

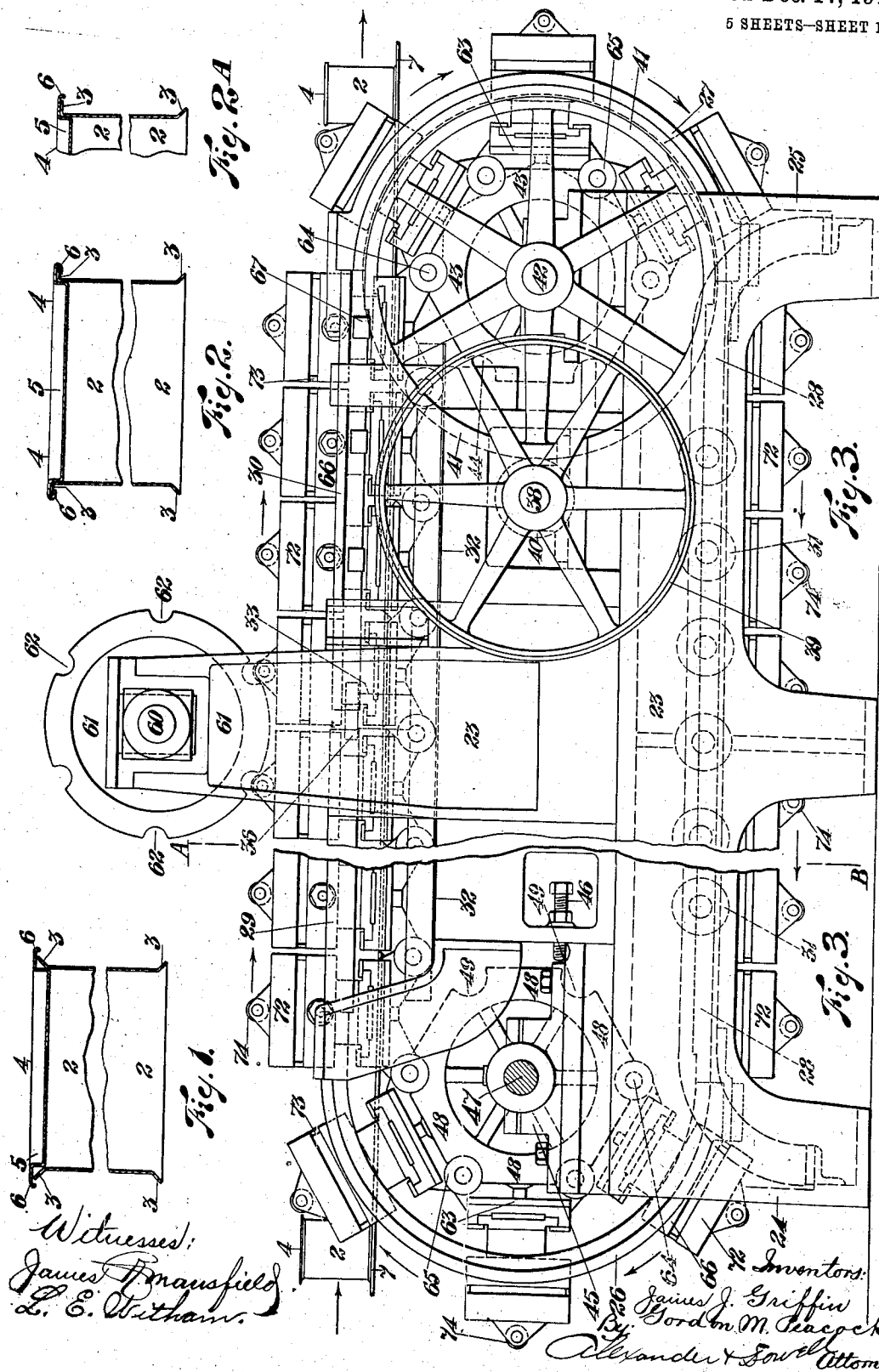
J. J. GRIFFIN & G. M. PEACOCK.
MACHINE FOR TEMPORARILY SECURING METALLIC CONTAINER ENDS PRIOR TO CRIMPING
OR DOUBLE SEAMING.

APPLICATION FILED JAN. 13, 1911.

Patented Dec. 17, 1912.

5 SHEETS—SHEET 1.

1,047,793.



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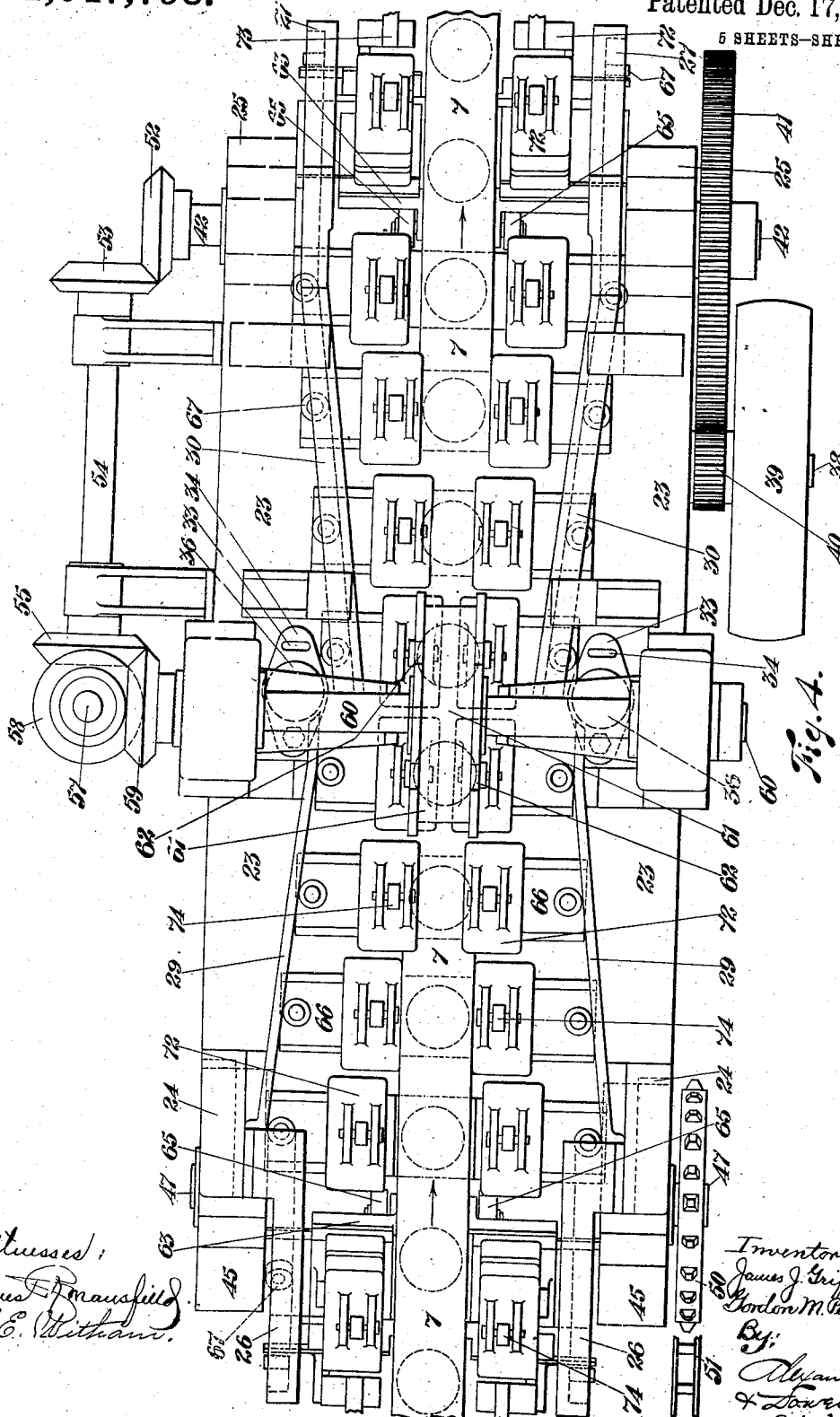


Fig. 4.

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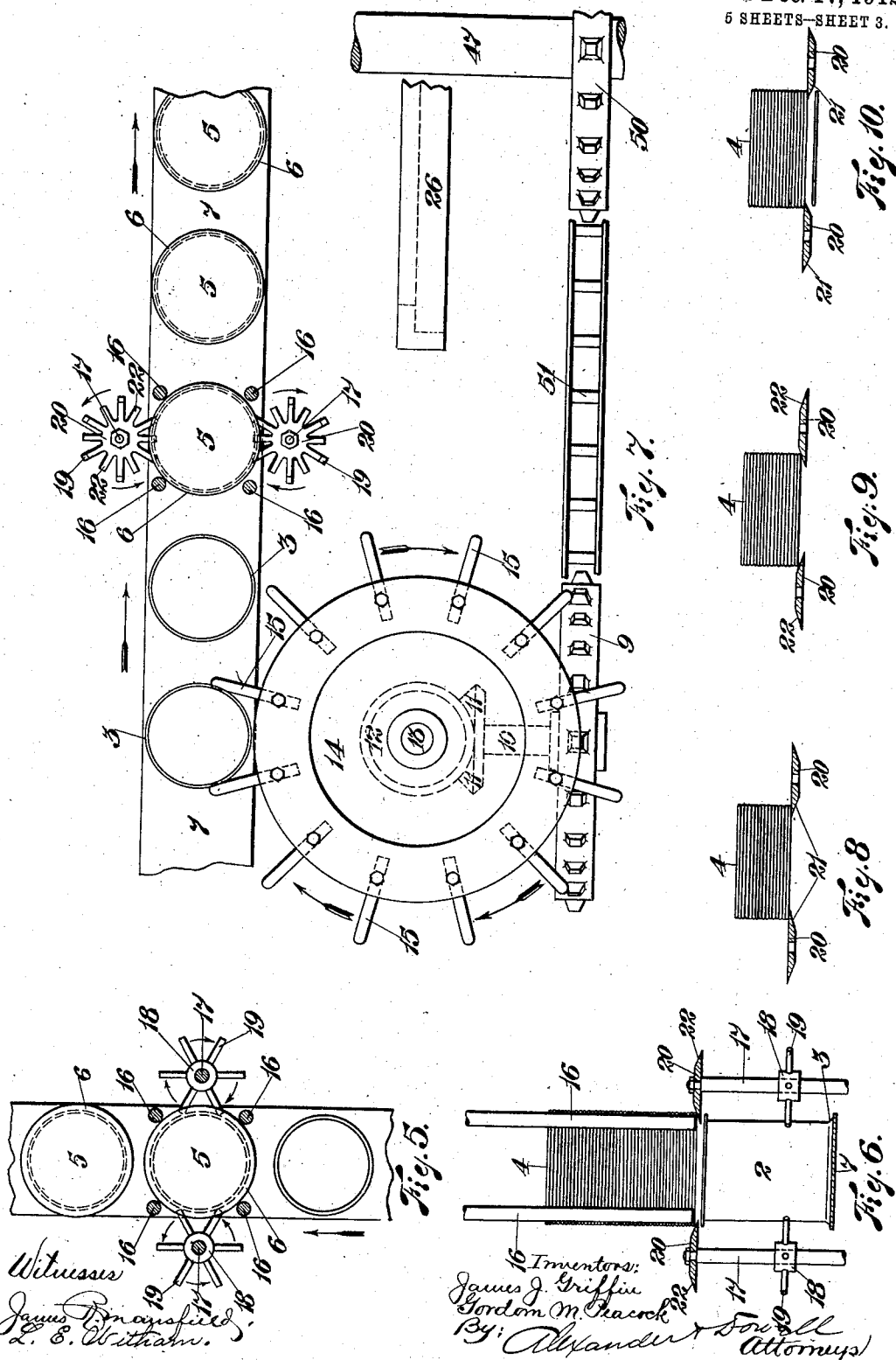
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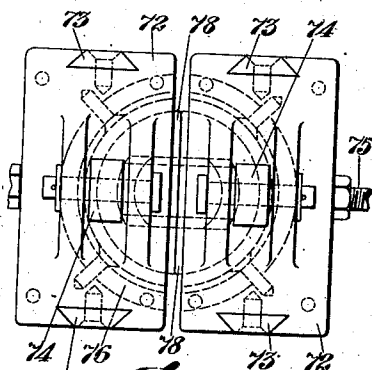
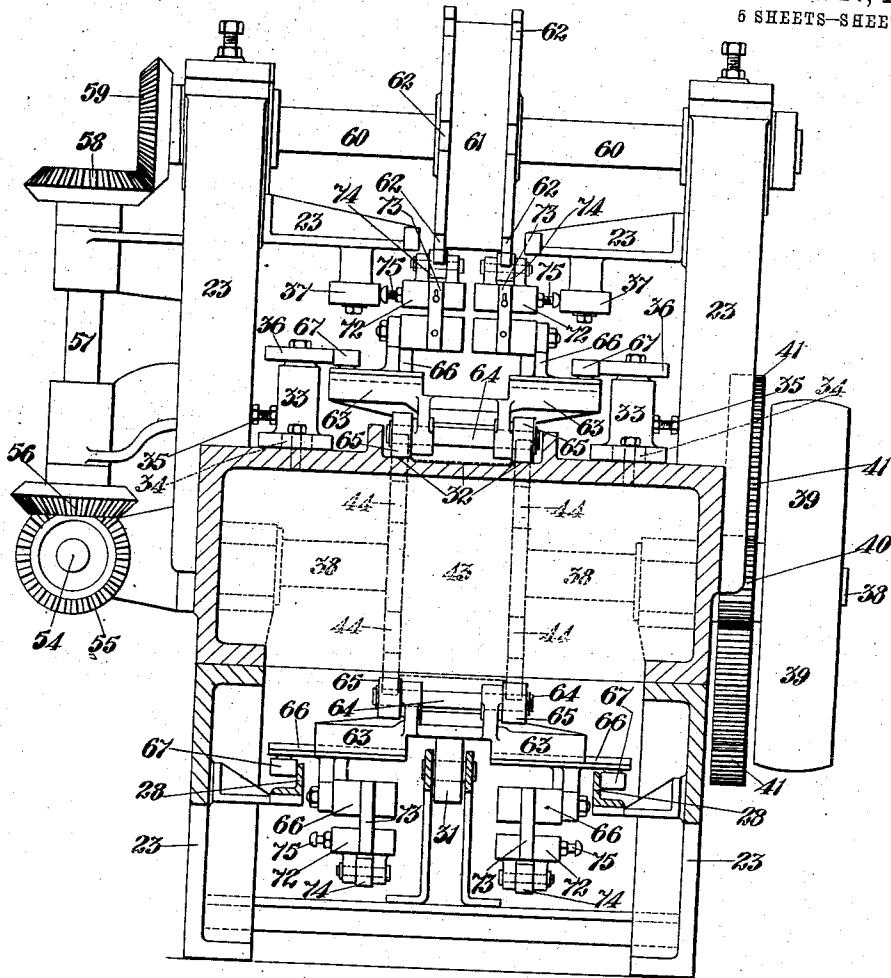


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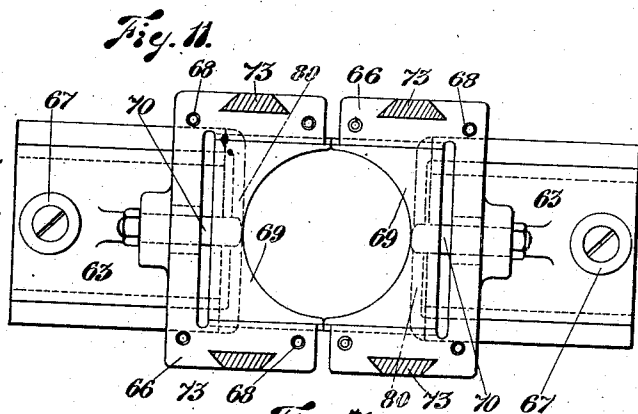
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5 SHEETS—SHEET 4.

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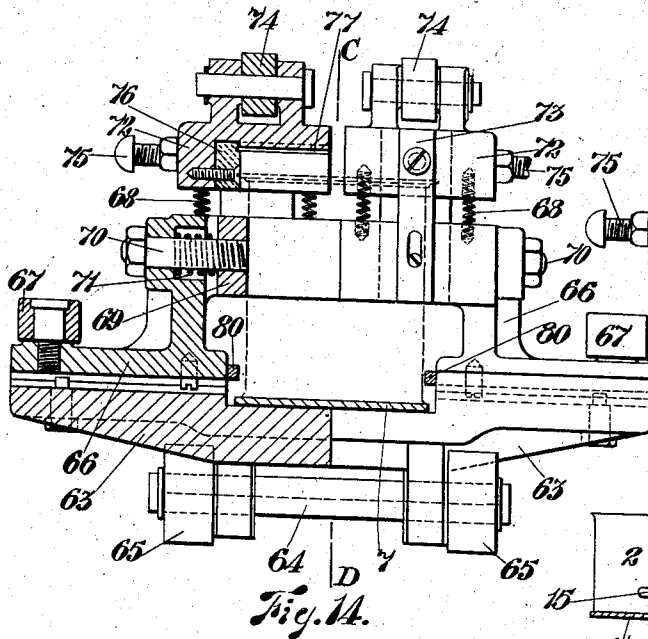


Fig. 14.

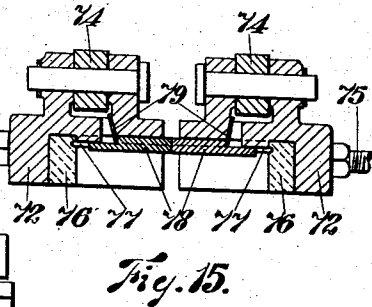


Fig. 15.

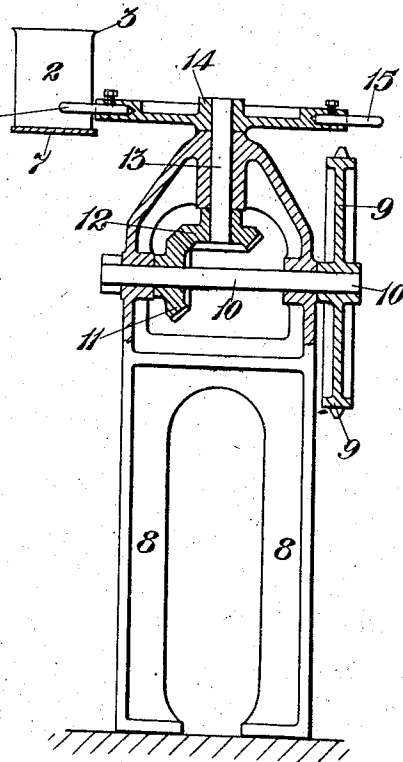


Fig. 17.

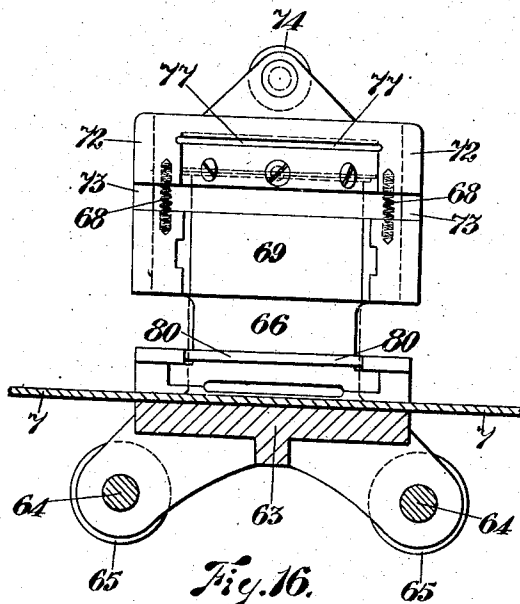


Fig. 16.

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UNITED STATES PATENT OFFICE.

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**MACHINE FOR TEMPORARILY SECURING METALLIC CONTAINER ENDS PRIOR TO
CRIMPING OR DOUBLE SEAMING.**

1,047,793.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed January 13, 1911. Serial No. 602,409.

To all whom it may concern:

Be it known that we, JAMES JOSEPH GRIFFIN, a citizen of the United States of America, and GORDON MOFFITT PEACOCK, a subject of the King of Great Britain and Ireland, both at present residing at 1 Garden street, South Yarra, a suburb of the city of Melbourne, in the State of Victoria, Commonwealth of Australia, machinist and draftsman, respectively, have invented a certain new and useful Machine for Temporarily Securing Metallic Container Ends Prior to Crimping or Double Seaming, of which the following is a specification.

This invention relates to the affixing of the ends to the bodies of canisters, tins and like containers such as those used for holding jam, preserves and divers similar substances and commodities.

As is well known the ends of many metallic containers are now secured to the bodies thereof by crimping and double seaming, operations familiar to those acquainted with the art. Hitherto the method followed has been to feed the canister bodies to a machine, loosely poise a closing disk or end on each body and then double seam the end to the body. This has often necessitated, as can be well understood, the attendance of operators to feed the bodies and ends, and, in addition has rendered the double seaming machine complex in construction and operation. Further if either circumferential flange around the top or bottom of the body were injured in any way a bad joint was necessarily made by the double seamer and if the conformation of the body were defective a perfect joint was impossible as the end could not then be concentrically arranged with the said body. Still further, in the treatment of preserves for example, where a body with the bottom end double seamed thereto is filled with fruit and the like and passed open topped through a steam exhaust chamber, although the material at the bottom of the container may be reduced to the desired condition that at the top is often detrimentally influenced. It is common here, it may be mentioned, to sometimes use an end having a vent therein to prevent damage to the upper portion of the preserves in the container. Again, where containers are filled with jams or preserves such as blackberry and raspberry,

which when heated rise above the top of the container, the top end, as at present applied, presses the jam or preserves down harshly and which at times has led to the loss of material. Still again, it is theoretically wrong to pass open topped containers holding any material whatever to the double seaming machine, exhaust box, or elsewhere as, if accidentally upset, the most, if not all, of the contents are wasted.

The object of this invention, while dispensing with at least one quarter, is to remedy all the foregoing objections by providing means for temporarily or partly securing an end permanently to a container body prior to and ready for crimping or double seaming, the latter being performed by a distinct and separate machine forming no part of the present invention. It may be mentioned, however, that great simplification of the known crimping and double seaming machines is possible by the use of this invention. To fully comprehend the essence of the invention it must be borne in mind that container bodies are in the first place open at both top and bottom. A closing disk is then by this invention partly secured to one end, the body being perfectly shaped and maintained in such a state during the operation. The particular flange of the body is now protected by the closing disk or end and is fed to a double seaming machine. When the end and body are to be double seamed the necessary material is placed in the container and the top, second, or final closing disk or end temporarily secured. Now this end being only partly secured it follows that in treating preserves, the top portion of the material cannot be affected, the end is sufficiently secured to prevent that, but there is no necessity for a special vent as the unsecured portion of the end performs that function and acts as a vent. Material within the container also cannot rise above the same, waste being thereby prevented. Should a container be upset if quickly righted very little waste occurs, but in any circumstance the bulk of the contents is saved. So it will be seen that the generic inventive idea underlying and embodied in the machine hereinafter described is to partly secure to a container body an end so that the same will be retained in position until and when the body is delivered to a

complete crimping or double seaming machine for the full and permanent attachment of the said end to the said body whether the end and body pass through any intermediate stages or not.

In the accompanying drawings, in the various figures of which like numerals of reference designate corresponding parts, the machine illustrated for carrying the invention into effect has had divers portions and details occasionally omitted from the different subsidiary structures and views for clearness and convenience of illustration.

Figure 1 is a sectional view of a canister body and end ready for partial or temporary attachment together. Fig. 2 is a sectional view of a canister body with the closing disk or end partially or temporarily secured thereon according to this invention, the section being through the secured or attached portion. Fig. 2^A is a sectional view of a canister body with the closing disk or end partially or temporarily secured thereon, the section being through the unsecured portion. Fig. 3 is a side view of the main part of the machine by which an end is temporarily or partly secured to a body. Fig. 4 is a plan of the main machine by which an end is temporarily or partly secured to a body. Fig. 5 is a detail plan view of closing disk or end reservoir and means operated by each canister body for liberating an end for itself. Fig. 6 is an elevation showing the closing disk or end feeding and timing mechanism. Fig. 7 is a plan showing means for timing or spacing the canister bodies on a feed and delivery belt and the relationship of the end controlling and liberating means. Figs. 8, 9 and 10 are detail views to show the operation of liberating a single closing disk or end at a time and retaining its fellows. Fig. 11 is a cross section of the main machine, the plane of section being indicated by line A—B, Fig. 3. Fig. 12 is a plan of a pair of head pieces or dies detached. Fig. 13 is a plan of a slide base, a pair of slides thereon and can beds carried by said slides. Fig. 14 is a half section and half front elevation of a member or link of a link belt. It comprises a slide base, a pair of slides and a pair of head pieces or dies. Fig. 15 is a sectional elevation of a pair of head pieces or dies showing means for preventing the buckling of an end while being partially or temporarily attached to a body. Fig. 16 is a central vertical section of a slide base showing one of the slides thereof and one of the head pieces or dies carried by the slide. The plane of section is indicated by line C—D, Fig. 14. Fig. 17 is a sectional elevation of the can body timing or spacing mechanism.

Primarily this invention has been devised for treatment of that kind of container or receptacle, hereinafter in the description

called a can, consisting of an open ended body 2 around the top and bottom of which is an out-turned circumferential flange 3. The body is closed by disks or ends 4 each having a central depression 5 and a circumferential flange 6. To convey the bodies 2 to, and also from, the machine about to be described, a continuously moving conveyer consisting of a feed and delivery belt 7 is provided. Upon this the can bodies are placed in a vertical position. This belt 7 may communicate with a crimping or double seaming machine if desired.

Situated at one side of the belt 7 is a subsidiary framework 8. Driven by a sprocket wheel and chain, hereinafter described, is a sprocket wheel 9 secured upon a cross shaft 10 mounted in suitable bearings in the said framework 8. Secured to the shaft 10 is a bevel wheel 11 engaging with a bevel wheel 12 secured to the lower end of a vertical shaft 13. Secured to the upper end of the shaft 13 is a wheel 14 having a series of radiating arms 15.

Adjacent to the framework 8 and centrally disposed above the belt 7 is a closing disk or end reservoir consisting of four vertical guide rods 16. These may be supported in any well known way. Situated at each side of the belt is a vertical spindle 17 also supported in any suitable manner and having secured thereon a boss 18 from which radiate arms 19. Secured at the top of each spindle 17 is a disk separating and retaining device 20. This is provided with a series of arms each alternate one of which has a flat upper surface but an undercut lower surface 21. The remaining arms, between those having undercut lower surfaces, each have a declining upper surface 22 but a flat lower surface. Each of the arms of the device 20 is thus precisely the opposite in conformation to that adjoining it.

Adjacent to the framework 8 and the closing disk or end reservoir is a main framework 23 having a feed end 24 and a delivery end 25. At each side of the feed end are semi-circular guides 26. At each side of the delivery end are semi-circular guides 27. Communicating with and extending between the lower ends of the semi-circular guides 26 and 27 at each side of the framework is a lower guide 28. Communicating with each of the semi-circular guides 26 is an upper converging guide 29. Communicating with each of the semi-circular guides 27 is an upper diverging guide 30. Mounted in the framework between the guides 28 are a series of supporting rollers 31. Below the guides 29 and 30 is a supporting track 32. Upstanding at each side of the track 32 near the middle of the same is a standard 33. In the base of each standard are slots 34. Projecting from each standard between it and the framework is a set screw

35. Mounted above each standard is an inwardly pressing pressure roller 36. Depending from the framework 23 above each inwardly pressing pressure roller is an aligning or steadying roller 37. Mounted in suitable bearings at or near the delivery end 25 of the framework 23 is a transverse driving shaft 38 driven by a belt pulley 39. Secured upon the shaft 38 is a toothed pinion 40. Engaging with the pinion 40 is a spur wheel 41 secured upon a countershaft 42. Secured upon the said countershaft 42 between the guides 27 is a driving gear 43 provided around its circumference with a series of pockets 44. Adjacent to each guide 26 is a bearing 45 adjustable longitudinally upon the framework 23 by a set screw 46. Supported by the bearings 45 is a transverse shaft 47 secured upon which, between the said guides 26, is a gear 48 provided with pockets 49 in its circumference. Secured upon the shaft 47 is also a sprocket wheel 50 driving by a suitable sprocket chain 51 the sprocket wheel 9 aforementioned. Secured upon the countershaft 42 is a bevel wheel 52 engaging with a bevel wheel 53 secured upon a longitudinal shaft 54. Secured upon the longitudinal shaft 54 is a bevel wheel 55 engaging with a bevel wheel 56 secured to the lower end of a vertical shaft 57. Secured to the upper end of the shaft 57 is a bevel wheel 58 engaging with a bevel wheel 59 secured upon a transverse shaft 60. Mounted upon the shaft 60 and disposed above and between the aforesaid guides 29 and 30 is a depressing roller 61 provided with pockets 62 in its circumference. With the foregoing is used an endless link belt. Each link comprises a slide base 63 projecting from which are two can body guides 80. At each end of each slide base is a cross spindle 64 by which the links are united or pivoted together. At each end of each spindle is a roller 65. Slidable upon each slide base 63 are two slides 66 each provided with a guide roller 67. Formed in each slide are vertical guideways having undercut sides. Upstanding above each slide, and having their bottom ends reposing in suitable sockets formed therein, are a series of spiral springs 68. Within each slide is a can body clamping jaw 69 protruding outwardly from which is a guide pin 70. Around each guide pin and interposed between the can clamping jaw and the slide is a spiral spring 71. Above each slide is a head piece or die 72 depending from which are dove-tailed guides 73 engaging with the vertical guideways in the slides aforementioned. In the bottom of each die are sockets accommodating the top ends of the aforesaid spiral springs 68. In the bottom of each die are horizontal slideways having undercut sides. Mounted above die 72 is a friction roller 74. Outstanding from

each die is a set screw 75 which is adapted to contact with a roller 37 and move the die inward. Secured within each die 72 is a semi-circular ring 76 having around or near its top a groove or recess 77. Slidable within the horizontal slideways aforementioned in the bottom of each of the dies is a retaining block 78. Engaging with each block 78 is a flat spring 79 depending from a suitable recess or the like in the bottom of each die.

The cycle of operations is as follows:—The bodies 2 are placed in a vertical position upon the feed belt 7 and conveyed to the subsidiary framework 8 where they encounter the rotating radiating arms 15 of the wheel 14. By the arms 15 the bodies are "timed" or spaced correctly upon the belt 7. The bodies so spaced then pass beneath the reservoir or guide rods 16 and in doing so come into contact with the arms 19 thereby rotating the spindles 17 and disk separating and retaining devices 20. As the devices 20 rotate an end 4 is first supported above and at each side of a body 2 by the flat upper surface of one of the arms of each device. As the devices 20 continue to rotate the arms move from beneath the end 4 which consequently falls and then rests upon the declining upper surface 22 of the next succeeding arm of each device. The wheels still continuing to rotate, the upper declining surfaces 22 move from beneath the end 4 which then falls upon the can body 2 passing beneath it. The next arm of each device, it will be clear, has a flat upper and an undercut lower surface. It is thus obvious that, while the flat upper surfaces prevent the succeeding end 4 from falling, the disk or end which has already fallen is lower than the said upper surfaces and uninfluenced thereby and is passed over by the undercut surfaces 21. The pulley 39 is rotated by a belt or the like. By the pinion 40 and spur wheel 41 the countershaft 42 is rotated turning the gear 43, and also, by the bevel wheel 52 and gearing before described, the depressing roller 61. As the gear 43 rotates each of the pockets 44 in its periphery engages successively with the rollers 65 thereby conveying movement to the link belt. Each of the rollers 65 also engages with the pockets 49 in the circumference of the gear 48 which latter is rotated by movement of the belt. As each link moves upwardly around the gear 48 the slides 66 and head pieces 72 carried thereby are separated and open so that the belt 7 may be passed. A slide 66 and die 72 thus obtains at each side of and above the belt 7 which however is itself centrally disposed above the slide base 63. The link belt and the belt 7 travel at the same rate of speed. As each link assumes a vertical position, when passing around the gear 48, the guide

rollers 67 of the slides 66 engage with the inner faces of the converging guides 29. As travel of the link belt continues it follows that the slides 66 are closed toward each other, the can clamping jaws 69 thereby eventually embracing a can body 2. A can body is centrally poised by the guide pins 70 and springs 71. As the links proceed further onward the rollers 74 each successively engage with the pockets 62 of the rotating depressing rollers 61. The effect of the roller 61 is to force the dies 72 downward, the guides 73 permitting of this movement. The springs 68 are then compressed. As the dies 72 move downward the blocks 78, which have already met at their inner sides, take up a position within the depression 5 in the relative can end 4, the depressing movement also flattening or pressing the flange 3 of the body 2 at or nearly at right angles thereto. The end 4 is firmly engaged with the cam body 2, the flanges 3 and 6 being in line with the grooves 77. The alining or steadying rollers 37 and set screws 75 now engage and the rollers 67 come at the same time into contact with the rollers 36 which force the slides 66 and with them the dies 72 still farther inward. As the blocks 78 have already met, the dies 72 slide inwardly upon them against the tendency of the springs 79 and as the can clamping jaws 69 have already met and shaped the body to a perfect conformation the slides 66 compress the springs 71 and slide along the guide pins 70. The flange 6 of the end 4 projecting beyond the flange 3 of the body 2, the wall of the groove 77 comes into contact with the said flange 6 and bends it first downwardly and, as the pressure continues, inwardly beneath the flange 3. This only occurs at each side of the body and end, though, as will be apparent, and not circumferentially right around the same. The blocks 78 as shown project slightly beyond the edges of the dies 72 whereby they meet and form a complete block to fill the depression 5 of the end 4 at the moment the dies 72 are forced downwardly. The said depression 5 is thus filled and any tendency of the end 4 to buckle, when the final and innermost inward pressure movement is communicated to the slides 66 and dies 72 by the rollers 36, is prevented. The flange 6 willingly follows around the wall of the said groove 77.

The travel of the link belt frees each of the rollers 74 from the pockets 62 of the roller 61 successively, the dies 72 by the springs 68 remove the pressure from each can end 4 and lift the blocks 78 from the depression 5 thereof. The blocks 78 then assume, by action of the springs 79, their normal relationship with the dies 72. A similar action takes place between the slides 66 and can clamping jaws 69 by the agency of

the springs 71. The end being now firmly secured at each side of the body 2 and the depressing influence being removed, the slides 66 commence to be influenced, opened apart, or separated by the diverging guides 30 against the outer faces of which the rollers 67 bear. As the slides separate the can clamping jaws 69 and head pieces 72 do likewise leaving the can body 2 still resting upon the belt 7. The upstanding guides 80 it is plain prevent a body 2 from being retained by either die, as, should the body have any tendency to move with the slide 66 as it withdraws upon the slide base 63, it is obvious that the relative guide 80 forming part of that base will obstruct the said body. The slides 66 continue to open apart until the guides 27 are reached being thus permitted to pass the belt 7 which carries away the can treated.

During the foregoing movements the rollers 65 have been running upon the supporting track 32, but, upon coming to the end thereof, they engage with the pockets 44 in the driving gear 43 and move therearound. As each link with its slides 66 apart travels downwardly and then back toward the gear 48, the rollers 67 engage with the guides 28. Each slide base 63 is then moving upon the rollers 31 and does so until the rollers 65 once more engage with the pockets 49 of the gear 48. The can body 2 with the end 4 partly attached is conveyed by the belt 7 to a double seaming or like machine, if desired, immediately, or if filled with material such as preserves it may be fed to the steam exhaust chamber or elsewhere or it may be stored for future use.

Having now described our invention what we claim as new and desire to secure by Letters Patent is:—

1. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, a framework having guides, inward pressure rollers mounted in said framework, a depression roller above said inward pressure rollers, a link belt moving in said framework, each link having dies actuated by said guides, inward pressure rollers and depression roller.

2. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, a framework having a feed end and a delivery end, semi-circular guides at the feed end, semi-circular guides at the delivery end of said framework, lower guides connecting the feed and delivery end semi-circular guides, upper converging guides communicating with the feed end semi-circular guides, upper diverging guides connecting with the delivery end semi-circular guides, a supporting track below said converging and diverging guides, supporting rollers between said lower guides, an inward pressure roller at

each side of the framework and adjoining the inner ends of the converging and diverging guides, an alining or steadying roller adjacent to each inward pressure roller, a link belt supported in said framework and consisting of a series of links, a slide base to each link, dies carried by each base and actuated by said guides and inward pressure rollers.

3. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, a framework, a shaft at one end of said framework, a driving roller upon said shaft, bearings at the other end of said framework, means for longitudinally adjusting said bearings, a shaft mounted in said bearings, a driven roller on said shaft, a shaft above and between said shafts, a depressing roller upon said shaft, a link belt passing around said driving and driven rollers, dies carried by said belt and passing beneath said depressing roller.

4. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, a link belt consisting of a series of links, a slide base to each link, can body guides upstanding above each slide base, slides upon each slide base, a can clamping jaw carried by each slide, a guide pin projecting from each said can clamping jaw through its slide, a spiral spring interposed between said clamping jaw and slide, a die above each slide, guides depending from each die and engaging its slide, actuating means for the clamping jaw slides and actuating means for the dies.

5. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, dies, a parti-circular ring in each die, a groove in each ring, a semi-circular block slidably attached within each die, and a spring controlling each block.

6. In a machine for temporarily securing container ends to their bodies prior to crimping or double seaming, a framework having guides, gears mounted in said framework, pockets in the periphery of each gear, inward pressure rollers mounted in said framework, a depressing roller above said inward pressure rollers, pockets in the periphery of said depressing roller, a link belt comprising a series of links moving in said framework, a slide base to each link, rollers carried by each base, can body guides upstanding above each base, slides upon each base, a roller carried by each slide, a can clamping jaw carried by each slide, a die capable of depression carried by and above each slide, a roller carried by each die, a parti-circular ring in each die, a groove in each ring, and a semi-circular block slidably attached to each die within each ring.

7. In a machine for temporarily securing container ends to bodies, a framework hav-

ing a feed end and a delivery end; semi-circular guides at the feed end, semi-circular guides at the delivery end of said framework; lower guides connecting the semi-circular guides; upper converging guides communicating with the feed end semi-circular guides; upper diverging guides communicating with the delivery end semi-circular guides; and an endless series of dies directed by said guides, and means for moving said series.

8. In a machine for temporarily securing container ends to the bodies; a feed and delivery belt for container bodies; means for spacing said bodies upon said belt, means actuated by said bodies for feeding an end to each body; a framework over which said belt passes, guides upon said framework; a link belt in said framework having a slide base to each link, slides upon said bases; a can clamping jaw carried by each slide; a die carried by each slide; and means for operating said dies as the belt travels.

9. In a machine for temporarily securing container ends to bodies; a feed and delivery belt for container bodies; means for spacing said bodies upon said belt, a closing disk or end reservoir above said belt; means actuated by each spaced body for liberating and poising an end upon said body; a framework adjacent to said reservoir, a link belt mounted in said framework; means for driving said link belt; a slide base on each link; slides upon each base; means for operating the slides of each link to embrace a container body; a die carried by each slide and moving therewith; means for depressing the dies of each link; means carried by the dies for partly securing the relative end to the body embraced; means to prevent buckling of said end; and means to withdraw the dies and slides after partially securing the end.

10. In a machine for temporarily securing container ends to their bodies; a traveling feed and delivery belt for container bodies, means for spacing the bodies upon said belt; a closing disk or end reservoir above said belt; means for feeding an end to each body; a framework adjacent said reservoir; guides upon said framework, inward pressure rollers mounted in said framework, a depressing roller above said framework, a link belt moving in said framework, each link thereof having a slide base; and slides upon said bases adapted to be actuated by the inward pressure rollers.

11. In a machine for temporarily securing container ends to bodies prior to crimping or double seaming; a series of links each having a slide base, means for traveling the links; slides upon each base, can clamping jaws carried by said slides, dies carried by said slides, and means for operating the slides and dies as the links travel.

12. In combination, a traveling support,

movable clamping jaws on said support adapted to clamp a can body, dies carried by said support adapted to engage the can cover and partially crimp its edge to the can, and means for causing the clamping jaws to engage the can, and the dies to partially crimp the cover to the can during the travel of the support.

13. In combination, a series of can supports moving in an endless path; devices mounted on each support adapted to engage the can and cover and partially secure the cover to the body by crimping different portions of the cover to the body; with means for positioning a can on the support; and means located adjacent the path of the support for causing the crimping devices to operate while the support moves.

14. In combination, a series of supports moving in an endless path; can body clamping jaws on each support; devices carried by each support adapted to engage the can cover and secure the same to the can by partially crimping the cover to the body; with means located adjacent the path of the supports for causing the clamping jaws to take hold of a can and retain same during the crimping operation; and the crimping devices to operate while the support moves.

15. In combination, a series of supports moving in an endless path; adjustable can body clamping jaws on each support; a pair of dies carried by each support adapted to engage the can cover and partially secure the same to the can by crimping different portions of the cover to the body; with means located adjacent the path of the supports for causing the clamping jaws to take hold of a can and retain same during the crimping operation, and the dies to perform the crimping operation while the support moves.

16. In combination, a series of supports moving in an endless path; adjustable can body clamping jaws on each support; devices carried by each support adapted to engage the can cover and crimp the cover to the body; means for feeding can bodies to the clamping jaws on each support; and means for supplying covers to the cans; with means located adjacent the path of the supports for causing the clamping jaws to take hold of a can and retain same during the crimping operation, and the devices to perform the crimping operation while the support moves.

17. In a machine for partially attaching covers to cans, the combination of a series of supports moving in an endless path; adjustable can body clamping jaws on each support; a pair of dies carried by each support adapted to engage the can cover and partially secure the same to the can by crimping different portions of the cover to the body; means for feeding the can bodies to

the can clamping jaws on each support, and means for supplying covers to the cans; with means located adjacent the path of the supports for causing the clamping jaws to take hold of a can and retain same during the crimping operation, and the dies to perform the crimping operation while the support moves therepast.

18. In combination, a series of supports moving in an endless path; adjustable can body clamping jaws on each support; a pair of dies carried by each support adapted to engage the can cover and crimp the cover to the body; a feed and delivery belt for the can bodies, means for spacing said bodies upon said belt, means for placing a can end upon each body; and means for causing said belt to present a can to each support; with means for causing the clamping jaws to take hold of a can and retain the same during the crimping operation, and the dies to perform the crimping operation while the support moves.

19. In combination, a series of supports moving in an endless path; adjustable can body clamping jaws on each support; a pair of dies carried by each support adapted to engage the can cover and partially secure the same to the can by crimping different portions of the cover to the body; a feed and delivery belt for the can bodies, means for spacing said bodies upon said belt, means for placing a can end upon each body, and means for causing said belt to present a can to each support; with means located adjacent the path of the supports for causing the clamping jaws to take hold of a can and retain same during the crimping operation, and the dies to perform the crimping operation while the support moves.

20. In combination, an endless series of supports; can clamping jaws on each support; dies attached to the clamping jaws on the carrier; means for normally holding the clamping jaws in open position, and springs for normally holding the dies in raised position; with devices adapted to engage the dies and depress same; and means adjacent the path of the dies for causing them to operate upon the can heads while they are depressed, and the clamping jaws to hold the can while the cover is being attached, substantially as described.

21. In a machine for attaching can heads to bodies, the combination of an endless series of supports, can clamping jaws on each support; dies attached to the clamping jaws on the carrier; means for normally holding the clamping jaws in open position, and springs for normally holding the dies in raised position; with a rotatable device located above the upper run of the carrier adapted to engage the dies and depress same as they move therepast; and means adjacent the path of the dies for causing them to op-

erate upon the can heads while they are depressed; and the clamping jaws to hold the can while the cover is being attached, substantially as described.

5 22. In combination, an endless series of supports; can clamping devices on each support, dies carried by the supports; retaining blocks attached to said dies adapted to prevent buckling of the can during the crimping operation; means for normally holding the clamping devices in open position, springs for normally holding the dies in raised position; means adapted to engage the dies and depress same; and means for causing the dies to operate upon the can heads while depressed; and the clamping devices to hold the can while the cover is being attached, substantially as described.

15 23. In combination, an endless series of can supports; can clamping devices on each support; dies attached to the clamping devices, retaining blocks attached to said dies

adapted to prevent buckling of the can during the crimping operation; means for normally holding the clamping devices in open position; and springs for normally holding the dies in raised position; with pressure devices adjacent the path of the supports adapted to engage the dies and depress same as they move therepast; and means adjacent the path of the dies for causing them to operate upon the can heads while they are depressed; and the clamping devices to hold the can while the cover is being attached, substantially as described.

35 In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

JAMES JOSEPH GRIFFIN.
GORDON MOFFITT PEACOCK.

Witnesses:

CECIL M. SLASTRIER,
GEORGE A. M'REN.

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