

J. LINDGREN.
METHOD AND MEANS FOR WRAPPING HAIR NETS.
APPLICATION FILED MAR. 26, 1921.

1,417,752.

Patented May 30, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

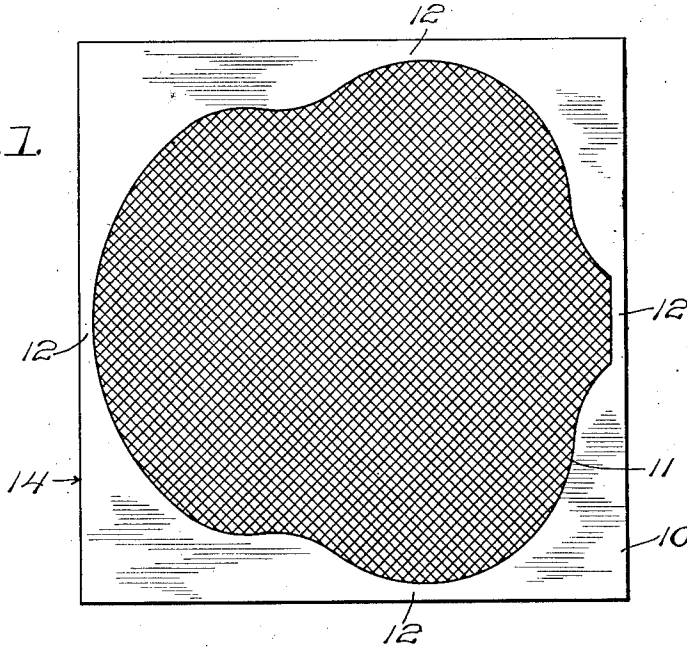


Fig. 2.

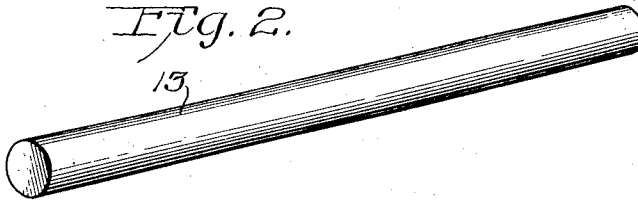


Fig. 3.

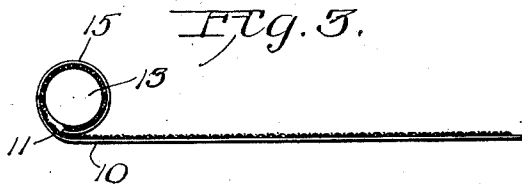
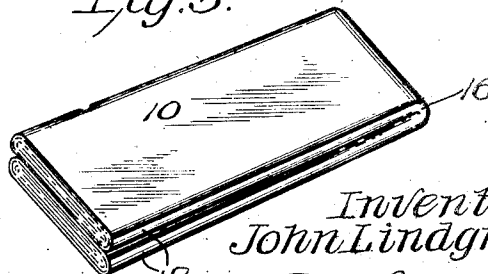


Fig. 4.



Fig. 5.



Witness:

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2 SHEETS—SHEET 2.

Fig. 6.

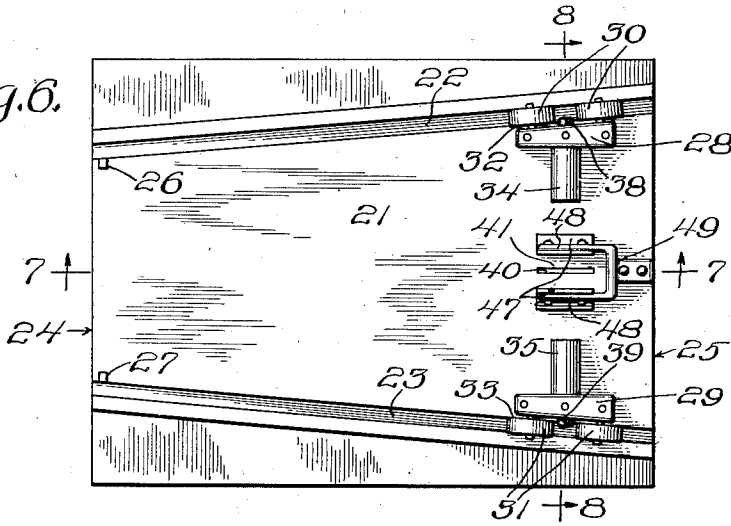


Fig. 7.

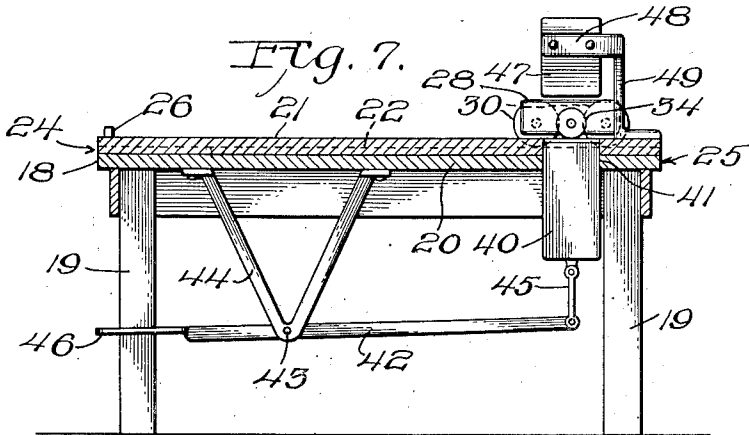
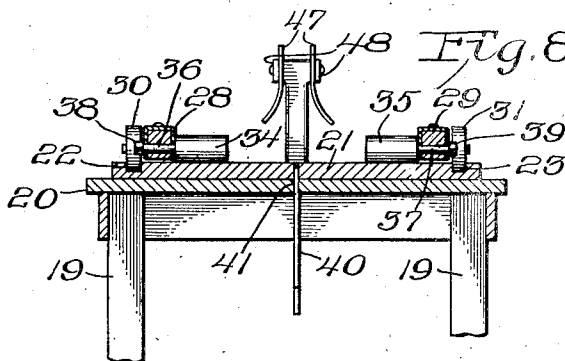


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN LINDGREN, OF CHICAGO, ILLINOIS.

METHOD AND MEANS FOR WRAPPING HAIR NETS.

1,417,752.

Specification of Letters Patent.

Patented May 30, 1922.

Application filed March 26, 1921. Serial No. 455,776.

To all whom it may concern:

Be it known that I, JOHN LINDGREN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods and Means for Wrapping Hair Nets, of which the following is a full, clear, and exact description.

This invention relates to an improved method of and means for wrapping various articles, such as hair nets for shipment and sale.

As is well-known, hair-nets at present are manufactured in large quantities of different shades and mesh and cut to the desired size and shape and placed in paper receptacles such as envelopes, which are packed in large quantities for shipment. Often, a number of the nets are placed in one envelope, or they may be placed in individual envelopes, for sale. However, considerable time is consumed at the factory in placing the nets in the envelopes, it being necessary to exercise extreme care in handling the nets and where a number of nets are inserted together they become entangled in the course of handling, and sometimes are torn or otherwise rendered useless when it is attempted to separate them.

It is an object of my invention to provide an improved method of and means for wrapping and the folding of hair-nets and similar articles quickly and securely in such a way that tangling of the individual nets is impossible and so that they are well protected and kept sanitary, in course of shipment and handling. I also contemplate the saving of time and labor in the wrapping of the goods at the factory, so that the cost of production may be reduced materially.

A more concrete understanding of my invention may be obtained from the following detailed description and the claims, taken in connection with the accompanying drawings, in which—

Figure 1 is a plan view of an article of manufacture, such as a hair-net, placed upon the envelope, in the first step.

Figure 2 is a perspective view of the manual rolling member.

Figure 3 is a side elevation showing the roller applied to the net and envelope for rolling the same, the second step.

Figure 4 is an end view of the envelope flattened, the third step.

Figure 5 is a perspective view of the envelope containing the net, folded, the last step.

Figure 6 is a top plan view of a mechanical means for carrying out the method involved here.

Figure 7 is a longitudinal vertical section of the same, taken on line 7, 7, of Figure 6.

Figure 8 is a transverse vertical section taken on line 8, 8, of Figure 6, looking in the direction of the arrows.

Referring to the drawings, and more particularly to Figures 1 to 5, inclusive, I provide manually means and employ a method for wrapping the hair-nets, the envelope 10, taking, preferably, the form of a rectangle of sufficient area to permit the hair-net 11 of any desired shape to be placed flat thereon, with spaces 12, 12, between the edges of the net and envelope allowing for retraction of the sheet or envelope length when rolled, as will appear presently. After placing the net flat on the sheet, the roller 13 is placed at, say, the end 14 of the sheet, and the latter rolled upon said roller, as at 15, (Figure 3), the sheet and net being completely rolled upon said roller with the convolutions of the net within those of the envelope; thus completely enclosing the net. As a general rule, there will be one net in each envelope, but, if desired, a plurality of nets or alternate envelopes and nets might be provided. After rolling the sheet and its contents to a cylindrical shape, the roller is removed and the cylinder formed thereby is flattened to an elliptical shape, are then folded at the medial portion, as indicated at 16, and the complementary ends 17, 17, may then be coupled by adhesive tape, or in any other manner desired. The removal of the net may be quickly accomplished without danger of tearing or otherwise mutilating the same; the net being maintained smooth and ready for use.

The method explained hereinbefore may be carried out in the same fashion by the mechanical means illustrated in Figures 6 to 8, inclusive, wherein 18 indicates a table having legs 19, 19, supporting a top 20. A platen 21 is placed on the top 20, and is provided with longitudinal spaced divergent trackways or grooves 22 and 23, spreading from the front end 24 to the rear end 25 of the table. Stops 26 and 27 are placed on alongside their respective trackways.

Means for rolling the envelope and net are provided and consists of two carriage sections 28 and 29 in the form of tapered blocks having pairs of wheels 30 and 31 journaled on the outer inclined faces 32 and 33, and operating in the trackways 22 and 23, respectively, the blocks are provided with outer metallic sheathing carrying the journals for said wheels. Rollers 34 and 35 are carried by the inner faces of the blocks and are journaled and freely rotatable on suitable shafts 36 and 37 secured in said blocks by nuts 38 and 39, located between the wheels of each pair of said rollers resting upon the upper surface of the platen 21.

Near the rear end of the table I provide folding means comprising a blade-like plate 40 operating vertically through the slot 41 in the table and platen and arranged near the rear end of said table and centrally of said trackways. A lever 42, fulcrumed at 43 in a frame 44 supported on the under surface of the table top 20, is pivotally connected at its rear end by a link 45 to the lower end of the blade. The front end of the lever extends beyond the table and is provided with a pedal 46.

The blade 40 is adapted to be raised through the slot 41 by downward pressure on the pedal 46, this blade passing up midway between two spaced jaws 47, 47, carried by the horizontal spaced arms 48, 48, formed on the standard 49, which latter is rigidly secured to the platen 21, at its rear end. The lower extremities of the jaws 47, 47, are flared and cooperate with the blade for a purpose which will presently appear.

In carrying out the method described hereinbefore with this apparatus the two carriages 28 and 29 are brought to the front end of the table and their respective rollers are arranged in substantially axial alignment, the trackways bringing the opposing ends of the rollers into abutting engagement, forming practically a continuous roller. The stops 26 and 27 engaged by the the carriage insure the rollers being in axial alignment. An envelope such as the sheet 10 is now placed on the platen with its front end beneath the rollers 34 and 35; a hair-net is placed on this sheet, the rollers, (shown in Figure 3), and their rollers move toward the rear of the table, the sheet and hair-net being rolled thereon. The cylinder thus formed is moved with the rollers until the medial portion of the cylinder abuts the standard 49 and is over the slot 41. At this time, by virtue of the divergent arrangement of the trackways the carriages and their rollers will be well separated, and the rollers ready to discharge the cylinder when the blade is moved upwardly. A quick depression of the pedal 46 causes the blade to force the medial portion of the cylinder against the jaws 47 and continuing this mo-

tion folds and flattens the cylinder between these jaws. The folded finished product is then grasped and removed from the top open ends of the jaws and sealed if desired. The carriages are then returned for another operation. The table is of such length so as to permit the operator to reach from one end to the other, so that, one man can rapidly and efficiently wrap and fold many of the products in a short time.

While I have described in particularly both a method of and means for accomplishing the objects of my invention, I reserve the right to make such minor modifications thereof as do not depart from the spirit of the invention and scope of the claims.

What I claim as new is:

1. The method of wrapping hair-nets, which comprises placing the net upon a sheet of paper or the like, then rolling said sheet with the net inside to a cylindrical shape, and then flattening and folding said cylindrical shape.

2. The method of wrapping hair-nets, which comprises placing the net upon a sheet of paper or the like, then rolling said sheet with the net inside to form a cylindrical envelope, then flattening said envelope and folding the same at its medial portion.

3. The method of wrapping hair-nets, which comprises placing the net upon a sheet of paper or the like, then rolling said sheet with the net inside to form a cylindrical envelope with the convolutions of the net within those of the envelope, and then flattening folding said envelope midway its length.

4. The method of wrapping hair-nets and the like, which comprises placing the net flat upon a sheet of paper or the like, then rolling the sheet and net to form a convolute envelope having alternate convolutions of paper and net and then flattening said envelope and folding same at its medial portion.

5. In a wrapping and folding mechanism, means receiving a sheet of paper or the like, means for rolling said sheet to form a cylindrical envelope, and folding and compressing means associated therewith.

6. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope, and means for flattening and folding said envelope.

7. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope, and means adapted to engage the envelope at its medial portion and flatten and fold the same.

8. In a wrapping and folding device, means operating in a horizontal plane for rolling a sheet to form a cylindrical envelope, and means operating substantially in vertical plane for flattening and folding said envelope.

9. In a wrapping and folding device, means operating in a horizontal plane for rolling a sheet to form a cylindrical envelope, and means operating in a vertical plane
5 for engaging the medial portion of the envelope and flattening and folding the same.

10. In a wrapping and folding device, means operating in one plane for rolling a sheet into a cylindrical envelope, and means
10 operating in another plane for flattening and folding the envelope.

11. In a wrapping and folding device, a platen, an expansible rolling carriage thereon adapted to receive a sheet and form the
15 same into a cylindrical envelope, and means operating between the sections of the carriage for flattening and folding said envelope.

12. In a wrapping and folding device, a platen, an expansible rolling carriage thereon adapted to receive a sheet and form the
20 same into a cylindrical envelope, a blade member operating between the sections of the carriage, and means cooperating with said blade adapted to fold and flatten said
25 envelope.

13. In a wrapping and folding device, a platen, an expansible rolling carriage thereon adapted to receive a sheet and form the
30 same into a cylindrical envelope, and means operating between the sections of the carriages for flattening and folding said envelope the sections of said carriage expanding adjacent said flattening and folding means
35 for releasing the envelope.

14. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope and comprising a carriage having a pair of relatively axially expansible
40 rollers operating in a common plane, and means operating at right angles to the axes of said rollers when expanded for flattening and folding said envelope.

15. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope and comprising a carriage having a pair of relatively axially expansible rollers operating in a common plane, a
45 blade operating at right angles to the axes of said rollers, and between the same when expanded, and means cooperating with said blade for folding and flattening said envelope at its medial portion.

16. In a wrapping and folding device,
55 means for rolling a sheet to form a cylindrical envelope comprising a carriage having a pair of relatively axially expansible rollers operating in a common plane, a blade operating at right angles to the axes of said rollers and between the same when expanded and jaws between which said blade is adapted to move and cooperate with for flattening and folding said envelope.

17. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope and comprising a carriage having a pair of relatively axially expansible rollers operating in a common plane, a platen on which said rolling means is operable, divergent trackways for controlling the
65 relation of said rollers, a standard between the wider ends of said trackways and carrying a pair of downwardly opened jaws, and a blade vertically movable through the platen between said rollers, when separated,
70 and said jaws.

18. In a wrapping and folding device, means for rolling a sheet to form a cylindrical envelope and comprising a carriage having a pair of relatively axially expansible rollers operating in a common plane, a platen on which said rolling means is operable, divergent trackways for controlling the
80 relation of said rollers, a standard between the wider ends of said trackways and carrying a pair of downwardly open jaws, and a blade vertically movable through the platen between said rollers, when separated
85 and said jaws, and means for actuating said blade.

19. In a machine for wrapping hair-nets, a platen adapted to receive a sheet and a hair net, and means on said platen for rolling said sheet and net together to form a cylindrical envelope, and means for folding
90 and flattening said envelope.

20. In a machine for wrapping hair-nets, a platen adapted to receive a sheet and a hair net, and means on said platen for rolling said sheet and net together to form a cylindrical envelope, and means adapted for folding
100 said envelope at its medial portion and for flattening the same.

In witness whereof I have hereunto set my hand and seal this 18th day of March, 1921. 105

JOHN LINDGREN.

Witnesses:

ALEXANDRA A. BALE,
VIOLET WARDELL.