March 2, 1926. 1,574,848

C. F. PECK

REGISTERING DEVICE FOR CAN BODY MAKER

Original Filed Oct. 21, 1922 3 Sheets-Sheet 1

Fig-1

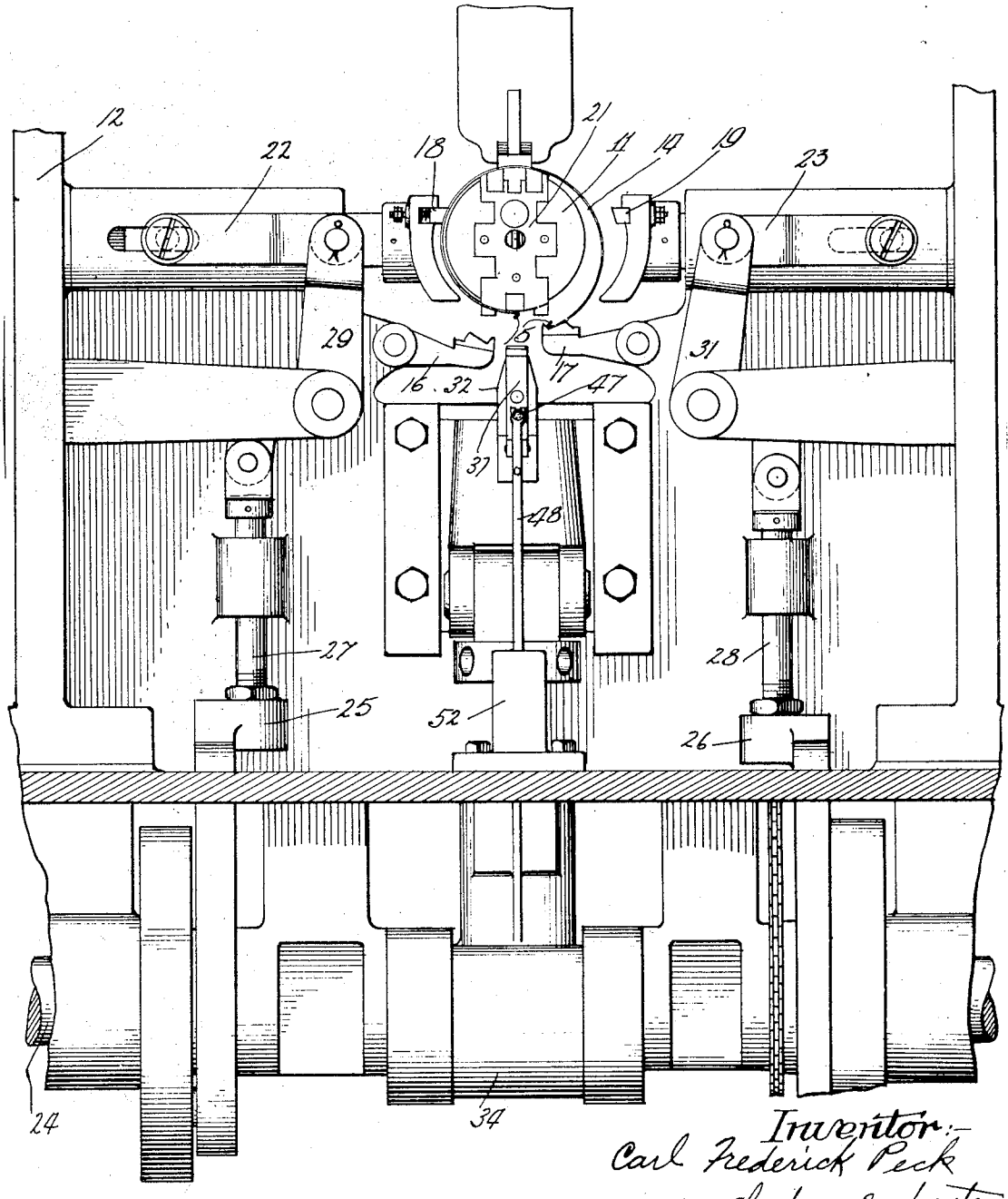

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Fig-2

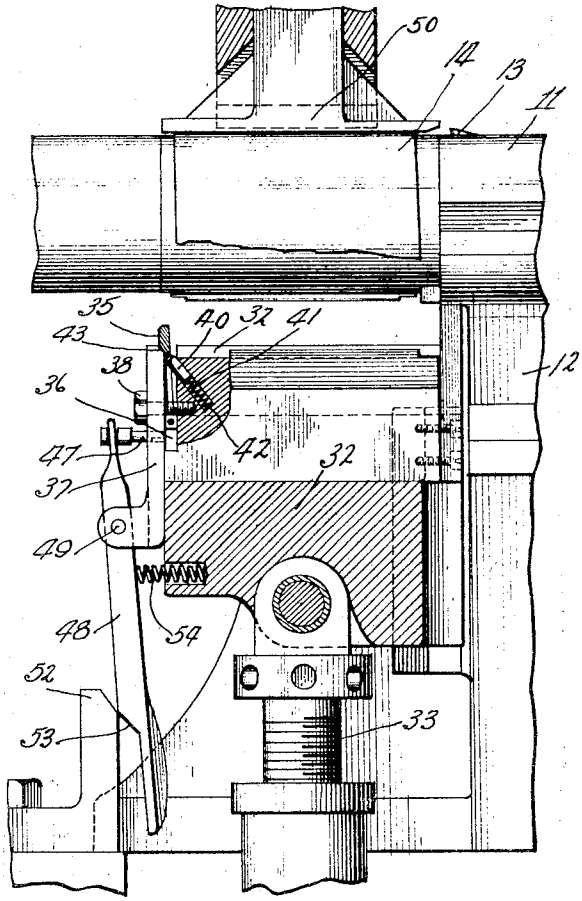

Fig-3

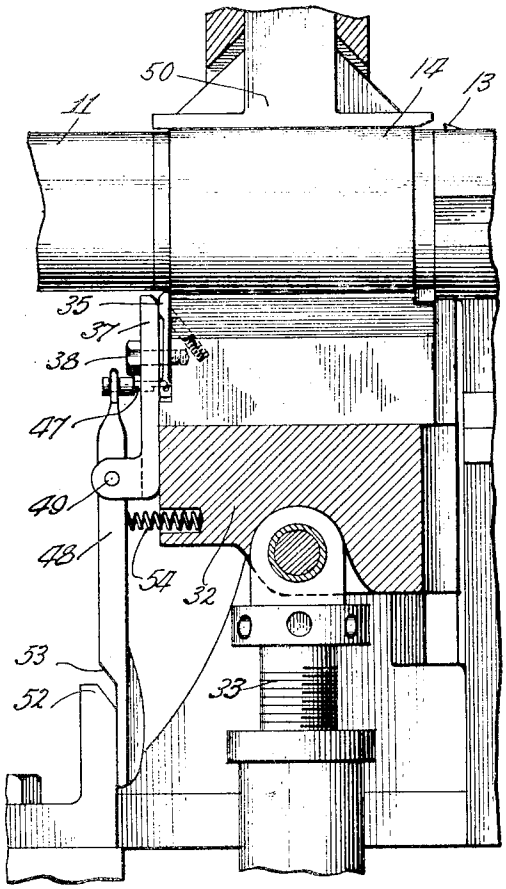

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Fig-4

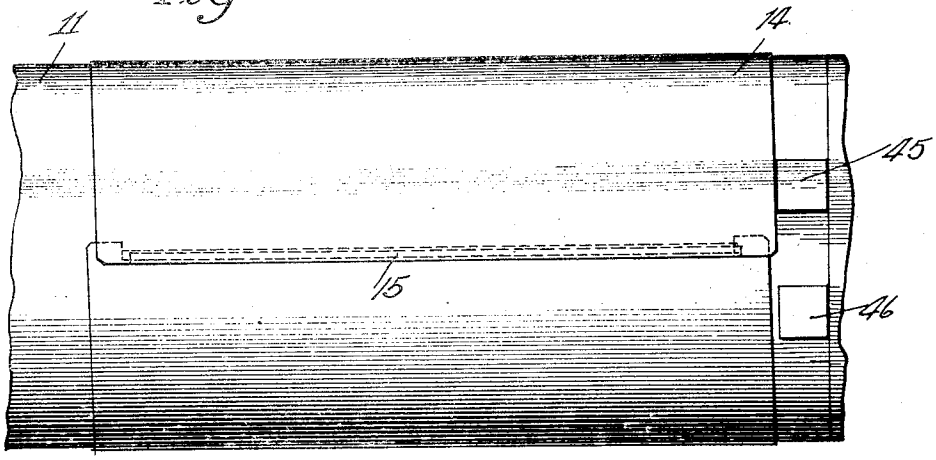


Fig-5

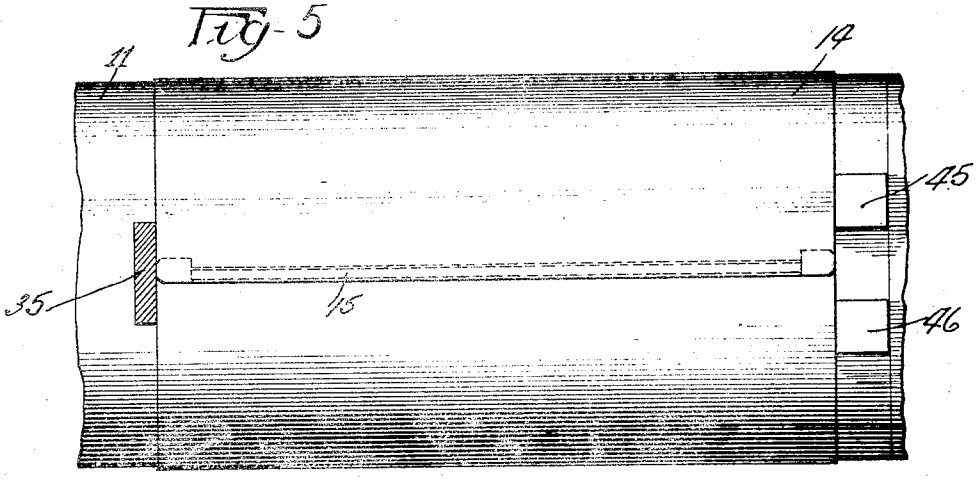
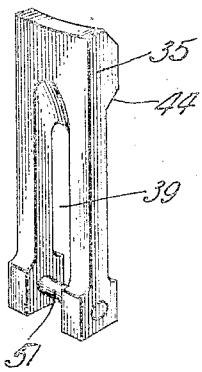


Fig-6



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Patented Mar. 2, 1926. 1,574,848

UNITED STATES PATENT OFFICE.

CARL FREDERICK PECK, OF FAIRPORT, NEW YORK, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

REGISTERING DEVICE FOR CAN-BODY MAKER.

Application filed October 21, 1922, Serial No. 595,902. Renewed July 20, 1925.

To all whom it may concern:

Be it known that I, CARL FREDERICK PECK, a citizen of the United States, residing in Fairport, in the county of Monroe and State of New York, have invented a new and useful Improvement in Registering Devices for Can-Body Makers, of which the following is a specification.

This invention relates primarily to machines for making can bodies and has for a principal object the provision of an improved body edge registering device adapted to facilitate the formative operation and permit increased speed and efficiency in handling the can bodies at the seam forming station.

In the making of can bodies, the blanks are normally wrapped around a horn and the edges interengaged and closed in a seam by an automatic hammer, or reciprocating element. It sometimes occurs that the edges of the body blank, after they have been turned and loosely interengaged, are not in entirely accurate registration and it has, therefore, been proposed to use a gauging device associated with the hammer and acting in advance thereof to gauge the body edges just before they are acted upon by said hammer. The gauging devices heretofore employed for this purpose have not been controlled in such manner as to permit the exceptionally rapid handling of the can bodies which has become possible with recently improved machinery and it is, therefore, an important object of the present invention to provide a gauging device which will be thoroughly effective in action and yet will not, in any manner, impede the progress of the can bodies through the machine, no matter how great the speed attained.

Other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is an end elevation, partly broken away, of a can body making machine in which my invention is embodied;

Fig. 2 is a vertical section taken through a portion of the machine at the seam forming station and showing a body blank on the horn prior to its being gauged;

Fig. 3 is a similar view showing the body blank edges brought to accurate registration;

Fig. 4 is an enlarged bottom plan view of the horn with a misaligned body blank arranged thereon;

Fig. 5 is a similar view showing the blank after the action of the gauging device; and

Fig. 6 is an enlarged perspective view of the body gauging member.

The apparatus shown on the drawings, for purposes of illustration, comprises a horn 11, which is mounted in a frame 12 and which is adapted to have the body blanks arranged thereon, by mechanism not shown in detail, preparatory to the formation of a can body by interlocking the edges of the blank.

The blanks are advanced along the horn by feed bars provided with dogs 13, until they reach the seam closing station shown in the drawing. It will be understood that the edges of the blank 14 are turned, or hooked, as indicated at 15, and are arranged in overlapping relationship. The overlapping is accomplished by means of levers 16 and 17 which engage the blank prior to its arrival at the seaming station and successively release the edges therefor, the means for operating these levers not being shown in detail since it forms no part of the invention. Upon release of the second edge 15, it springs into overlapping relationship and the blank is clamped upon the horn by means of side clamps 18 and 19, whereupon the horn is expanded by mechanism generally indicated at 21 to cause tight engagement between the edges. The clamps 18 and 19 are operated by means of slides 22 and 23 by power imparted from a shaft 24 through the instrumentality of cams 25 and 26 acting upon rods 27 and 28, which are connected by linkage (not fully shown) with levers 29 and 31, which connect with the slides 22 and 23.

A hammer 32 is employed to bump the interengaged edges of the blank to close the seam, this hammer being mounted on a pitman 33 and given a reciprocating motion by an eccentric 34 on the shaft 24. In order that the blank edges may be brought into accurate registration prior to the blow imparted by the hammer 32, a body gauging

member 35 is provided in the hammer construction, being slidably mounted in a recess 36 formed between the body of the hammer and the facing plate 37, which is secured to the end of the hammer. Said gauging member is held in place by a bolt 38, which extends through a slot 39 in said member 35, thus permitting relative movement of the gauging member with respect to the hammer. Said gauging member 35 is normally held in extended position by means of a plunger 40 disposed in an angular recess 41 in the hammer and forced outwardly by a spring 42 seated in said recess. It will be observed that, on the upward stroke of the hammer, the member 35 comes in contact with the horn in advance of the hammer and is forced inwardly against the tension of the spring 42. The inner edge of the facing plate 37 is beveled, as indicated at 43, and the member 35 has a beveled shoulder 44 resting upon the surface 43 so that the upper end of said member is moved longitudinally of the horn and against the end of the blank, bringing the edges 15 into registration, the opposite end of the blank beyond each edge being forced against stops 45 and 46. A top clamping device 50 is actuated at the proper time to assist in holding a blank in proper position on the horn.

The registering device 35, when brought to the position shown in Fig. 3, by the upward stroke of the hammer, is practically flush with the upper surface of said hammer. In order that the blank may be readily removed from the seaming station, I provide means for holding said member 35 in this retracted position during initial withdrawing movement of the hammer. Such means has been found necessary, when the machine is operating very rapidly, to prevent the spring 42 from projecting said member so that it remains in the path of the advancing blank. The mechanism employed in the present instance consists of a pin 47 extending through the plate 37 and carried on the upper end of a lever 48 which is pivoted at 49 on said plate 37. A pin 51 is disposed through the legs of the member 35 and is adapted to be engaged by the inner end of the pin 47, which is cut away as indicated in Figs. 2 and 3. Upon the frame of the machine, there is provided a cam 52 and the lower end of the lever 48 is beveled at 53 to permit inward movement of the pin 47, under the influence of a spring 54 acting upon the lever 48, when the hammer has reached its upper position. In this manner, the registering member 35 is engaged and held in its retracted position during the initial withdrawing movement of the hammer. The position of the beveled surface 53 on the lever 48 is such that said lever is not actuated to withdraw the pin 47 until the hammer has descended a considerable distance from the horn, so that the progress of the blank is in no way impeded.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a machine for making can bodies, a horn upon which the bodies are formed, a seam closing hammer, means associated with the hammer for causing registration of the body blank edges prior to the action of the hammer, and means for holding said last-mentioned means out of the path of the can body during initial retracting movement of the hammer.

2. In a machine for making can bodies, the combination of a horn about which the body blanks are wrapped, a reciprocating element for closing the overlapping edges of the blank in a seam, means extended beyond said element and movable inwardly and transversely with respect thereto upon contact with the horn to bring the overlapping edges into accurate registration, and devices for holding said means in inward position during initial retraction of said element from the horn.

3. In a machine for making can bodies, the combination of a horn upon which the bodies are formed, a seam closing hammer movable radially of the horn, a gauge associated with the hammer and normally disposed in advance thereof for causing accurate registration of the overlapping body blank edges prior to the action of the hammer, said gauge being yieldable upon coming into contact with the horn and movable longitudinally thereof, and means for engaging and holding said gauge in retracted position during initial movement of the hammer away from the horn.

4. In a machine for making can bodies, the combination of a horn about which the body blanks are wrapped, a reciprocating element for closing the edges of the blanks in a seam, a gauge for causing registration of the blank edges prior to the action of said reciprocating element, and means for holding said gauge out of the path of the blanks during initial retracting movement of the element, said means comprising a member normally disengaged from said gauge and adapted to be projected into holding engagement therewith on the upward stroke of said reciprocating element and remaining in such engagement during initial withdrawing movement thereof.

5. The combination with a horn and a

reciprocating member movable toward and from the horn for uniting the edges of sheet metal arranged thereon, of a gauge for causing registration of the edges of the sheet metal, and means for holding said gauge in unobstructing position during initial movement of said member away from the horn.

6. In a machine for making can bodies, the combination of a forming horn, means for overlapping the edges of the body blank upon said horn, a hammer for closing said edges in a seam, a normally extended gauge on the hammer for bringing the blank edges into accurate registration before seaming, and means for holding said gauge in retracted position as the hammer is withdrawn from the horn.

7. In a machine for making can bodies, the combination of a forming horn, a reciprocating element for closing a seam in the body blank edges upon said horn, a retractable gauge movable with said element, and means for holding said gauge in retracted position as the element is withdrawn from the horn.

8. In a machine for making can bodies, the combination of a horn about which the body blanks are wrapped, a reciprocating element for closing the edges of the blanks in a seam, a gauge for causing registration of the blank edges prior to the action of said reciprocating element, and means for holding said gauge out of the path of the blanks during initial retracting movement of the element, said means comprising a holding member spring-pressed into effective position upon the upward stroke of said element, and a cam device for withdrawing said member from such engagement only after predetermined withdrawing movement of said reciprocating element.

9. In a machine for making can bodies, the combination of a horn upon which the body blanks are formed, a reciprocating seam closing hammer, a spring-pressed gauge member disposed in a recess in said hammer and adapted to recede upon contact with the horn, a cam member acting upon the receding gauge to cause longitudinal movement thereof on the horn, and a hold-down device adapted to prevent projection of the gauge during initial retracting movement of the hammer.

CARL FREDERICK PECK.