May 29, 1928. 1,671,688

E. G. STAUDE

LATERALLY ADJUSTABLE TABLE FOR AUTOMATIC PAPER SHEET FEEDERS

Filed June 7, 1926 3 Sheets-Sheet 1

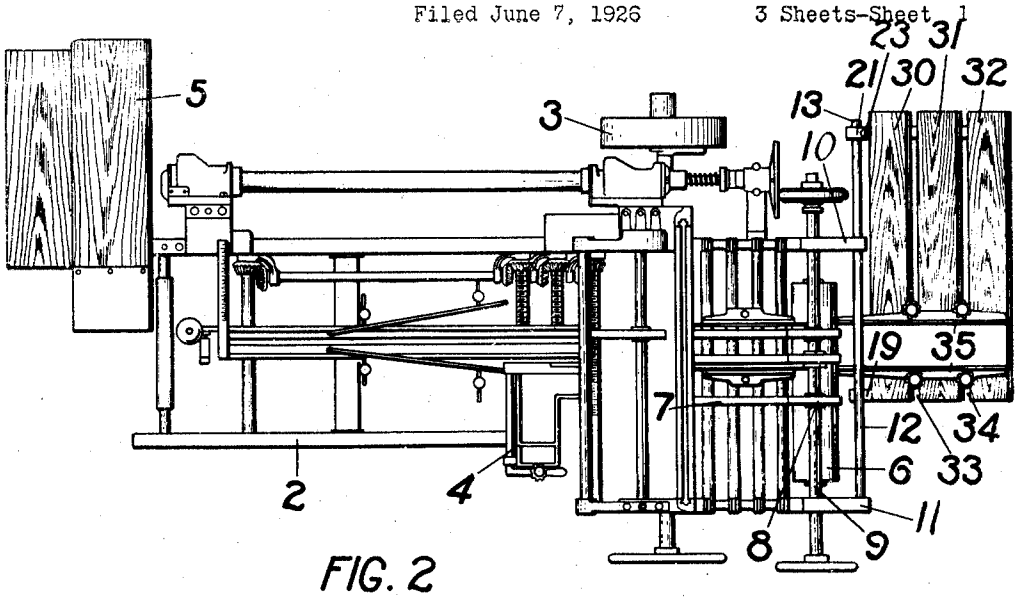


FIG. 2

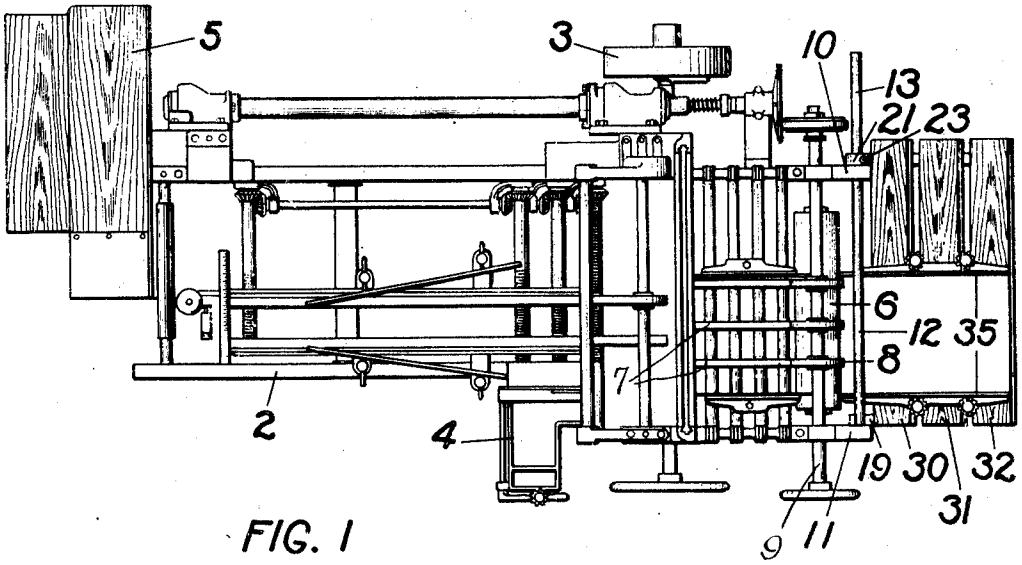


FIG. 1

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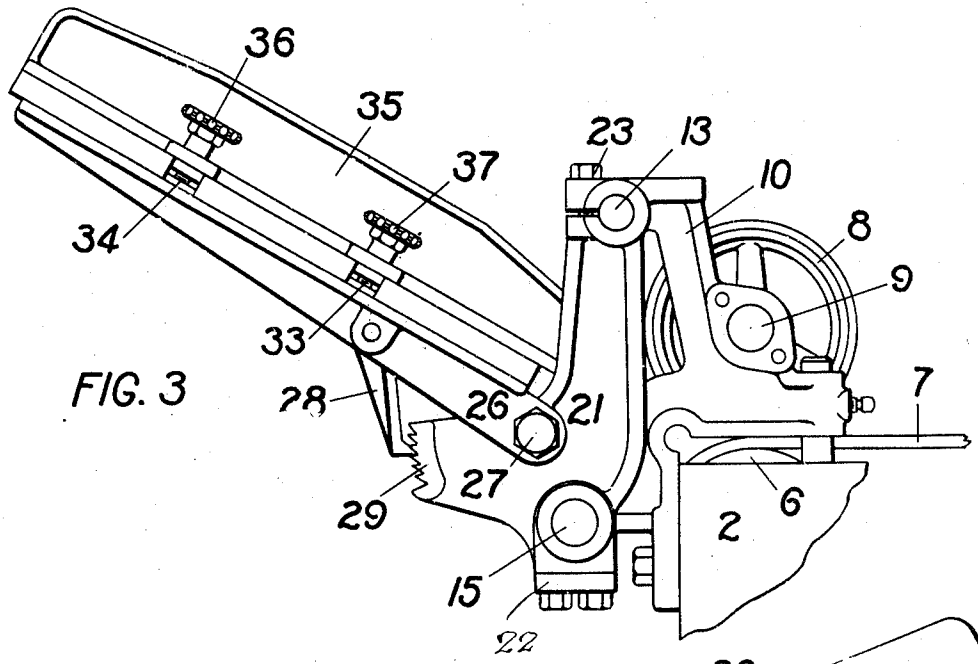


FIG. 3

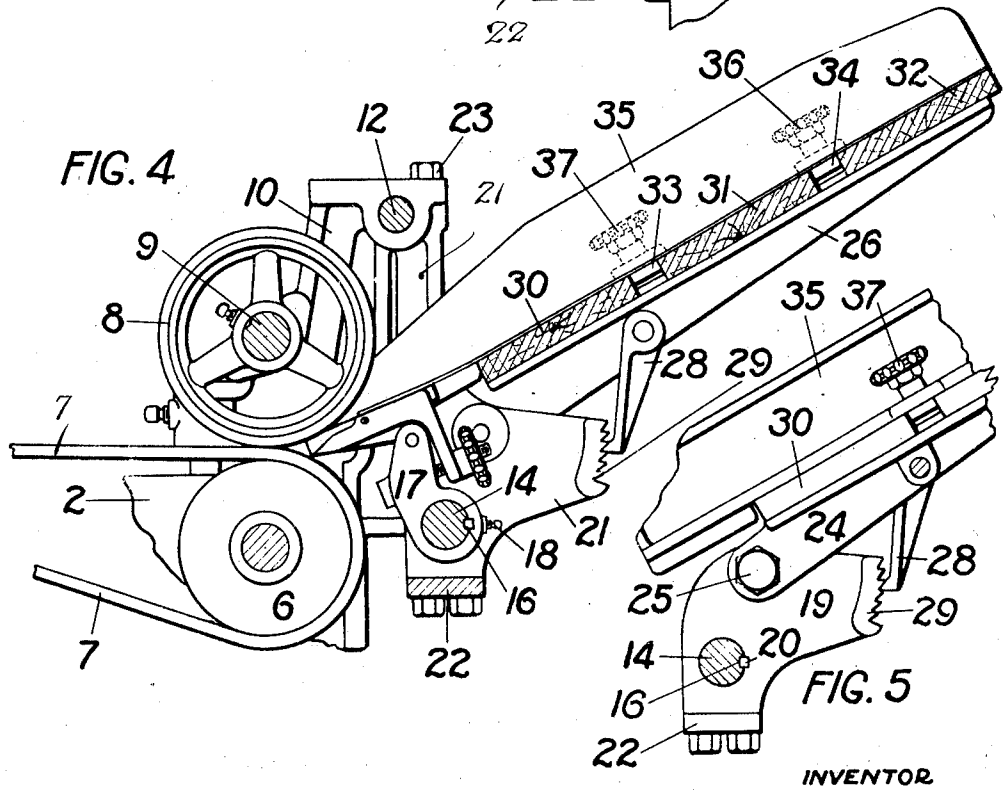


FIG. 4

FIG. 5

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Filed June 7, 1926 3 Sheets-Sheet 3

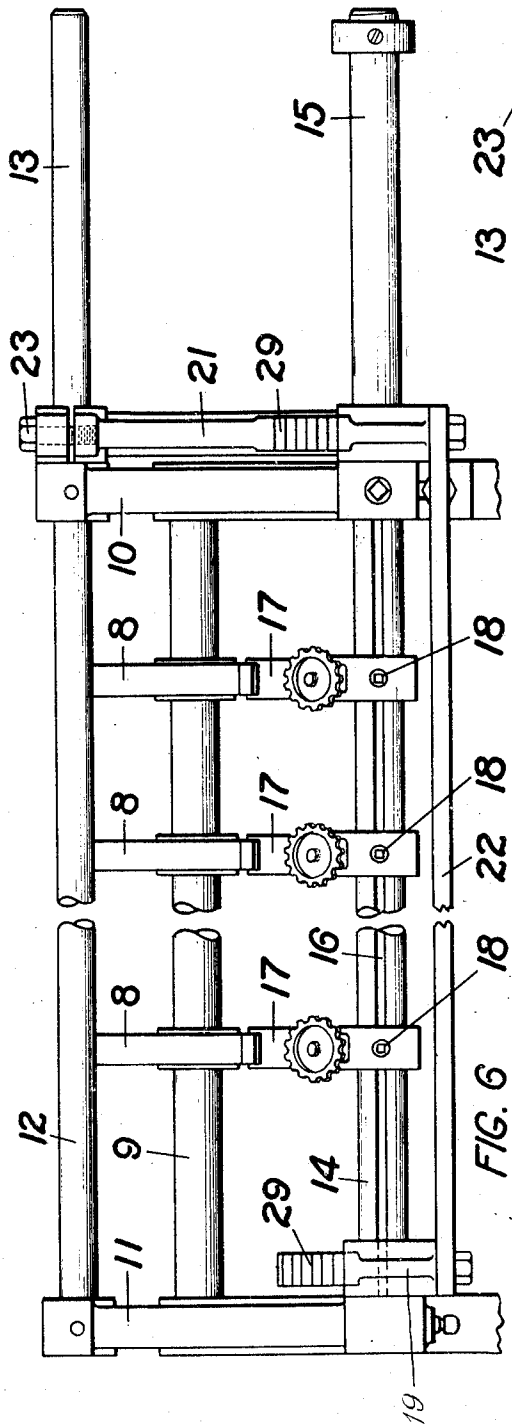


FIG. 6

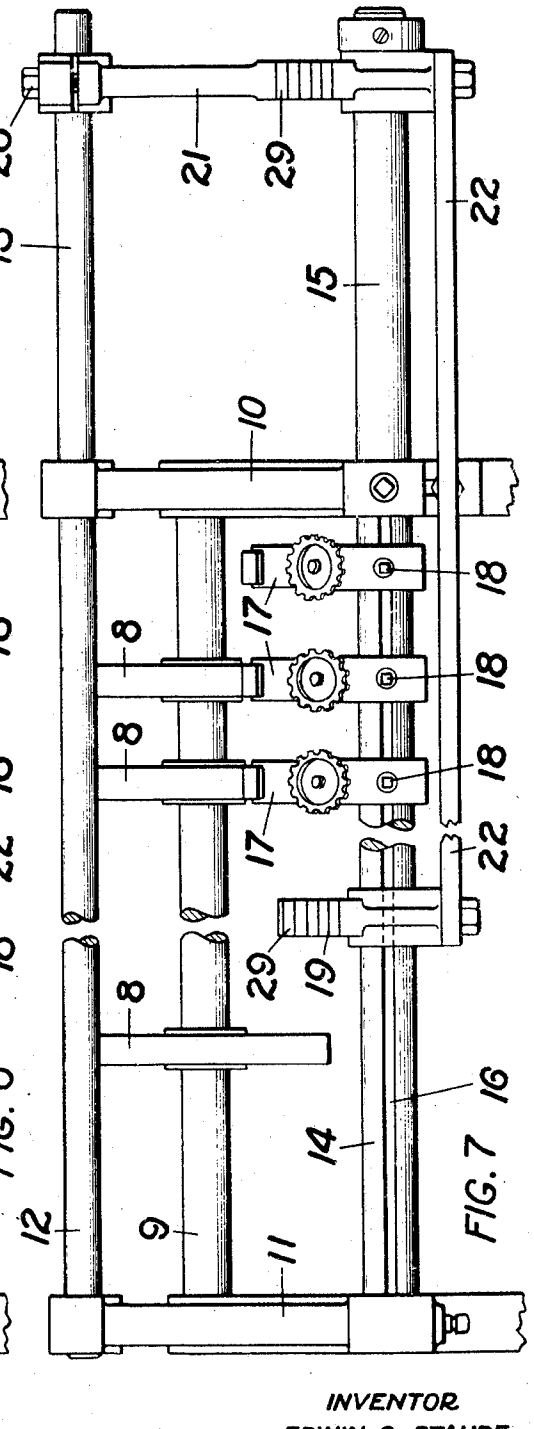


FIG. 7

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Patented May 29, 1928. 1,671,688

UNITED STATES PATENT OFFICE.

EDWIN G. STAUDE, OF MINNEAPOLIS, MINNESOTA.

LATERALLY-ADJUSTABLE TABLE FOR AUTOMATIC PAPER-SHEET FEEDERS.

Application filed June 7, 1926. Serial No. 114,216.

This invention relates to improvements in feed tables for automatic feeders, such as ordinarily used for automatic folding box gluing machines or open end envelope machines, paraffining machines, and machines of similar nature, and is an improvement of the device shown in my Patent #1,033,040, dated July 16, 1912.

One of the objects of my invention is to provide an improved feed table or hopper which may be bodily adjusted across the machine, so that the side guides may be adjusted for the width of the sheet to be fed and then the entire mechanism adjusted properly with the rest of the machine.

Another object is to provide a laterally adjustable feed table or hopper for automatic feeders that will permit the running of the small stock near one edge of the feed table and the operator have easy access to the table from the side without the necessity of reaching over from the rear of the table.

A further object is to provide a locking means for securing the feed table or hopper in the required position.

A further object is to provide a simplified form of construction which shall be rigid and yet of light weight and simple to manufacture.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of an automatic folding box gluing machine with my invention applied thereto, showing the machine set up for a medium sized blank with the edges of the blank engaging suitable guides placed on the left-hand side of the feed table or feed hopper.

Figure 2 is a view similar to Figure 1 except that the machine is set up for a narrower blank with the edges of the blank guided by setting the guides close to the left-hand side of the feed table and the feed table adjusted laterally to the right, so that the operator may stand on the side and easily supply the hopper with the small blanks without the great inconvenience of reaching over from the back of the feed table to the feed wheels, a distance of about 32 inches.

Figure 3 is a side view of the feeder looking from the drive pulley side of the machine.

Figure 4 is a section through the center of the feeder.

Figure 5 is a detail of the feeder showing the left side bracket and its manner of mounting, so that it will slide laterally on the guides.

Figure 6 is a rear view of the feeder with the feed table or hopper removed, to show the manner of mounting the supporting brackets for the feed table.

Figure 7 is a view similar to Figure 6, except that the brackets which support the feed table are shown at the limit of adjustment.

In the drawing, 2 represents a folding paper box gluing machine having the usual drive pulley 3, glue pot 4, delivery table 5, the lower feed drum 6, having the usual carrier belts 7 and feed wheels 8, all mounted upon suitable shafts and driven in a suitable manner.

The feed wheels 8 are preferably mounted on a shaft 9 having bearings in brackets 10 and 11 on each side of the machine.

This shaft 9 is usually driven by the feed wheels through their frictional contact with the belt 7.

The brackets 10 and 11 are connected with each other by a shaft 12, having an extension 13, and a shaft 14, having an extension 15. (See Figures 6 and 7.)

The shaft 14 has a keyway 16 and supports the feed adjusting mechanism 17, each being secured in position after once being set by the small set screw 18, which bears against a key that slides in the keyway 16.

To support the feed table and to guide the blanks properly between the feed wheel 8 and the drum 6, I provide a bracket 19, mounted on the shaft 14 and adapted to slide laterally thereon but secured from rotary movement by the key 20. (See Figure 5.)

I also provide a bracket 21 which is mounted on shafts 12 and 14 and adapted to slide laterally over the extensions 13 and 15 of the same shafts.

A bar 22 connects the brackets 19 and 21 rigidly, and the two brackets are secured in position by the cap screw 23, which clamps the upper part of the bracket 21 on to the extended portion 13 of the shaft 12.

To the bracket 19 I pivot an arm 24 at the point 25, and to the bracket 21, I pivot an arm 26 at the point 27.

Suitable dogs 28 adapted to engage the teeth 29 in the brackets 19 and 21 are provided for holding the arms 24 and 26 in their adjusted positions.

The arms 24 and 26 are connected with each other by suitable boards 30, 31 and 32. The boards are spaced apart at points 33 and 34, so that suitable guides 35 may be placed on the upper side of the board and adjusted in the slots or spaces between the boards across the machine and clamped into position by the hand wheels 36 and 37.

In operating a machine equipped with my invention, the operator adjusts the machine as in my patent above referred to, but instead of standing at the rear of the machine and reaching a distance of 32 inches to feed and keep the action of the feed wheel 8 under constant observation, as well as lifting the rear of the stack so that a new "lift" may be fanned out and inserted under the stack from which the feed wheel 8 is feeding, he simply adjusts the side guides 35 to the left-hand side of the feed table and moves the table towards the right in line with the path of the blank through the machine and stands on the left-hand side of the feed table, where he has easy access to the feed table, as well as immediate contact with the starting and stopping levers, the glue control levers, etc., which, except for my invention would require his passing around to the side of the machine.

After setting the machine and moving the feed table to the right position, as shown for instance in Figure 2, the operator takes a wrench and tightens the screw 23, locking the feed table against lateral movement, and the angle or pitch of the feed table is then adjusted by the action of the ratchet dogs 28 in the notches 29 of the brackets 19 and 21.

It usually happens that after the machine is set up, the folding is inaccurate and the folder frames will have to be either opened or closed to a greater degree. Therefore the re-setting of both feed guides 35 would be necessary unless the machine was equipped with this invention.

If it is so equipped it is merely a question of loosening the cap screw 23 and tapping the feed table with the palm of the hand slightly in either direction to make it line up with the rest of the machine, so that the blank may enter the feed wheel at the proper point for the glue flap to pass over the glue wheel and the creases on the folding box to come in the right position for the folding mechanism.

I claim as my invention:

1. The combination with a frame and feed wheels mounted therein and means for driving said wheels, of brackets mounted for transverse adjustment on said frame, arms pivoted on said brackets and mounted to swing vertically thereon, a feed table supported by said arms, and adjustable therewith, and said brackets transversely of said machine to position said table with respect to said feed wheels.

2. In a machine of the class described, tilting arms mounted for lateral adjustment, a feed table supported by said arms and comprising plates spaced apart to form gaps extending transversely of the table, upright guides mounted on said table and adjustable transversely thereof and having means for securing them in said gaps, the adjustment of said guides adapting said table for receiving and feeding blanks of different widths.

3. A machine of the class described comprising a frame having transverse shafts therein, provided with lateral extensions, a bracket mounted on one of said shafts for slidable longitudinal adjustment, a second bracket mounted on the lateral extensions of said shafts and connected with said first named bracket for adjustment transversely of the machine, means for locking said brackets on said shafts, a feed table supported by said brackets for adjustment therewith transversely of the machine, and feed wheels mounted in said frame opposite which said table is adjusted.

4. In a machine of the class described, the combination with a frame, of a pair of shafts mounted therein in spaced parallel relation and having longitudinal extensions at one end, brackets mounted upon said shafts, one on the lateral extensions thereof, said brackets being adjustable transversely of the machine, arms mounted on said brackets for pivotal vertical adjustment, plates carried by said arms and spaced apart to form gaps between them, vertical guides transversely movable on said table and having studs and clamping means therefor fitting within said gaps for locking said guides in their adjusted positions, and feed wheels mounted in said frame in position to receive the blanks from said table.

5. In a machine of the class described, the combination with a frame, of a feed table and supports therefor transversely adjustable in said frame from one side of the machine to the other, said table comprising plates adapted to receive the blanks to be fed, upright guides mounted on said plates for adjustment transversely of the machine to adapt said table for blanks of different width, and feed wheels mounted in said frame in position to receive the blanks from said table.

6. In a machine of the class described, the

combination with a frame and feed wheels mounted therein, of a feed table adapted for adjustment transversely of said frame to position it to allow the operator to stand at one side of the table, and guides mounted on said table for adjustment thereon for guiding the blanks to said feed wheels and positioning them on said feed table within convenient reach of the machine attendant standing at one side of the table.

7. The combination with a suitable frame and wheels for feeding blanks therein, of a feed table arranged to support a series of blanks or sheets to be fed to said wheels, said table being mounted for transverse adjustment to change its position with respect to said feed wheels and allow the operator to stand at one side of the table, and guides mounted on said table and adjustable thereon across the machine to position the stock placed between them within convenient reach of the operator standing at the side of the table.

8. The combination with an automatic sheet feeding machine, of a table, guides above said table between which the stock is placed on the table, said table and guides being mounted for relative adjustment transversely of the machine to allow the table to be offset with respect to the machine frame and the attendant to stand at one side of the table and conveniently reach the stock thereon.

9. The combination with a machine of the class described having feed wheels adapted to receive paper blanks fed thereto, of a feed table adjustable transversely with respect to said feed wheels, feed guides mounted above said table and also adjustable transversely of said feed wheels and independently of said feed table whereby said table may be offset with respect to the machine frame to allow the operator to stand at one end of said table near the feed wheels, and said feed guides to be adjusted to a point adjacent the operator and the end of the feed table

10. In a machine of the class described the combination with a frame including transversely spaced sides, of shafts mounted transversely thereof, brackets slidable upon the shafts, a stock supporting feed table supported by the brackets, one of the brackets being arranged between the sides and the other beyond the sides, and feed wheels arranged to receive stock delivered from the table.

In witness whereof, I have hereunto set my hand this 18th day of May 1926.

EDWIN G. STAUDE.