

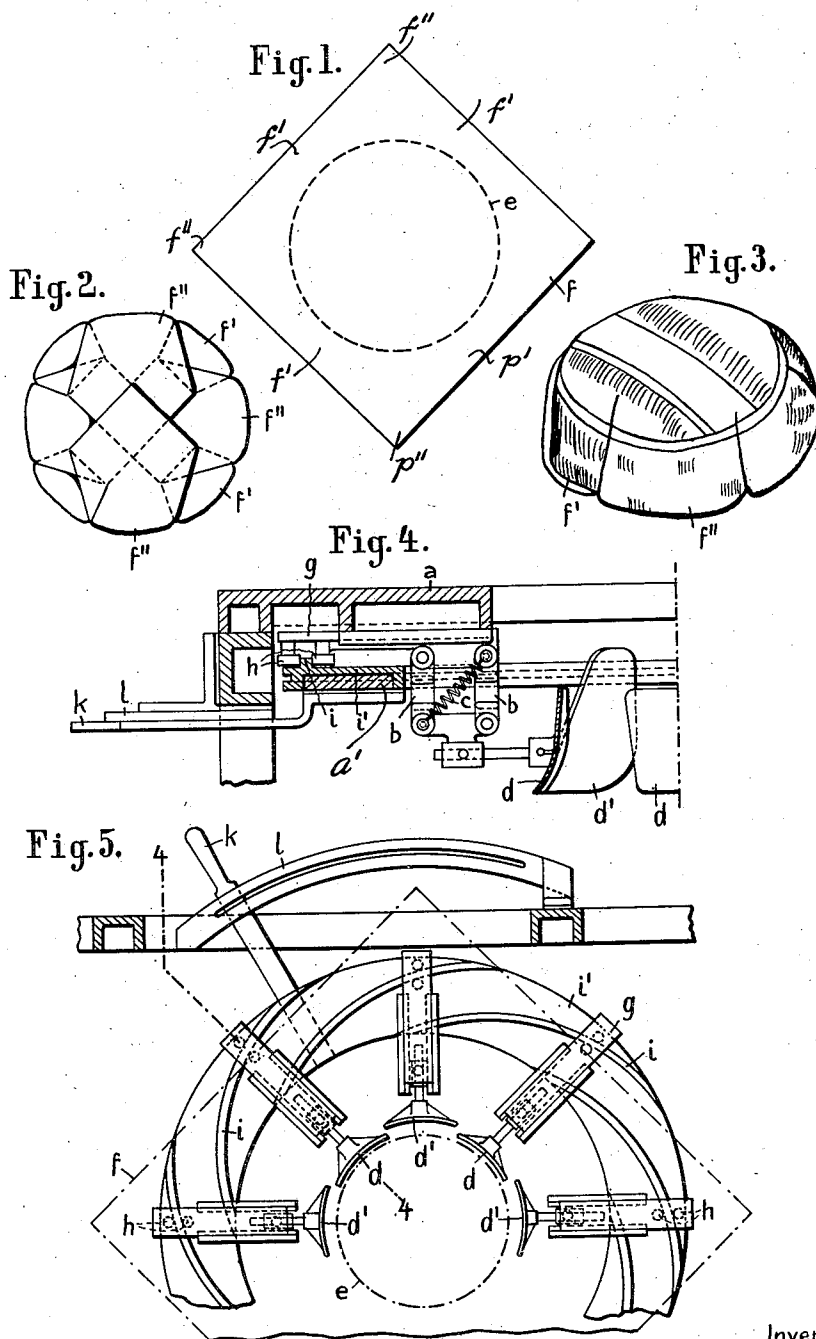
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WRAPPING-UP MACHINE FOR CIRCULAR LOAVES

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UNITED STATES PATENT OFFICE

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WRAPPING-UP MACHINE FOR CIRCULAR LOAVES

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There exist already machines for wrapping-up firmly in wax-paper or the like loaves of quadrangular and of oblong shape, the wax-paper envelope being tightly closed at its ends by heating and the loaves being thus kept fresh for a pretty long time. Wrapping-up circular loaves is by far more difficult because many irregular folds arise when the envelope ends are bent around the semi-circular end-halves and down over the bottom of the loaves. I am aware of the fact that also machines for the wrapping-up of circular loaves have been built. In these machines the wrapping-up paper is placed in the form of a sheet upon the loaf, and is then folded-up downwardly over the loaf surface and sides by means of an annular brush. The paper parts projecting downwardly over the bottom of the loaf are either connected with each other by being turned together like threads of a multithread screw, or said parts are folded parallel to the loaf bottom so as to lie closely against it. This manner of wrapping-up circular loaves necessitates ample paper, the extent of which must exceed considerably the entire surface of the loaf, as otherwise parts of the loaf remain uncovered. In the case of folding-up the downwardly projecting paper parts, the folding-up is, besides, very irregular. As the price of the wax-paper used for the wrapping-up is comparatively high in proportion to the price of the loaf, it is indispensably requisite to reduce the quantity of the paper used to the utmost as it is otherwise impossible to reduce to practice the idea of wrapping-up every loaf.

This object is attained by the present invention, the essence of which resides therein that at the circumference of the folding box a plurality of yielding folding members is provided, which are partly movable transversely with respect to the edges of the sheet of paper, and partly movable diagonally thereto, and of which the transversely movable members are located nearer to the loaf than the diagonally movable ones. When the loaf is brushed through the folding box, the sheet of paper laying upon it is bent around the loaf first at its sides by means of those

folding members which are located nearest the loaf, whereafter the other folding members bend the corner portions of the sheet towards and against the bottom of the loaf. There is obtained in this way not only considerable saving of the expensive wax-paper, but the folding proceeds very uniformly and the finished wrapped-up loaves present a neat appearance.

The invention is illustrated diagrammatically and by way of example on the accompanying drawings, in which Figure 1 is a plan of a circular loaf (drawn in dotted lines) with a quadrangular sheet of wrapping-up paper upon it; Figure 2 is a bottom-view of the same loaf with its finished envelope; Figure 3 is a perspective view of the wrapping-up loaf in its normal position; Figure 4 is a vertical radial section through one half of the folding box, the section being taken on the line 4—4 of Figure 5; and Figure 5 is a plan of the complete folding box, a few parts (at the top of the figure) being in horizontal section, and the lower portion of the figure being broken away for want of space.

Supplying the loaves and the sheets of paper can be effected in the manner customary with loaf enveloping machines, generally in this way that the loaves are fed from another direction than are the sheets of paper, preferably transversely or at right angles thereto, and in such a manner that both parts arrive below the folding box in a position in which their centres and that of said box lie in the same vertical line. The sheets of paper are quadrangular, as shown in Figure 1, and are cut off a roll of wax-paper (not shown). Anyhow, also other forms of enveloping paper, for instance hexagonal pieces, can be used.

α denotes the folding box, and d, d' are the folding members, of which there are eight in the example shown, viz. four folding members d and four folding members d' arranged with respect to each other in the manner shown in Figure 5. The folding members are suspended from pairs of links b (Fig. 4), and each is subjected to the action of a spring c which continuously tends to hold the folding

members in their proper position, as in Fig. 5. The folding members d are intended to act on the four sides f' of the sheet of paper, and the folding members d' are intended to act upon the four corners f of the same. These folding members d' are more remote from the centre of the machine and of the loaf e than are the other folding members, also as shown in Figure 5.

When a loaf is pushed upwardly into the folding box, first the folding members d bend the parts f' of the sheet of paper f against the loaf on four sides of it each two lying pairlike in opposition to one another, and thereafter the folding members d' bend also the corner portions f'' of the sheet against the loaf equally four corners and two of each lying in pairs in opposition. The complete closing of the side portions and the corner portions is, finally effected by means of three slides as known and used in connection with various types of enveloping machines, whereas the fourth corner is bent against the bottom of the loaf by means of a stationary ledge when the loaf is moved. As the means for conveying the loaves, as well as said slides and said ledge, are known I have abstained from showing and describing these parts.

In order to render the folding box fit for use in connection with loaves of different size, the folding members can be correspondingly adjusted in radial direction. The links b from which the individual folding members are suspended, are attached to horizontally and radially movable slides g which are, of course, guided in suitably arranged guides. Each slide g has two downwardly directed pins h which co-operate with a curved guide rib i provided upon the surface of an annular actuating member i' which is also supported and guided in the necessary manner say f. i. on a ring a' of the machine frame. There are as many such ribs as there are slides g (see Fig. 5) and all slides can be radially moved and in this way adjusted by means of a lever-like arm k co-operating with a circularly curved stationary member l , at which the arm k can be adjusted and with which it can be firmly connected after the adjustment. The position of the folding members d relatively to the folding members d' is not in the least affected by any adjustment; it remains always the same.

I claim:

1. A wrapping-up machine for circular loaves, comprising, in combination, a folding box, and folding members arranged radially and yielding with relation to said folding box, said folding members being distributed in a circle in two sets, of which those of the one set are more remote from the centre of the machine than are those of the other set, and the folding members of one set being located intermediate the folding mem-

bers of the other set, substantially and for the purpose set forth.

2. A wrapping-up machine for circular loaves, comprising, in combination, a folding box, and folding members arranged radially and yielding with relation to said folding box, said folding members being distributed in a circle in two sets, of which those of the one set are more remote from the centre of the machine than are those of the other set, and the folding members of one set being located intermediate the folding members of the other set, and means for adjusting all folding members at a time in radial direction so as to accommodate them to different diameters, substantially and for the purpose set forth.

3. A wrapping-up machine for circular loaves, comprising, in combination, a folding box, and folding members arranged radially and yielding with relation to said folding box, said folding members being distributed in a circle in two sets, of which those of the one set are more remote from the centre of the machine than are those of the other set, and the folding members of one set being located intermediate the folding members of the other set, and radially movable slides with which said folding members are connected, spirally arranged operating members coupled with said slides, a common support for said operating members, and means for turning said support, substantially and for the purpose set forth.

In testimony whereof I affix my signature.
GERHARD HARWIG.