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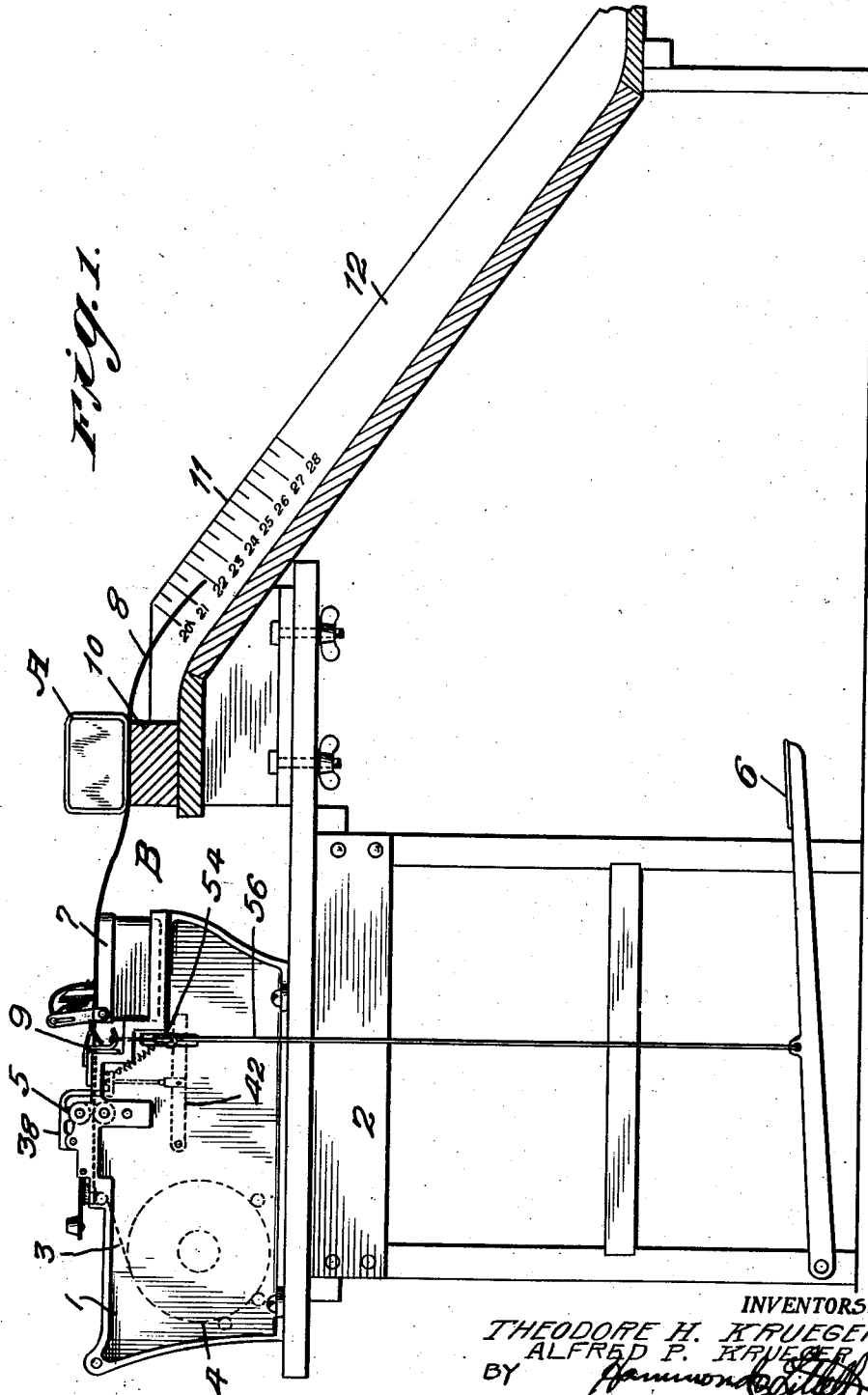
T. H. KRUEGER ET AL

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STRIP SERVING DEVICE

Filed June 30, 1925

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T. H. KRUEGER ET AL

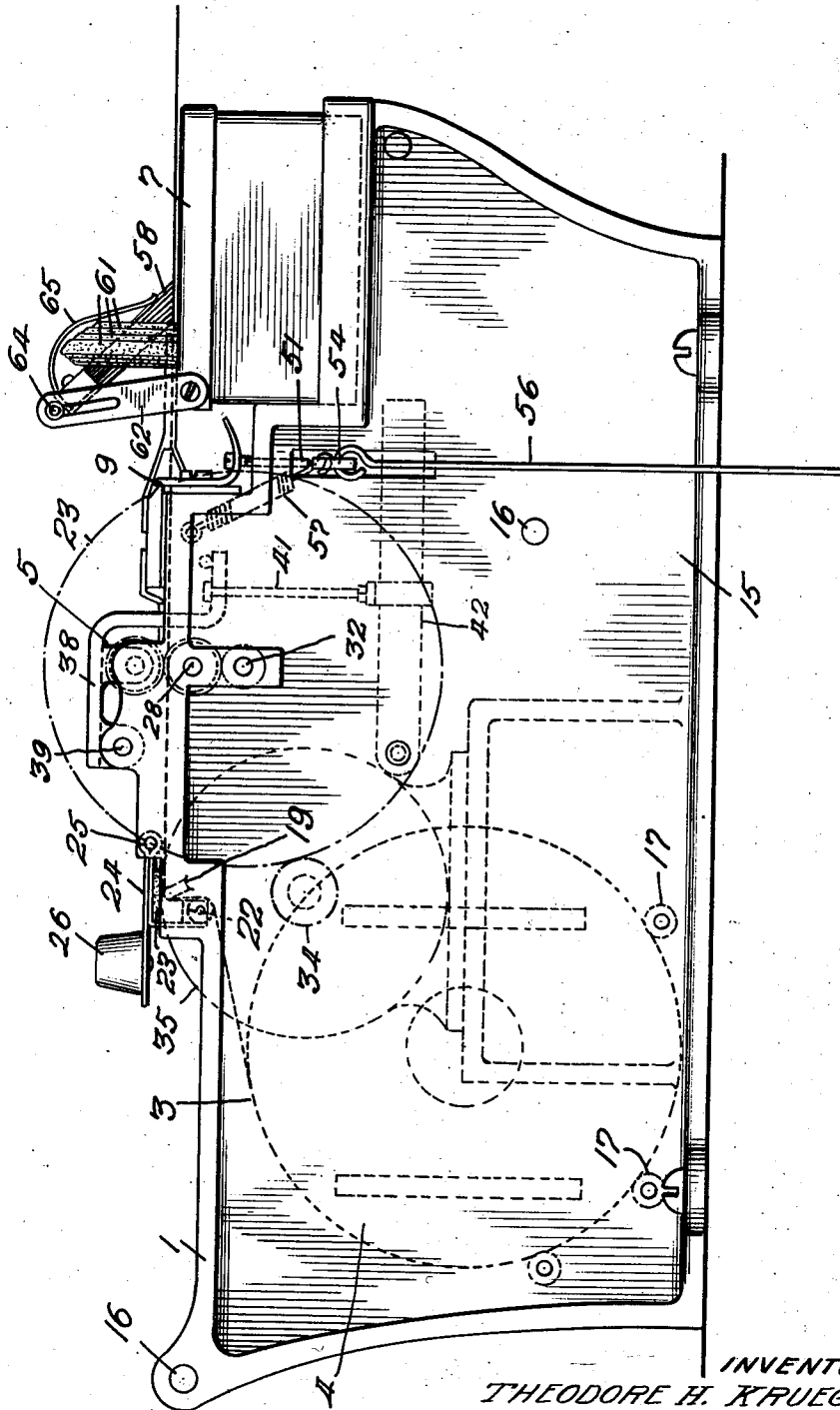
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Fig. 2.



INVENTORS
THEODORE H. KRUEGER
ALFRED P. KRUEGER
BY *Hammond & Little*
ATTORNEYS

Jan. 8, 1935.

T. H. KRUEGER ET AL

1,987,197

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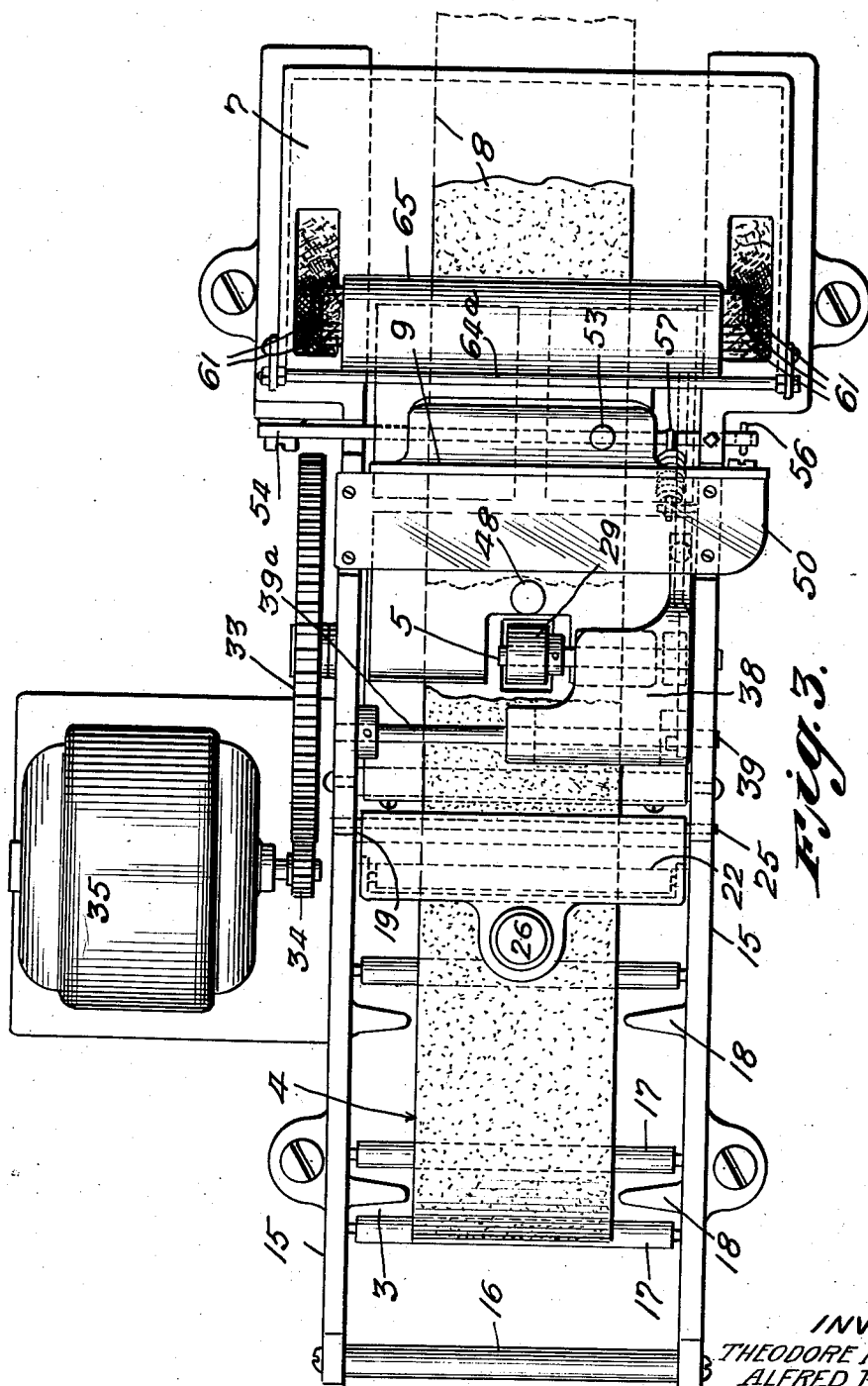


Fig. 3.

INVENTORS
THEODORE H. KRUEGER
ALFRED P. KRUEGER

BY *Hammond & Little*
ATTORNEYS

Jan. 8, 1935.

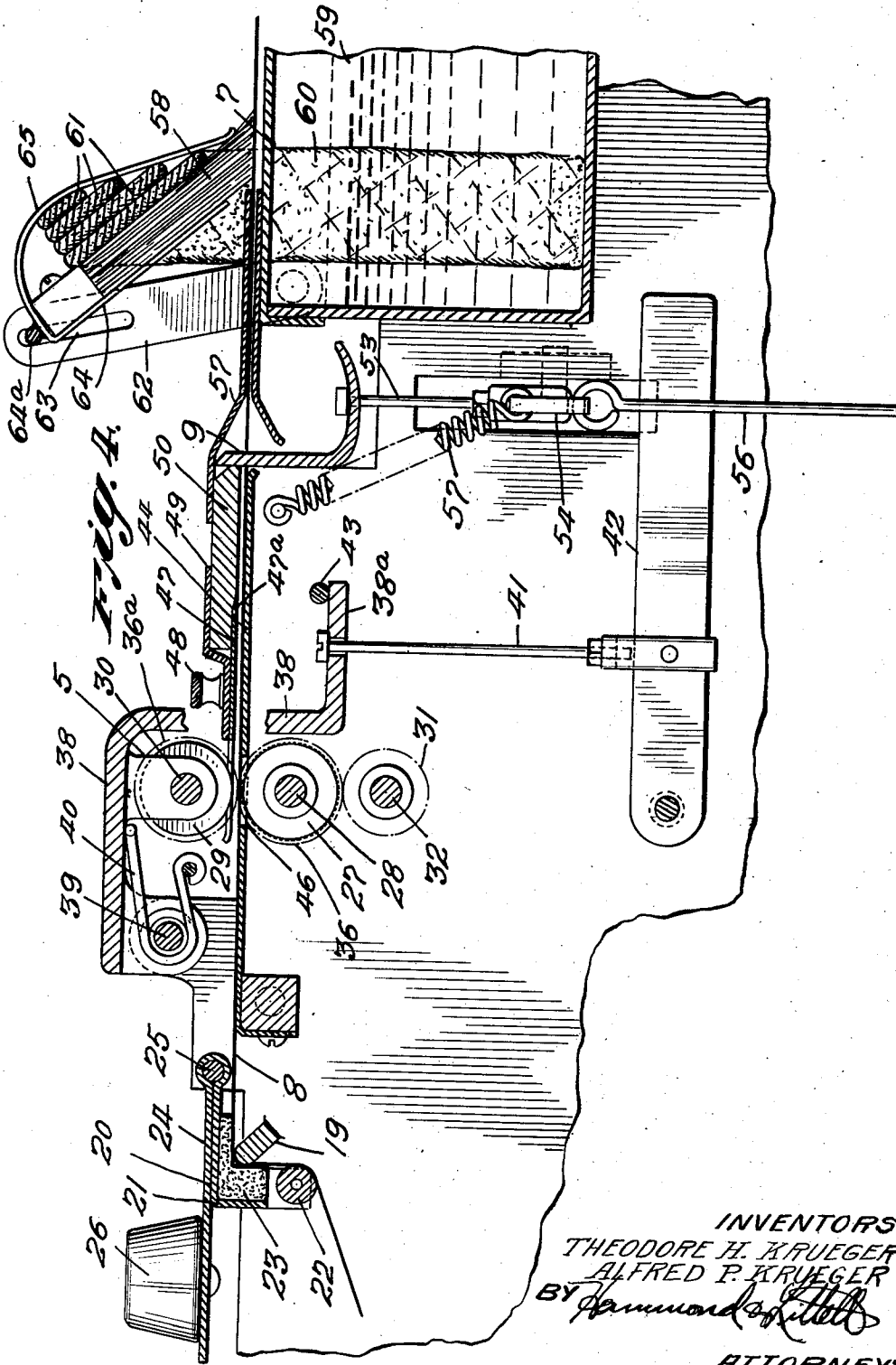
T. H. KRUEGER ET AL

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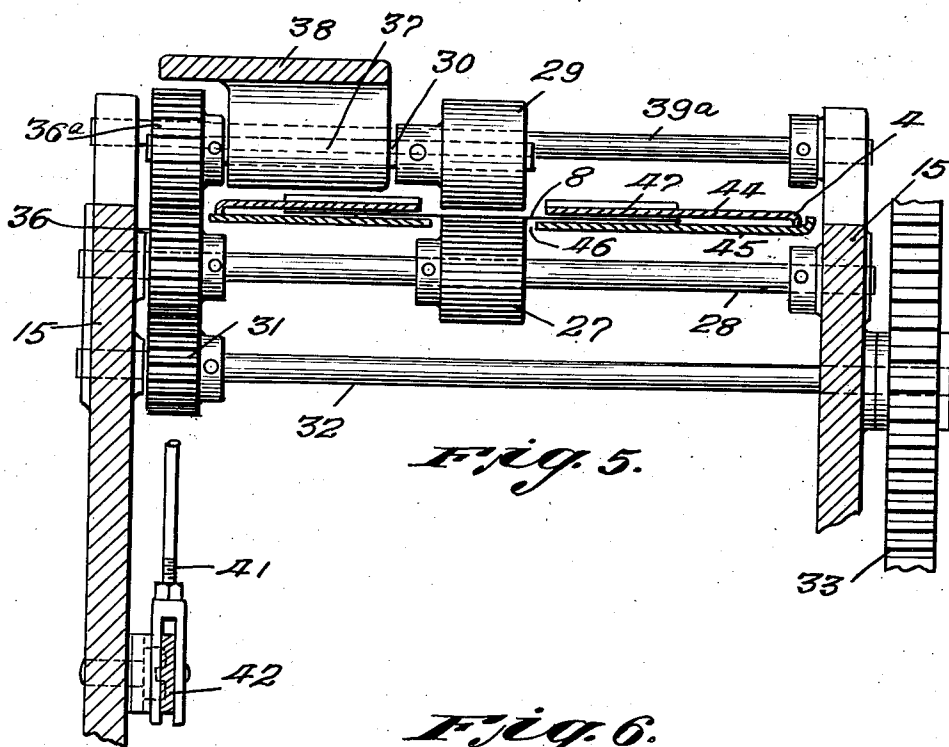
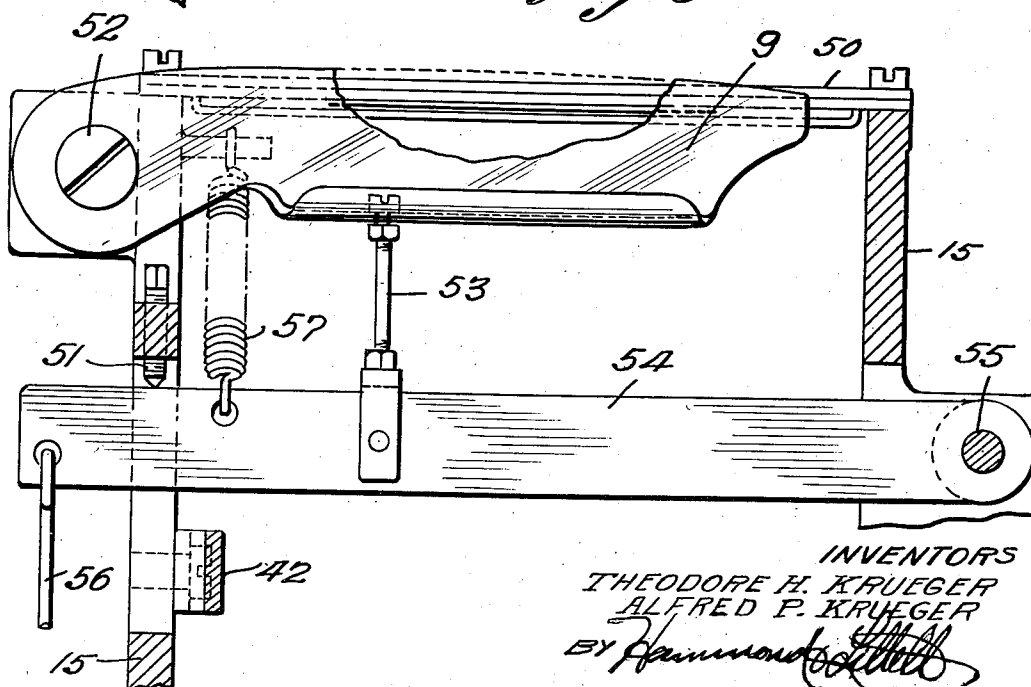


Fig. 5.



INVENTORS
THEODORE H. KRUEGER
ALFRED P. KRUEGER
BY *Hammond & Co.*
ATTORNEYS

Jan. 8, 1935.

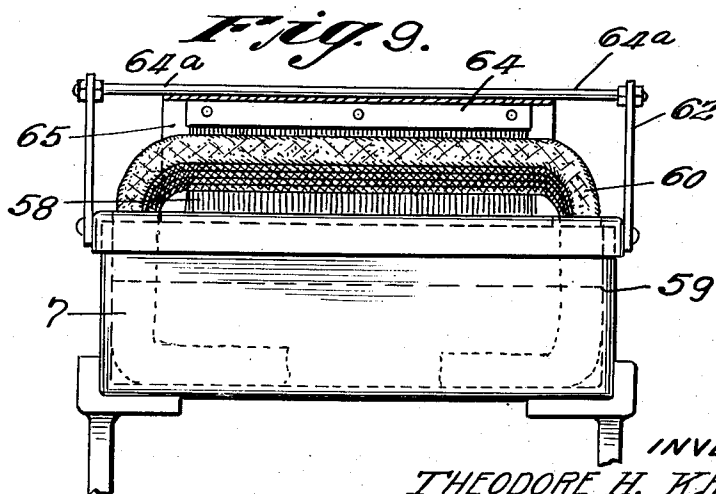
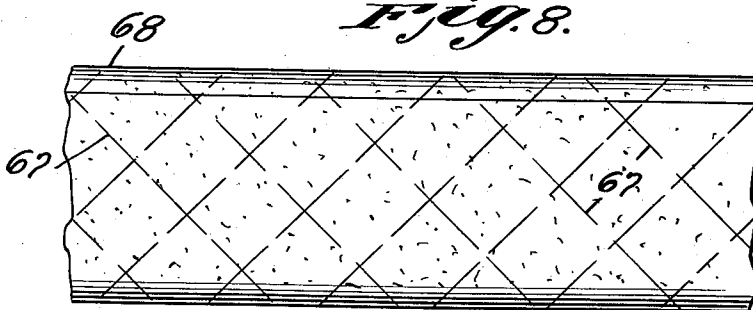
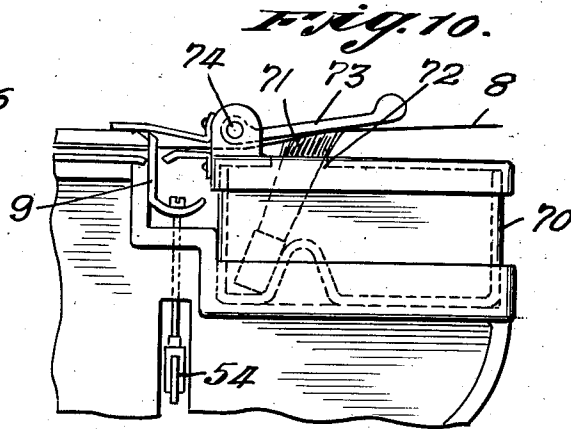
T. H. KRUEGER ET AL

1,987,197

STRIP SERVING DEVICE

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6 Sheets-Sheet 6



INVENTORS
THEODORE H. KRUEGER
BY ALFRED E. KRUEGER
Alfred E. Krueger
ATTORNEYS

UNITED STATES PATENT OFFICE

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STRIP SERVING DEVICE

Theodore H. Krueger and Alfred P. Krueger,
New York, N. Y., assignors to Better Packages
Inc., New York, N. Y., a corporation of New
York

Application June 30, 1925, Serial No. 40,495

24 Claims. (Cl. 91—14.5)

This invention relates to an improvement in machines for sealing packages, parcels or the like, and more particularly to a machine which, when actuated, will moisten and feed out a strip of gummed paper in condition to be easily applied to a package or the like.

It is one of the objects of the present invention to provide a power actuated machine of this type, which, when the actuating lever is operated will automatically feed out the moistened strip of paper.

Another object of the invention is to provide a machine which will moisten and feed out the strip of paper gummed side up in position for a package to be placed thereon for sealing.

Another object of the invention is to provide a machine which will operate to moisten and feed out the gummed strip as long as the operating control means therefor is held in operating position and which will automatically stop the feeding of the strip and cut off the portion fed out when the control means is released.

The invention also contemplates various improvements in the details of construction of a machine of this type as will appear more clearly hereafter.

Referring now to the drawings which illustrate a preferred form of embodiment of the invention.

Figure 1 is a side view partially in section of the present preferred embodiment of the invention.

Figure 2 is a large side elevation of the strip serving machine showing the relation of the operating devices therefor in dotted lines.

Figure 3 is a plan view of the strip serving machine.

Figure 4 is a longitudinal cross sectional view of the strip serving machine.

Figure 5 is a part sectional view of the machine, showing in front elevation, the relation of the strip feeding rolls and driving mechanism.

Figure 6 is a detail view of the knife for cutting off the strip.

Figures 7 and 8 are detail sectional and plan views of the moistening wick construction.

Figure 9 is a front elevation of the wick and brush moistening device with the front shield thereof removed.

Figure 10 is a view of a modified form of moistening device for use when the strip is served gummed side down.

In the embodiment illustrated in Figure 1, the machine is shown in operative position for quickly wrapping the gummed strip 8 around a package A and sealing the same. The strip feeding

machine 1 is supported by a table or counter 2, and comprises a holder 3 for the roll of gummed paper 4, a power driven strip feeding device 5, a foot lever 6 for controlling the operation of the strip feeding device, a moistener 7 for moistening the top of the gummed strip 8 as it is fed from the machine and a knife 9 between the feeding mechanism and the moistener for cutting off the fed strip when the foot lever 6 is released.

A block 10 is provided and the package A is placed thereon after the moistened strip 8, gummed side up has been fed out over the block. A scale 11 in the runway trough 12 assists the operator in estimating the correct amount of strip necessary to wrap any particular package.

With the strip in the position illustrated and the package in place thereon one of the operator's hands may be passed thru the space B between the end of the strip feeding machine and the block 10 and the other hand may be inserted below the end of the strip in the trough 12 and the ends of the strip folded up along the sides and over the top of the package A to seal the same. In the sealing operation the moistened strip is rubbed against the sides and top of the package to insure a firm contact therewith and the bottom of the package may be rubbed over the block 10 to assure firm contact at the bottom and when the package is placed in the chute or trough 12 and slides down to the discharge end thereof, the friction of the trough against the bottom of the packages also rubs the sealing strip into firm contact therewith.

Referring now to the preferred construction of the strip feeding machine, as shown in Figures 2, 3 and 4, this comprises a pair of side frames 15 held in spaced relation by the cross members 16. At one end a plurality of rollers 17 are provided between the side frames 15, upon which the roll 4 of gummed paper is supported. Side lugs 18 projecting inward from the frames 15 keep the roll 4 in the center of the machine.

From the roll 4 the strip of gummed paper 8 passes upward over the smoothing iron 19, above which a presser 20 is located. The presser 20 comprises a right angle lower member 21 provided with a roller 22 and a pad of felt or the like 23, and an upper weighted member 24 and is pivoted at 25 so that the weight 26 forces it down over the iron 19 to take the curl out of the paper as it passes thereover and exerts a limited resistance to the withdrawal of the strip from the roll.

The strip feeding mechanism comprises a low-er fixed feeding roll 27 mounted on a shaft 28

rotatable in the side frames 15 and an upper movable feeding roll 29 carried by the stud shaft 30. These rollers are constantly rotated by a gear 31 on the shaft 32, which is driven thru the reducing gear 33 from the pinion 34 of a constantly running electric motor 35. The gears 36 and 36a on the shafts 28 and 30 are provided with very deep teeth so that the rollers 27 and 29 may be moved apart a limited distance thru the raising of the stud shaft 30 without moving the gears out of mesh.

The stud shaft 30 is supported in a wide bearing 37 on the yoke member 38 which is pivoted at 39 to a rod 39a extending between the machine frame members 15. A coil spring 40 acts upon the yoke member 38 to hold the roll 29 normally spaced above the strip 8 as shown in Figures 5 so that no feeding occurs.

An extension 38a on the yoke 38 is connected thru the adjustable rod 41 to the lever 42, adapted to be actuated from the foot lever 6 in a manner to be described, to pull the yoke downward and bring the moving rollers 27 and 29 into contact with the strip to feed the same thru the machine. A stop 43 prevents the spring 40 from raising the yoke 38 so high as to move the gears 36 and 36a out of mesh.

From a point adjacent the rollers 27 and 29 the gummed strip 8 passes thru a guide member 44, comprising a lower member 45 which begins adjacent the smoothing iron 19 and is cut out at 46 for the roller 27 to extend therethru and a removable upper member 47 removably secured by the screw clamp 48-49 to the cross block 50 so that by loosening the screw 48 and sliding the upper member 47 rearwardly until the end 47a is out from under the block 50, the upper member may be removed for inspection and cleaning of the machine.

A knife 9 is pivoted at 52 to adjacent one end of the block 50 and is adapted to be moved downward out of the path of the strip when the strip is being fed forward by the rollers 27 and 29. To effect this movement, the knife 9 is connected by an adjustable link 53 to a lever 54 pivoted at 55 on the machine frame. The other end of the lever 54 is connected by means of a link 56 to the foot lever 6 so that when the foot lever is depressed the knife is drawn down. When the foot lever is released the spring 57 pulls up the lever 54 and projects the knife across the strip to cut off the portion fed out of the machine, an adjustable set screw 51 in the machine frame serves as a stop to prevent the lever 54 and knife 9 from being raised too high.

The depressing of the foot lever 6 draws the lever 54 into contact with the lever 42 to pull down the yoke member 38 and bring the rotating feed roller 29 against the surface of the strip 8 so that the rotation of the rollers 29 and 27 on the top and bottom faces of the strip feed it forward thru the machine. The position of the lever 42 is below the lever 54 so that when the foot lever 6 is depressed the knife 9 is withdrawn from the path of the strip before the feed roller 29 is brought down to feed the strip forward, and when the foot lever is released the spring 40 elevates the yoke 38 and lever 42 to stop the feeding of the strip before the knife 9 is projected across the path of the strip to sever the end which has been fed out of the machine.

Beyond the knife 9, the strip 8 passes thru a guide way 57 and under the brush 58 of the moistening device 7 by which the upper gummed surface of the strip is moistened. The moistener

for moistening the strip with the gummed side up comprises a tank 59 for water or the like, a wick 60 comprising a plurality of layers 61 which extend over the brush 58 and project down within the water in the tank 59 so that the water rises by capillary attraction in the wick and flows down to the end of the brush.

The brush is supported in inclined position by the supports 62 having slots 63 in which the brush support 64 on the rod 64a may be adjusted to preserve proper contact between the end of the brush and the strip 8 and the top of the tank acts as a support for the underside of the strip. A shield 65 covers part of the wick and the top of the brush to hold the wick in position.

As illustrated in Figures 7 and 8 the layers 61 of the wick are preferably composed of cotton batting or the like 66 covered with cheese cloth 68 or similar material which may be sewed with loose cross stitches 67 to keep the cotton in place in the wick.

Figure 10 shows a modified form of moistening device for use when it is desired to feed the strip 8 from the machine with the gummed side down. This comprises a tank 70 for water or the like having a brush 71 extending out thru an opening 72 in the top of the tank and a presser plate 73 pivoted at 74 on the tank for pressing the strip 8 into contact with the brush. The knife 9, lever 54, etc., in this modification operate just as in the forms of embodiment of the invention previously described. To feed the strip out gum side down, the roll 4 is merely reversed, so that the gummed side of the strip 8 is underneath.

Various modifications and changes may be made in the embodiment of the invention shown and parts thereof may be used without the whole without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. In a strip serving machine of the type described means to hold a supply of gummed strip, power driven means to feed the strip out of the machine gummed side up, and a moistening device for moistening the gummed side of the strip, comprising a tank for the moistening material, a brush for applying the moistening material to the strip and a wick extending from the tank to the brush to carry the moistening material to the brush, and a cutting device between said moistening device and said feeding means whereby only moistened gum tape is dispensed from the machine.

2. In a strip serving machine of the type described means to hold a supply of gummed strip power driven means to feed the strip out of the machine a cutting device, and a moistening device adjacent the cutting device and on the opposite side of said feeding device for moistening the gummed side of the strip comprising a tank located below the normal path of travel of the strip, a brush located adjacent the normal path of travel of the strip and a wick extending upward from the tank over the brush to convey the moistening material from the tank to the brush.

3. In a strip serving machine of the class described, in combination with a feeding mechanism, a moistening device for gummed paper products comprising a tank the top of which is adapted to serve as a support for the product being moistened, a brush above said tank with the tip thereof adjacent the top of the tank in position to moisten the top of the gummed products passed between the tank and the brush, and a

wick extending over the brush and dipping into the tank at each end.

4. In a power driven strip server of the class described, a moistening device for gummed paper products comprising a tank for fluid, a brush to moisten the product fed from the device, and a wick projecting into the fluid in the tank and extending adjacent the brush to act as a fluid carrier between the tank and brush, and an adjustable pressure device adapted to maintain required pressure of contact between the product to be moistened and the brush.

5. In mechanism for serving strips of adhesive tape or the like, a support for a tape supply, tape feeding means, a motor, drive connection between the motor and feeding means, means including a manual control lever whereby the motor may be continued in operation but the feeding means rendered operative or inoperative to feed, said lever having a normal position in which the feeding means is inoperative, tape severing means, actuating connections between said lever and said severing means, and spring means to effect return of the lever to feed stopping position and to effect severance of the tape upon release of the lever from feed-instituting position.

6. In a strip serving machine, a support for a strip supply, a pair of rolls between which the strip is adapted to be fed, a motor and connections for driving one of said rolls, a control lever, spring means normally retaining said lever in "off" position, the other of said rolls being rotatably carried by said lever for movement into or out of feeding relation to said driven roll, whereby the motor and the driven roll may be continued in operation but the feeding action of said rolls started and stopped by movement of said lever under manual control by the operator.

7. In an adhesive strip serving mechanism, a support for a strip supply, a feed roll, a motor to drive the same, a cooperating roll movable into and out of feeding relation with said driven roll, manual control means so to move said movable roll, irrespective of the functional status of the motor, spring means normally maintaining the movable roll in non-feeding relation, and strip severing means having operating connections with said manual control means.

8. In a strip serving machine, a support for a strip supply, strip feeding means, a motor to actuate the latter, strip severing means, and means to interrupt the strip feed and to effect actuation of said severing means at the will of the operator while continuing the motor in operation.

9. In a strip serving machine, strip feeding means, strip severing means, a motor and connections for actuating the feeding means, means to start and stop effective actuation of the feeding means while continuing the running of the motor, and means whereby the severing means is actuated to sever the tape by said stopping of the effective actuation of the feeding means.

10. In a strip serving machine, a support for a strip supply, a pair of rolls for feeding the strip, a motor for driving one of the rolls, the other roll being movable into and out of feeding relation with said driven roll, manual means to move the movable roll into feeding position, spring means for returning the same, whereby to feed strips when, and of such lengths as, determined by the operator, without interrupting running of the motor, and strip severing means connected with said manual means for operative control thereby.

11. In mechanism for serving strips of tape or the like, a support for a tape supply, rotary feed-

ing means comprising a pair of rolls adapted to engage and feed tape between them, a motor for actuating the feeding means, manual means to render the feeding means operative or inoperative to feed during continuing operation of the motor, and tape severing means connected with said manual means for operative control thereby.

12. In mechanism for serving strips of tape or the like, a support for a tape supply, rotary feeding means comprising a pair of rolls adapted to engage and feed tape between them, a motor and driving connections with one of said rolls, manual means whereby the motor may be continued in operation and the feeding action of said rolls may be intermittently effected or stopped at the will of the operator, and tape severing means connected with said manual means for operative control thereby.

13. In mechanism for serving strips of tape or the like, a frame, a tape supply support, a feed roll engageable with one face of the tape from said supply, a motor and drive connections with said feed roll, a control head pivoted on said frame for movement into and out of operating position and comprising a main or carrier portion and a member for pivotally moving said main or carrier portion, a spring and stop means normally maintaining said control head in non-operating or "off" position, and a second feed roll, on said head, arranged to have tape-feeding relation with said driven feed roll in the "on" position of said head, then engaging the opposite face of the tape, whereby successive lengths of tape may be delivered to the operator as determined by his manipulation of said control head, the motor normally remaining in continuous operation during and between any desired number of successive feeding operations.

14. In a device for moistening gummed tape, in combination, tape feeding means for feeding the tape, tape severing means, and tape moistening means beyond the severing means, said tape feeding means comprising driven means to engage the tape across a transverse line thereof to feed the tape out of the machine, means to normally hold the tape feeding means out of tape feeding position, means to bring the tape feeding means into and out of tape feeding position at will, and a common actuating means for operating said tape feeding means and said tape severing means.

15. In a strip serving machine of the class described, means to hold a roll of gummed tape, rotating frictional means adapted to engage said tape to push it through the machine gummed side up, means to moisten the tape and a cutting means normally located in the path of the tape to sever said tape adjacent the end of the machine, controlling means to control said cutting and dispensing means whereby operation of the controlling means first withdraws said cutting means from the path of the tape through the machine and then actuates said frictional means to feed said tape through the machine and whereby release of the controlling means first releases the frictional means from feeding contact with the tape to stop feeding thereof and then projects the cutting means across the tape to sever the portion of the tape fed out of the machine.

16. In a strip serving machine, means for holding a supply of gummed strip, means to moisten the gummed tape, and means to feed the tape, said feeding means including a pair of strip feeding rollers between which the strip is fed, shafts supporting said rollers, one of said shafts being movable toward and away from the other shaft to

bring said strip feeding rollers into and out of contact with the strip, a moving driving means for rotating said feeding rollers, a knife normally projecting into the path of the strip, a lever for operating said knife, and a lever for moving said movable shaft to bring the feeding roller into feeding position, said levers being interlocked so that in the normal operation of the machine the knife is withdrawn from the path of the strip before the feeding of the strip begins, and the feeding of the strip is stopped before the knife is projected across the path of the strip to cut off the strip fed from the machine.

17. In a device for moistening gummed tape, in combination, tape feeding means for feeding the tape, tape severing means, and tape moistening means beyond the severing means, said tape feeding means comprising constantly driven means to engage the tape across a transverse line thereof to feed the tape out of the machine, said constantly driven means including a motor driven roller on one side of the tape and a movable feed roller on the opposite side of said tape, means to normally hold the tape feeding means out of tape feeding position, means to bring the tape feeding means into and out of tape feeding position at will, and a common actuating means for operating said tape feeding means and said tape severing means whereby said tape feeding means will operate only when the tape severing means is out of operative position, and said tape severing means may be operated only when said tape feeding means is out of operative position.

18. In a tape serving machine for serving strips of adhesive tape, means for holding a supply of adhesive tape, a pair of tape feeding rollers between which the tape is fed, shafts supporting said rollers, one of said shafts being movable toward and away from the other shaft to bring said feed rollers into and out of contact with the tape, gears on said shafts intermeshing in all positions of said shafts, driving means for rotating said feed rollers, a knife normally projecting into the path of the tape, a lever for operating said knife, a lever for moving said movable shaft to bring the feed roller into position, said levers being interlocked so that in the normal operation of the machine the knife is withdrawn from the path of the tape before the feeding of the tape begins, and the feeding of the tape is stopped before the knife is projected across the path of the tape to cut off the tape fed from the machine, and a common actuating means for said levers.

19. In a device for moistening gummed tape, in combination, tape feeding means for feeding the tape, tape severing means, and tape moistening means beyond the severing means, said tape feeding means comprising constantly driven means including a motor driven roller on one side of the tape and a movable feed roller on the opposite side of said tape, said feed rollers being in positive driving relation in all positions, said tape feeding means engaging the tape across a transverse line thereof to feed the tape out of the machine, means to normally hold the tape feeding means out of tape feeding position, means to bring the tape feeding means into and out of tape feeding position at will, a common actuating means for operating said tape feeding means and tape severing means whereby said tape feeding means will operate only when the tape severing

means is out of operative position, and said tape severing means may be operated only when said tape feeding means is out of operative position.

20. In a device for moistening gummed tape in combination, tape feeding means for feeding the tape, tape severing means, and tape moistening means beyond the severing means, said tape feeding means comprising constantly driven means to engage the tape across a transverse line thereof to feed the tape out of the machine, means to normally hold the tape feeding means out of tape feeding position, means to bring the tape feeding means into and out of tape feeding position at will, a common actuating means for operating said tape feeding means, and tape severing means whereby said tape feeding means will operate only when the tape severing means is out of operative position, and said tape severing means may be operated only when said tape feeding means is out of operative position, and a smoothing device comprising a smooth iron and a padded angular pressure plate in the path of movement of the tape.

21. In a power driven gummed tape serving device of the class described, in combination with a feeding mechanism for feeding the tape gummed side up, of a moistening device comprising a tank for fluid, a brush vertically above the tape to moisten the gummed tape, a wick projecting into the fluid in the tank and extending adjacent the brush to act as a fluid carrier between the tank and the brush, and an adjustable pressure device adapted to maintain the required pressure of contact between the gummed tape and the brush.

22. In a power driven gummed tape serving machine of the type described having means to hold a supply of gummed tape and power driven means to feed the tape out of the machine gummed side up, the combination of a moistening device for moistening the gummed side of the tape comprising a tank for moistening a brush located above the normal path of travel of the tape material located below the normal path of travel of the tape and a wick extending upward from the tank over the brush to convey the moistening material from the tank to the brush.

23. In a gummed strip serving machine of the class described in combination with a push-feed feeding means of a moistening device comprising a tank for liquid, a brush above the tank with the tip thereof adjacent the tape, said brush slanting downwardly, a pressure member contacting with the brush to maintain a uniform contact with the tape, and means to supply regulated quantities of liquid from the tank to said brush.

24. In a gummed strip serving and moistening machine of the type described a frame, means to hold a supply of tape, means to feed the tape from the supply and push it from the machine, means to cut the tape and means to moisten the tape gummed side up comprising a pressure plate over which the ungummed side of the tape is fed, a moistening brush bearing downwardly on said pressure plate so as to moisten the gummed side of the tape as it passes between the brush and the pressure plate and means to supply water to the moistening brush.

THEODORE H. KRUEGER.
ALFRED P. KRUEGER.