Nov. 29, 1932. E. CRAIG 1,889,193

MACHINE FOR CLOSING CONTAINERS

Filed Feb. 23, 1926 6 Sheets-Sheet 1

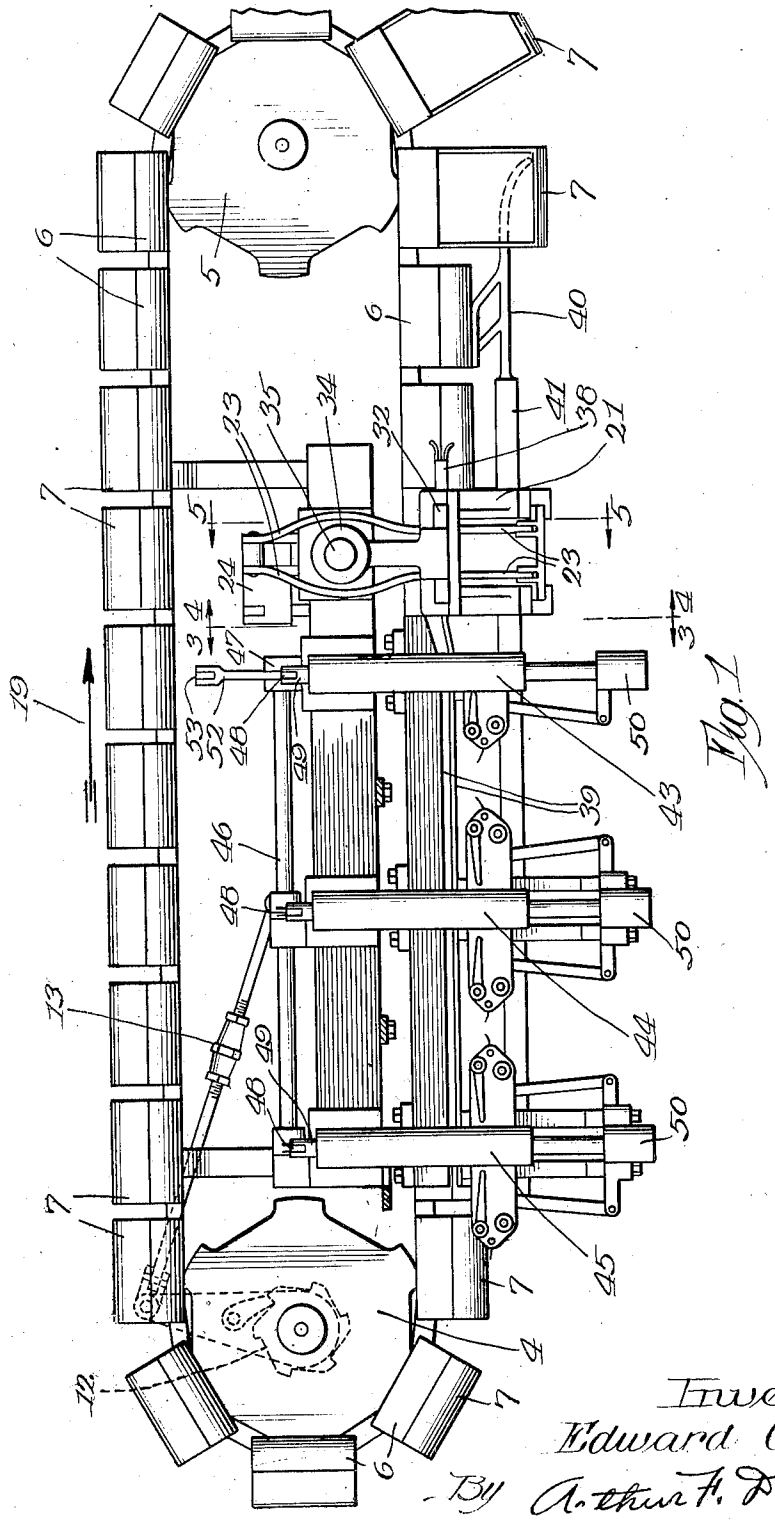


Fig. 1

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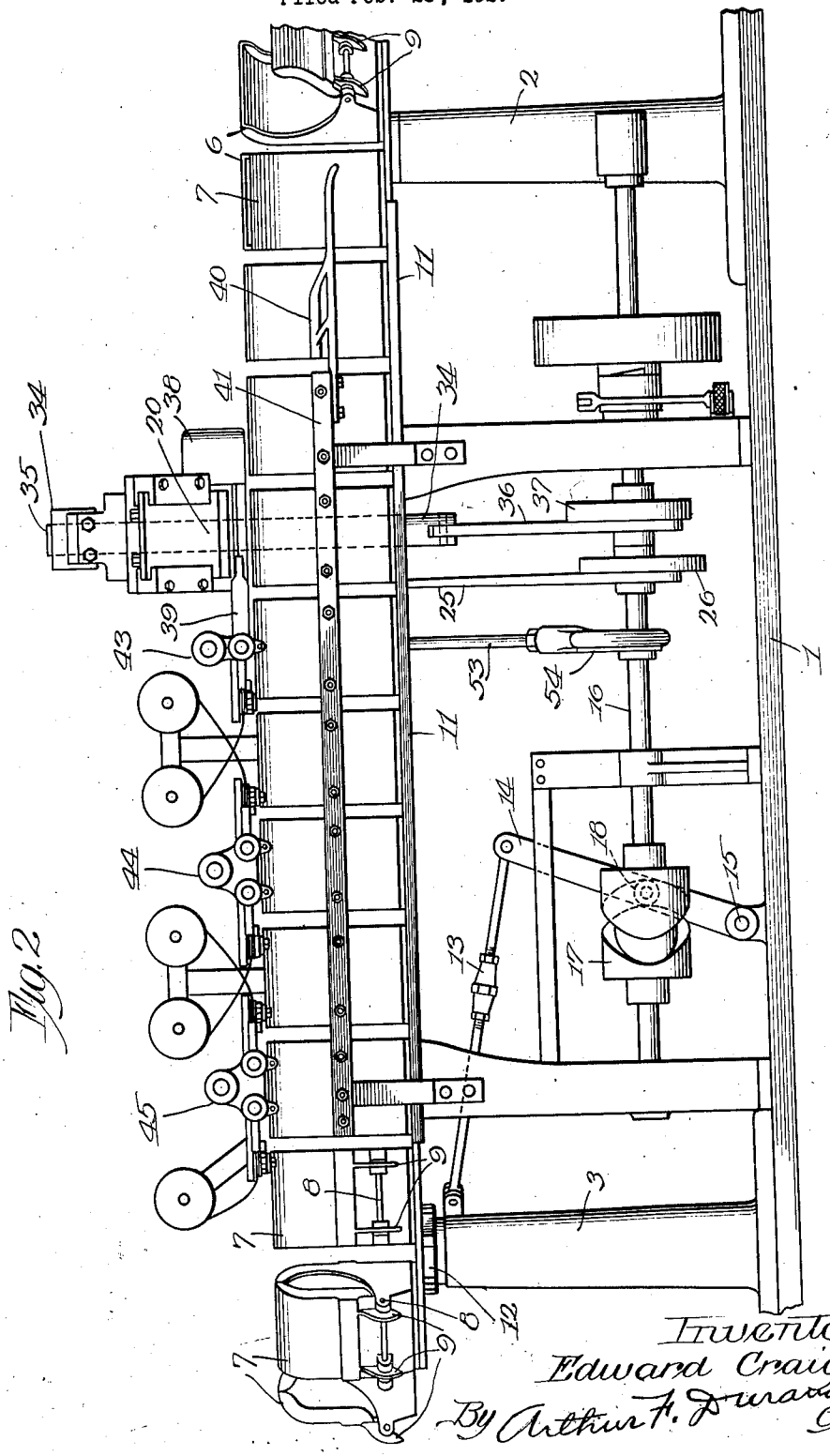


Fig. 2

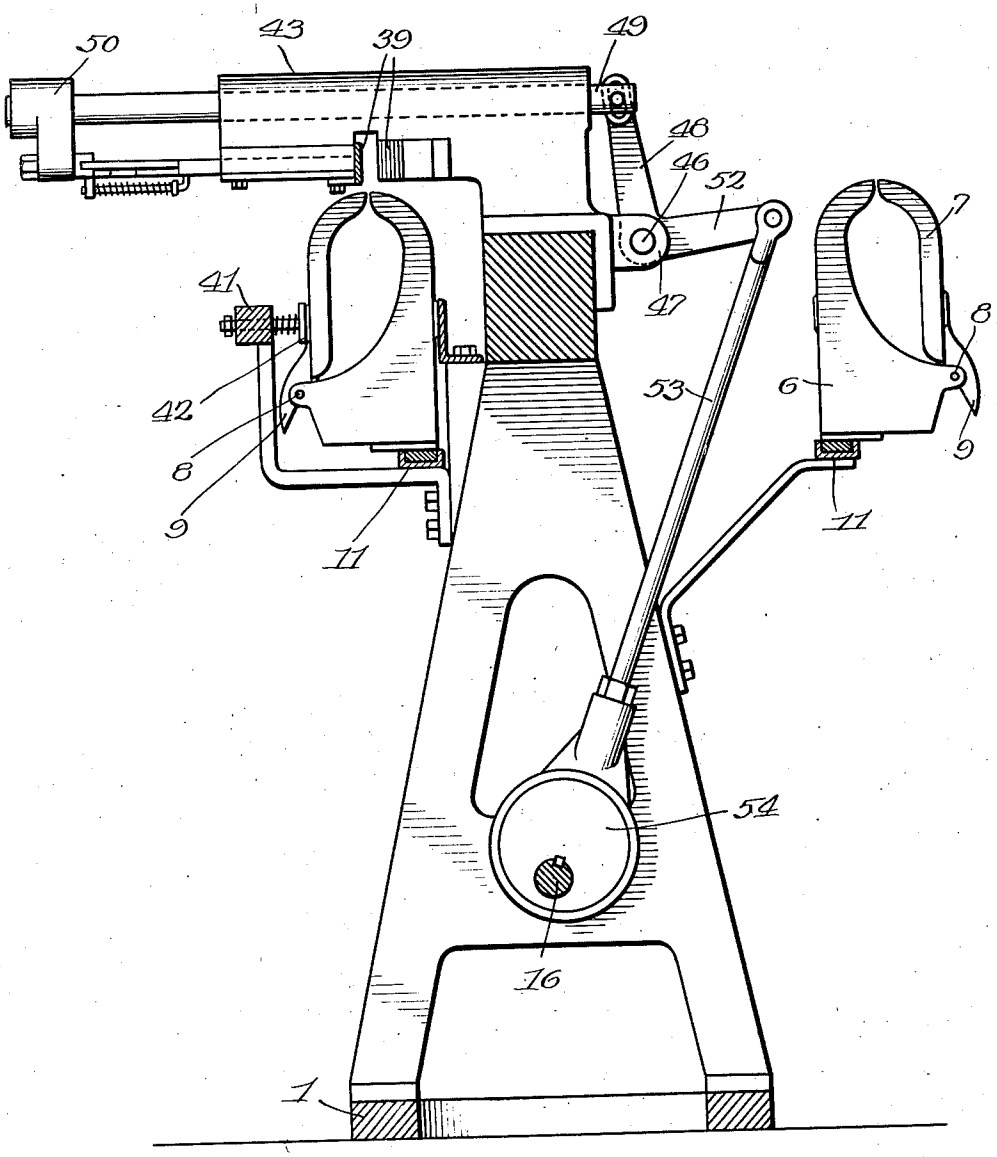
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MACHINE FOR CLOSING CONTAINERS

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Fig. 3



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Fig. 4

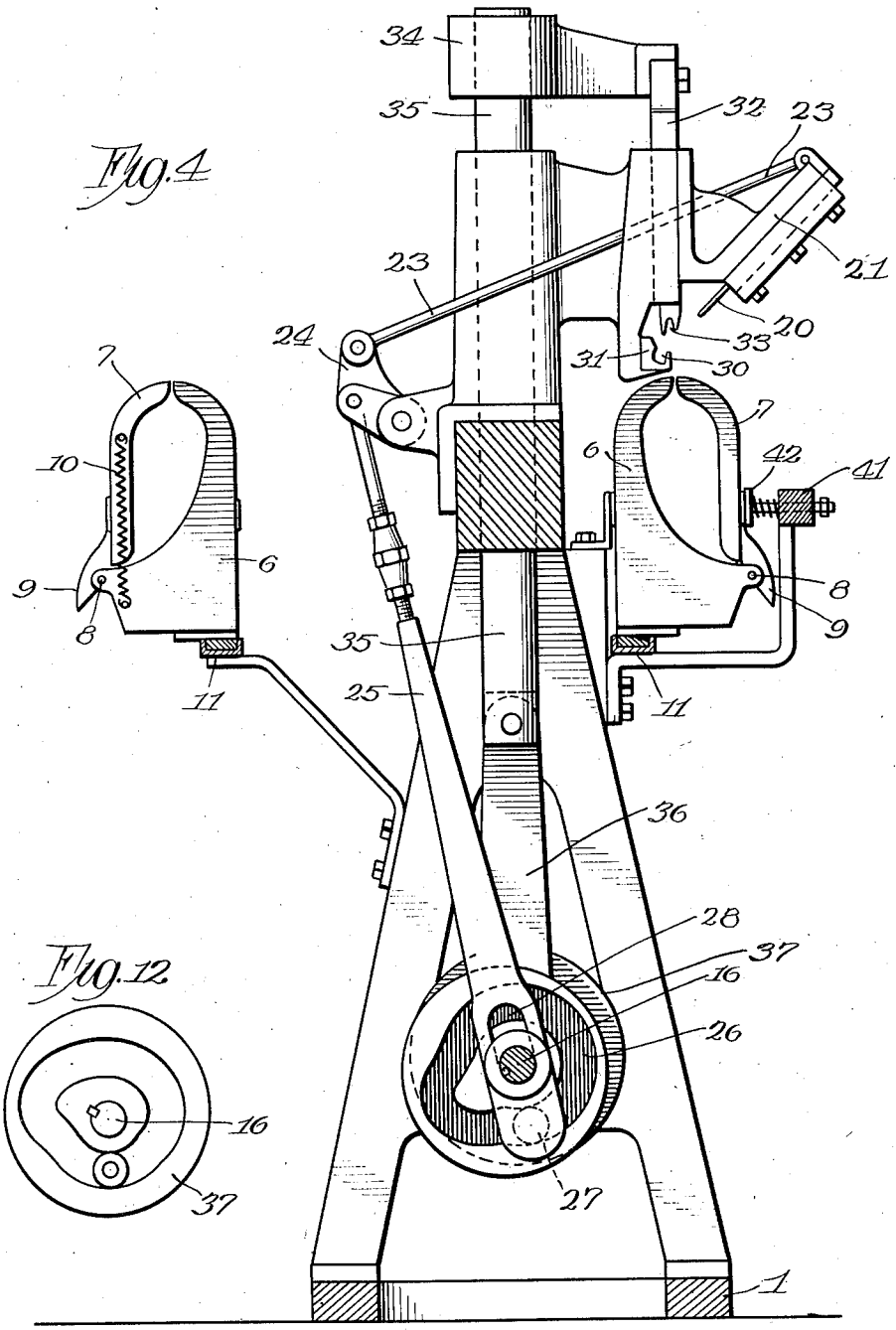


Fig. 12

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Fig. 5

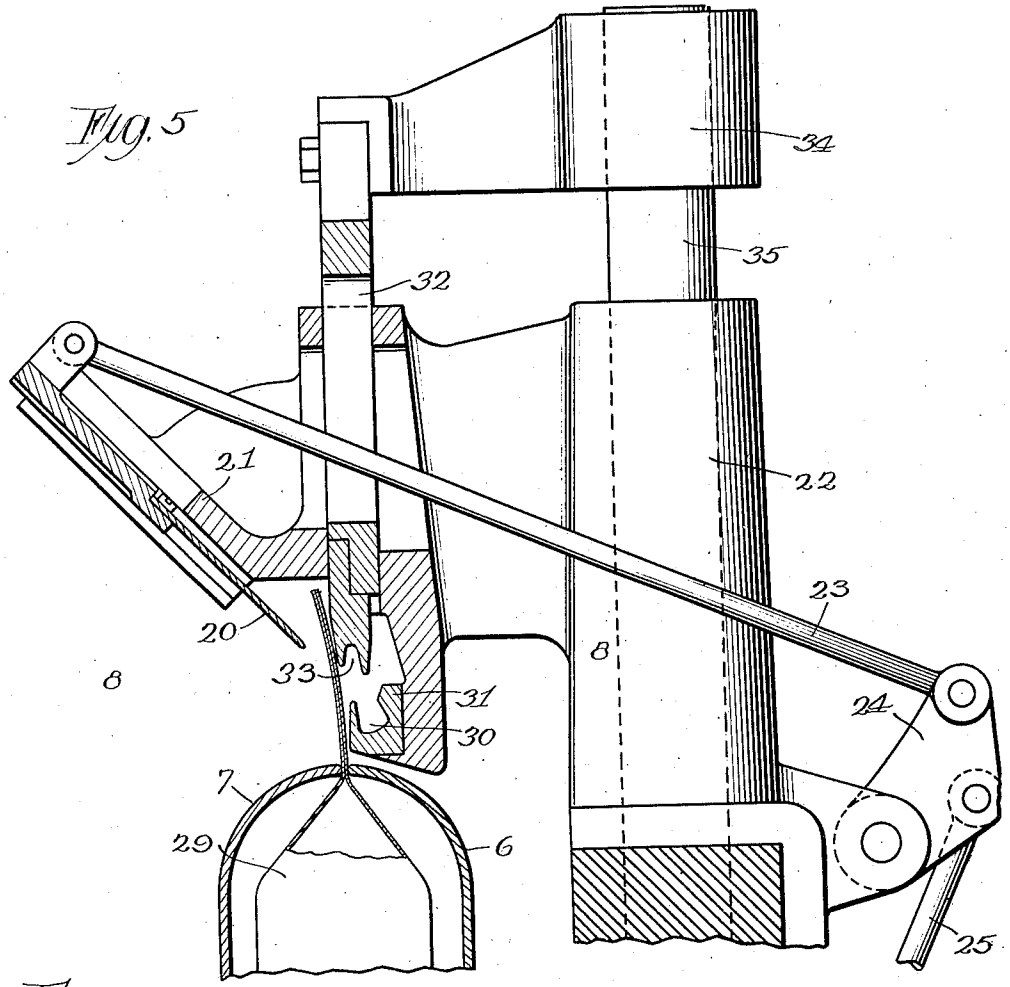


Fig. 6

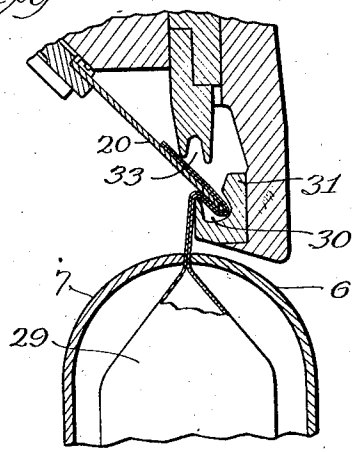
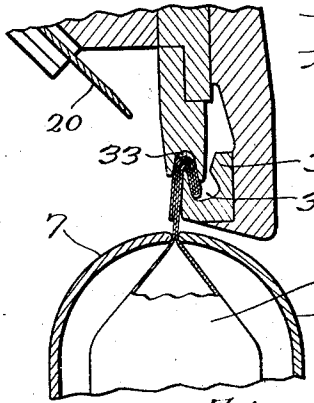


Fig. 7



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Fig. 8

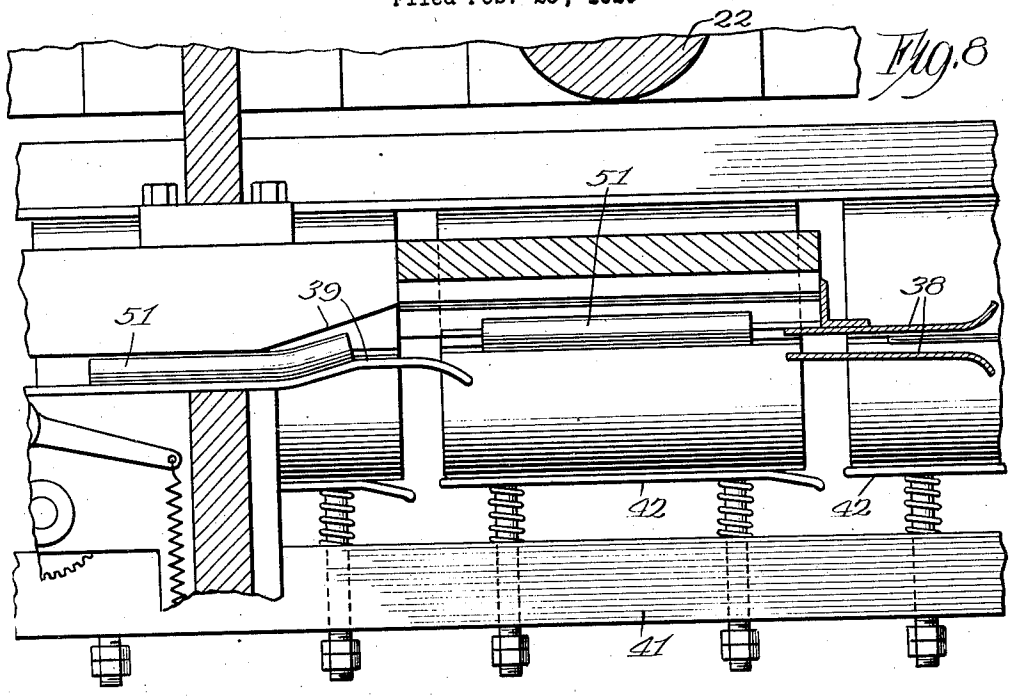


Fig. 11

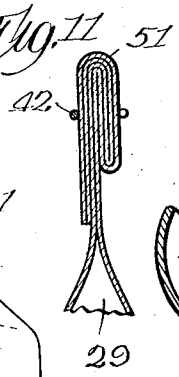


Fig. 10

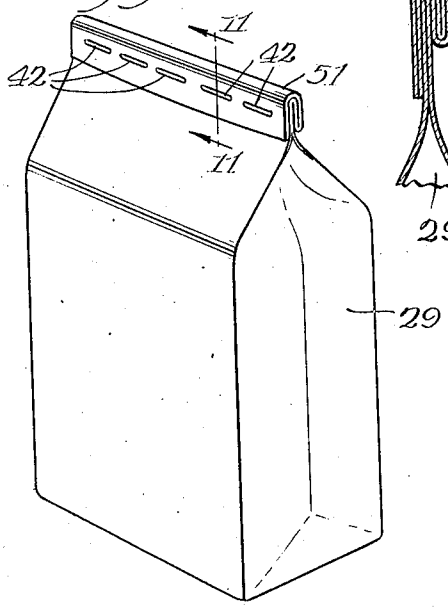
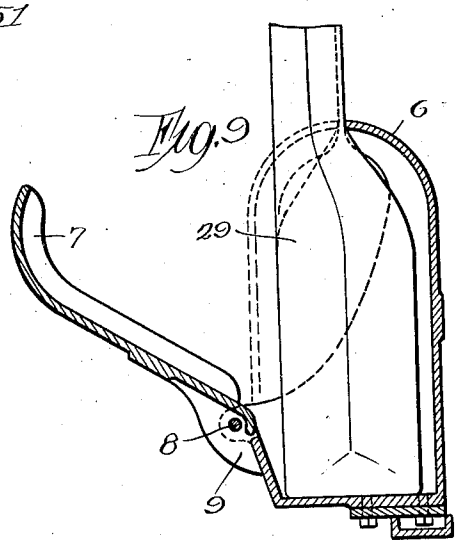


Fig. 9



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Patented Nov. 29, 1932

1,889,193

UNITED STATES PATENT OFFICE

EDWARD CRAIG, OF ST. JOSEPH, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SARANAC BAG SEALERS, INC., OF BENTON HARBOR, MICHIGAN, A CORPORATION OF DELAWARE

MACHINE FOR CLOSING CONTAINERS

Application filed February 23, 1926. Serial No. 90,087.

This invention relates to machinery for inserting fastening devices, and more specifically to machinery for closing receptacles, such as paper bags, after they are filled.

Generally stated, the object of the invention is to provide a novel and improved construction and arrangement of fastener driving instrumentalities, together with novel and improved means for presenting the work to said instrumentalities, thereby to automatically perform the fastener driving operations on the work, in the desired manner, as will hereinafter more fully appear.

More specifically considered, the object of the invention is to provide a novel and improved construction and arrangement of staple driving and paper folding instrumentalities, so combined and arranged that the top of a paper bag will be automatically folded and closed, and automatically secured in such folded condition by the insertion of staples therein.

It is also an object to provide certain details and features of construction in novel combinations tending to increase the general utility and desirability of a machine of this particular character, and which may have other uses or utility in other fields or in other ways, as will hereinafter more fully appear.

To the foregoing and other useful ends, the invention consists in matters hereinafter set forth and claimed and shown in the accompanying drawings, in which—

Fig. 1 is a plan of an automatic bag stapling or sealing machine, embodying the principles of the invention.

Fig. 2 is a side elevation of said machine.

Fig. 3 is an enlarged transverse section on line 3—3 in Fig. 1.

Fig. 4 is a similar section on line 4—4 in Fig. 1.

Fig. 5 is an enlarged transverse section on line 5—5 in Fig. 1, showing the parts in position to start the folding of the upper portion of the paper bag.

Fig. 6 is a similar view of certain portions of the structure shown in Fig. 5, showing the parts in position for the partial folding of the top portion of the paper bag.

Fig. 7 is a view similar to Fig. 6, showing the parts in the final position necessary for the complete folding of the upper portion of the paper bag.

Fig. 8 is a horizontal section on line 8—8 in Fig. 5.

Fig. 9 is an enlarged detail vertical section of one of the bag holders, showing the clamping jaw thereof in open position.

Fig. 10 is a perspective of one of the bags which has been stapled or sealed.

Fig. 11 is an enlarged detail vertical section on line 11—11 in Fig. 10.

Fig. 12 is a detail view of one of the cams employed in said machine.

As thus illustrated, and referring to Figs. 1 and 2, it will be seen that the body frame of the machine comprises the base 1 upon which the pedestals or uprights 2 and 3 are supported. The sprockets 4 and 5 are mounted on said pedestals, to rotate about vertically disposed axes, and a sprocket chain, of any suitable character, is trained around these sprockets and provided with the bag holders. Each bag holder comprises the main portion 6 which is rigid with one of the links of the belt, and the jaw portion 7 which is pivoted on the main portion at 8 and provided with a lower end portion 9 which serves as a stop to engage the adjacent side of the body portion 6 and thereby limit the outward swing of said jaw. The jaw of each bag holder is controlled by a spring 10 so applied, as shown in Fig. 4, that it tends to yieldingly hold the jaw 7 in closed position. Guides 11 are provided at opposite sides of the machine, and suitably supported on the body frame, to support the parallel stretches of the endless belt or chain upon which the bag holders are carried. For the operation of the endless series of bag holders, in step by step manner, to carry them successively into position to present the bags in position to be fastened or sealed, by means hereinafter described, the sprocket 4 is operated by a ratchet 12, of any suitable character, which in turn is operated by the pitman 13 connected to the upper end of the lever 14, which latter is pivoted at 15 at its lower end upon the base of the machine. A longitudinal shaft 16 is suitably supported in bearings on the body frame, and is pro-

vided with a cam 17 for engaging the roll or projection 18 on the lever 14, whereby the latter is vibrated and the pitman 13 is reciprocated to intimately actuate the bag holders through the medium of the ratchet feed mechanism 12, in a manner that will be readily understood, the bag holders traveling in the direction indicated by the arrow 19 in Fig. 1 of the drawings.

The paper bags, such as the one shown in Fig. 10, but with their tops open, are placed by hand in the bag holders, at any convenient point in the path of the travel thereof, and the top portion of the bag is pinched between the upper edges of the main portion 6 and the jaw 7, so that the two sides of the bag are brought flatwise together to facilitate the folding thereof. The folding mechanism, as shown more clearly in Figs. 5, 6 and 7, comprises a blade folder 20 mounted to reciprocate in a bracket 21 carried by the upper portion 22 of the body frame of the machine. This reciprocating folder is connected by a pitman rod 23 with the pivoted rocker arm 24, and the latter is connected by a pitman 25 with the cam 26 which latter has a groove to engage the roll or projection 27 on the lower end of this pitman 25, the latter having a slot 28 in which the shaft 16 extends, thus forming a guide for the up and down reciprocation of the pitman.

As shown in Fig. 5, the bag 29 arrives in position as shown, and as shown in Fig. 6 the elements are so timed that the blade 20 then moves downward and pushes the bag material into the recess 30 of the folder element 31 fixed on the body frame of the machine. A vertically reciprocating folder 32 has its lower end provided with a notch 33, and has its upper end fastened to the head 34 on the upper end of the vertically reciprocating rod or element 35, the latter having its lower end provided with a pivoted member 36 which is operated by the cam 37, which latter is preferably of the form shown in Fig. 12, but it will be understood that the cams 26 and 37 can be of any suitable character, and are so timed that the folding operations will occur in proper sequence. After the operation shown in Fig. 6, the folder 32 then moves downward and engages the bag material and folds it in the manner shown in Fig. 7, so that a double fold is made in the bag material at the top thereof, in the manner shown. Guides 38 are provided to direct the top portions of the bag into position for folding, and the folded top portions of the bag are then received between the guide portions 39 at the other side of the folding instrumentalities, so that the bag will be retained in its folded condition until it reaches the stapling mechanism.

To close the bag holders, a stationary cam 40 is provided, in suitable position to successively engage the jaws of the bag holders, thus closing each bag holder after a bag has been placed therein. In addition, a longitudinal bar 41 is provided at the operating side of the machine, this bar being provided with spring pressed shoes 42 which engage the jaws of the bag holders and keep them in position until after the folding and stapling operations have been performed.

The stapling mechanism for inserting the staples 42 in the double folded upper portion of the bag, as shown in Figs. 10 and 11, may be of any suitable known or approved form or construction. As shown, there are three stapling positions which each bag occupies, after leaving the folding mechanism. At the first position is the single stapler 43, and at the second position is the double stapler 44, while at the third position or station is the double stapler 45 as shown in Fig. 1 of the drawings. The first stapler 43 is preferably adapted to drive the middle staple as shown in Fig. 10, while the stapling mechanism 44 is adapted to drive one of the end staples of the row, there being five in all, and also the staple at the other side of said middle staple; then the third stapling mechanism 45 will drive the staple at the other end of the row, as well as the staple at the other side of the middle staple, whereby the method involves the insertion of a single staple first, then the insertion of two more staples and finally the insertion of two more staples to complete the stapling together of the double folded top portion of the bag. These staplers are operated by a rock shaft 46 extending longitudinally of the machine, and mounted in suitable bearings 47 on the body frame of the machine, said shaft having upstanding arms 48 to engage the reciprocating rods 49 that reciprocate the heads 50 of the staplers, whereby the horizontally disposed staplers are operated to insert the staples horizontally through the upper portion of the bags, while the top portions of the latter are between the guides 39, the folded over top portions 51 of the bags being held to a straight path of travel by said guides. The rock shaft 46 has an arm 52 which is connected by the pitman 53 with the eccentric 54 on the shaft 16 previously mentioned. It will be understood that the parts are so timed in their operations that while one bag is being folded by the mechanism shown in Figs. 5, 6 and 7, as explained, another bag is being operated upon by the stapler 43, while still another bag is being operated upon by the stapler 44, at the same time that a fourth bag is being operated upon by the stapler 45. Then the endless series of bag holders is given a forward feeding movement, sufficient to bring another bag into position for folding, and to bring three other bags into position for said stapling operations. As fast as the bags leave the stapler 45, the bag holders are opened and the stapled bags are taken out by hand. The empty bag

holders are then filled again, as previously explained, and the machine thus runs continuously to automatically fold over the top portions of the bags, and to then staple these portions in the manner shown and described.

Thus the bags are sealed at their tops, after they are filled, but it is obvious that the invention can be used in various ways, and is not limited to the particular use shown and described, so far as the machinery for folding the material and for stapling the same is concerned, as such machinery might be used for folding and stapling other things besides bags. More specifically, of course, the invention contemplates a new method of closing or sealing paper bags, or bags made of suitable sheet material.

While the bag is shown as being composed of single thickness material, it will be readily understood that one or more thicknesses can be employed, for bags or for other articles or objects, without departing from the spirit of the invention. As shown and described, the invention is employed for the purpose of closing and sealing the top portion of the bag, but it is obvious that substantially the same machinery might be used for closing and fastening the other end of a bag before it is filled, or might be used for folding and fastening sheet material containers or articles of various kinds.

As shown, the springs 10 are so applied that they spring past the center 8 when the outer or movable side 7 of each bag holder is swung out into the position shown in Fig. 9, whereby the outer sides 7 of the bag holders are held in this open position. After the bag is placed in the open bag holder, a slight push on the side member 7 is sufficient to close it, as the spring will pull it into closed position as soon as the spring passes the center. The closing of the bag holders, after being loaded with bags or other articles, is preferably accomplished, as stated, automatically, by the cam 40 disposed in position to strike the members 7 successively, and these members 7 are then held in closed position by the bars 42, as previously explained, so that the upper portions of the bags are firmly held while being folded, and while being stapled. For the practice of the method shown and described, and in the use of the machinery, it is important to so place the bags in the bag holders that the upper portions of the bags will extend substantially straight up, as shown in Figs. 5 and 9, before and after being clamped by the member 7 of each bag holder, whereby the folding mechanism will operate properly in the manner shown and described. It will be seen, however, that the folding mechanism is of such character that the top portions of the bags could be more or less irregular, and somewhat wrinkled, without interfering with the proper operation of the folding mechanism, although it is better to place the bags carefully in place with their upper portions extending straight up in unwrinkled condition, in order to insure a minimum number of defective bags, or no defectives at all if possible. Any suitable means can be employed for filling the bags, of course, and they can be placed in the bag holders either by hand or otherwise, and can be removed from the bag holders by hand or otherwise, without departing from the spirit of the invention.

It will thus be seen that the machine is adapted for the closing and sealing of the ends of bags or tubes made of flexible material, and hence the invention is not limited to any particular flexible material, and hence the term "bags" is illustrative of one particular use of the invention and comprehends the use of the invention in connection with bags or tubes of flexible material of any suitable character, and for any suitable or desired purpose.

It will be seen that the conveyor having the holders 6 and 7 is in the form of an endless conveyor belt disposed in position to operate in a horizontal plane, with means 2 at one end to provide a vertical axis for the conveyor, and means 3 at the other end of the conveyor to provide a similar vertical axis, whereby the conveyor has parallel straight lengths between the two ends thereof, and two straight lengths moving in opposite directions. Means are disposed over one straight length, such as the elements 20, 30, 31 and 33, parallel with the conveyor, to close the upper ends of the bags or tubes, as the latter travel along in a straight line with this side of the conveyor. The travel of the bags or tubes in a straight line, and the arrangement of the closing instrumentalities parallel with this straight path of travel, facilitates the operations on the bags or tubes. Also, it will be seen that the closed bags or tubes may remain on the conveyor and come clear around on the other straight length of the conveyor, if this is necessary or convenient for the removal of the closed bags or tubes. In addition, unclosed bags or tubes can be placed on the straight stretch of the conveyor, which is at the rear of the machine, after the closed bags or tubes are taken off, and thus the straight length or stretch of the conveyor at the rear side of the machine may support either or both closed and unclosed bags or tubes, thereby to suit the convenience of the workers or attendants who place the unclosed filled bags or tubes on the machine and then remove them after the upper ends of the bags or tubes are closed. The length of the conveyor is such that the workers or attendants have plenty of time and opportunity in which to put the unclosed bags or tubes on the conveyor and remove the closed bags or tubes, without the necessity of stopping the motion

of the conveyor or the operation of the machine.

Without disclaiming anything, and without prejudice to any novelty disclosed, what I claim as my invention is:

1. In a machine for closing and sealing a fibrous bag, the combination with means for reversely folding the mouth of the bag to provide a double fold therein, of means whereby said bag is disengaged from said folding means, and means for therafter applying fastening means to maintain the double fold.

2. A machine as specified in claim 1, said fastening applying means comprising mechanism for inserting staples through the double fold.

3. A machine as specified in claim 1, said folding means comprising mechanism for forming reverse folds between the body of the bag and the upper edge thereof, and for thereafter folding down the upper edge portion of the bag and compressing the thicknesses thereof together, preparatory to the said fastening operation.

4. In a machine for closing and sealing paper bags, the combination of folding mechanism to produce a double fold in the top portion of the bag, and fastener driving mechanism to thereafter insert staples through said double fold to seal the bag.

5. A structure as specified in claim 4, said folding mechanism comprising a reciprocating blade folder, a stationary channel-like folder member to receive said blade and a portion of the bag, and a reciprocating member with a channel to thereafter fold down the upper edge portion of the bag.

6. A structure as specified in claim 4, said stapling mechanism comprising staplers disposed in position to insert the staples successively, in combination with bag carrying means to present each bag first to the folding mechanism, and then successively to the different staplers, whereby each bag is closed and sealed by a folding operation followed by successive stapling operations performed upon the top portion thereof.

7. A structure as specified in claim 4, in combination with bag-carrying means to automatically present the bags to said folding mechanism and thereafter to said stapling mechanism, whereby the bags are automatically carried along and successively operated upon to close and seal the top of each bag.

8. A structure as specified in claim 4, in combination with an endless series of bag holders, for automatically carrying the bags along and presenting them to said folding mechanism and thereafter to said stapling mechanism.

9. A structure as specified in claim 4, in combination with an endless series of bag holders to carry the bags from the folding mechanism to the stapling mechanism, each bag holder being in the form of a receptacle with a movable outer side, having means to pinch the upper portion of the bag together, thereby to facilitate said folding operation.

10. A structure as specified in claim 4, in combination with means to pinch the side walls of the bag together, preliminary to said folding operation.

11. A structure as specified in claim 4, in combination with means to pinch the side walls of the bag together, preliminary to said folding operation, and means causing the bags to travel automatically to and from said folding mechanism, and to and from said stapling mechanism, so that the bags are automatically carried along and operated upon to close and seal the top of each bag.

12. In machinery for folding and stapling sheet material, the combination of folding mechanism to automatically produce a double fold in said sheet material, and fastener driving mechanism for thereafter inserting fasteners to maintain said double fold.

13. A structure as specified in claim 12, said fastener driving mechanism comprising a plurality of staplers for inserting staples through said fold.

14. A structure as specified in claim 12, in combination with automatic instrumentalities for carrying the sheet material into position to be operated upon by said folding mechanism, and by said fastener driving mechanism, so that the material is automatically carried along and operated upon in the desired manner.

15. A structure as specified in claim 12, said folding mechanism comprising a reciprocating blade folder, a channel-like member co-operating with said blade folder, and a reciprocating folder with a groove therein to co-operate with said channel member to complete the folding operation.

16. A structure as specified in claim 12, said fastener driving mechanism comprising a plurality of staplers disposed in position to successively operate upon said material, so that successive stapling operations are performed on said double fold.

17. A structure as specified in claim 12, in combination with means for compressing the fold together preliminary to the performing of said fastening operation thereon.

18. A structure as specified in claim 12, in combination with means for compressing a plurality of thicknesses of the sheet material together, preliminary to said folding operation.

19. The method of closing bags which includes forming a reentrant fold with the sections thereof extending at an angle to the body of the bag, folding the sections of said reentrant fold into engagement with both sides of said body, and simultaneously securing the folds together at a plurality of separated points.

20. The method of closing bags which includes folding the lips of the bag into substantially a T-shape, folding the arms of the T into engagement with the body of the bag at both sides thereof, and simultaneously securing said folds together at a series of separated points.

21. The method of closing bags which includes forming a reentrant fold in the bag at substantially a right angle to the body to give the material a substantially T formation, folding the arms of the T into reenforcing relationship with the body of the bag, and simultaneously securing the folds together at a plurality of separated points.

22. The method of closing bags which includes forming a reentrant fold at substantially a right angle to the body of the bag to give the material a substantially T formation, folding the arms of the T into reenforcing relation with both sides of said body, and simultaneously inserting a series of staples through all of the folds.

23. The method of closing bags which includes forming a reentrant fold in the lips of the bag at an angle to the edge of a relatively stationary blade, folding the sections of said reentrant fold about said blade into engagement with the sides of the body portion of the bag, and simultaneously securing the folds together at a plurality of separated points.

24. The method of closing bags which includes forming a reentrant fold in the lips of the bag at substantially a right angle to the edge of a relatively stationary blade to give the material a substantially T formation, folding the arms of the T about said blade into engagement with the sides of the body, and securing the folds together.

25. The method of closing bags which includes folding the lips of the bag into a substantially T shape across the edge of a relatively stationary blade, folding the arms of the T about said blade into reenforcing relation with both sides of the body and simultaneously securing said folds together at a series of spaced points.

26. The method of closing bags which includes forming a reentrant fold at substantially a right angle to the body of the bag across the edge of a relatively stationary blade to give the material a substantially T formation, folding the arms of the T against the sides of the body, and simultaneously stapling the folds together at a series of separated points.

27. The method of closing bags which includes folding the material of the bag into substantially a T formation across the edge of a relatively stationary blade, folding the arms of the T into reenforcing relation with both sides of the body, and inserting staples at a plurality of points through all of the folds.

28. The method of closing bags which includes folding the material of the bag into a substantially T formation across the edge of a relatively stationary blade, folding the arms of the T into reenforcing relation with both sides of the body, and simultaneously inserting a plurality of staples through said folds at a plurality of separated points.

29. A machine for folding bags, a stationary folder blade, means for forming a reentrant fold at an angle to the edge of said blade, means for folding the sections of said fold into reenforcing relation with both sides of the body of the bag, and means for simultaneously securing the folds together at a series of spaced points.

30. In a machine for folding bags, a stationary folder blade, a movable folder blade for forming a reentrant fold at substantially a right angle to said stationary blade, and folding mechanism for folding the sections of said fold into reenforcing relation with both sides of the body of the bag.

31. In a machine for folding bags, a stationary folder blade, a movable folder blade, means for moving said movable folder blade into cooperative relation with said stationary blade, a second movable folder blade, and power-driven means for predeterminately moving said second movable folder blade into cooperative relation with said stationary blade.

32. In a machine for folding bags, a stationary folder blade, a movable folder blade for effecting a reentrant fold at substantially a right angle to said stationary blade, a second movable blade for folding the material of said first-named fold on both sides of said stationary blade, and means for effecting the automatic actuation of said folder blades in sequence to complete the fold.

33. In a machine for closing bags, folding mechanism for folding the material of the bag into substantially parallel folds, and means for simultaneously attaching said substantially parallel folds together at a series of separated points.

34. In a machine for closing bags, folding mechanism for folding the material of the bag into substantially parallel folds, and stapling mechanism for simultaneously inserting a plurality of staples through said folds at separated points.

35. In a machine for closing bags, means for folding the material of the bag into substantially parallel folds to form a closure, and a gang of stapling devices arranged lengthwise of the fold for simultaneously inserting a series of staples into the fold at a plurality of separated points.

36. In a machine for closing the mouths of flexible bags or containers, the combination with means for engaging the bag mouth to form an incompleted fold therein, said means including a movable member, of means in-

cluding a second movable member operable in timed relation to said first movable member for engaging the bag mouth to form a further fold therein and to complete the first fold and to press the free end of the bag mouth against a portion of the bag mouth closely adjacent the body of the bag.

37. In a machine for closing the mouths of flexible bags or containers, the combination with a member for engaging and supporting one side of the bag mouth, of means for engaging the other side of the bag mouth to fold the latter over and across the said member, and means for thereafter engaging the first mentioned side of said bag mouth to form a further fold therein and to press the free end of the bag mouth against a portion of the bag mouth closely adjacent the body of the bag.

38. In a machine for forming a double fold in the mouth of a paper bag to close the same, the combination with a conveyor for bags, of folding mechanism through which the bags are moved by said conveyor, said folding mechanism including means movable to and from bag folding position to engage and form an incomplete fold in said bag mouth, and means movable to and from bag folding position to engage and form a second fold in said bag mouth and to complete the first named fold, and to press the free end of the bag mouth against a portion of the bag mouth closely adjacent the body of the bag, and power driven apparatus for actuating said first and second named means in succession.

39. In a machine for forming a double fold in the mouth of a paper bag to close the same, the combination with a conveyor for bags, of folding mechanism through which the bags are moved by said conveyor, said mechanism including reciprocating means operable successively to form separate folds at spaced points in said bag mouth, power actuated means for driving said conveyor and said reciprocating means in timed relation, and guide means through which the folded bag is moved by said conveyor for maintaining the bag in folded condition.

40. In a machine for forming a double fold in the mouth of a paper bag to close the same, the combination with a conveyor for bags, of folding mechanism through which the bags are moved by said conveyor, said mechanism including reciprocating means operable successively to form separate folds at spaced points in said bag mouth, intermittent driving means for said conveyor whereby said bags may be brought to rest during the successive folding operations, and guide means through which said bags are moved by the conveyor for maintaining the bags in folded condition.

41. A machine for closing the ends of bags or tubes made of flexible material, comprising an endless conveyor disposed in position to operate in a horizontal plane, rotary means having a vertical axis to support one end of said conveyor, rotary means having a vertical axis to support the other end of said conveyor, whereby said conveyor has parallel and oppositely moving straight lengths between said supporting means, means on said conveyor for supporting the lower ends of the bags or tubes, so that the latter are supported with their open ends upward, means disposed parallel with the conveyor for successively engaging the open upper ends of the bags or tubes, while the bags or tubes travel in a straight line with one straight length of the conveyor, thereby to close said upper ends, and instrumentalities for operating said conveyor and said closing means in timed relation, whereby either closed or unclosed bags or tubes may be moving with the other straight length of said conveyor.

42. A structure as specified in claim 41, said conveyor having intermittent feeding motion about said vertical axis.

43. A structure as specified in claim 41, said closing means comprising elements for producing a double fold comprising eight thicknesses of the flexible material.

44. A structure as specified in claim 41, said conveyor providing an endless path of both curved and straight travel for the bags or tubes in a horizontal plane.

45. In a machine for folding the open ends of receptacles to close the same, the combination with means including a movable member for forming a reentrant fold extending transversely of the end of the receptacle, and means for folding the sections of said fold into reinforcing relation with both sides of the receptacle.

46. In a machine for folding the open ends of receptacles, the combination with means including a movable member for engaging the receptacle to fold the end thereof into substantially T shape, and means for thereafter folding the laterally extending arms of the T against the leg of the T.

47. In a machine for folding the open ends of receptacles, the combination with means for holding the receptacle with the open end thereof upward, of means for pressing the side walls of the upper end together to form an upstanding substantially flat end portion of double thickness, means for folding the said end portion to the right and to the left so that the outermost part thereof extends transversely across the vertical center line of the receptacle, and means for folding the said transversely extending outer part downwardly against either side of the receptacle to provide two reinforcing thicknesses on one side and four reinforcing thicknesses on the other side thereof.

48. In a machine for folding the open ends of receptacles, the combination with means

for holding the receptacle with the open end thereof upward, of means for pressing the side walls of the upper end together to form an upstanding substantially flat end portion of double thickness, means for engaging the said end portion to form a reentrant fold, and means for folding the sections of said fold downwardly into reinforcing relation with both sides of the receptacle.

49. In a machine for folding the open ends of receptacles, the combination with means for holding the receptacle with the open end thereof upwardly, of means for pressing the side walls of the upper end together to form an upstanding substantially flat end portion of double thickness, and means for engaging the said end portion to fold the same into substantially T shape, and for thereafter bringing the laterally extending arms of the T downwardly on either side of the leg of the T.

Specification signed this 18th day of Feb., 1926.

EDWARD CRAIG.