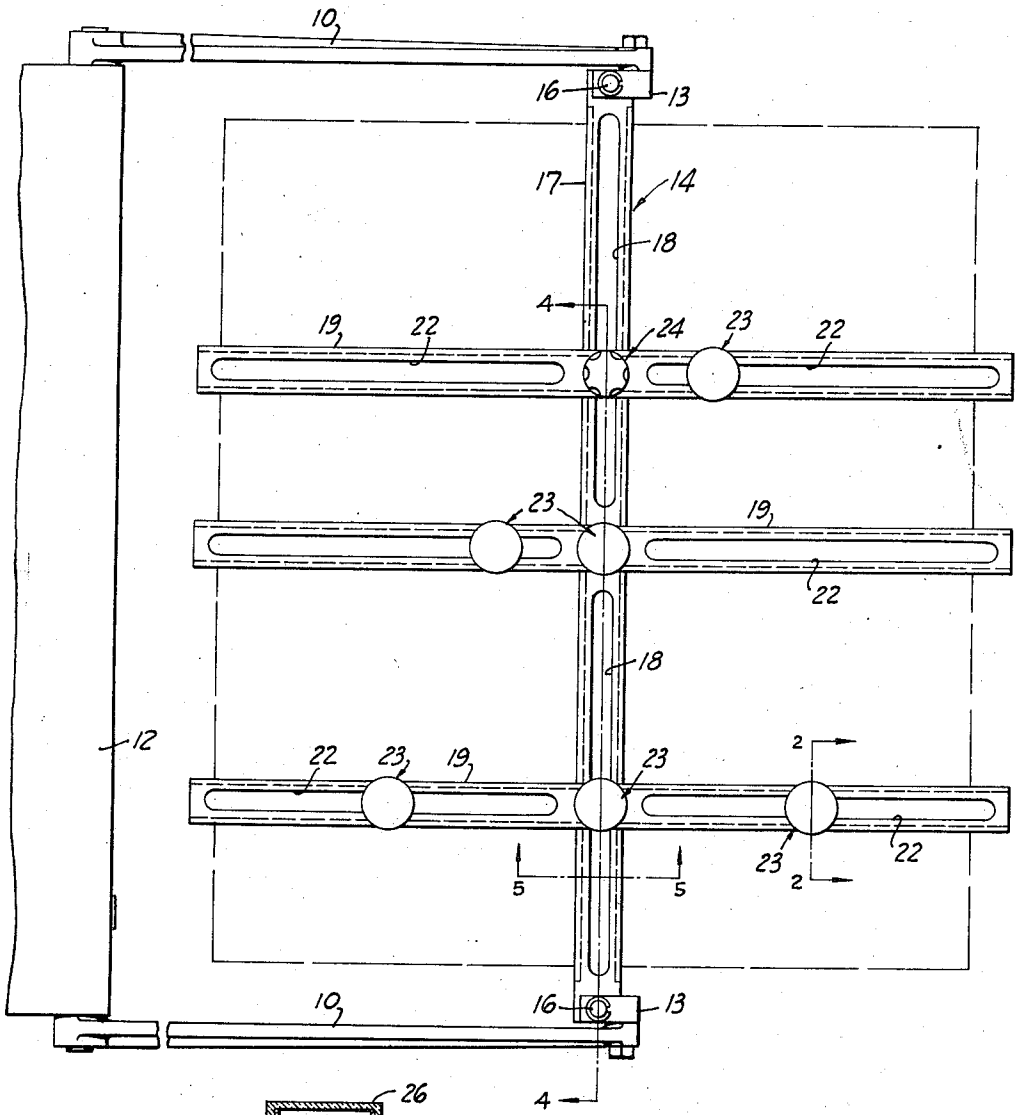
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GLUE TIPPING APPARATUS

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FIG_1_



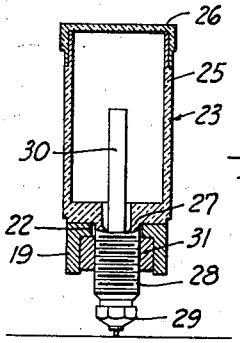




FIG_2_

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GLUE TIPPING APPARATUS

Filed Dec. 16, 1954 2 Sheets-Sheet 2

FIG_5_

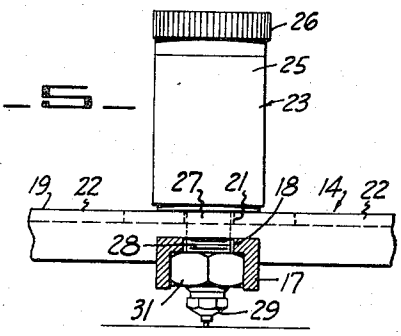



FIG_3_




FIG_4_

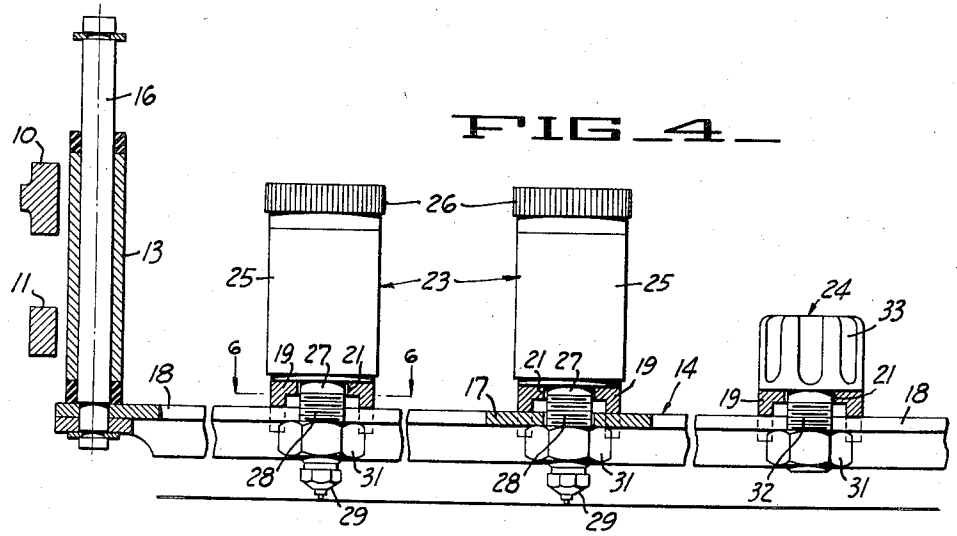
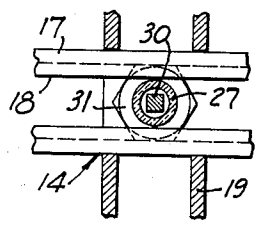



FIG_6_




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2,855,892

Patented Oct. 14, 1958



2,855,892

# GLUE TIPPING APPARATUS

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Application December 16, 1954, Serial No. 475,602

5 Claims. (Cl. 118—3)

This invention relates to glue tipping devices and particularly to an assembly of glue tipping units which are adapted to be quickly and easily adjusted to place glue dots in a plurality of predetermined places on sheets of paper in connection with the preparation of manifold books, snap out carbonized sets, Christmas cards, calendars, sample books, etc.

The use of glue tipping machines is old and we are particularly familiar with the Glue Tipping Machine described and disclosed in the co-pending application of Charles F. Forslund, Jr., Serial No. 288,651, filed May 19, 1952, now U. S. Patent No. 2,753,836, for a "Glue Tipping Machine." That device is particularly adaptable for use in small printing shops for use in connection with the preparation of manifold books and snap-out carbonized sets. Such items are customarily formed by collation which, as is well known to those skilled in the art, is a gathering together of a number of various sheets in predetermined combinations for binding. In the past the binding of such sets of collated material has been confined to relatively large size equipment which is impractical for use in small printing shops, but the device disclosed and claimed in said Forslund application provides a glue tipping machine suitable for use in small shops which requires a minimum of experience on the part of the individual operating the machine and which also requires the minimum by way of upkeep and repair.

The machine described in the said Forslund application, however, is provided with only a single elongated glue fountain provided with suitable nozzles for applying glue dots in a single line. In the use of such a machine, the product has been run and tipped in a single row; that is, the dots of glue were in a straight line only.

We propose to provide a device in which the dots of glue may be placed in any desired pattern, including a straight line, at any point on the surface of the papers to be glued together.

It is an object of this invention to provide a device of this kind which is simple and inexpensive to manufacture, which is easy to operate and which consists of no complex or hard-to-handle parts.

Other objects and advantages of this invention will appear from the following specification taken in conjunction with the accompanying drawings in which:

Figure 1 is a plan view of a device incorporating our invention;

Figure 2 is a cross sectional detail taken along the line 2—2 of Figure 1;

Figure 3 is a side view of the device illustrated in Figure 1;

Figure 4 is an enlarged cross section taken along the line 4—4 of Figure 1;

Figure 5 is a cross sectional view taken along the line 5—5 of Figure 1; and

Figure 6 is a view taken along the lines 6—6 of Figure 4.

At the outset let it be made clear that our multiple fountain device is adapted to be used in conjunction with a glue tipping machine of the type disclosed in the aforementioned Forslund application which, it will be noted, discloses means for actuating a glue fountain into and out of engagement with a stack of papers to which glue is to be applied. Specifically the device comprises two pairs of swinging arms 10 and 11 which, as illustrated in Figure 3, are pivotally connected with and mounted upon driving mechanism 12 and pillow-block 13 so that a parallelogram type motion is obtained and further so that our assembly 14 will at all times be horizontal with respect to the material being worked upon. Therefore, when the arms 10 and 11 are caused to be raised and lowered as described in said Forslund application, our multi-tipping device will likewise be raised and lowered.

As illustrated particularly in Figures 1 and 3, our device is supported in the pillow-blocks 13. The pillow-blocks 13 are bored to accommodate reciprocably mounted pins 16 to the lower ends of which our assembly 14 is secured.

Our device consists generally of an elongated member 17 whose ends are suitably secured to the pins 16 in a suitable manner and which are provided with elongated slots 18. The member 17 serves as a mounting for a plurality of adjustable slide members 19 which are provided with central orifices 21 and with similar elongated slots 22. The orifices 21 are aligned with the slots 18 in the member 17 and, by virtue of the construction illustrated in Figure 4, they are adapted to be maintained upon the member 17 either by the glue pot assemblies 23 or the securing assembly 24.

Generally speaking, the glue fountains 23 consist of a storage pot receptacle 25 having an upper removable cover 26 and a lower integrally formed non-removable base and nipple portion 27. The nipple portion 27 is exteriorly threaded as indicated at 28. It is drilled and threaded to accommodate a nozzle 29 which is provided with an orifice at its lower end and which is adapted to accommodate a so-called free floating vertical rod 30 which acts as a valve closure member and which, by gravity, closes the orifice by engaging the side walls of the orifice. However, the free floating member normally extends downwardly below the lower level of the orifice in the nozzle 29 whereby when it engages another object, as for example a sheet of paper, the free floating member 30 will be urged upwardly whereby the orifice will be opened and a quantity of glue which is stored within the fountain 23 will be deposited upon the paper. When the nozzle 29 is raised to a position in which the free floating member 30 no longer engages the paper, the member 30 will serve to close the orifice and prevent the further flow of glue therethrough.

The threaded portion 28 is adapted to cooperate with a threaded member 31 which, as shown in Figures 2 and 6, takes the form of a hexagonal nut. Thus when the fountain 23 is positioned on the member 17 in such a manner that it extends through one of the elongated slots 18, its threaded portion 28 may engage the similarly threaded portion of the hexagonal nut 31. In this manner the glue fountain is retained in a particular position with respect to one of the elongated slots 18 or 22.

However, as illustrated in Figure 4, the same unit may be used to secure the members 19 to the member 17. In this instance, the elongated threaded projection 27 will, as illustrated in Figure 4, extend downwardly through the orifice 21 and the cooperating slots 18 and, by means of the threaded member 31, serve to secure the assembly together.

Moreover, when it is desired that one of the slides 19 be fastened to the member 17 in such a manner that the use of a glue pot is not called for, as, for example, when it is not desired that a spot of glue be deposited at that point,

a simple nut and bolt assembly may be used as illustrated at the extreme right hand position of Figure 4.

The same nut **31** may be used but the threaded member **32** may consist of a conventional threaded bolt which is provided with an enlarged head **33**.

Operation of the device may briefly be described as follows: The mechanism which causes the arms **10** and **11** to be raised or lowered must of course be in operating condition. The operator then ascertains that the shafts **16** are free to reciprocate within the bores in the pillow-blocks **13** in such a manner that the assembly **14** may be raised and lowered. The slide members **19** are then positioned on the member **17** either by the use of a glue pot **23** or by the use of the nut and bolt assembly **24** shown in the extreme right hand portion of Figure 4. Glue pots are positioned at predetermined desired points along the members **17** and **19** by positioning them at selected points along the slots **18** and **22** as generally illustrated in Figure 1. The machine is then caused to operate and glue dots will be deposited by the glue fountains **23** in the desired pattern.

It is obvious that the use of our invention permits greater and more flexible utilization of a glue tipping machine in that it provides a quickly and easily arrangeable combination of glue tippers. This will permit the placing of glue dots practically anywhere within the limits of an area which may be defined by the dotted line area indicated in Figure 1. The advantages of this construction are obvious. For example, where small forms such as hotel check-in tickets, private club meal and bar chips, route lists and other snap-outs have been run and tipped in a single row, they may now be printed in three or four rows and tipped in one operation. Working with larger sheets of both the printed form and carbon paper decreases handling and with the three or four time increase in production rates on the actual tipping, job costs are reduced tremendously. Moreover, irregular tipping patterns are easily set up on our device. This applies particularly to tip-on jobs, that is, Christmas cards, calendars, sample books with cards tipped to pages, and many other special jobs which are now customarily done by hand.

We claim:

1. In a glue tipping assembly for glue tipping apparatus of the type for applying a plurality of glue dots to sheets of paper and having means for maintaining a supporting member in a substantially horizontal position as the supporting member is reciprocated in a predetermined arcuate path, the glue tipping apparatus comprising an elongate substantially horizontal member slidably mounted on said supporting member for limited vertical movement with respect to said supporting member, a plurality of self-contained glue fountains each including a needle valve adapted to be opened by contact with the sheet of paper to be glued to apply a glue dot to the sheet of paper when the glue fountain is lowered into engagement with the sheet of paper, and means for releasably securing said glue fountains to said elongate member whereby said glue fountains may be moved longitudinally of said elongate member and fixed at predetermined locations on said elongate member.

2. In a glue tipping assembly for glue tipping apparatus of the type for applying a plurality of glue dots to sheets of paper and having means for maintaining a supporting member in a substantially horizontal position as the supporting member is reciprocated in a predetermined arcuate path, the glue tipping assembly comprising an elongate substantially horizontal member slidably mounted on said supporting member for limited vertical movement with respect to said supporting member, a plurality of additional elongate members, means for mounting said additional elongate members on said first named elongate member in a substantially horizontal plane and at substantially right angles to said first named elongate member, said last named means permitting said additional elongate members to be moved longitudinally of said first named member and fastened at predetermined locations on said first named member, a plurality of self-contained glue fountains each including a needle valve adapted to be operated by contact with the sheet of paper to be glued to apply a glue dot when the glue fountain is lowered into engagement with the sheet of paper, and means for releasably securing said glue fountains to said elongate members whereby said glue fountains may be moved longitudinally of said elongate members and fixed at predetermined positions on said elongate members.

3. In a glue tipping assembly for glue tipping apparatus of the type for applying a plurality of glue dots to sheets of paper and having means for maintaining a supporting member in a substantially horizontal position as the supporting member is reciprocated in a predetermined arcuate path, the glue tipping assembly comprising an elongate substantially horizontal member slidably mounted on said supporting member for limited vertical movement with respect to said supporting member, said elongate member having a pair of elongate slots spaced from the center thereof, a plurality of additional elongate members, each of said additional elongate members having a pair of slots spaced from the center thereof, means for fastening said additional elongate members to the slots in said first named elongate members to permit said additional elongate members to be moved longitudinally of said first named elongate member, said additional elongate members being mounted in a substantially horizontal plane at substantially right angles with respect to said first named elongate member, a plurality of self-contained glue fountains, each including a needle valve adapted to be opened by contact with the sheet of paper to be glued to apply a glue dot, and means for releasably securing said glue fountains in the slots in said elongate members whereby said glue fountains may be slid longitudinally of said elongate members and fixed at predetermined positions on said elongate members.

4. In a glue tipping assembly for glue tipping apparatus of the type for applying a plurality of glue dots to sheets of paper and having means for maintaining a supporting member in a substantially horizontal position as the supporting member is reciprocated in a predetermined arcuate path, the glue tipping assembly comprising an alongate substantially horizontal member slidably mounted on said supporting member for limited vertical movement with respect to said supporting member, and a plurality of self-contained glue fountains, said self-contained glue fountains comprising a receptacle, an exteriorally threaded member mounted on the bottom of said receptable and having a flow passage communicating with the receptacle, a gravity controlled needle valve mounted in said flow passage and having its upper end free and extending a substantial distance into said receptacle, said needle valve normally closing said flow passage but being adapted to be opened by contact with the sheet of paper to be glued to apply a glue dot to the sheet of paper when the fountain is lowered into engagement with the sheet of paper, and a nut threaded on said exteriorally threaded member to releasably secure each of said glue fountains to said elongate member in a predetermined position on said elongate member.

5. In a glue tipping assembly for glue tipping apparatus of the type for applying a plurality of glue dots to sheets of paper and having means for maintaining a supporting member in a substantially horizontal position as the supporting member is reciprocated in a predetermined arcuate path, the glue tipping assembly comprising a mounting member carried by said supporting member for substantial movement therewith, said mounting member being in the form of a channel and having at least one elongate slot therein, and a plurality of self-contained glue fountains releasably mounted upon said mounting member, each of said self-contained glue fountains comprising a covered receptacle, a member provided with external threads

mounted on the bottom of said receptacle and having a flow passage therein communicating with the receptacle, a needle valve mounted in said flow passage and having its upper end free and extending upwardly a substantial distance into the interior of said receptacle, said needle valve normally closing said flow passage but being adapted to be opened by contact with the sheet of paper to be glued to apply a glue dot to the sheet of paper when the fountain is lowered into engagement with the sheet of paper, the receptacle having a width greater than the width of the slot in the mounting member and resting on the mounting member, the externally threaded member extending through the slot in the mounting member, and a nut engaged by the channel shaped mounting member and threaded on the threaded member to releasably secure said glue fountain to said mounting member in a predetermined position on said mounting member.



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