Nov. 10, 1959 L. OZOR 2,911,778

BAG INTUCKING DEVICE

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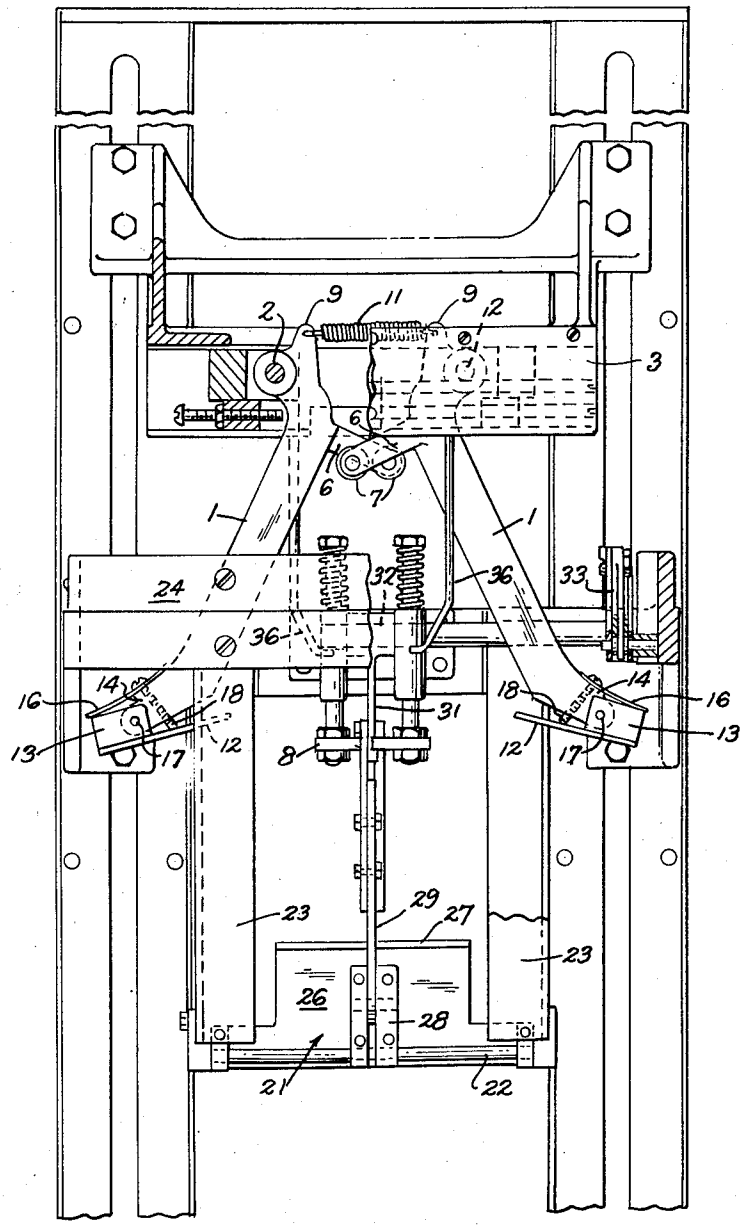


Fig. 1.

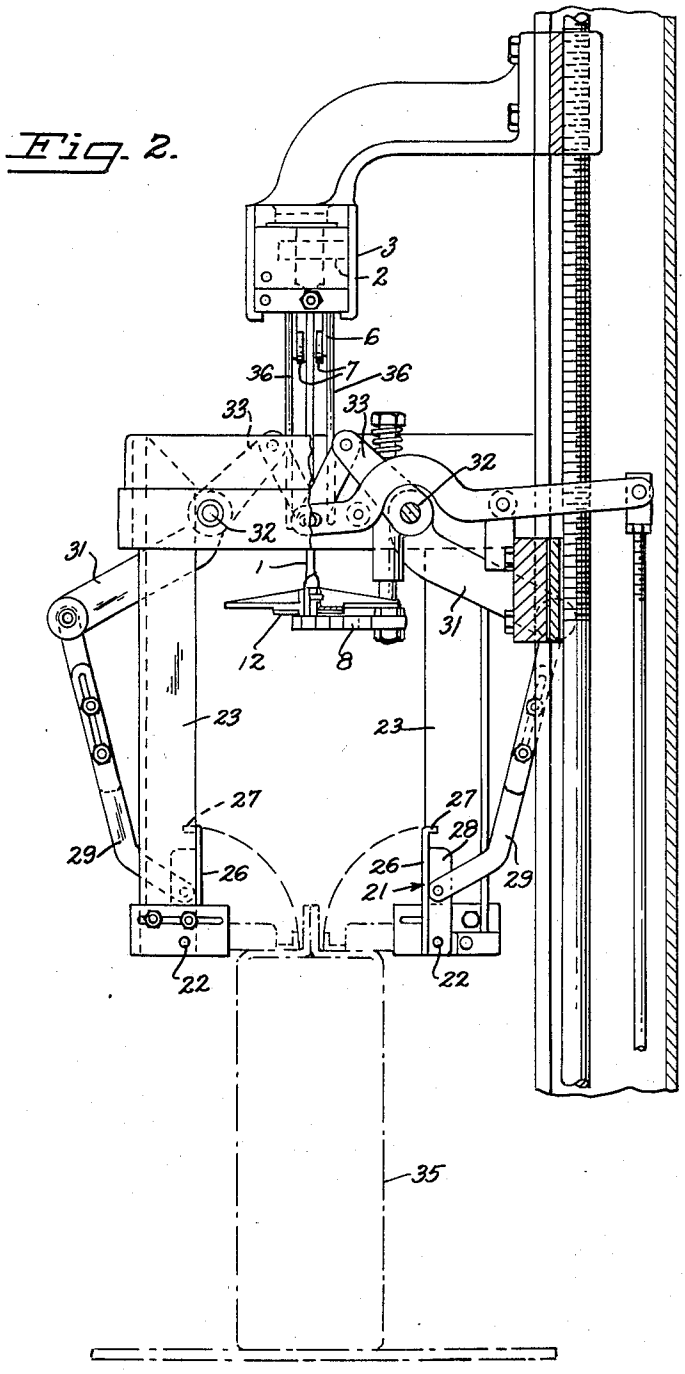
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Fig. 2.



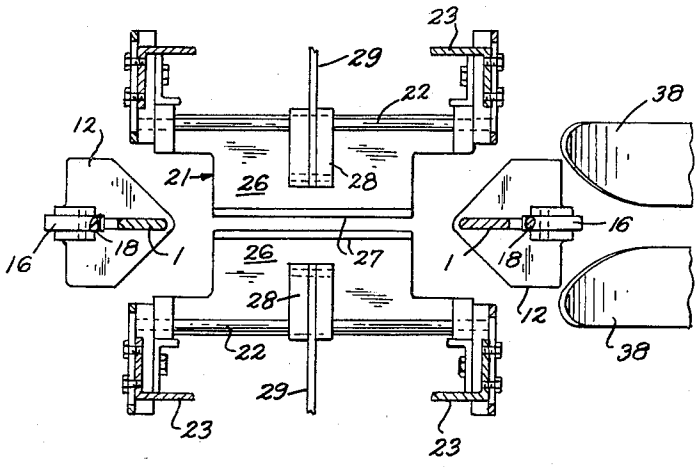
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Fig. 3.



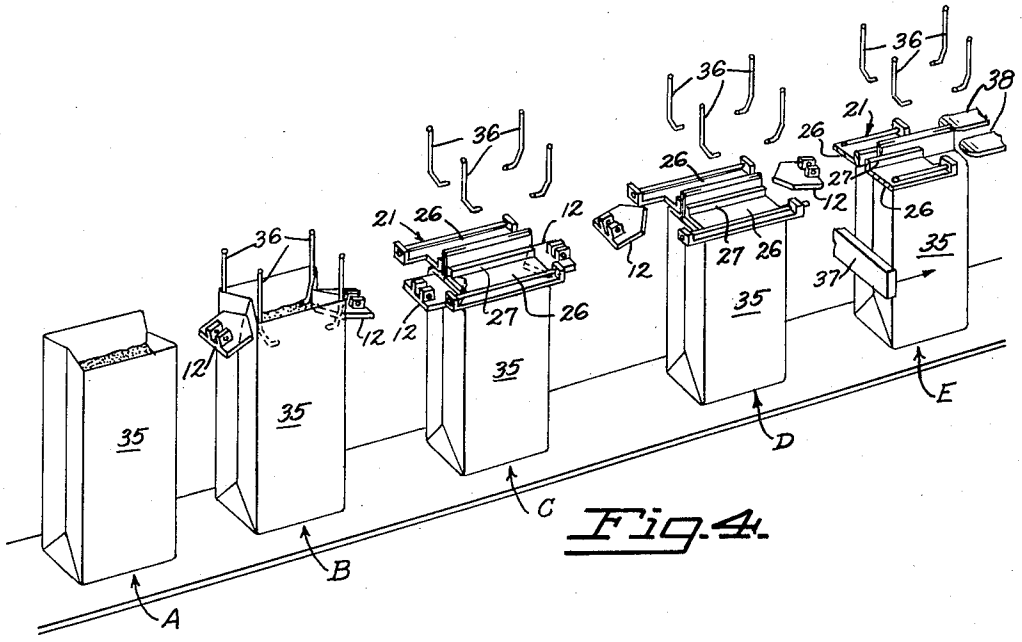


Fig. 4.

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2,911,778

BAG INTUCKING DEVICE

Louis Ozor, San Francisco, Calif.

Application January 27, 1956, Serial No. 561,771
5 Claims. (Cl. 53—371)

This invention relates to a bag intucking device.

The improvement in this application is primarily the edge creasing and the side pressure plate arrangement in cooperation with bag intucking devices of the type described in my copending application, Serial No. 502,-120, filed April 18, 1955.

The primary object of this improvement is to provide such coaction between the edge intucking and the side pressure plates that the side pressure plates can move the edge intucking shoes into gusset forming position and press the opposite sides and edges of the bags together and into the gusset.

The distinguishing features of the herein invention reside in the provision of an adjustable pivoted shoe on the edge intucking members which is yieldably held in an initial position and which is adapted to be engaged by the opposite pressure plates to be pressed downwardly and pivot into its gusset forming position or location; and the provision of side pressure plates pivoted in such a manner as to press inwardly and downwardly against the opposite sides of the top of the bag and are capable of pressing the sides together as well as engaging and moving downwardly the gusset forming shoes so as to firmly intuck the top of the bag into a permanently creased sharp gusset and crease.

I am aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the following claims; hence I do not limit my invention to the exact arrangements and combinations of the said device and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

With the foregoing and other objects in view, which will be made manifest in the following detailed description, reference is had to the accompanying drawings for the illustrative embodiment of the invention, wherein:

Fig. 1 is a fragmental front view partly in section of the intucking machine with the intucking elements in raised position.

Fig. 2 is a fragmental, partly sectional side view of the intucking machine.

Fig. 3 is a sectional plan view of the intucking machine, and

Fig. 4 is a perspective schematic view showing the steps of intucking.

In the present illustration, I show only such parts of the intucking machine which are pertinent to the gusset forming shoes and the side pressure plates and the operating arms and their supports on a traveling frame.

Gusset arms 1 are pivoted on transverse pivots 2 in a vertical traveling frame 3. The arms are provided with inwardly extended fingers 6 having friction rollers 7 in their ends, which are adapted in lowered position to abut against abutment elements 8 so as to move the arms 1 inwardly and together and toward the opposite edges of the bag. Ears 9 at the top of the arms 1 are pulled together by a coil spring 11 for normally urging the arms 1 apart. The above structure is substantially the same as described in my said copending application and is operated and swung and reciprocated by the same type of mechanism as therein described.

The improvement on this particular feature in the present application resides in the provision of a shoe 12 supported on a pivot bracket 13 on the outwardly bent end 14 of each arm 1 and a leaf spring 16 anchored on said bent end 14 and bearing on the outer end of the pivot bracket 13 which normally urges the point of the shoe 12 upwardly about a pivot 17. The shoe 12 is generally triangular with the point of the triangle directed inwardly toward the opposite shoe or into the respective creased edges of the bag. A set screw 18 threaded in the bent end 14 bears against the shoe 12 to predetermine the initial inclined position of the shoe 12.

As the intucking devices are lowered and swung inwardly the shoes 12 enter into the opposite crease edges and against the respective creases of the bag therebetween, then the pressure plates to be hereinafter described are operated so as to move the shoes 12 downwardly against the action of the spring 14 into gusset forming positions. In case of small bags or narrow gusset edges the shoes 12 can be withdrawn before the pressure plates are closed.

There are two pressure plates 21 each pivoted on a pivot 22 in spaced vertical brackets or posts 23 which latter are fixedly supported on the stationary frame 24. Each of the plates 21 is formed with a base 26 and a right angle flange 27, the latter being adapted to bear against the opposite sides of the bag while the former is to bear downwardly upon the pressed sides of the bag.

Each plate 21 has generally central ribs 28 to which is pivoted a link 29 which is preferably made of two telescoping sections. The upper end of the link 29 is in turn pivoted to a fulcrum arm 31 which latter is secured on a shaft 32. From each shaft 32 extends a crank arm 33 connected to a suitable actuating mechanism of the type described in my previous application or any other type of actuation coordinated with the reciprocation of the intucking gusset forming elements so as to turn the arms 1 inwardly and swing the pressure elements around their pivots inwardly and downwardly in predetermined timed relation to the operation of the intucking elements. For instance if the gusset forming shoes 12 are left in gusset forming position, then as the pressure plates 21 are swung around their pivots and against the opposite sides of the bag, they press the sides of the bag together and also press down toward the top of the contents of the bag and in that motion engage the swingable or pivoted intucking shoes 12 and press the latter downwardly and inwardly on to the gusset edge of the bag so as to firmly press the tucked parts of the bag together.

In accordance with the timed operation as described in my said copending application, the pressure plates are then moved upwardly and into out of the way position. The intucking arms 1 are swung outwardly and upwardly around their fulcrums either before the operation of the pressure plates 21 or after the pressure plates 21 are pressed together.

It is preferable to provide for a sequence of operation as described in Fig. 1 of my previous application wherein the pressure plates are first pressed downwardly to full position, then released outwardly, then again downwardly and finally outwardly to prevent the sticking of the pressure plates to the bag. In connection with larger bags or wider gussets, the shoes 12 remain in gusset forming position to be pressed down by the pressure plates 21.

The steps of this last sequence are illustrated in Fig. 4 where the bag 35 is carried in position A to the intuck-

ing device. In position B the shoes **12** are moved in between the spacing corner fingers **36**. In position C the fingers **36** are withdrawn from the bag **35**, as the pressure plates **21** are swung against the sides of the bag **35** and force the shoes **12** down to form flat gussets. In position D, the shoes **12** are withdrawn. In position E, while the pressure plates **21** are still together, the bag **35** is pushed out from between the flanges **27** and from under the pressure plates **21** by a suitable pusher **37** so as to move under sealer fingers **38**, to be suitably folded and sealed.

I claim:

1. In an intucking device for bags, intucking shoes, means to pivotally support said intucking shoes, resiliently yieldable means to urge said shoes to an initial plates, and said plates being adapted to force said shoes to and from the intucking position relatively to the opposite gusset edges of a bag, a pair of opposite pressure plates adapted to be positioned in the opposite sides of said bag and of said gusset forming shoes, means to move said pressure plates toward one another and downwardly with respect to said bag so as to press downwardly and together the sides of the bag to form opposite shoulders below the plates, said gusset forming shoes extending in their intucking position below the respective pressure plates and said plates being adapted to force said shoes from said inclined positions onto the gussets during the downward pressure movement of said plates thereby to form flat gusset shoulders, and means to coordinate the movement of said pressure plates and said gusset shoes.

2. In an intucking device for bags, intucking shoes, means to pivotally support said intucking shoes, resiliently yieldable means to urge said shoes to an initial inclined position, means to swing said intucking shoes to and from the intucking position relatively to the opposite gusset edges of a bag, a pair of pressure plates adapted to confine and press between them the opposite sides of a bag, fixed means on which said plates are pivotally supported so as to swing inwardly toward and downwardly with respect to the bag, and adjustable link mechanism for turning said plates into and out of pressing position.

3. In an intucking device for bags, intucking shoes, means to pivotally support said intucking shoes, resiliently yieldable means to urge said shoes to an initial inclined position, means to swing said intucking shoes to and from the intucking position relatively to the opposite gusset edges of a bag, a pair of opposite pressure plates adapted to be positioned in the opposite sides of said bag and of said gusset forming shoes, means to move said pressure plates toward one another and downwardly with respect to said bag so as to press downwardly and together the sides of the bag to form opposite shoulders below the plates, said gusset forming shoes extending in their intucking position below the respective pressure plates, and said plates being adapted to force said shoes from said inclined positions onto the gussets during the downward pressure movement of said plates thereby to form flat gusset shoulders, and means to coordinate the

movement of said pressure plates and said gusset shoes, each of said gusset forming shoes being generally in the shape of a triangle, and the points of said triangular shoes being directed toward one another.

4. In an intucking device for bags, intucking shoes, means to pivotally support said intucking shoes, resiliently yieldable means to urge said shoes to an initial inclined position, means to swing said intucking shoes to and from the intucking position relatively to the opposite gusset edges of a bag, a pair of opposite pressure plates adapted to be positioned in the opposite sides of said bag and of said gusset forming shoes, means to move said pressure plates toward one another and downwardly with respect to said bag so as to press downwardly and together the sides of the bag to form opposite shoulders below the plates, said gusset forming shoes extending in their intucking position below the respective pressure plates, and said plates being adapted to force said shoes from said inclined positions onto the gussets during the downward pressure movement of said plates thereby to form flat gusset shoulders, and means to coordinate the movement of said pressure plates and said gusset shoes, and resilient means to urge said shoes into an initial inclined position with their points pointed upwardly and toward one another, and adjustable means to hold each shoe at a selected incline in said initial position.

5. In an intucking device for bags, intucking shoes, means to pivotally support said intucking shoes, resiliently yieldable means to urge said shoes to an initial inclined position, means to swing said intucking shoes to and from the intucking position relatively to the opposite gusset edges of a bag, a pair of opposite pressure plates adapted to be positioned in the opposite sides of said bag and of said gusset forming shoes, means to move said pressure plates toward one another and downwardly with respect to said bag so as to press downwardly and together the sides of the bag to form opposite shoulders below the plates, said gusset forming shoes extending in their intucking position below the respective pressure plates and said plates being adapted to force said shoes from said inclined positions onto the gussets during the downward pressure movement of said plates thereby to form flat gusset shoulders, and means to coordinate the movement of said pressure plates and said gusset shoes, each of said pressure plates including a base element to press the bag sides downwardly to form a shoulder on the bag, and a flange element at an angle to the base element for assuming a generally vertical position when said plates are in pressing position so as to press together the sides of the bag above said shoulders.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,911,778 November 10, 1959

Louis Ozor

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 3, line 15, strike out "plates, and said plates being adapted to force said" and insert instead -- inclined position, means to swing said intucking --.

Signed and sealed this 3rd day of May 1960.

(SEAL)
Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents