

[54] **CIGAR PRESS**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 96,020, Dec. 8, 1970.

[52] U.S. Cl. **131/86, 100/42, 100/232, 131/80**

[51] Int. Cl. **A24c 01/18**

[58] Field of Search **131/86, 87, 80, 85; 425/330, 412; 100/232, 42**

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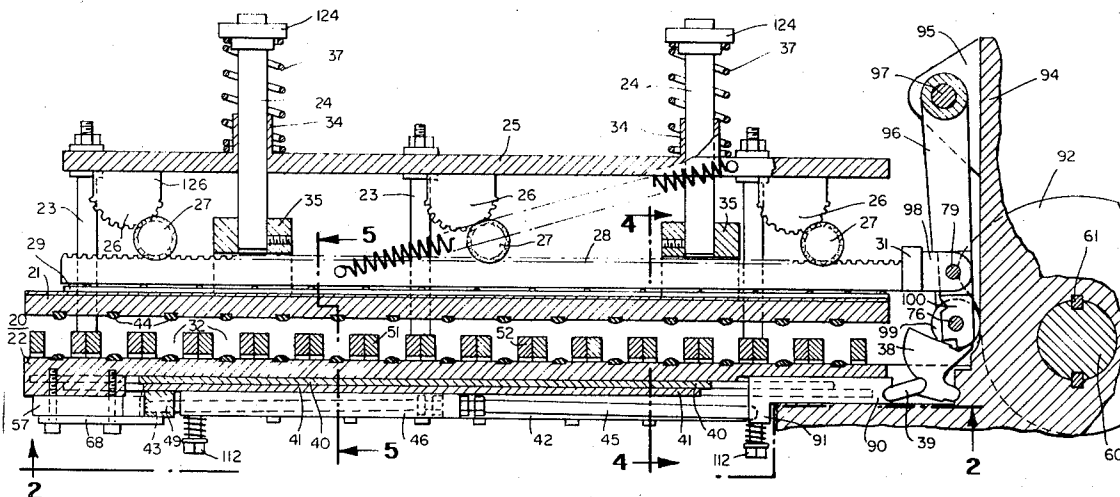
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[57]

ABSTRACT

In an automatic turret-type indexing cigar pressing machine for pressing round cigars of various sizes into square or rectangular (or other) cross-sectional shape, jaw members forming the sidewalls of the die cavities are movable inwardly and outwardly in operational relationship to the closing and opening of the press, thereby to compress the cigars horizontally as well as vertically. The sidewall jaw members are spring loaded vertically and are movable downwardly when the press closes to lessen the shock on the cigars.

11 Claims, 7 Drawing Figures



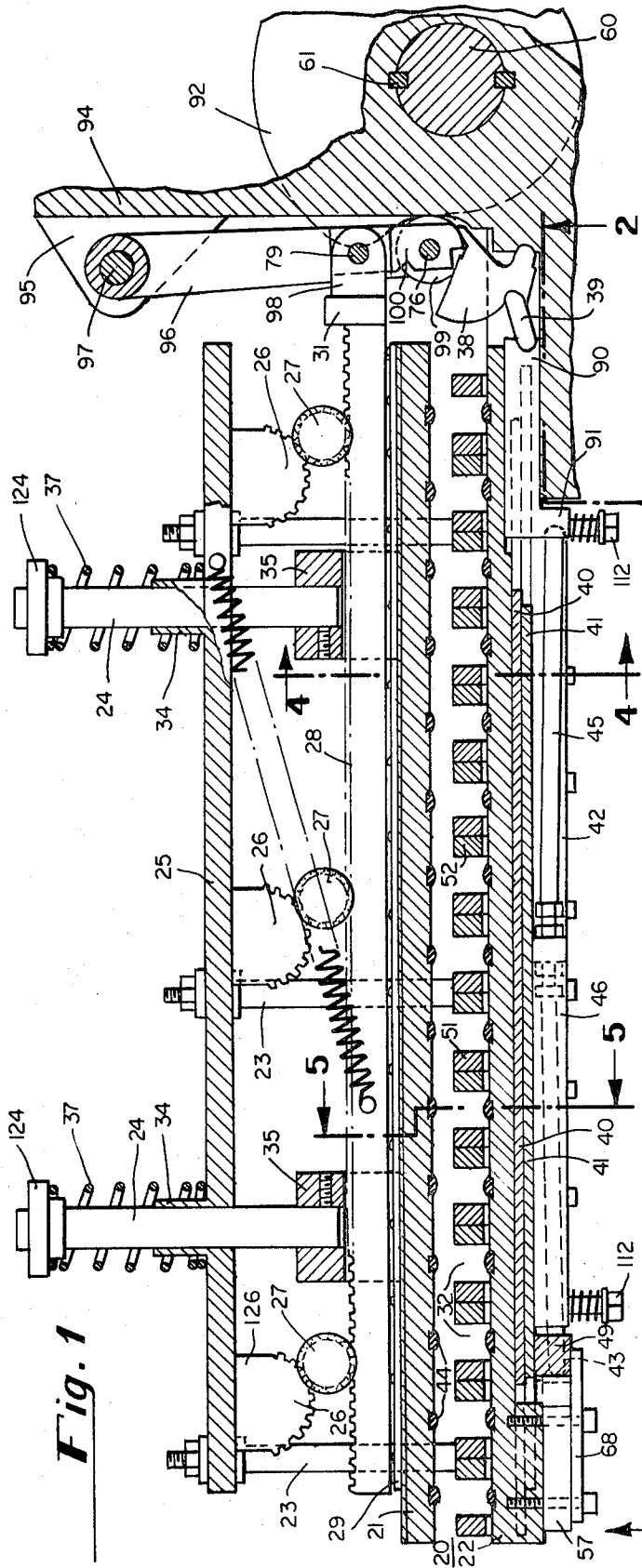


Fig. 1

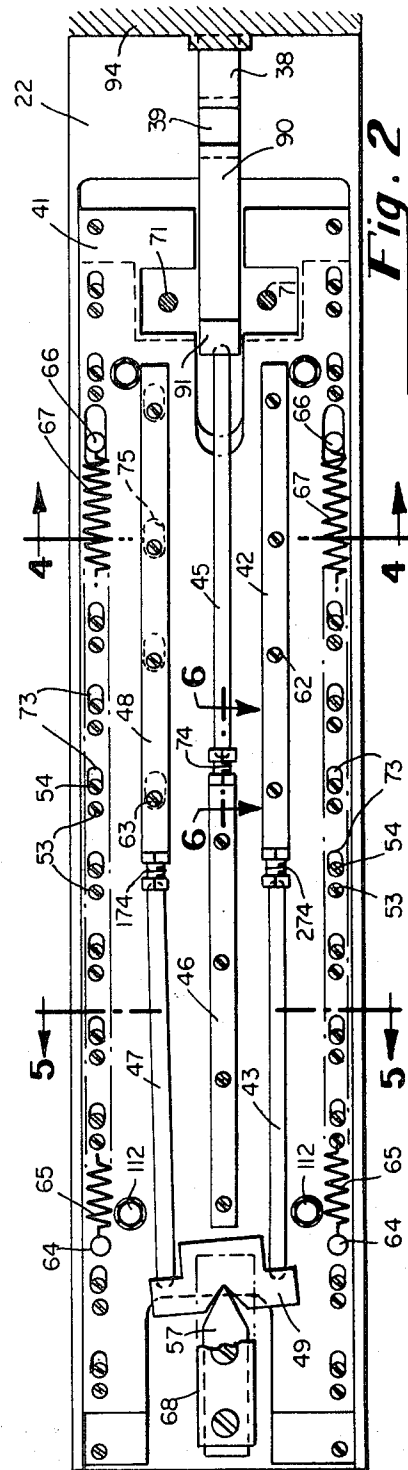


Fig. 2

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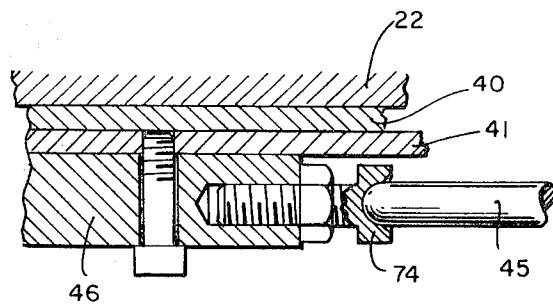
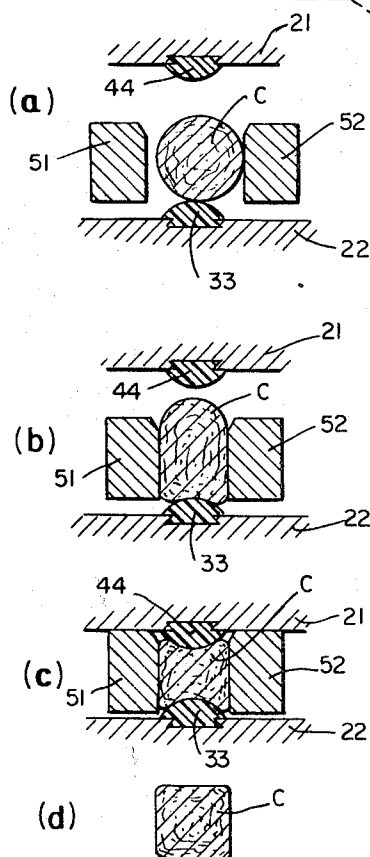
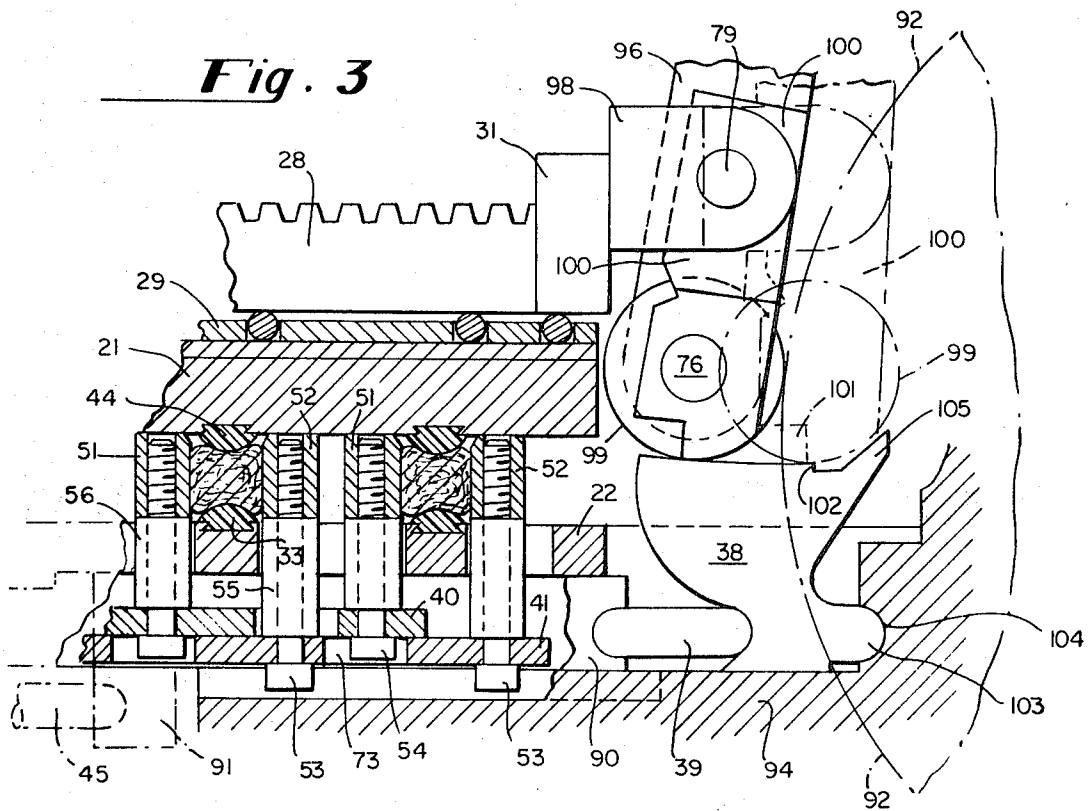


Fig. 6

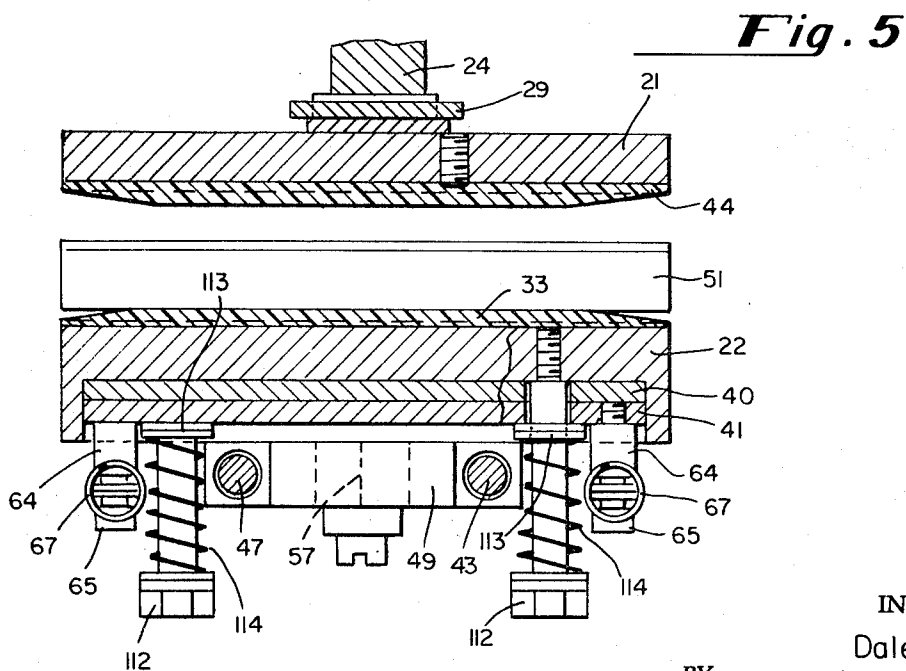
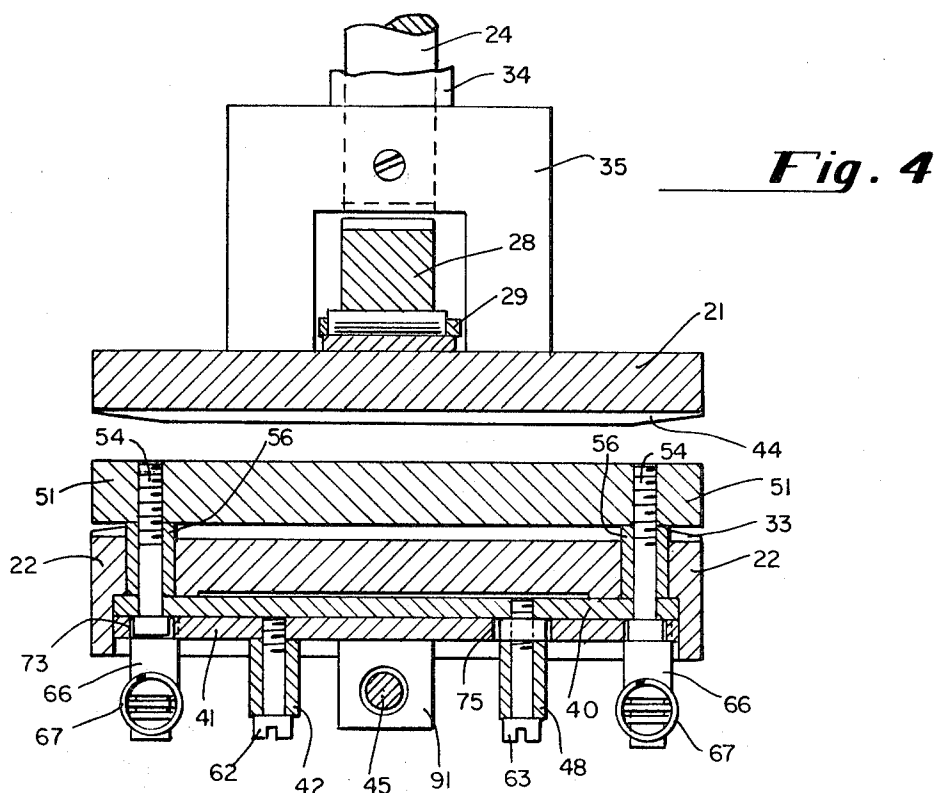
Fig. 7

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CIGAR PRESS

CROSS REFERENCE TO RELATION
APPLICATION

This application is a continuation-in-part of my co-
pending application, Ser. No. 96,020, filed Dec. 8,
1970 entitled "Indexing Cigar Pressing Machine with
Automatic Input and Output."

BACKGROUND OF THE INVENTION

In my aforesaid patent application, Ser. No. 96,020,
filed Dec. 8, 1970, I describe and claim a turret-type
pressing machine for squaring cigars in a continuous
operation. In the machine, an indexing shaft supports
a plurality of four presses at 90° spacing. The presses
are supported at their inward ends, each press extend-
ing radially outwardly in cantilever fashion from the in-
dexing shaft. A plurality of work stations are provided
at 90° spacings through which the presses pass, with
dwell periods at the work stations. One of the stations
is a cigar loading station where a plurality of cigars, for
example, fifteen cigars, are pushed by automatic means
into the die cavities of the open press while the press
is dwelling at the loading station. Each press includes
a plurality of dies, one for each cigar.

In the indexing cigar pressing machine shown and de-
scribed in my aforesaid application, Ser. No. 96,020,
the widths of the die cavities in the lower die is some-
what less than the diameter of the round cigar to be in-
serted therein. When the plurality of fifteen cigars are
pushed by push-fingers onto the open press, the cigars
are on a level just above the die cavities. Thus, the ci-
gars rest on the die cavities. When the press is closed,
the cigars on the die cavities are pushed down into the
cavities and are compressed.

The sidewalls of the die cavities in the lower die of
my aforesaid patent application, Ser. No. 96,020, are
formed by a series of bars which extend in parallel
spaced-apart relation across the press. These bars are
spring loaded upwardly. Opposing faces of the bars are
provided with inserts of plastic material having low co-
efficient of friction, preferably Teflon. The spacing be-
tween opposing faces of the inserts which form the
sidewalls of the die cavities is less than the diameter of
the round cigar. When the press is closed, the upper die
plate presses down upon the cigars forcing the cigars
down into the die cavities. This forces the sidewalls of
the die cavities downwardly against the action of the
springs which support the bars forming the sidewalls.
This downward movement of the sidewalls tends to
cushion the cigars against the shock which they would
otherwise receive if the sidewalls of the cavities did not
move initially downwardly with the cigars. This down-
ward movement of the sidewalls in the initial stage of
the closing of the press, in combination with the Teflon
surface of the sidewalls, allows the cigars to work down
into the die cavities without excessive shock. The stress
upon the cigar is also lessened by beveling the upper
edges of the sidewalls.

SUMMARY OF THE INVENTION

A principal object of the present invention is to pro-
vide a turret-type indexing cigar press the die cavities
of which are designed to accommodate cigars of vari-
ous cross-sectional dimensions and also to minimize the
shock to which the cigars are subjected when the press
is closed.

The foregoing objects are achieved, in accordance
with the present invention, by providing a multiple die
press for cigars in which movable jaw members form
the sidewalls of the die cavities. When the press is open,
the jaw members are spaced at greater separation than
the diameter of the cigars. As the press closes, the jaw
members are brought closer together automatically in
timed relation with the closing of the die. The jaw
members are spring loaded upwardly and are moved
downwardly by the top press plate when the press
closes, thereby to lessen the shock on the cigars.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view, largely in section,
showing a multiple die cigar press embodying the pres-
ent invention.

FIG. 2 is a bottom view of the press, looking along
the line 2—2 of FIG. 1.

FIG. 3 is an enlarged fragmentary side elevational
view, largely in section, of a portion of the press of FIG.
1.

FIG. 4 is an end elevational view, largely in section,
looking along the line 4—4 of figs. 1 and 2.

FIG. 5 is an end elevational view, largely in section,
looking along the lines 5—5 of FIGS. 1 and 2.

FIG. 6 is a detailed view of an adjustment feature of
the mechanism.

FIG. 7 is a series of sequential views showing how the
round cigar is compressed into square cross-sectional
shape.

DETAILED DESCRIPTION OF THE PREFERRED
EMBODIMENTS

FIG. 1 is a side elevational view, largely in section, of
one press 20 of a multiple press automatic indexing ma-
chine of the type shown and described in my co-
pending application, Ser. No. 96,020, filed Dec. 8,
1970. The press 20 may be assumed to be one of four
presses which extend radially in cantilever fashion at
90° spacing, from a turret hub 94 on an index shaft 60.
Index shaft 60 extends horizontally through the ma-
chine and is suitably supported in frame members not
shown.

The index shaft 60 is driven rotationally by an inter-
mittent motion drive. The index shaft has four dwell
positions spaced 90° apart. Work stations are provided
which are located to correspond with the presses when
at a dwell position.

In FIG. 1, the press 20 is shown at a dwell position
which is the cigar loading station. After the cigars are
loaded, the press is closed. The press 20 is then rotated
90° to a drilling station, where holes are formed in the
tips of the cigars. The press 20 is then rotated through
a further 90° to an unloading station where the press is
opened and the pressed cigars are ejected onto a take-
away conveyor belt. The press 20 is then moved through
a further 90° to an idle position, and finally through a
fourth 90° to the cigar loading station. This completes
the cycle.

Press 20, shown in FIG. 1, extends radially from, and
is supported in cantilever fashion on, hub 94 on index
shaft 60. Press 20 consists of a movable top press plate
21 and a fixed bottom press plate 22. The bottom press
plate 22 is supported on and secured to a wing of hub
94, as by screws 71. The turret wing on which press 20
is supported is one of four turret wings. These wings ex-
tend radially outwardly, at 90° spacing, from central

hub 94 which is keyed, as by key 61, to the index shaft 60.

Supported on the fixed bottom press plate 22 is a rigid plate 25 which functions as a gear-mounting top plate. Plate 25 is tied to the bottom press plate 22 by six staggered tie rods 23. Only three of the tie rods 23 are visible in FIG. 1. These tie rods 23 extend through holes in the movable top press plate 21.

Press 20 is spring biased to open position by heavy coil springs 37 which pull, and normally hold, the movable top press plate 21 above and away from the bottom fixed press plate 22. This upward pull results from the fact that the lower ends of the heavy coil springs 37 press against the upper surface of the gear-mounting top plate 25, while the upper ends of the springs thrust against a pair of cellars 124 of a pair of posts 24. Posts 24 extend downwardly through sleeve bushings 34 and are connected at their lower ends to a pair of inverted U-shaped bridge members 35. Bridge members 35 are connected to the upper surface of the movable top press plate 21 and span thereacross.

Extending through the channels of the inverted U-shaped bridge members 35 is a toothed rack 28. Rack 28 is movable on roller bearings retained in a bearing retainer 29 positioned between the under surface of the rack 28 and the upper surface of the top press plate 21. Three gears 27 are in engagement with the teeth of the rack 28 and also with the teeth of three fixed gear sectors 26 which are secured, as by spacers 126, to the underside of the gear-mounting plate 25. It will be seen that if rack 28 is moved on its rollers in a radially outwardly direction, i.e., to the left as viewed in FIG. 1, the gears 27 will be moved clockwise about the fixed gear sectors 26, and as a result rack 28 and the movable top press plate 21 will be forced downwardly against the action of the heavy springs 37. In this way, the movable top press plate 21 is moved downward to meet the fixed bottom press plate 22, thereby to close the press. In this downward movement, the upper press plate 21 is guided vertically by the tie bars 23.

The mechanism for moving the rack 28 outwardly to close the press will now be described. A pair of identical cam plates 92 are mounted free on index shaft 60 and are pivotal thereabout. These cam plates 92 are moved, relative to index shaft 60, during the dwell periods when index shaft 60 is motionless. The means for moving the cam plates 92 is shown and described in my aforesaid co-pending patent application Ser. No. 96,020. For the purposes of the present disclosure, it is sufficient to state that cam plates 92 are moved in a counterclockwise direction about the motionless indexing shaft 60 during the dwell period of the shaft 60.

When the pair of identical cam plates 92 are in the position shown in FIG. 1, a pair of cam follower rollers 99 are in the position shown, and press 20 is open. It should be understood that the condition of the press 20, i.e., whether the press 20 is open or closed, depends upon the position of the cam rollers 99 on the cam plates 92. If the cam rollers 99 are on the small diameter of the cam plates 92, the press 20 is open. If the cam rollers 99 are on the large diameter of the cam plates 92, the press 20 is closed. Cam rollers 99 are supported at the opposite ends of the cross shaft 76. Cross shaft 76 is carried at the outward end of a two-legged lever 96 which is pivotally supported on a pin 97. Pin 97 is supported in a block 95 secured, as by welding, to a wing of the hub 94. The two-legged lever 96 also

carries, between its two legs, a block 98 supported on a pin 79.

When the pair of identical cam plates 92 are moved pivotally counterclockwise from the position shown in FIG. 1, cam follower rollers 99 move outwardly, thereby moving the block 98 outwardly and thereby pushing a pad 31 outwardly, i.e., toward the left as viewed in FIG. 1. Pad 31 pushes against rack 28 and the rack moves outwardly. As the cam plates 92 continue in their counterclockwise movement, the cam rollers 99 are moved further outwardly by the cam plates, and the rack 28 continues to be pushed further outwardly. Finally, when the cam plates 92 have cammed the rollers 99 all the way out to the large diameter of the cam plates 92, the rack 28 reaches its extreme outward position. Outward movement of rack 28 forces the movable top press plate 21 downwardly, thereby closing the press 20.

The mechanism described thus far is similar to that shown and described in my aforesaid co-pending patent application, Ser. No. 96,020. The improvement provided by the present application resides in the design and construction of the die cavities 32 located in the bottom press plate 22.

In the aforesaid co-pending patent application Ser. No. 96,020, the sidewalls of the die cavities are fixed laterally but are movable vertically. The sidewalls are spring-loaded upwardly, so as to be allowed to move downwardly when the press closes. The spacing between the laterally-fixed sidewalls is less than the diameter of the round cigar, and the provision of means allowing the sidewalls of the die cavities to move downwardly when the press is closed is designed to provide a cushion against shock to which the cigars would otherwise be subjected if the sidewalls of the cavities were not permitted to move downwardly with the cigars. The downward movement of the sidewalls of the die cavity, at the initial stage of closing of the press, allows the cigars to work down into the die cavities without receiving impermissible shock and stress.

The present invention provides an improvement over the mechanism shown in my aforesaid co-pending patent application, whereby the stress on the cigar is further reduced. This desirable result is accomplished by providing die cavities whose sidewalls are movable laterally inwardly in timed relationship with the closing of the press. When the press is open, jaw members, which form the sidewalls of the die cavities, are spring loaded upwardly and are spaced apart by a distance greater than the diameter of the round cigars to be inserted therein. As the press closes, the jaw sidewalls of the die cavities move inwardly in opposing directions toward each other to engage and to compress the round cigars in the lateral or horizontal direction just before the cigars are compressed in the vertical plane by the downward movement of the movable top press plate 21 toward the fixed bottom press plate 22. When the top press plate 21 engages the cigars and pushes them downwardly, the jaw sidewalls move downwardly with the cigars.

The action just described is illustrated diagrammatically in FIG. 7. In FIG. 7(a), the press is open and the jaw sidewalls 51 and 52 of the die cavity are spaced apart by a distance greater than the diameter of the round cigar C. Thus, the die cavity will accommodate cigars of different cross-sectional sizes. The cigar, in FIG. 7(a), is resting in the die cavity on the Teflon in-

sert 33 in the bottom press plate 22. In FIG. 7(b), the press has begun to close. The top press plate 21 has moved downwardly toward the fixed bottom press plate 22. The jaw sidewalls 51 and 52 of the cavity have moved laterally toward each other to engage and compress the cigar laterally. In FIG. 7(c), the press is completely closed. The Teflon insert 44 in the top press plate 21 has engaged and compressed the cigar vertically against the Teflon insert 33 in the bottom press plate 22. The jaw sidewalls 51 and 52 have moved downwardly with the cigar. So long as the press remains closed, the cigar C is compressed into the cross-sectional configuration illustrated in FIG. 7(c). When the press is later opened and the cigars are discharged therefrom, the resilience of the cigar material will cause the cigar to spring out to the generally square shape illustrated in FIG. 7(d).

The means for moving the movable jaw sidewalls of the die cavities inwardly toward each other in timed relationship with the closing of the press, and also downwardly, will now be described. The fixed bottom press plate 22 is supported at its inward end on a wing of turret hub 94 and is secured thereto as by screws 71, shown in FIG. 2. The undersurface of the bottom press plate 22 is recessed for most of its length for receiving a pair of movable slide plates, an upper slide plate 40 and a lower slide plate 41. These slide plates 40 and 41 are spring loaded upwardly by spring bushings 112, as best seen in FIG. 5. In FIG. 5, the right portion of the fixed bottom press plate 22 is broken away to show how the slide plates 40 and 41 are supported on washers 113 which are spring loaded upwardly by spring 114 of bushing 112 secured by screws to press plate 22.

The inward end of the undersurface of the bottom press plate 22 is further recessed or slotted for receiving a push block 90 having a depending portion 91 at its outward end. The inward end of the push block 90 is provided with a hemi-spherical recess which receives the outward end of a pivot bar 39. The inward end of pivot bar 39 is received within a recess in a cam lever seat 38. Cam lever seat 38 is provided with a protrusion 103 at its inward end. This protrusion is received within a hemi-spherical recess 104 in a pivot mount secured to or integral with turret hub 94. The upper surface of cam lever seat 38 is mostly flat but has a depression near the inward end forming a shoulder 102. Inwardly of the depression is an upstanding flange 105 which is adapted to be actuated by a cam lever 100.

Supported on pins 79 and 76, between the legs of the two-legged lever 96, is a cam lever 100 having a notch 101 as seen in FIGS. 1 and 3. When the lever 100 is moved outwardly by the cam plates 92, as will be described, the vertical surface of notch 101 is adapted to engage the shoulder 102 of the seat 38. This causes the seat 38 to move counterclockwise and causes pivot bar 39 to move from the inclined position shown in FIG. 1 to the horizontal position shown in FIG. 3. This pushes block 90 outwardly.

The depending portion 91 of push block 90 engages the inward end of a push rod 45. The outward end of rod 45 is adjustably connected to a mounting bar 46. Mounting bar 46 is secured, as by screws, to bottom slide plate 41 which is slidable outwardly and inwardly in the recess in the fixed bottom press plate 22. Secured, as by screws 62, to the underside of the bottom slide plate 41 is a bar 42. A push rod 43 is connected to the outward end of the bar 42. The outward end of

push rod 43 bears against one end of a plate 49 which is pivotal about the pointed end of a gimbal plate 57 which is retained by a retaining plate 68 against the undersurface of the outward end of the fixed bottom press plate 22. The connection between the bar 42 and push rod 43 is adjustable, as by adjustment stud 274.

The other end of pivotal plate 49 bears against the outer end of a push rod 47, the inward end of which is connected adjustably to a bar 48 as by adjustment stud 174. Bar 48 is secured, as by screws 63, to the upper slide plate 40. The screws 63 pass through slots 75 in the bottom slide plate 41.

Supported above on the upper surface of the fixed bottom press plate 22 are a plurality of spaced-apart cross bars 51 and 52. These cross bars are movable horizontally as well as vertically. These bars 51 and 52 form the movable sidewalls or jaws of the die cavities 32. The bars forming the left jaws of the cavities 32 are identified as 51. The bars forming the right jaws of the cavities 32 are identified as 52. As seen in FIG. 3, the left jaws 51 are secured, as by screws 54, to the upper slide plate 40. The right jaws 52 are secured, as by screws 53, to the bottom slide plate 41. The screws 53 and 54 extend through slots in the bottom press plate 22. The left jaws 51 are supported on short spacers 56 which rest on the upper slide plate 40. The right jaws 52 are supported on long spacers 55 which extend through slots in the upper slide plate 40 and rest on the bottom slide plate 41. The upper ends of spacers 55 and 56 are above the upper surface of the fixed bottom press plate 22 so that the jaw members 51 and 52 are supported by the spacers above the fixed press plate 22, as seen in FIGS. 1, 3 and 4. However, spacers 55 and 56 are supported on the slide plates 40 and 41, and slide plates 40 and 41 are spring loaded on spring bushings 112 secured by screws to the fixed bottom press plate 22. Thus, the jaw members 51 and 52 are adapted to move downwardly toward the fixed bottom press plate 22 when downward pressure is applied to the cigars and to the jaw members by the movable upper press plate 21 during the closing of the press.

OPERATION

During a dwell period, at which time index shaft 60 is motionless, the pair of spaced identical cam plates 92 are caused, by means shown and described in my co-pending patent application, Ser. No. 96,020, to pivot in a counterclockwise direction about the motionless index shaft 60. The pair of cam follower rollers 99 are engaged by the rising portion of the cam surface of cam plates 92, and as a result rollers 99 are moved outwardly. This causes the two-legged lever 96 to pivot in a clockwise direction about the pivot pin 97. This motion causes cam block 98 and push pad 31 to move outwardly, thereby moving the rack 28 outwardly and causing gears 27 to move clockwise about the fixed gear sectors 26. As a result, top press plate 21 moves downwardly toward the fixed bottom press plate 22.

Simultaneously with the outward movement of cam block 98, cam member 100 is also carried outwardly by the two-legged lever 96. The vertical surface of the notch 101 engages the shoulder 102 of the cam-lever seat 38. This causes the cam-lever seat 38 to pivot in a counterclockwise direction about its hemispherical protrusion 103 in the notch 104 in turret wing 94.

When seat 38 moves pivotally counterclockwise, as just described, pivot bar 39 is moved downwardly, from

the inclined position shown in FIG. 1 to the horizontal position shown in FIG. 3, with the inward end of the bar 39 moving pivotally in the recess in seat 38, and the outward end moving pivotally in the recess in block 90. This movement of pivot bar 39 causes push block 90 to move outwardly, and the outward movement of the depending portion 91 of push block 90 causes the push rod 45 to move outwardly.

Cam member 100 and cam lever seat 38 are so designed, relative to each other, that after the seat 38 has been moved pivotally to its limit position shown in FIG. 3, further outward movement of cam member 100 causes the vertical wall of notch 101 to slip up over shoulder 102 of seat 38, and thereafter the circular peripheral region of the member 100 rides along the flat upper surface of the seat 38, as illustrated in solid line in FIG. 3. The position of cam member 100 illustrated in solid line in FIG. 3 is the outward-most position of the cam member 100. In this position, cam member 100 holds the outward portion of cam lever seat 38 down, thereby holding pivot bar 39 in the horizontal position shown in FIG. 3 for so long as the press is closed.

When block 90 and push rod 45 are moved outwardly, as described hereinabove, mounting bar 46 is moved outwardly, and since mounting bar 46 is screwed to the bottom slide plate 41, the bottom slide plate 41 moves outwardly. This carries bar 42 outwardly, since bar 42 is secured to bottom slide plate 41 by screws 62. The outward movement of bar 42 carries push rod 43 outwardly, and this causes push-rod plate 49 to pivot, in a clockwise direction as viewed in FIG. 2, about the point of the gimbal plate 57. This causes the opposite end of push-rod plate 49 to move inwardly, thereby pushing push rod 47 inwardly. This moves bar 48 inwardly, and since bar 48 is connected by screws 63 to the upper slide plate 40, the upper slide plate 40 moves inwardly. Screws 63 project through slots 75 in the lower slide plate 41 to reach the upper slide plate 40.

Movement of bottom slide plate 41 outwardly, together with simultaneous movement of upper slide plate 40 inwardly, all in timed relation to the closing of press 20, causes the jaws 51 and 52, which form the sidewalls of the die cavities 32, to move toward each other, thereby to compress horizontally the cigars C, in the manner illustrated diagrammatically in FIG. 7(b), just before the cigars are compressed vertically by the inserts 44 and 33 of the upper and lower press plates 21 and 22. When insert 44 of the upper press plate 21 reaches the cigars C and presses the cigars downwardly, the jaw members 51 and 52 move downwardly with the cigars. This action is permitted by the mounting of the jaw members on spacers supported on the spring-loaded slide plates 40 and 41.

As explained in detail in my co-pending patent application, Ser. No. 96,020, press 20 remains closed while the index shaft 60 and press 20 move clockwise through 90° to a second dwell position. At this station, holes are formed in the tips of the cigars, while the press is still closed. Following this second dwell period, the index shaft 60 and press 20, still closed, are moved through a further 90° to a third dwell position at which the press is opened and the cigars ejected therefrom. At this time, the cam follower rollers 99 move beyond the large-diameter surfaces of the pair of cam plates 92. The cam follower rollers 99 now move inwardly to the

small-diameter surfaces of the cam plates 92. This inward movement of the cam follower rollers 99 is in response to the action of the heavy springs 110 which tend at all times to urge rack 28 inwardly toward the index shaft 60. Inward movement of rack 28, when permitted by cam plates 92, causes gears 27 to rotate counterclockwise about the fixed gear sectors 26 and allows springs 37 to lift posts 24, bridges 35, and movable top press plate 21 upwardly, thus opening the press.

Inward movement of rack 28 and cam follower rollers 99 moves lever 96 and cam member 100 inwardly from the position shown in solid line in FIG. 3 to the position shown in phantom in FIG. 3. Cam member 100 engages the upstanding flange 105 of cam lever seat 38 and causes cam lever seat 38 to pivot in a clockwise direction, thereby returning cam lever seat 38 from the position shown in FIG. 3 to the position shown in FIG. 1. This allows pivot bar 39 to return from the horizontal position shown in FIG. 3 to the inclined position shown in FIG. 1. This return of pivot bar 39 is due to pairs of springs 65 and 67. Springs 65 are connected to spacer posts 64 which are connected to the bottom slide plate 41, as seen in FIG. 5. Springs 67 are connected to spacer posts 66 which are connected to the upper slide plate 40. The action of springs 65 and 67 is to cause the bottom slide plate 41 to slide inwardly and the upper slide plate 40 to slide outwardly, as soon as movement of these directions is permitted by block 90. Inward movement of bottom slide plate 41 carries mounting bars 42 and 46 inwardly which in turn moves push bar 45 inwardly. Since the inward end of push bar 45 bears against the depending portion 91 of block 90, block 90 is moved inwardly, thereby causing pivot bar 39 to move from the horizontal position shown in FIG. 3 to the inclined position shown in FIG. 1.

When the press 20 opens and lower slide plate 41 is returned inwardly by springs 65, and the upper slide plate 40 is returned outwardly by springs 67, as just described, the jaws 51 and 52 which form the sidewalls of the die cavities 32 are returned to their initial positions in which the spacing between the jaws is greater than the diameter of the round cigars to be inserted into the die cavities. Thus, the press is ready for the next loading.

It has been mentioned hereinbefore that the cigar press of the present application has the capability of accommodating to cigars of various sizes, i.e., to cigars of different cross-sectional diameters. To do this, an adjustment may be made at stud 74 positioned between the outward end of push rod 45 and the inward end of mounting bar 46. Thus stud 74 is shown enlarged and in cross section in FIG. 6. The end of push rod 45 is received within a recess in the head of the stud 74. The stud is threaded into the end of the mounting bar 46, and locked there by a nut. It will be seen, if the stud 74 is adjusted in a direction to push the push rod 45 farther away from the bar 46, that the bottom slide plate 41 will be moved outwardly, and, as a result thereof, the upper slide plate 40 will move inwardly. This will move the jaw members 51 and 52 closer together, thereby reducing the width of the die cavities 32 when the press is open. Adjustment of stud 74 in the opposite direction, will increase the width of the die cavities 32.

Similar adjustment studs 274 and 174 may be provided between push rods 43 and 47 and their respective mounting bars 42 and 48. These studs 274 and 174

allow for adjustment of the positions of the jaw members 51 and 52 relative to the center axis of the cavities 32.

What is claimed is:

1. A cigar press comprising:
 - a. a movable press plate;
 - b. a fixed press plate;
 - c. means, including cam means, for moving said movable press plate towards said fixed press plate for closing said press;
 - d. a plurality of spaced-apart jaw members above said fixed press plate, said jaw members forming the opposing sidewalls of die cavities;
 - e. means, including cam means common with said cam means associated with said press-closing means, for moving said jaw members toward each other in timed relation with the closing of said press, said jaw-moving means including:
 - f. upper and lower movable slide plates supported by said fixed press plate;
 - g. cam follower means between said cam means and one of said slide plates for moving said one of said slide plates;
 - h. linkage means between said one slide plate and the other plate for moving said other slide plate in timed relation with the movement of said first slide plate and in an opposite direction; and
 - i. means for supporting an alternate set of jaw members on said one slide plate and the other set of alternate jaw members on said other slide plate, whereby the simultaneous movements of said slide plates in opposite directions, one outwardly and the other inwardly, causes jaw members of the alternate sets to move toward each other in timed relationship with the closing of said press.
2. A cigar press comprising:
 - a. a movable top press plate;
 - b. a fixed bottom press plate;
 - c. means, including cam means, for moving said movable top press plate downwardly towards said fixed bottom press plate for closing said press;
 - d. said fixed bottom press plate including on its upper surface a plurality of die cavities formed by pairs of opposing movable jaw members;
 - e. means, including opposingly movable slide plates connected to sets of opposing jaw members and operatively associated with said press-closing cam means, for moving opposing jaw members toward each other in timed relation with the closing of said press;
 - f. a cam lever adapted to be pivotally actuated by said cam-closing means;
 - g. a cam lever seat adapted to be pivotally actuated by said cam lever;
 - h. linkage means operative by said cam lever seat for moving one of said opposing slide plates in one direction to effect simultaneous movement of the other slide plate in an opposing direction;
 - i. first spring biasing means for returning said movable top press plate upwardly to open said press; and
 - j. second spring biasing means for returning said opposing slide plates in opposing directions for moving opposing jaw members away from each other in timed relation with the opening of said press.
3. A cigar press according to claim 2 characterized in that:

- a. said linkage means includes first and second push rods;
- b. means connect said first push rod to said one slide plate;
- c. means connect said second push rod to said second slide plate;
- d. pivot means interconnect said first and second push rods such that when said first push rod is moved in one direction, said second push rod is moved in the opposite direction.
4. A cigar press according to claim 3 characterized in that said linkage means includes adjustment means for adjusting the positions of said slide plates relative to said cam lever seat.
5. A cigar press according to claim 4 characterized in that spring-loaded support means are provided supporting said slide plates below, and movable vertically relative to, said fixed bottom press plate.
6. A cigar press according to claim 5 characterized in that spacer means are provided extending through said fixed bottom press plate for supporting said jaw members above said fixed press plate on said spring-loaded slide plates.
7. A cigar press comprising:
 - a. a movable top press plate;
 - b. a fixed bottom press plate;
 - c. means for moving said movable press plate towards said fixed press plate for closing said press;
 - d. a plurality of spaced-apart jaw members spring mounted above said fixed press plate and movable vertically relative thereto, said jaw members forming the opposing sidewalls of die cavities;
 - e. and means operatively associated with said press-closing means for moving said jaw members toward each other in timed relation with the closing of said press.
8. A cigar press according to claim 7 characterized in the provision of:
 - a. upper and lower movable slide plates spring mounted below said fixed press plate and movable vertically relative thereto;
 - b. means, including cam means, for moving said one of said slide plates laterally;
 - c. linkage means between said one slide plate and the other plate for moving said other slide plate in timed relation with the movement of said first slide plate and in an opposite direction;
 - d. means for supporting an alternate set of jaw members on said one slide plate and the other set of alternate jaw members on said other slide plate, whereby the simultaneous lateral movements of said slide plates in opposite directions, one outwardly and the other inwardly, causes jaw members of the alternate sets to move toward each other in timed relationship with the closing of said press.
9. A cigar press according to claim 8 characterized in that:
 - a. said linkage means includes first and second push rods;
 - b. means connect said first push rod to said one slide plate;
 - c. means connect said second push rod to said second slide plate;
 - d. pivot means interconnect said first and second push rods such that when said first push rod is moved in one direction, said second push rod is moved in the opposite direction.

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10. A cigar press according to claim 9 characterized in that said linkage means includes adjustment means for adjusting the positions of said slide plates relative to said cam lever means.

11. A cigar press according to claim 10 characterized 5

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in that spacer means are provided extending through said fixed bottom press plate for supporting said jaw members above said fixed press plate on said spring-mounted slide plates.

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