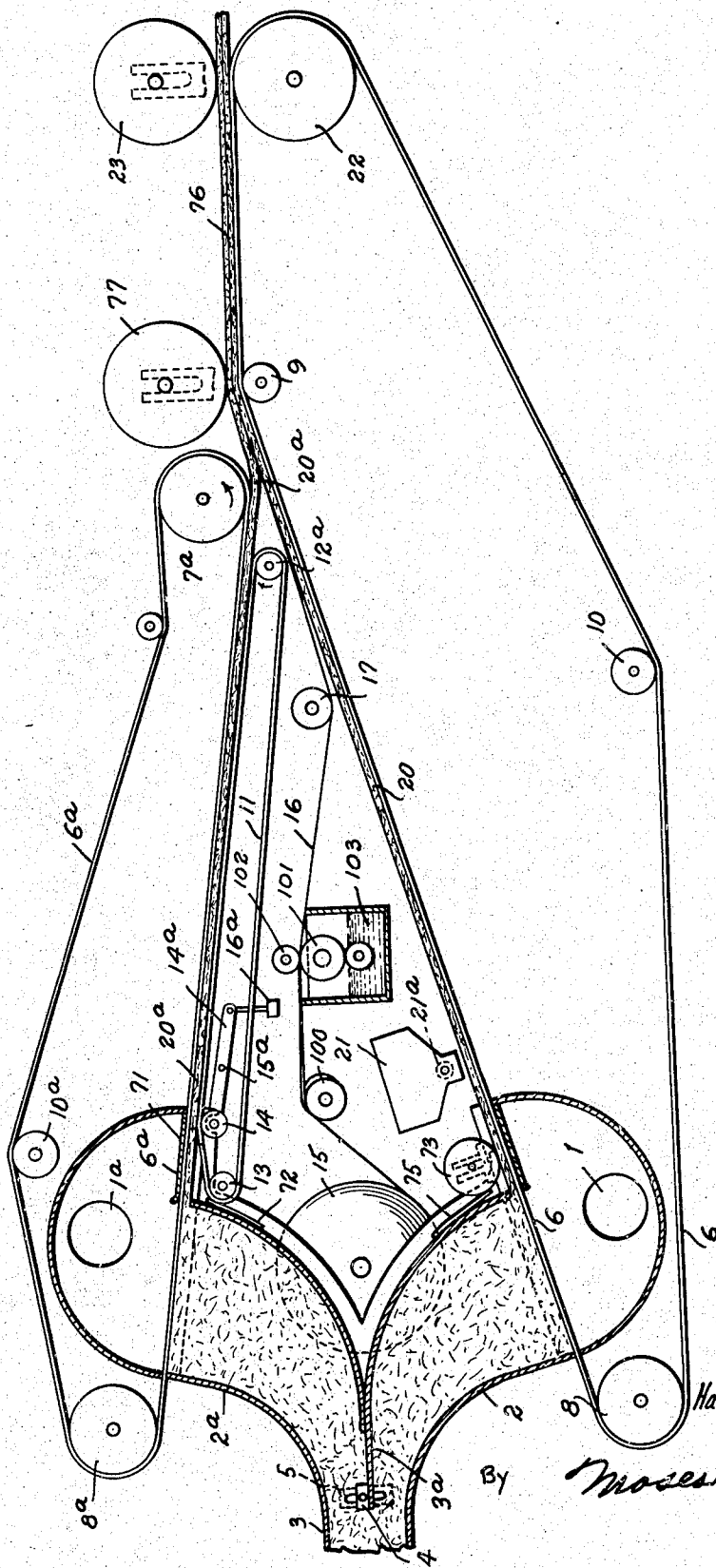
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4 Sheets-Sheet 2

Fig. 1A.



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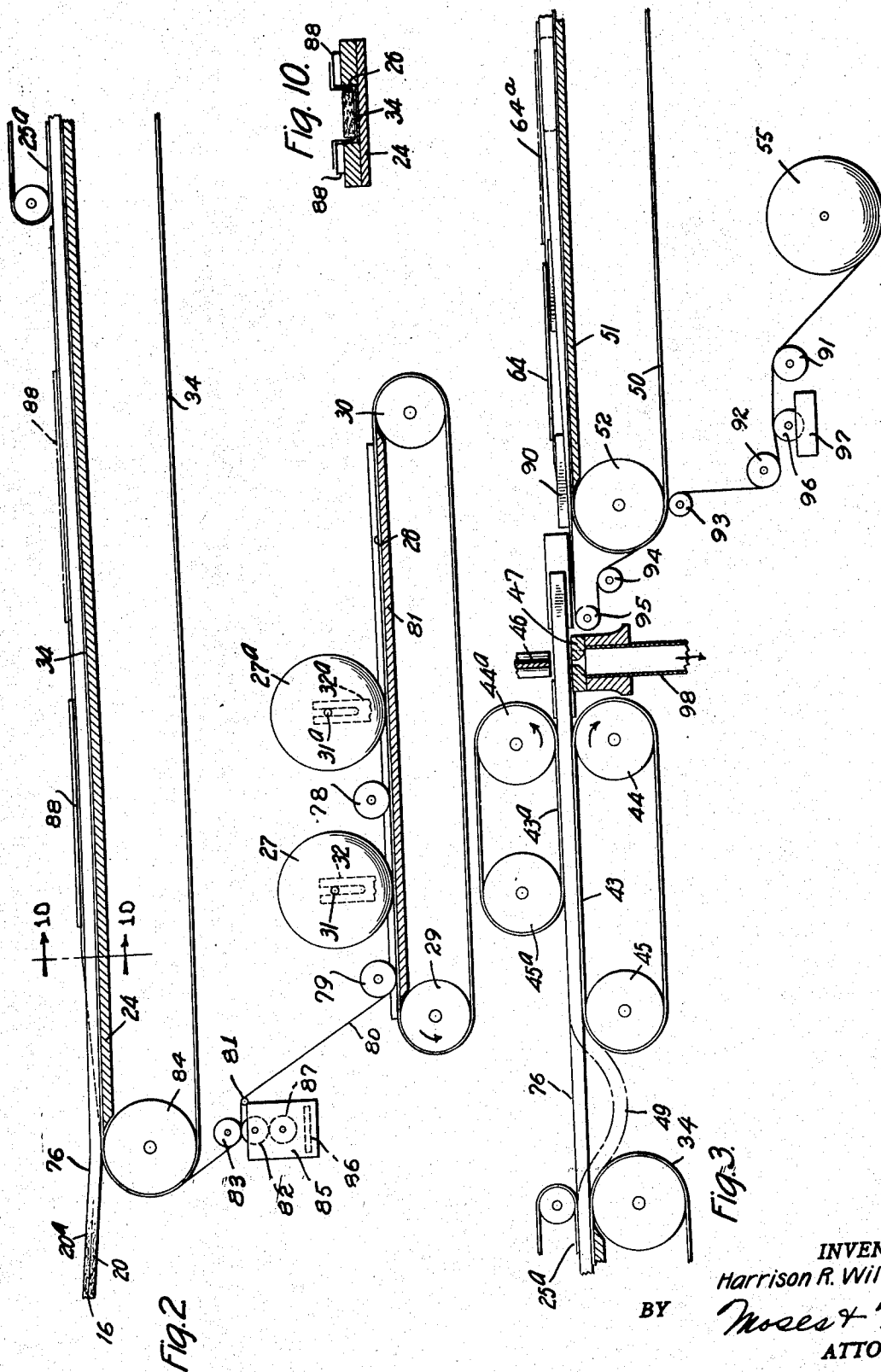
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4 Sheets-Sheet 3



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4 Sheets-Sheet 4

Fig. 4.

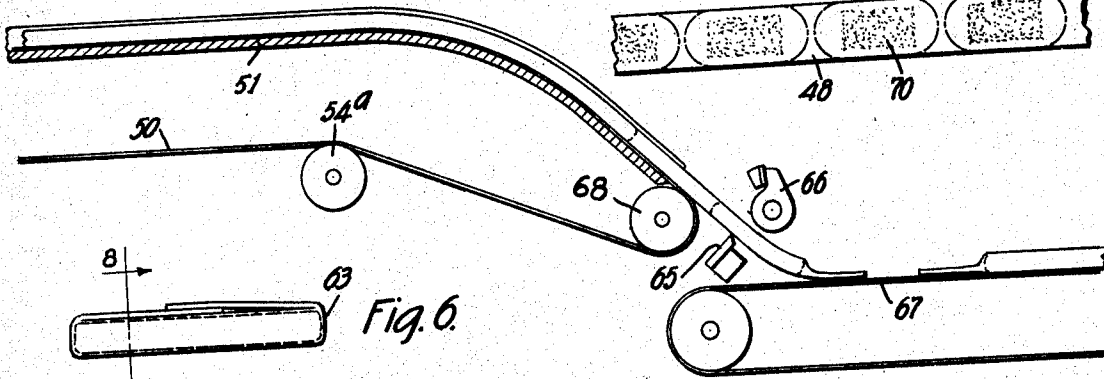


Fig. 5.

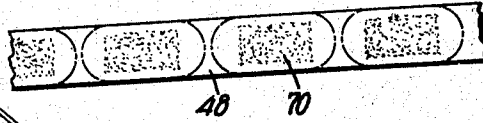


Fig. 6.

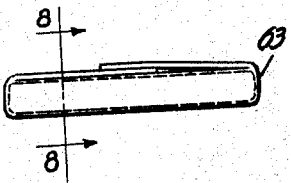


Fig. 7.

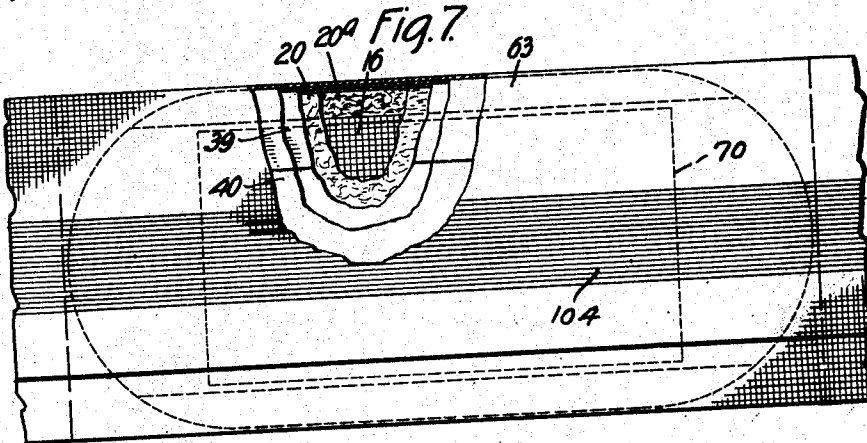


Fig. 8.

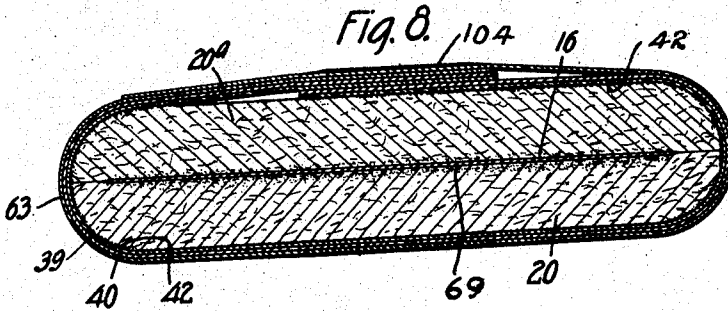
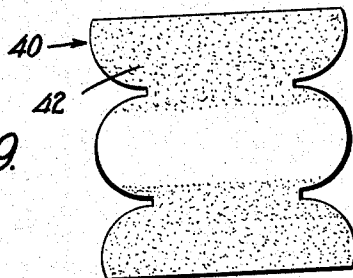


Fig. 9.



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# UNITED STATES PATENT OFFICE

2,086,757

## METHOD AND APPARATUS FOR MANUFACTURING ABSORBENT PADS

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Application April 10, 1929, Serial No. 354,074

23 Claims. (Cl. 154—29)

The present invention relates to an improved absorbent sanitary napkin of the type which comprises a gauze wrapper and an absorbent pad within the wrapper, the pad consisting of a material which is readily disintegrable in water and may therefore be readily disposed of through the household plumbing system.

While some of the features of the present invention are applicable to all types of napkins that fall under the above description, these features are disclosed herein as applied to a napkin which utilizes loosely felted fibrated wood pulp as the absorbent material. It is to be understood, however, that these features are not to be limited by the present disclosure. Persons skilled in the art will be able to apply any of the features of the present invention to all types of sanitary napkins.

One of the features of the present invention resides in providing a method for the continuous manufacture of such napkins and providing a layer of circumfusing material disposed interiorly of the pad; the circumfusing material serving to absorb and spread laterally of the pad the fluid that enters the pad so that the fluid is held interiorly of the pad and will not pass to the under face of the pad or napkin.

Another object of the present invention is to embody interiorly of the pad a deodorizing or disinfecting material. The deodorizing material is preferably applied during the process of manufacture of the pad in such a manner that it is retained interiorly of the pad.

The manner of application of the deodorizing material and of the circumfusing material is such that the circumfusing material, which may be in the form of a starch solution or the like, serves to retain the deodorizing material, which is usually in the form of a powder, within the pad and serves to prevent the powder from losing its way out of the pad in the process of packaging and transportation of the napkins.

Another feature of the present invention is to construct a pad of the type described having its sides and lower face provided with a water repellent material so as to further obviate the possibility of any of the fluid which has entered the pad, from passing out of its lower face or sides. In order to prevent any possible errors by the user of such napkins, the napkin that constitutes an embodiment of the present invention is also provided with indicia which clearly indicates to the user the waterproofed face of the napkin.

Another object of the invention is to provide methods and apparatus for economically manu-

facturing the napkin of the character described. One of the features of the methods and apparatus resides in the fact that the introduction of the deodorant and the circumfusing material and the application of the indicia and of the waterproofing treatment, are conducted in such a manner that they do not interfere with the continuous production of the napkins.

A preferred embodiment of the invention is illustrated in the accompanying drawings which constitute part of the present application, the drawings serving only to illustrate such embodiment and are not to be understood as limiting the invention to any specific form or any specific portion as disclosed herein. Many modifications of my invention will be apparent to those skilled in the art, the scope of my invention being defined in the appended claims.

In the drawings:

Fig. 1 is a side elevation of that portion of the apparatus which shows the formation of a duplex web of fibrated wood pulp having disposed interiorly thereof a deodorant, circumfusing material, and a strip of gauze reinforcing material.

Fig. 1a is a modified form of the apparatus shown in Fig. 1.

Fig. 2 is a side elevation of the portion of the apparatus to which the duplex web is fed from the portion shown in Fig. 1, this portion of the apparatus showing the application of several layers of sheeted cellulose to the duplex web of absorbent material and also showing the manner in which the sheeted cellulose is wrapped around the duplex web.

Fig. 3 is a side elevation of a third portion of the apparatus to which the duplex strip covered with a paraffined sheeted cellulose is fed from the last described portion of the apparatus. In this portion of the apparatus succeeding portions of the web are severed and these are wrapped in gauze.

Fig. 4 is a side elevation of a fourth portion of the apparatus which shows the last step of the process wherein the gauze covering is severed at the points intermediate the pads contained therein.

Fig. 5 is a diagrammatic view of the lower web of absorbent material.

Fig. 6 is a side view of the completed napkin.

Fig. 7 is a plan view of the napkin with the ends unfolded and broken off and certain portions of the several layers thereof broken away in order to show the structure in detail.

Fig. 8 is a transverse section of the completed napkin taken on the line 8—8 of Fig. 6.

Fig. 9 is a plan view of the sheet cellulose covering as it would appear as unfolded from the pad.

Fig. 10 is a sectional view on line 10—10 of Fig. 2.

Fig. 11 is a diagrammatic view of the relationship of Figs. 1, 2, 3, and 4.

While many features of the present invention may be applied to napkins whose absorbent pads may be made of a large variety of materials, the absorbent and readily disintegrable material utilized in the construction of napkins as shown herein is fibrated wood pulp. This material is soft, fluffy, short-fibered and has highly absorptive qualities and is readily disintegrable in water. The fibrated wood pulp may be manufactured in any manner desired and is then fed into the bicameral receptacle shown in Fig. 1 as consisting of the two chambers or conduits 2 and 2a through the pipe 3.

The partition 3a that divides the receptacle into the two conduits 2 and 2a is preferably mounted so that it may be adjusted vertically and thereby control the amount of fibrated wood pulp that enters the two conduits or chambers 2 and 2a. For this purpose the partition 3a is provided with integral base portions 4, each of these portions carrying a bolt which passes through a slot in the wall of the pipe 3, the slot being covered on the exterior of the pipe 3 by the elongated cap 5. While it is generally desirable to make the two webs of substantially the same thickness the movable partition 3a is provided to vary the amount of flow of fibrated wood pulp into the conduits 2 and 2a respectively when it is desired to counteract the effect of gravity upon the wood pulp. Moreover, it may sometimes be desirable to vary the relative thickness of the webs. Under such conditions the vertical adjustment of the partition 3a will provide for the proper distribution of the fibrated wood pulp.

Two conduits 1 and 1a lead from a suction pump (not shown) to the chambers 2 and 2a respectively. Endless belt 6, preferably formed of wire mesh, passes through the chamber 2. This belt may be actuated in any well known manner as by power applied to the roller 22. The belt is also provided with idler rollers 8 and 9 and with a tightening roller 10. The suction created through conduit 1 causes a continuous layer 20 of loose fibrated wood pulp to be deposited upon the wire mesh conveyor belt during its passage through the chamber 2.

A similar apparatus cooperates with the chamber 2a. A similar endless belt 6a also preferably formed of wire mesh passes through chamber 2a. The belt 6a may be actuated by power applied to the roller 7a and is provided with an idler 8a and a tightening pulley 10a.

The suction created through conduit 1a causes a continuous layer 20a of loose fibrated wood pulp to be deposited upon the wire mesh belt 6a during its passage through the chamber 2a. In order to retain this layer of fibrated wood pulp in position on the under side of belt 6a, a supporting belt 11 is provided to cooperate with the belt 6a, the supporting belt being actuated by power applied to pulley 12. The belt 11 is provided with an idler roller 13 and with a tightening roller 14 which is carried by one end of the lever 14a pivoted at 15a and weighted at its other end by 16a. In order to completely seal the chamber 2a and to prevent the ingress of atmospheric air, the chamber is provided with a plate 71 which is disposed immediately behind the belt

6a at the point at which the belt leaves the interior of the chamber. This plate 71 cooperates with the belt 11 and with the resilient plate 72 mounted on the outside of the chamber and pressing against the roller 13 to prevent the ingress of atmospheric air. A gravity roller 73 is provided to cooperate with a similar plate 74 in the chamber 2 and with a similar resilient plate 75 on the outside of the chamber 2 so as to seal this chamber against the ingress of atmospheric air.

It will be seen from the above that by means of the apparatus so far described two loosely felt webs of fibrated wood pulp 20 and 20a are continuously formed and withdrawn from the bicameral receptacle into which the fibrated wood pulp is fed; the web 20 being carried by the belt 6 and the web 20a being carried between the belts 6a and 11. These two webs are superposed so as to form a duplex web 76. Before the webs are superposed to form the duplex web, deodorizing material is applied to the upper face of the lower web 20 by means of the device 21 and circumfusing material 18 is also applied thereto by means of the apparatus 19. The deodorizing material which is preferably in the form of a dry powder is deposited continuously over the upper surface of the web 20. Any apparatus desired may be used for this purpose and the apparatus 21 shown herein is intended as a conventional showing of any type of apparatus. It may for example contain a revolving drum 21a disposed within a reservoir of powdered material whereby the material is applied uniformly to the surface of the web.

The circumfusing material which may be in the nature of liquid starch is applied to the upper face of the web 20 after the deodorant has already been applied thereto. The starch therefore serves to entrap the powder and thereby prevents any substantial loss of the powder in the process of manufacture or in the process of packaging and transportation of the napkins.

The nozzle 19 which is connected with a reservoir (not shown) containing a supply of liquid starch is operated intermittently to apply a layer of starch over limited predetermined areas as shown by the reference character 70 in Fig. 5 of the drawings. The feeding of the starch or other equivalent material is controlled in any well known manner as by an automatically regulated sprayer. The limited areas upon which the liquid starch is applied are so designed that one of such areas is completely inclosed within each pad or napkin. The areas are preferably of such dimensions that the starch does not reach to the edges of the formed pad so as to obviate any possible irritation to the body of the wearer.

Rotatably mounted between the belts 6 and 6a is a reel 15 of strip gauze 16, or other suitable textile material, which is continuously interposed between the two webs 20 and 20a of fibrated wood pulp in order to reinforce the pad to be formed. The travel of the gauze strip is directed by the rotatable guide 17. The strip gauze 16 is preferably somewhat narrower than the width of the webs of fibrated wood pulp, the gauze being fed in such a manner that it is placed centrally between the webs leaving marginal portions of adjacent faces of the web that are not covered by the gauze.

The two webs 20 and 20a, one of them having the deodorant and the liquid starch applied to one face, are superposed with the reinforcing strip 16 disposed between the two webs at a

point adjacent to the roller 7a and at that point are merged to form the duplex web 76.

Fig. 1a shows another form of the apparatus shown in Fig. 1. The apparatus shown in this figure is in all respects identical with that shown in Fig. 1 with only the modification that the starch solution or other circumfusing material instead of being applied to the face of the lower web 20 as in Fig. 1, is applied to one face of the intermediate gauze 16. For this purpose the gauze roll 15 is mounted at the point shown in Fig. 1a and the gauze passes over the guide roll 100 (which as shown is placed at a slight angle in order to center the gauze) and between the rollers 101 and 102 which are associated with the bath of starch solution 103 so that the starch or other circumfusing material is applied to the lower face of the gauze 16. The gauze 16 is then fed between the two webs 20a and 20 in the manner described hereinabove. When this form of the apparatus is used the starch is applied continuously on the under face of the gauze 16. When the two webs are superposed to form the duplex web 76 the layer of gauze and starch serve to entrap the deodorant and to hold the same interiorly of the pad.

While Fig. 5 shows the distribution of the starch when the apparatus shown in Fig. 1 is used, where the starch is applied intermittently, it will be understood that when Fig. 1a is used the starch is continuous with the duplex web.

The duplex web is fed by the belt 6 and the power driven roll 22 onto the endless belt 34 shown in Fig. 2. A driven pressure roll 23 is disposed immediately over the roll 22. The vertical position of the roll 23 may be varied for the purpose of adjusting the pressure between the two rolls and thereby determine the degree of packing and felting of the webs. The webs are, however, always left in the loosely felted condition so that they remain readily disintegrable in water. An auxiliary pressure roller 77 is disposed immediately over the roll 9; this roller 77, like roller 23, being also vertically adjustable. Under normal conditions the roller 77 is maintained in a position which clears the surface of the duplex web 76 so that it does not enter into the operation of the machine. Under some conditions, however, it is desired to apply some pressure to the duplex web 76 prior to its passage through the pressure roller 23. Under these conditions the roller 77 is lowered into the desired pressure contact with the web 76 and is driven at the surface speed of the web so as to subject the duplex web 76 to a preliminary compression.

It will be seen from the above that the duplex web 76 leaves the apparatus shown in Fig. 1 after there is incorporated therein the desired amount of deodorant, the desired amount of starch which is illustrative of the circumfusing material and a reinforcing gauze strip 16.

While the duplex web 76 in this condition may if desired be severed into portions of desired length to correspond to the amount necessary for the finished napkin and then wrapped into the outer gauze wrapper, I prefer to provide the web with an auxiliary wrapper of readily disintegrable sheeted material such as sheeted cellulose which will give the pad added strength and consistency and will prevent any possibility of the pad disintegrating during packaging, storage and transportation. The apparatus in Fig. 2 shows the manner in which this auxiliary wrapper is applied to the continuous duplex web 76. In this apparatus two or more reels 27, 27a, carrying

sheeted cellulose are fed continuously by means of the stripper rolls 78 and 79 and the belt 28. The two or more webs of sheeted cellulose are superposed, and for the purpose of the further description, will be considered as one web 80. If desired, a single reel having a web of the desired number of plies wound thereon, may be employed instead of the reels 27, 27a, etc. The sheeted cellulose is fed by the feed belt 28 which is actuated by power applied to the pulley 29. The feed belt is also carried over the idler pulley 30, the pulleys 29 and 30 being disposed at the ends respectively of the table 81 over which the belt 28 travels. The shafts 31 and 31a of the respective reels 27 and 27a are supported in slotted guides 32 and 32a, so that, regardless of the amount of paper on the reel, it always rests on the feed belt. The reels as well as the continuous webs fed off these reels are therefore rotated and moved by the feed belt 28. Where a single reel having a multiple web is used the feed belt 28 may be omitted.

The web 80 which is composed of two or more layers of sheeted cellulose passes over the spreader bar 81, between the rollers 82 and 83 and over the roller 84 and belt 34 which travels over the table 24. When the web 80 passes between the rollers 82 and 83 paraffin or other water repellant is applied to one face of the web 80 and over a selected and predetermined portion thereof. 85 shows a paraffin reservoir provided with a heating element 86 and with a roller 87 which transfers the paraffin to the marking roller 82. The cylindrical face of the marking roller 82 is preferably so shaped that it applies the paraffin only to the desired portion of the web 80. The marking portion of the roller 82 is preferably so designed that the paraffin is applied to the overlapping portions of the web 80 leaving the central portion of the web uncovered. The width of the paraffined areas is so selected that when the web 80 is wrapped over the duplex web of fibrated wood pulp 76 the paraffined portions of the web come in contact with one face of the web 76 and the lateral edges thereof leaving the other face of the web 76 unaffected by the paraffin. The result is that when the napkin is completed the lower face thereof and the lateral edges thereof are protected by the paraffined auxiliary wrapper whereas the upper face of the pad is free of paraffin. By this means fluid readily enters the pad on one face and is prevented from passing out of the lower face of the pad.

The web 80, with its paraffined face uppermost, is carried by the belt 34, travelling over the table 24, the web 80 being disposed below the web 76. During its travel on the table 24 the web 80 is first forced into the trough 26, as is indicated in Fig. 10. The projecting edges of the web 80 are subsequently folded over the duplex strip of fibrated wood pulp in a well known manner by means of plowshare folders or the like which are illustrated in Fig. 2 schematically at 88. The power driven belt 25a cooperates with the belt 34 to carry the duplex web 76 wrapped with the auxiliary wrapper 80 onto the portion of the apparatus illustrated in Fig. 3.

Referring to Fig. 3: after leaving belts 34 and 25a, the paper-covered strip of fibrated wood pulp from which the pads are to be formed is drawn to the right by intermittently acting cooperative feed belts 43 and 43a, driven by power actuated pulleys 44 and 44a and running over idler pulleys 45 and 45a, respectively. The movement of the belts 75

may be controlled in any well-known manner, as by automatically acting clutches alternately driving and interrupting the drive of power actuated pulleys 44 and 44a. The purpose of so intermittently feeding the wrapped strip is to permit of cutting the pads therefrom. This is accomplished by means of the punch 46 and the cooperating die 47, which cut from the strip pieces of the shape indicated by the reference numeral 48 (Fig. 5), thus providing a covered pad having rounded ends. The portions 48 fall through the tube 98. The feeding of belts 34—25a being continuous, the interruption of the feed by belts 43—43a, in order to allow time for the punching of the pads, results in the formation of a loop in the strip, which loop is indicated by the reference numeral 45 (Fig. 3).

However, the feeding rate of belts 43—43a exceeds that of belts 34—25a to such an extent that this slack is taken up by the next forward feeding movement of said belts 43—43a.

It will be noted from Fig. 3 that the pad, when separated from the strip by the action of the punch and die, overhangs the die. With the next forward movement of the strip, the pad is carried to the conveyor belt 50, which belt is drawn over a table 51 by a power actuated pulley 68 (Fig. 4). This conveyor belt is provided with idler pulleys 52 and 54a (Fig. 4). The function of the belt is to carry a strip of gauze upon which the pad is deposited, and to wrap the edges of such gauze about the pad.

The reel 55 supplies the gauze which constitutes the wrapper for the napkin. The gauze is fed under the severed portions 90 of absorbent material, the severed portions being placed on the belt 50 in spaced relation so as to permit sufficient gauze between the successive portions 90 to provide for the end flaps of the finished napkin. The gauze is guided onto the table 51 by rollers 91, 92, 93, 94, and 95.

In view of the fact that one face of the finished napkin in its final form contains a protective layer of water repellant material it is necessary to provide some means on the napkin which will readily distinguish the protected face from the unprotected face. The invention therefore provides such an indication in the form of a colored printed stripe extending lengthwise of the gauze wrapper.

This stripe is formed by providing an inking roller 96 which is partly immersed in an ink reservoir 97. The strip of wrapper gauze passes over the inking roller 96 before it reaches the table 51.

The table 51 is provided with a trough and folding plowshares indicated diagrammatically at 64 and 64a for folding in a well-known manner the sides of the gauze strip over the pad.

Upon leaving the table 51, the continuous strip of gauze wrapper, together with the pads inclosed thereby, passes through a shearing device (Fig. 4) comprising a stationary cutter 65 and a rotating cutter 66 by which shearing device the gauze wrapper is cut into the desired length between the pads. The napkins assembled in the manner described are then carried by the conveyor belt 67 either to a folding table or to other apparatus for automatically folding the end flaps.

The completed napkin is shown in the side elevation in Fig. 6, the gauze covering being indicated by reference numeral 63.

A top plan view of the completed napkin, drawn to a larger scale than Fig. 6, is shown in Fig. 7. Several layers of the napkin are indicated as

broken away in order to illustrate the structural details. Reference numeral 63 indicates the gauze wrapper; the numerals 39 and 40 indicate the inner and outer webs of the auxiliary wrapper of sheeted cellulose; the numeral 104 indicates the identifying color stripe. The numeral 16 indicates the strip of reinforcing gauze and the reference characters 20 and 20a indicate the two layers of fibrated wood pulp. The reference character 70 indicates the area over which the starch has been applied.

Fig. 8 shows a section on the line 8—8 of Fig. 6. In this view the deposit of deodorant and starch are indicated by the reference numeral 69 and the deposit of paraffin is indicated by the reference numeral 42.

Fig. 9 shows the auxiliary wrapper of sheeted cellulose 40 and the stippled area 42 shows the layer of paraffin or other water repelling agent.

As described above, the napkin is so constructed that the smooth face thereof is worn against the body of the wearer, thereby obviating the irritation resulting from the contact of the overlapping portions against the body. For this reason the paraffin is applied to the inner face of the auxiliary wrapper in such a manner that the folded portions are rendered impervious to moisture. The central portion of the auxiliary wrapper, having a width substantially equal to the width of the web 76, is unparaffined, the marginal areas being paraffined, so that when the wrapper is folded over the web 76, the lateral edges as well as one face of the web is rendered impervious to moisture. If desired the portion that folds over first is paraffined across its entire area, while the other portion is paraffined only over that portion of its area that contacts with the lateral edge of the web and with the face of the web, leaving its overlapping portion unparaffined.

The colored stripe, which differentiates the impervious face of the napkin is also applied over the folded portion of the gauze wrapper, or if desired two stripes may be printed, one on each folded portion.

It is understood that if desired the paraffin may be applied to the central portion of the auxiliary wrapper so that the smooth face and lateral stripe would then be applied centrally of the gauze web.

The color stripe or stripes on the gauze may be applied to the gauze as above described or if desired they may be applied to the outer face of the auxiliary wrapper.

The color stripe may also be applied to either or both of the wrappers, when the web is being manufactured. Particularly, during the process of manufacture, colored thread may be woven into the gauze to form the stripe.

The function and manner of cooperation of the layer of starch with the pad are disclosed more fully in my Patent No. 1,702,530, which also discloses other materials that accomplish the same end.

I claim:

1. The continuous process of making sanitary pads comprising the steps of continuously feeding fibrated wood pulp into a bicameral receptacle, continuously withdrawing said pulp from said chambers in the form of two vertically spaced loosely felted webs, applying circumfusing material to the upper face of said lower web, superposing said webs to form a duplex web of absorbent pad material, continuously feeding one or more webs of sheeted cellulose, subjecting one

face of said sheeted cellulose to a waterproofing treatment, associating said sheeted cellulose with said duplex web, intermittently severing portions of said duplex web, continuously feeding a web of said duplex web, continuously feeding a web of gauze wrapping material, wrapping said gauze about said severed portions and intermittently severing said gauze wrapper.

2. The continuous process of making sanitary pads comprising the steps of continuously feeding fibrated wood pulp into a bicameral receptacle, continuously withdrawing said pulp from said chambers in the form of two loosely felted webs, applying circumfusing material to one face of one of said webs, superposing said webs to form a duplex web of absorbent pad material, continuously feeding one or more webs of sheeted cellulose of at least twice the width of the duplex web, wrapping said sheeted cellulose around said duplex web, intermittently severing portions of said duplex web, continuously feeding a web of exterior gauze wrapping material, wrapping said gauze about said severed portions and intermittently severing said gauze wrapper.

3. The continuous process of making sanitary pads comprising the steps of continuously feeding fibrated wood pulp into a bicameral receptacle, continuously withdrawing said pulp from each of said chambers in the form of two loosely felted webs, intermittently applying circumfusing material over predetermined areas of one face of one of said webs, superposing said webs to form a duplex web of absorbent pad material, continuously feeding one or more webs of sheeted cellulose of at least twice the width of the duplex web, wrapping said sheeted cellulose around said duplex web and intermittently severing portions of said duplex web.

4. The process of making sanitary pads comprising the steps of continuously feeding fibrated wood pulp into a bicameral receptacle, continuously withdrawing said pulp from each of said chambers in the form of two loosely felted webs, applying a deodorant continuously over one face of one of said webs, applying circumfusing material over limited portions of one face of one of said webs, superposing said webs to form a duplex web of absorbent pad material, continuously feeding one or more webs of sheeted cellulose, wrapping said sheeted cellulose around said duplex web and intermittently severing portions of said duplex web.

5. The process of making sanitary pads comprising the steps of continuously feeding fibrated wood pulp into a bicameral receptacle, continuously withdrawing said pulp from each of said chambers in the form of two loosely felted webs, applying a deodorant continuously over one face of one of said webs, applying circumfusing material over limited portions of one face of one of said webs, superposing said webs to form a duplex web of absorbent pad material, with said deodorant and said circumfusing material disposed interiorly thereof, continuously feeding one or more webs of sheeted cellulose, wrapping said sheeted cellulose around said duplex web and intermittently severing portions of said duplex web.

6. The process of making sanitary pads comprising the steps of forming two webs of absorbent pad material, applying circumfusing material to one face of one of said webs, superposing said webs to form a duplex web with the circumfusing material disposed interiorly thereof, associating with said duplex web a web of waterproofed sheeted cellulose, severing portions of said duplex

web, and wrapping said severed portions in a gauze wrapper.

7. Apparatus for the manufacture of sanitary napkins comprising a bicameral receptacle, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of fibrated wood pulp on each of the opposing faces of said belts, means for applying a deodorizing agent to one of said webs, means for applying a circumfusing agent to one of said webs, means for superposing said webs to form a duplex web, means for associating sheeted absorbent and disintegrable material with said duplex web, means for rendering a portion of said sheeted material impervious to moisture, an intermittently operable cutter for severing portions of said duplex web, means for intermittently feeding said duplex web to said cutter, means for associating a continuous web of gauze wrapper with said severed portions, and an intermittently operable cutter for said gauze wrapper.

8. Apparatus for the manufacture of sanitary napkins comprising a bicameral receptacle, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of flocculent fibrous material on each of the opposing faces of said belts, means for applying a deodorizing agent to one of said webs, means for applying a circumfusing agent to one of said webs, means for superposing said webs to form a duplex web, means for associating sheeted absorbent and disintegrable material with said duplex web, means for rendering a portion of said sheeted material impervious to moisture, an intermittently operable cutter for severing portions of said duplex web, means for intermittently feeding said duplex web to said cutter, means for associating a continuous web of gauze wrapper with said severed portions, and an intermittently operable cutter for said gauze wrapper.

9. Apparatus for the manufacture of sanitary napkins comprising a bicameral receptacle, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of flocculent fibrous material on each of the opposing faces of said belts, means for applying a deodorizing agent to one of said webs, means for superposing said webs to form a duplex web, means for associating sheeted absorbent and disintegrable material with said duplex web, means for rendering a portion of said sheeted material impervious to moisture, an intermittently operable cutter for severing portions of said duplex web, means for intermittently feeding said duplex web to said cutter, means for associating a continuous web of gauze wrapper with said severed portions, and an intermittently operable cutter for said gauze wrapper.

10. Apparatus for the manufacture of sanitary napkins comprising a bicameral receptacle, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of flocculent fibrous material on each of the opposing faces of said belts, means for applying a deodorizing agent to one of said webs, means for superposing said webs to form a duplex web, means for associating sheeted absorbent and disintegrable material with said duplex web, an intermittently operable cutter for severing portions of said duplex web, means for intermittently feeding said duplex web, means for associating a continuous web of gauze wrapper with said severed portions, and an intermittently operable cutter for said gauze wrapper.

11. Apparatus for the manufacture of sanitary napkins comprising a bicameral receptacle, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of flocculent absorbent material on each of the opposing faces of said belts, means for applying a circumfusing agent to one of said webs, means for superposing said webs to form a duplex web, means for associating sheeted absorbent and disintegrable material with said duplex web, a cutter for severing portions of said duplex web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
12. Apparatus for the manufacture of sanitary napkins comprising, means for forming a loosely felted web of flocculent fibrous absorbent material, means for wrapping said web in sheeted absorbent and disintegrable material, a cutter for severing portions of said web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
13. Apparatus for the manufacture of sanitary napkins comprising means for forming a loosely felted web of flocculent fibrous material, means for wrapping said web in sheeted absorbent and disintegrable material, means for rendering a portion of said sheeted material impervious to moisture, a cutter for severing portions of said web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
14. Apparatus for the manufacture of sanitary napkins comprising means for forming a duplex loosely felted web of flocculent fibrous material holding deodorizing material interiorly thereof, means for wrapping said web in sheeted absorbent and disintegrable material, means for rendering a portion of said sheeted material impervious to moisture, a cutter for severing portions of said web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
15. Apparatus for the manufacture of sanitary napkins comprising means for forming a duplex loosely felted web of flocculent fibrous material having a stratum of circumfusing material disposed interiorly thereof, means for associating sheeted absorbent and disintegrable material with said duplex web, a cutter for severing portions of said web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
16. Apparatus for the manufacture of sanitary napkins comprising means for forming a duplex loosely felted web of flocculent fibrous material, having a stratum of circumfusing material disposed interiorly thereof, means for associating sheeted absorbent and disintegrable material with said duplex web, means for rendering a portion of said sheeted material impervious to moisture, a cutter for severing portions of said web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
17. Apparatus for the manufacture of sanitary napkins comprising means for forming a duplex loosely felted web of flocculent fibrous material having a stratum of circumfusing and deodorizing material disposed interiorly thereof, means for associating sheeted absorbent and disintegrable material with said duplex web, a cutter for severing portions of said duplex web, means for associating a continuous web of gauze wrapper with said severed portions, and a cutter for said gauze wrapper.
18. Apparatus for the manufacture of sanitary napkins, a bicameral receptacle for flocculent fibrous material, a conveyor belt passing through each of said chambers, means for forming a loosely felted web of flocculent fibrous material on each of the opposing faces of said belts, means for applying a deodorizing agent to one of said webs, means for applying a circumfusing agent to one of said webs, and means for superposing said webs to form a duplex web, having the deodorizing and circumfusing material held interiorly thereof.
19. In an apparatus for the manufacture of sanitary napkins, a bicameral receptacle for flocculent fibrous absorbent material, an endless conveyor passing through each of said chambers for forming two loosely felted webs of said material, means for applying deodorizing material to one face of one of said webs, and means for superposing said webs to form a duplex web having the deodorizing material held interiorly thereof.
20. In the continuous process of making sanitary napkins, the steps of forming a loosely felted web of flocculent, absorbent, readily disintegrable, cellulosic material, feeding a web of sheeted absorbent readily disintegrable cellulosic material, rendering the marginal portions of said sheeted web impervious to moisture, associating said sheeted web with said first mentioned web, and folding said marginal portions over said first mentioned web.
21. The process of making sanitary pads comprising the steps of forming two webs of absorbent pad material, superposing said webs and interposing between said webs permeable sheeted material impregnated with circumfusing material, associating with said webs waterproofed sheeted cellulose, severing portions of the duplex web, and wrapping said severed portions in a gauze wrapper.
22. Apparatus for the manufacture of sanitary napkins, comprising means for pneumatically feeding loose, fibrated material from a common source, means for dividing such material into two streams, means for forming the divided streams into separate webs or belts, and means for thereafter feeding the separate webs or belts into superposed relation to form a duplex web.
23. Apparatus as set forth in claim 22, in which provision is made of adjustable means for controlling the proportion in which the fibrated material is divided between the two streams, and for thereby controlling the relative thicknesses of the webs formed.

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