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H. A. WHEELER.  
TAPE PASTING MACHINE.  
APPLICATION FILED JAN. 19, 1910.

998,221.

Patented July 18, 1911.

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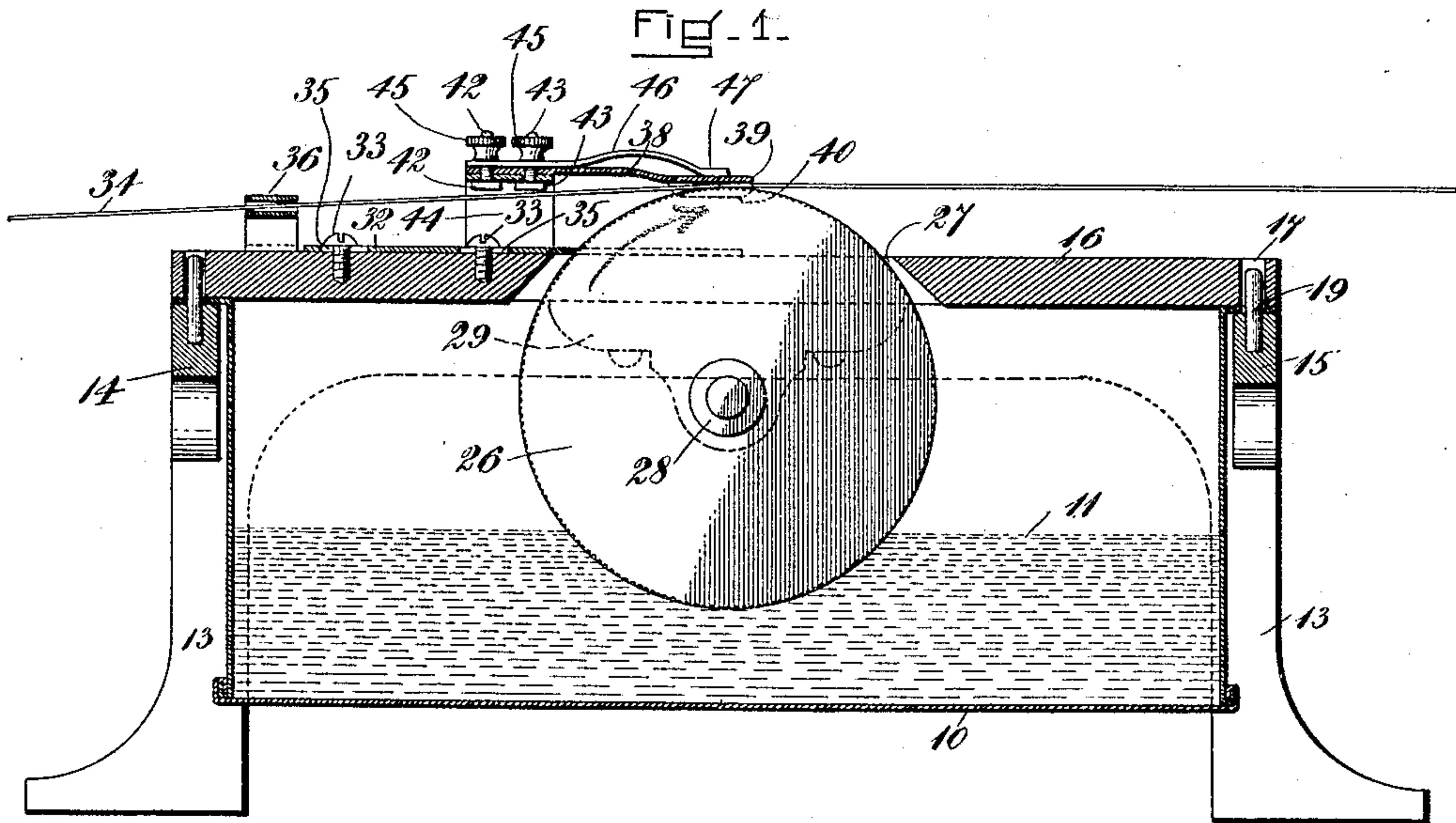
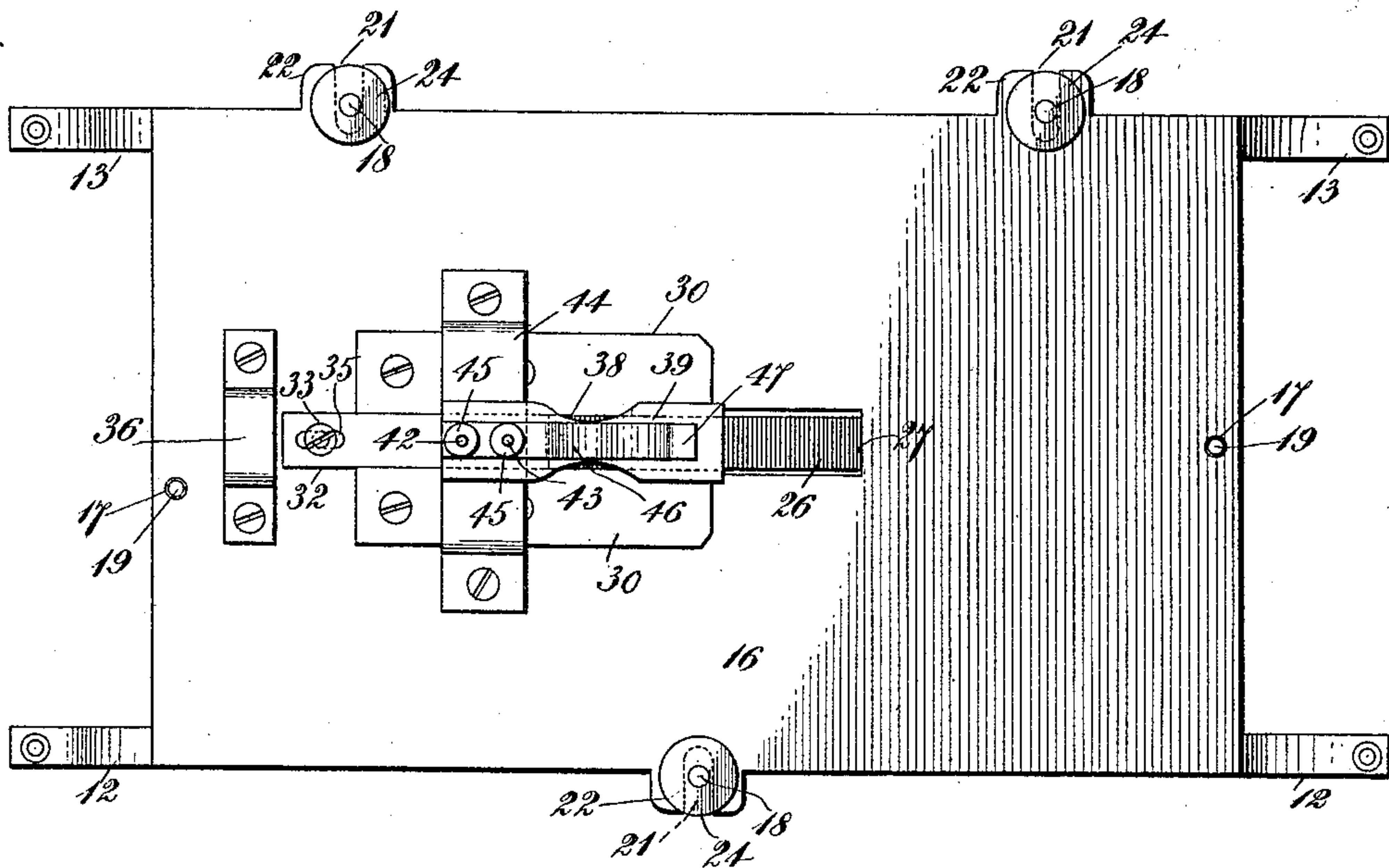


FIG. 2

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INVENTOR=

*Harry A. Wheeler*  
by his Attorney  
*William J. Speck*

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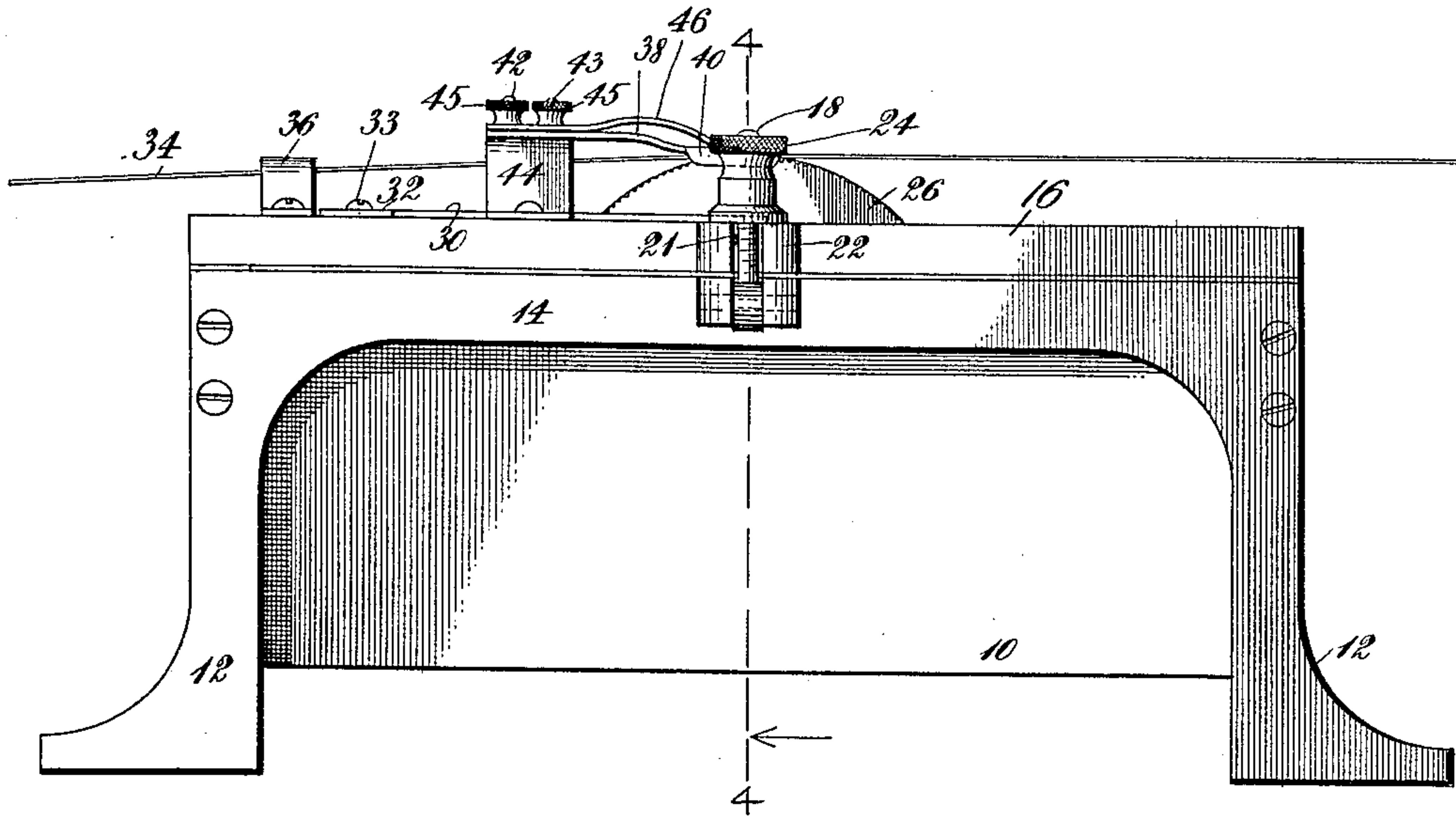


Fig. 3.

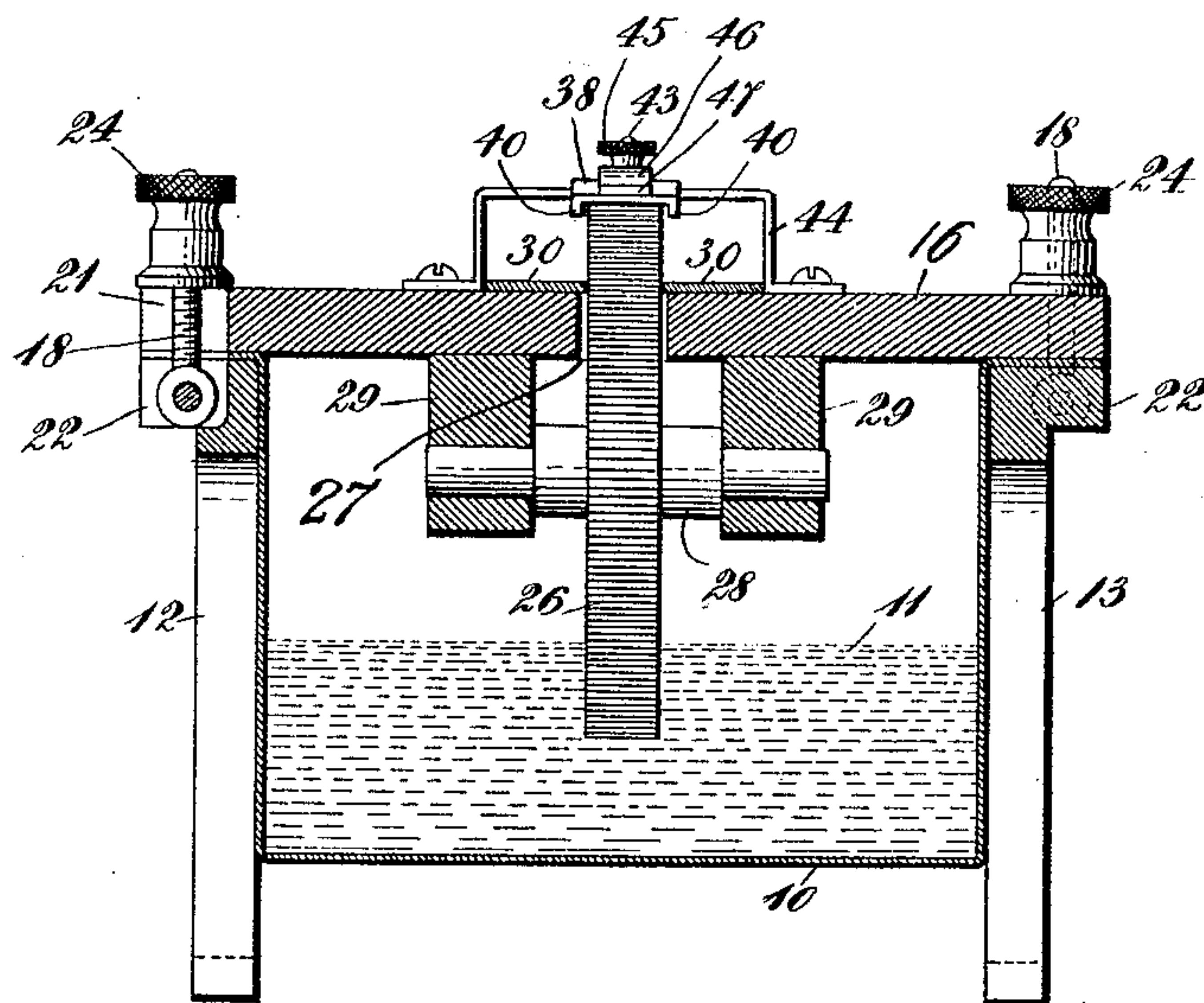


Fig. 4.

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INVENTOR  
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# UNITED STATES PATENT OFFICE.

HARRY A. WHEELER, OF WHITMAN, MASSACHUSETTS.

## TAPE-PASTING MACHINE.

998,221.

Specification of Letters Patent. Patented July 18, 1911.

Application filed January 19, 1910. Serial No. 538,896.

*To all whom it may concern:*

Be it known that I, HARRY A. WHEELER, a citizen of the United States, of Whitman, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Tape-Pasting Machines, of which the following is a specification.

This invention relates to pasting machines, and more particularly to tape pasting machines, that is, machines for applying an adhesive, such as cement, paste, or a similar substance to tape or the like.

One object of the invention is to provide a machine for applying an adhesive, such as cement, by means of a rotary carrier to tape such as is used in the manufacture of shoes and to prevent the evaporation of the volatile solvent of the cement.

A further object of the invention is to provide a machine with mechanism for applying an adhesive to a strip of tape as it is drawn through the machine, the act of drawing the tape through the machine causing the adhesive applying mechanism to rotate and apply the adhesive to the tape.

A further object of the invention is to provide a machine for applying an adhesive to tape, said machine having a rotary carrier for raising the adhesive from the adhesive reservoir and applying it to the under side of the tape, the friction of the tape upon the carrier operating to rotate the latter, and means for varying the degree of pressure between the tape and the carrier.

A further object of the invention is to provide an adhesive applying machine having a corrugated adhesive-applying wheel for conveying the adhesive from the adhesive receptacle to the tape and applying it thereto, a device for guiding the tape upon the wheel and varying the degree of pressure between the tape and the adhesive carrier to accommodate tapes of various thicknesses and widths, and also means for stripping any surplus adhesive from the periphery and sides of the wheel.

With the above objects in view, the invention consists in the improved tape pasting machine hereinafter described and particularly defined in the claims, the advantages of which will be obvious to those skilled in the art from the following description.

The several features of the invention will be clearly understood from an inspection of

the accompanying drawings and the following detailed description of the construction shown therein.

In the accompanying drawings Figure 1 is a top plan view of the machine; Fig. 2 is a longitudinal central vertical section of the machine with parts in elevation and showing the tape passing through the machine; Fig. 3 is a side elevation of the machine; and Fig. 4, is a vertical section taken on the line 4—4 in Fig. 3, with parts in elevation.

As shown in said drawings the machine comprises a sheet metal reservoir 10 for the adhesive which is to be applied to the tape. This reservoir is in the form of a rectangular tank having its upper edges flanged to rest upon the upper faces of the frame work or base of the machine. Said tank is adapted to contain a quantity of adhesive 11, such as cement or paste, which is commonly used in the manufacture of shoes. The base comprises side standards 12, 13 which are secured to end bars 14, 15 by means of screws, or in any other manner to form a rectangular frame. These standards are arched to make them light and the frame is formed with a flat upper surface which forms a bearing for the flanged upper edges of the reservoir.

A plate 16 forms the top of the machine and acts as a cover for the reservoir. This plate is removably held upon the machine by bolts 18, pivotally mounted upon the side standards and adapted to enter slots 21 formed in lugs 22 on the cover plate. Knurled nuts 24 are threaded upon the upper ends of the bolts and bear against the upper surface of the cover plate to keep it tightly in position on the machine. In order to correctly locate the cover plate 16 upon the machine, it is provided with holes 17 adapted to register with dowel pins 19 mounted in the end bars 14, 15 of the base.

The adhesive applying mechanism comprises a wheel 26 projecting through an opening 27 formed in the cover plate 16. Said wheel is provided with fine, shallow teeth or corrugations formed upon its periphery and is mounted upon a shaft 28 journaled in bearings 29 depending from the under side of the cover plate 16. The depth of the liquid in the tank is such that the wheel 26 dips below its surface. The corrugations constitute a series of pockets to carry the adhesive 11 from the reservoir to



the under side of the tape and apply it thereto and also aid the tape in rotating the wheel, as will be hereinafter explained.

A pair of side stripper plates 30 are secured by means of screws to the upper surface of the plate 16 adjacent to the sides of the wheel 26 to prevent the adhesive from being carried to the top portion of the sides of the wheel. A central stripper plate 32 is adjustably mounted upon the upper surface of the plate 16 between the plates 30 by means of screws 33 passing through slots 35 in said stripper plate. Thus the stripper plate 32 may be adjusted with relation to the periphery of the wheel 26 to vary the amount of adhesive carried up by the wheel and applied to the tape. Obviously, other means for effecting the adjustment of this central stripper plate may be employed.

The tape 34 is fed from a reel (not shown) through a guide or eye 36 mounted upon the upper side of the plate 16. This guide may be of any suitable width adapted to fit the particular size of tape which is being run through the machine. From the guide the tape passes to the periphery of the adhesive applying wheel 26 against which it is pressed by a resilient arm 38 having a flat portion or plate 39 at one end which presses against the tape, and is provided with depending flanges 40 which lie adjacent to the sides of the wheel and act to guide the tape laterally to properly position it with relation to the periphery of the wheel. The other end of the arm 38 is secured by means of bolts 42, 43 and nuts 45 to the horizontal portion of a bridge plate 44 which is mounted upon the upper side of the plate 16 and straddles the stripper plates 30 and 32. The two ends of the arm 38 are offset vertically relatively to one another an amount slightly greater than the vertical distance between the highest point on the periphery of the wheel 16 and the upper face of the horizontal portion of the bridge plate 44. Thus, by adjusting the nuts 45 on the bolts 42 and 43 the pressure exerted by the arm upon the tape may be varied, and the device adapted to receive tapes of various thicknesses. In order to more satisfactorily press the plate 39 in contact with the tape 34 it has been found advisable in practice to provide a sheet metal spring 46 which is held at one end between the upper surface of the arm 38 and nuts 45, and having its other end 47 bent to bear against the upper surface of the plate 39. This spring may be bent to vary the pressure which it will exert upon the plate 39 when adjusted by means of the nuts 45. The pressure thus exerted by the plate 39 against the tape and wheel is sufficient to enable the tape to cause the rotation of the wheel as it is drawn over the periphery of the latter in contact with the corrugations.

In using the machine the tape is drawn through the guide 36 and between the wheel 26 and the presser-plate 39. The operator draws the tape toward the front or right hand end of the machine as viewed in the drawings, and the engagement of the tape with the wheel 26 causes the latter to rotate and convey the adhesive from the reservoir up to the tape and apply it to the under side thereof by discharging the contents of the corrugations or pockets thereon. The operator draws the desired length of tape through the machine and then cuts it off for application to the part of a shoe or other articles to which it is to be applied. It will be observed that the reservoir is closely covered so that there is practically no opportunity for the evaporation of the paste or the volatile solvent employed in cements adapted for use in cementing tapes or other materials used in the manufacture of shoes, for which this machine is primarily intended to be used.

The nature and scope of the present invention having been indicated and the preferred embodiment of the invention having been specifically described what is claimed is:—

1. In a tape pasting machine, the combination of a rectangular frame, a tank adapted to contain an adhesive liquid and provided with marginal flanges resting on the upper face of the frame, a cover for said tank provided with an opening, a wheel provided with corrugations extending entirely across its peripheral face, bearings on the under side of said cover in which the wheel is rotatably mounted, to enter the adhesive liquid, an adjustable stripper for removing any surplus adhesive from the periphery of the wheel and preventing the adhesive from being carried up on the sides of the wheel, a bridge plate which straddles the stripper, a resilient arm mounted on said bridge plate and adapted to press the tape in contact with the periphery of the wheel, and means for varying the pressure with which the arm holds the tape in contact with said wheel, substantially as described.

2. In a tape pasting machine, the combination of a reservoir adapted to contain a supply of adhesive liquid, a wheel rotatably mounted to enter the liquid and having its periphery formed with fine, shallow teeth or corrugations each extending entirely across the same, a resilient sheet metal plate having depending flanges and adapted to press and guide a tape in contact with the periphery of said wheel, and means for varying the pressure applied to the tape, whereby when the tape is drawn through the machine the wheel is rotated to convey the adhesive liquid to the tape and apply it to the under side thereof, substantially as described.



3. In a tape pasting machine, the combination of a reservoir adapted to contain a supply of adhesive liquid, a wheel having fine, shallow teeth forming pockets each extending entirely across its face and mounted to rotate with its lower portion immersed within the liquid, a resilient sheet metal arm having means for guiding the tape into contact with the periphery of the wheel at its upper portion, means for varying the pressure with which the arm holds the tape in contact with the wheel, and a stripper for removing any surplus adhesive from the periphery of the wheel and preventing the adhesive from being carried up on the sides of the wheel, substantially as described.

4. In a tape pasting machine, the combination of a reservoir or tank adapted to contain an adhesive liquid, a cover for said tank provided with an opening, a corrugated wheel rotatably mounted on the under side of said cover and adapted to have its lower portion immersed within the liquid, the upper portion of the wheel projecting through said opening, a guide for receiving the tape as it enters the machine, a guide for holding the tape in contact with the upper portion of the periphery of the wheel, and a stripper for removing any surplus adhesive from the periphery of the wheel and preventing the adhesive from being carried up on the sides of the wheel, substantially as described.

5. In a tape pasting machine, the combination of a reservoir, a cover plate for the reservoir having an opening therein, a wheel journaled in bearings mounted on the under side of said plate, said wheel projecting through said opening, an eye for receiving the tape as it is fed to the machine, a resilient arm provided with a plate for pressing the tape in contact with the periphery of

the wheel, flanges depending from said plate adjacent to the sides of the wheel, and means for varying the pressure with which said plate holds the tape in contact with said wheel, substantially as described.

6. In a tape pasting machine, the combination of a frame, a tank adapted to contain an adhesive liquid and provided with marginal flanges resting on said frame, a cover for said tank provided with an opening, a wheel provided with corrugations extending across its peripheral face, bearings on said cover in which the wheel is rotatably mounted to enter the adhesive liquid, an adjustable stripper for removing any surplus adhesive from the periphery of the wheel and preventing the adhesive from being carried up on the sides of the wheel, a bridge plate, a resilient arm mounted on the bridge plate arranged to press the tape in contact with the periphery of the wheel, and means for varying the pressure with which the arm holds the tape in contact with said wheel, substantially as described.

7. In a tape pasting machine, the combination of a tank adapted to contain an adhesive liquid, a cover for said tank, a wheel rotatably mounted on said cover and adapted to have its lower portion enter the liquid in the tank, an arm mounted on the cover having a plate arranged to guide and hold a tape in contact with the periphery of the wheel, a spring engaging the upper surface of the plate, and means for varying the pressure of the spring upon the plate, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses.

HARRY A. WHEELER.

Witnesses:

HELEN L. JONES,  
JOHN H. GORDON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."