G. F. BISHOPRIC.

MACHINE FOR MANUFACTURING OUTER COVERING MATERIAL FOR PACKAGES.

APPLICATION FILED OCT. 19, 1912.

1,129,949.

Patented Mar. 2, 1915.

3 SHEETS—SHEET 1.

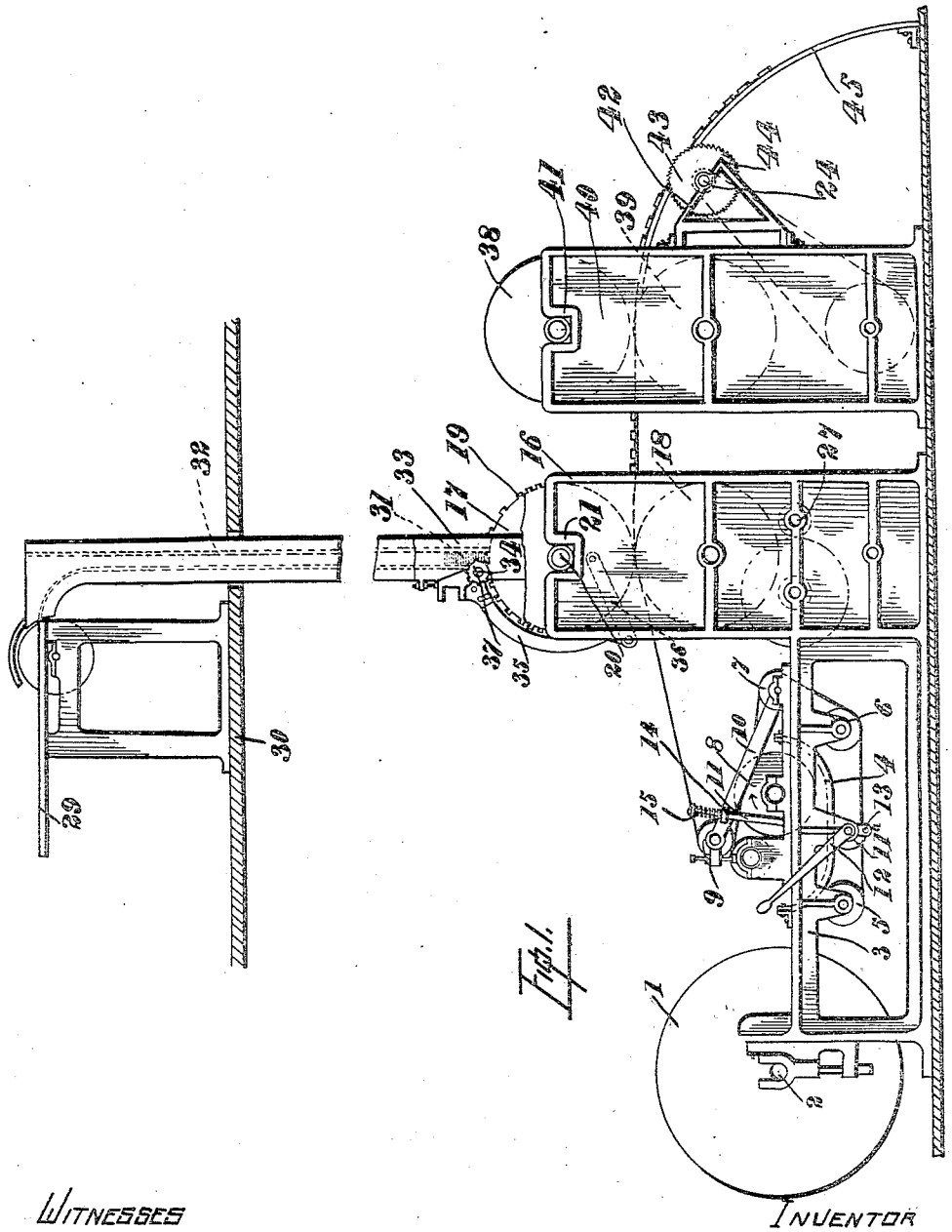


Fig. 1.

WITNESSES

George Patrick

INVENTOR

G. F. BISHOPRIC

BY

ATTY.

G. F. BISHOPRIC.

MACHINE FOR MANUFACTURING OUTER COVERING MATERIAL FOR PACKAGES.

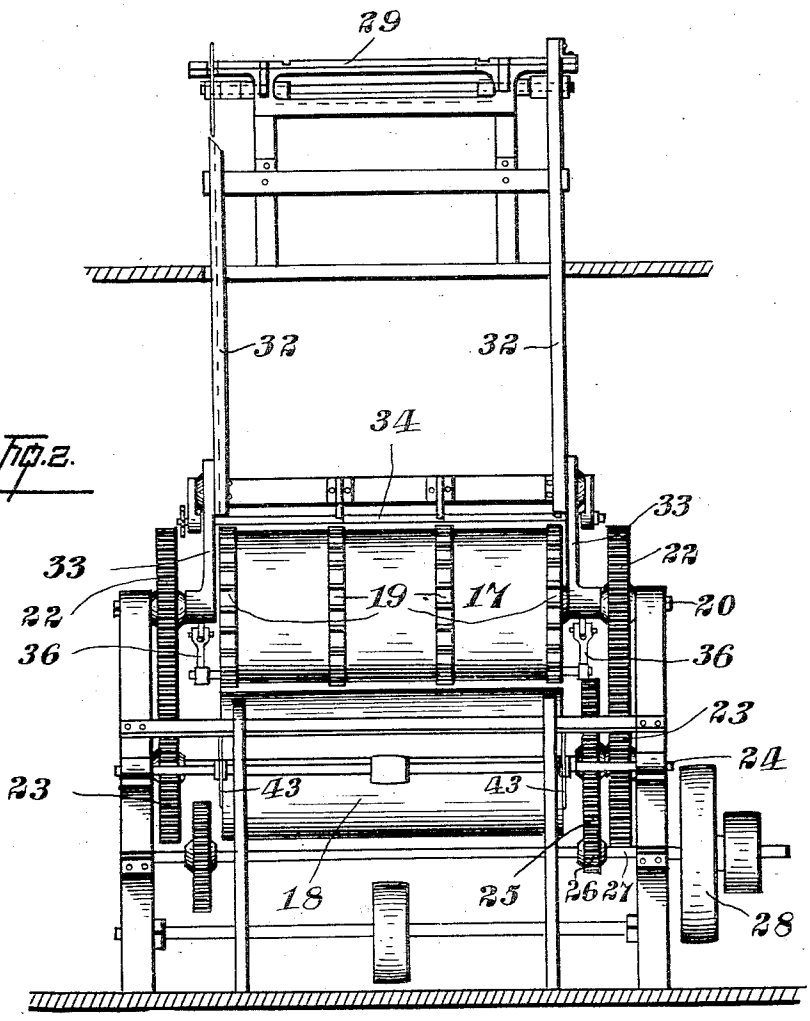
APPLICATION FILED OCT. 19, 1912.

1,129,949.

Patented Mar. 2, 1915

3 SHEETS—SHEET 2.

Fig. 2.



WITNESSES

George Patrick

INVENTOR
G. F. BISHOPRIC

BY

ATTY

G. F. BISHOPRIC.

MACHINE FOR MANUFACTURING OUTER COVERING MATERIAL FOR PACKAGES.

APPLICATION FILED OCT. 19, 1912.

1,129,949. Patented Mar. 2, 1915.

3 SHEETS—SHEET 3.

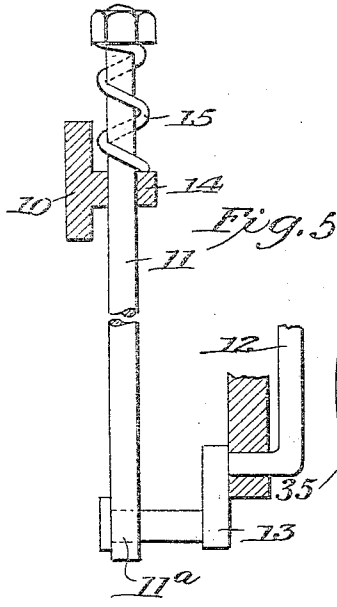


Fig. 5.

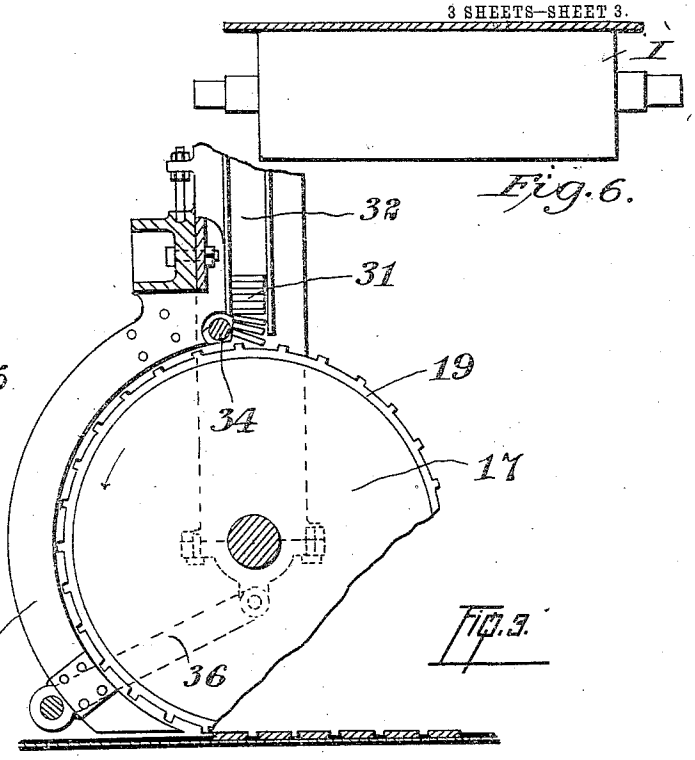


Fig. 6.

Fig. 3.

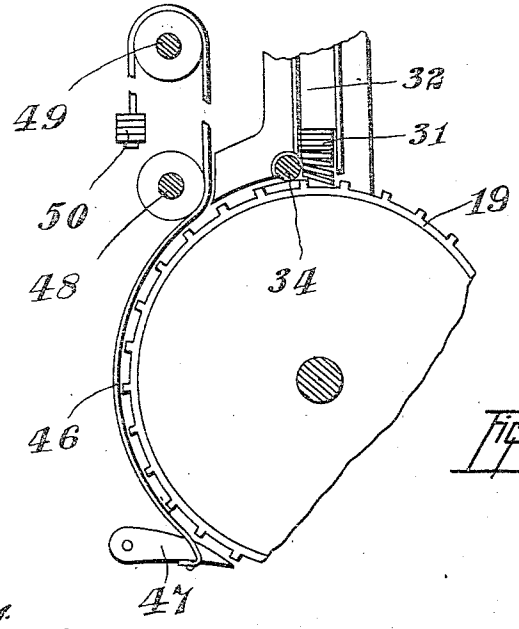


Fig. 4.

WITNESSES

George. Patrick

INVENTOR
G. F. BISHOPRIC

BY Lucius Tuckerman

ATTY.

UNITED STATES PATENT OFFICE.

GEORGE FREDERICK BISHOPRIC, OF OTTAWA, ONTARIO, CANADA.

MACHINE FOR MANUFACTURING OUTER COVERING MATERIAL FOR PACKAGES.

1,129,949 Specification of Letters Patent. Patented Mar. 2, 1915.

Application filed October 19, 1912. Serial No. 726,767.

To all whom it may concern:

Be it known that I, GEORGE FREDERICK BISHOPRIC, a subject of the King of Great Britain, residing at 436 McLeod street, in the city of Ottawa, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Machines for Manufacturing Outer Covering Material for Packages, of which the following is a specification.

My invention relates to improvements in machines for manufacturing outer covering material for packages, and the object of the invention is to devise a machine which will coat paper on one side with asphaltum or some similar substance and at the same time embed laths therein; a further object is to construct a machine which will manufacture a covering material for packages which will be impervious to water and air, and yet cheap in construction and durable.

The invention consists of a machine having means for feeding the paper therethrough, a steam jacketed kettle containing asphaltum or other similar substance, a steam heated feed roller adapted to bear against one surface of the paper, a guiding roller around which the paper extends, a second steam heated roller adapted to bear against the underneath side of the paper when same is passing around the guiding roller, said second steam heated roller rolling off the superfluous asphaltum, means for varying the thickness of the coating material on the paper, means for feeding the laths down on the coated surface of the paper partially embedding same into such coating, and means for trimming the edges of the material after the laths have been attached thereto, all as hereinafter more particularly described and illustrated in the drawings in which:—

Figure 1 represents a side elevation of the machine. Fig. 2 is an end view taken from the end from which the finished material passes out. Fig. 3 is a side view showing the means for feeding the laths down onto the coated surface of the paper, and Fig. 4 is a side view of a modified form of feeding mechanism. Fig. 5 is a detail of the rod 11 and its connections. Fig. 6 is a detail showing the relative widths of the roller and the paper.

Like characters of reference represent corresponding parts in the different views.

1 is the roll of paper mounted on a spindle 2.

3 is the main frame of the machine to which the roll of paper is detachably secured.

4 is the kettle or trough containing asphaltum or other similar material.

5 and 6 are guiding rollers for the paper 1 under the kettle 4.

7 is a guiding roller for the paper on top of the frame.

8 is the steam-heated roller designed to dip into the asphaltum.

9 is a guiding roller journaled in supports 10 which are pivotally connected to the main frame 3.

Z is a second steam heated roller bearing against the paper.

11 is a rod having a hooked shaped lower end 11^a, and 12 is an operating lever pivotally connected to the frame and having a depending crank 13 formed thereon. The rod 11 is pivoted at its lower 11^a to the crank 13, and the upper end extends through a lug 14 on the supports 10.

15 is a spring on the upper end of the rod adapted to bear against the lugs 14 on the supports 10.

16 is a frame for supporting the lath feeding mechanism.

17 and 18 are superposed rollers, the upper having a plurality of toothed portions 19 between the teeth of which the laths rest.

20 is the shaft of the roller 17, said shaft being mounted in bearings 21 at the top of the frame 16, said shaft being free to move vertically for a small extent in the bearings 21.

22 and 23 are intermeshing driving gears connected to the shafts 20 and 24 respectively of the rollers 17 and 18.

25 is an additional reducing gear on the

shaft 24 meshing with a pinion 26 on a shaft 27 to which the driving pulley 28 is connected.

29 is a table above the flooring 30 over which the laths 31 are fed down a chute 32. The chute 32 is supported on brackets 33 mounted on the roller shaft 20. In the present instance, the roller 17 revolves in a contra-clockwise direction.

34 is a roller revolving in a clockwise direction, said roller being situated at the bottom of the chute 32.

35 are suitably curved horns extending around part of the roller 17, and 36 is a link pivotally connected to the horns and brackets 33.

37 is a gear connected to the roller 34 and designed to be suitably driven.

38 and 39 are two rollers similar to the rollers 17 and 18 and mounted on a suitable frame 40, said upper roller 38 being mounted in bearings 41 in the top of the frame 40 which permit the roller a certain amount of vertical movement. The roller 38 is, however, smooth instead of toothed.

42 are brackets secured to the frame 40 and carrying a cross shaft having the trimming saws 43 mounted thereon.

45 is a curved plate down which the finished material is discharged from the machine.

In the modified form of lath feeding mechanism shown in Fig. 4, 46 are bands of flexible material connected at the bottom to a suitable pivoted hook 47 the top of the flexible material extending around pulleys 48 and 49; and 50 is a suitable weight attached to the ends of the flexible material.

The operation of the machine is as follows: The paper 1 from the roll runs around the rollers 5, 6 and 7 and is coated with the coating substance by the steam heated roller 8. It then passes between the rollers 9 and Z and around over the former. The roller Z takes off the superfluous coating substance. The thickness of the coating can be varied by varying the position of the roller 9 relatively to the roller Z. This can be done by operating the lever 12. The paper then runs between the rollers 17 and 18 and the laths 31 are carried down the chute 32 dropping in between the teeth 19 on the roller 17. The roller 34 assists this operation, insuring the laths dropping in the correct position. The roller 17 revolving carries the laths around the same to the bottom where they are embedded in the coated surface of the paper 1. The laths are prevented from falling off the roller 17 by the horns 35 or the band 46. The distance between the horns or bands and the roller 17 is variable by the connections of the lower ends of the horns to the brackets 33, or the flexible bands 46 in order that should a thick lath be fed onto the roller 17 it will not be caught between the horn and the roller as would otherwise occur. The roller 17 and the lath feeding mechanism attached thereto, float on the frame 16 and the laths are thus pressed down against the coated surface of the paper. If desired the additional rollers 38 and 39 may be used and the material fed therethrough after being discharged from the rollers 17 and 18 in order to further insure the laths being firmly pressed down against the coated surface of the paper. In the event of the second pair of rollers 38 and 39 being used the trimming saws are attached to the frame 40 as is also the plate 45. The saws trim the margin off the paper, it being understood that the coating rollers do not extend the full width of the paper but leave a small margin on each side in order that the coating material will not spread and foul the roller 18.

What I claim as my invention is:

1. In a machine for manufacturing outer covering material for packages, comprising a chute for laths, a plurality of superposed rollers below the chute, sets of teeth extending around the periphery of the upper roller, and a roller rotating in the opposite direction to the direction of rotation of the upper roller and coöperating therewith to feed the laths, said roller being situated adjacent to the bottom of the lath chute, as and for the purpose specified.

2. In a machine for manufacturing outer covering material for packages, comprising a chute for laths, a plurality of superposed rollers below the chute, sets of teeth extending around the periphery of the upper roller a roller rotating in the opposite direction to the direction of rotation of the upper roller and coöperating therewith to feed the laths, said rollers being situated adjacent to the bottom of the lath chute, suitably curved horns for preventing the laths falling off the upper roller upon rotation of the same, and brackets securing the chute to the shaft of the upper roller, adjustable means for securing the upper ends of said horns to said brackets, and link connection between the brackets and the bottoms of the horn, as and for the purpose specified.

3. A machine for the purpose specified comprising means for coating a strip of paper, superimposed rollers between which the paper is adapted to pass, the upper roller floating and having a plurality of toothed portions, a chute for feeding the laths onto the upper floating roller, said chute being carried with the floating roller and floating itself therewith.

4. A machine for the purpose specified comprising means for coating a strip of

paper, superimposed rollers between which the paper is adapted to pass, the upper roller floating and having a plurality of toothed portions, a chute for feeding the laths onto the upper floating roller, said chute being carried with the floating roller and floating itself therewith, and a second pair of superimposed rollers adapted to force the laths into the coating material, the upper one of said second pair of rollers also floating.

In withness whereof I have hereunto set my hand in the presence of two witnesses.

GEORGE FREDERICK BISHOPRIC.

Witnesses:

RUSSEL S. SMART,

M. MAHONEY.