

G. W. WEBER.

MANUFACTURE OF KEY OPENING TONGUED TEARING STRIP CANS.

APPLICATION FILED FEB. 28, 1903.

NO MODEL.

Fig. 1

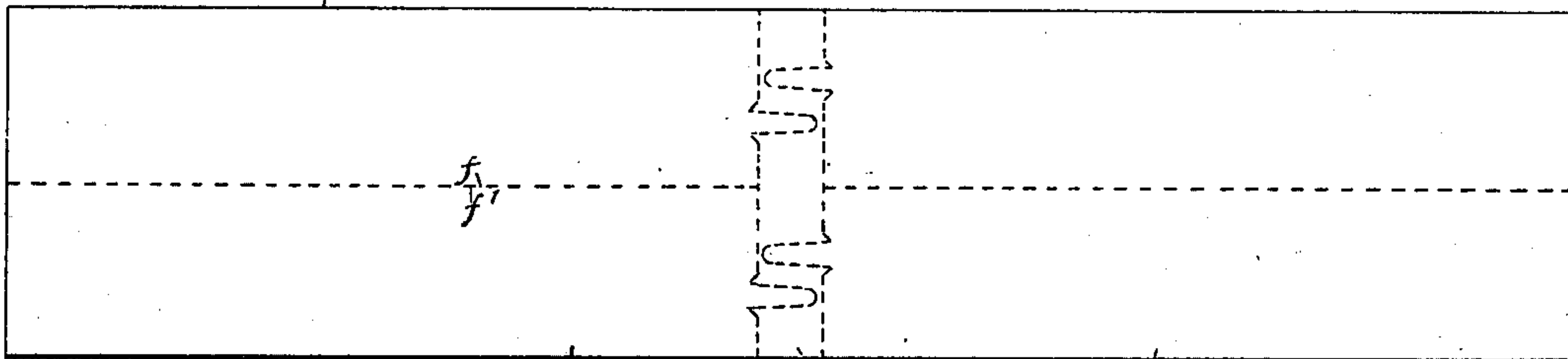


Fig. 2

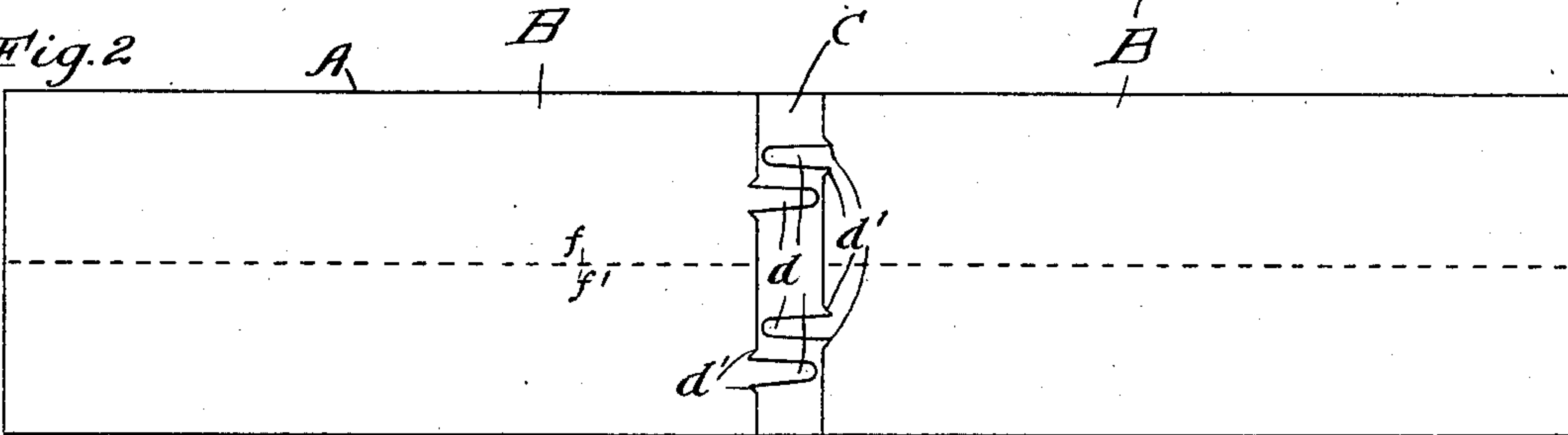


Fig. 3

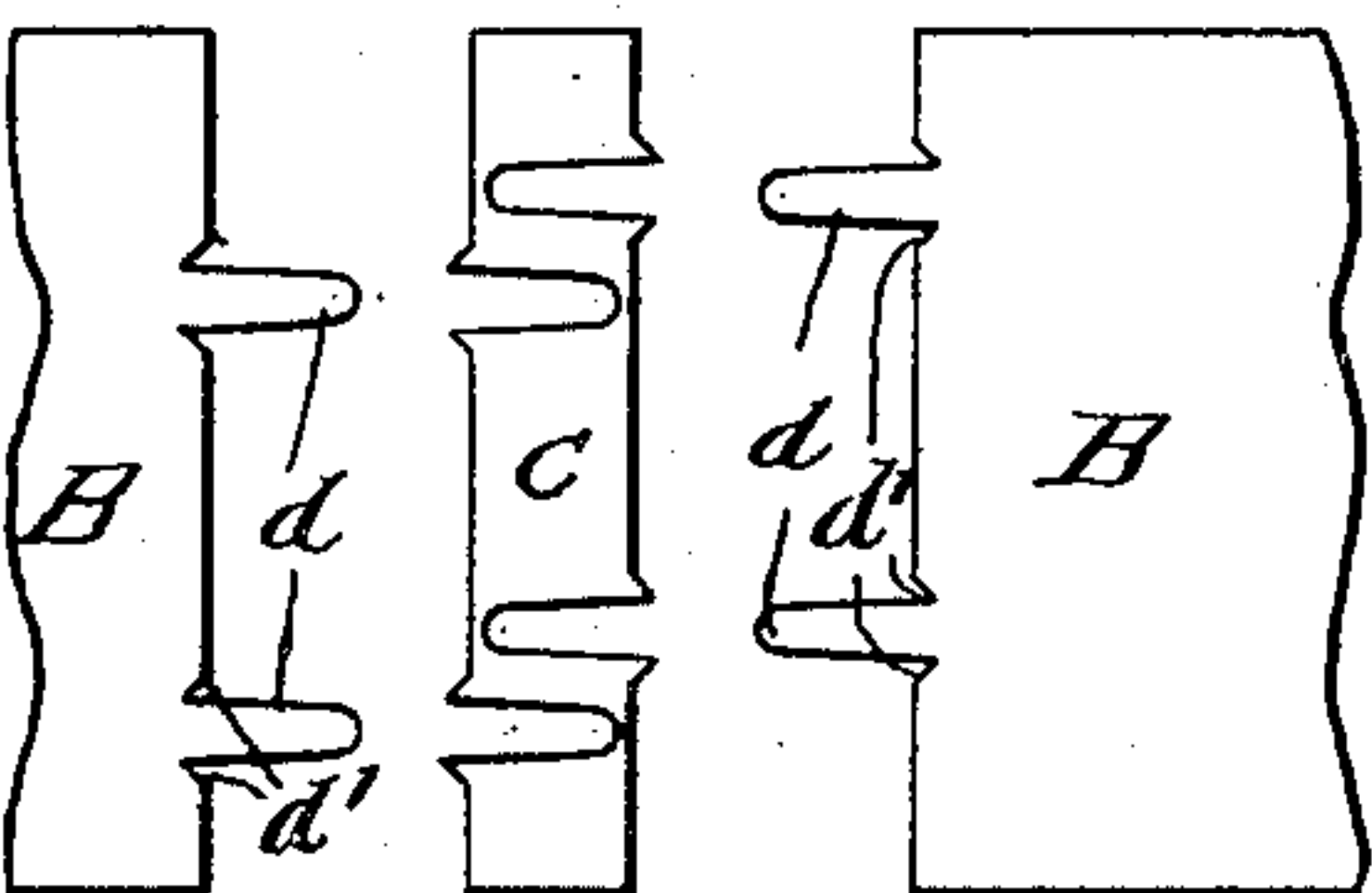


Fig. 4

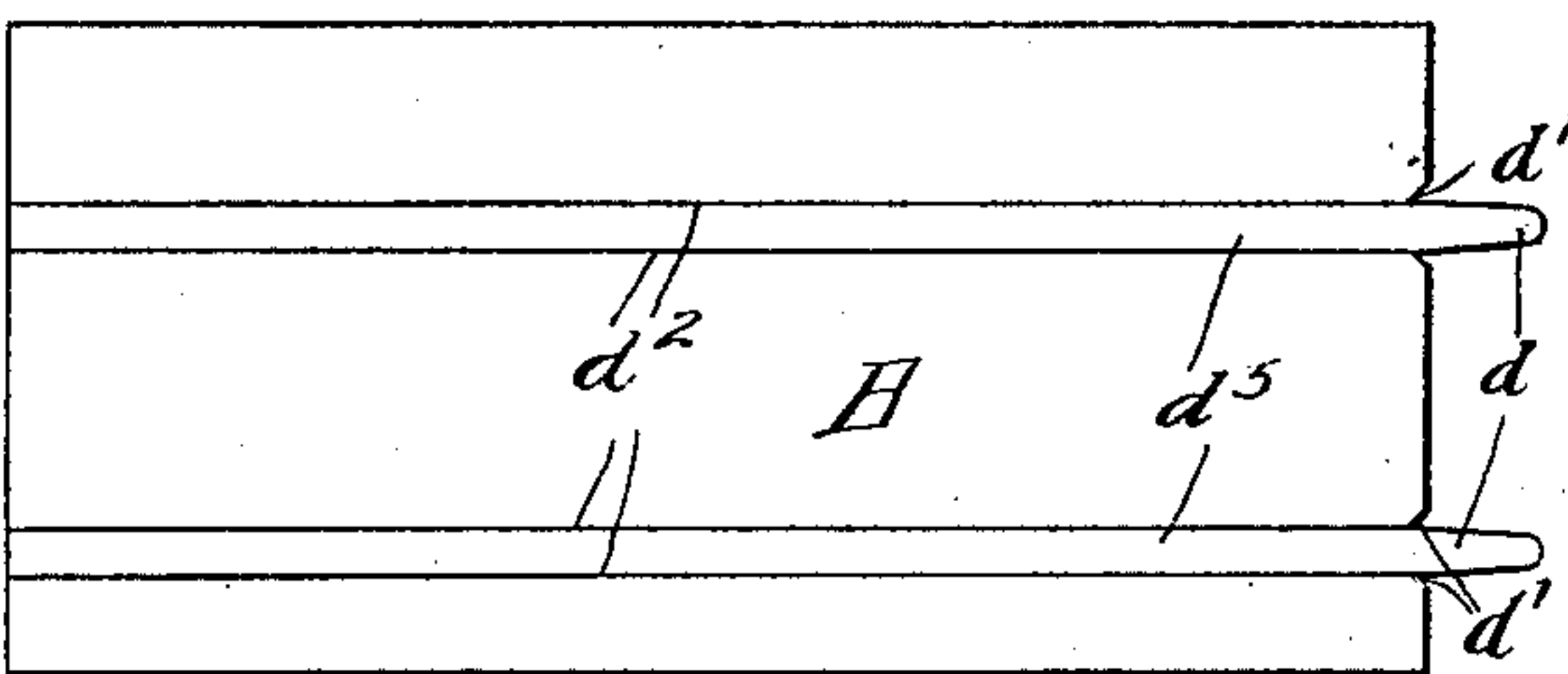


Fig. 5

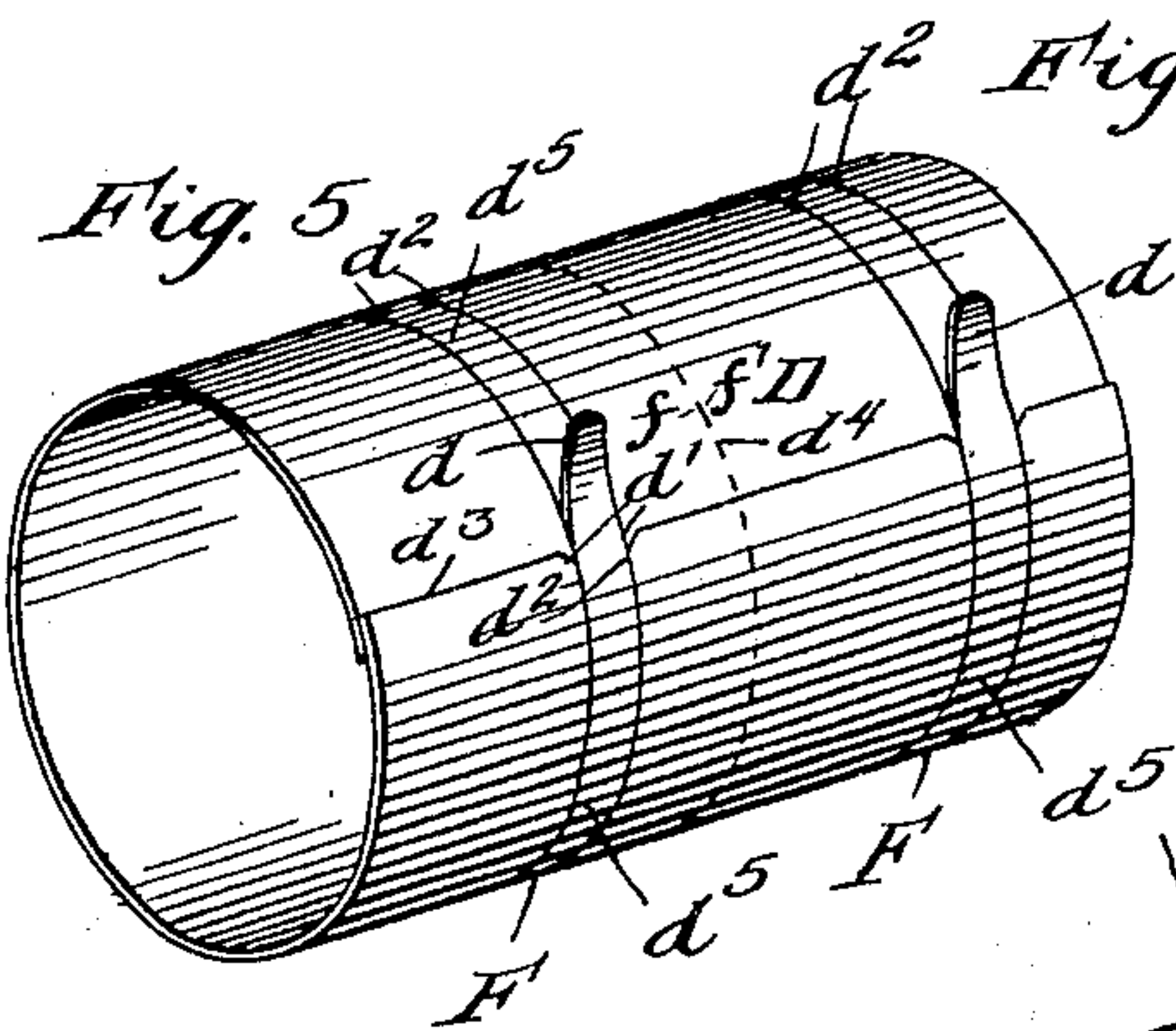


Fig. 7

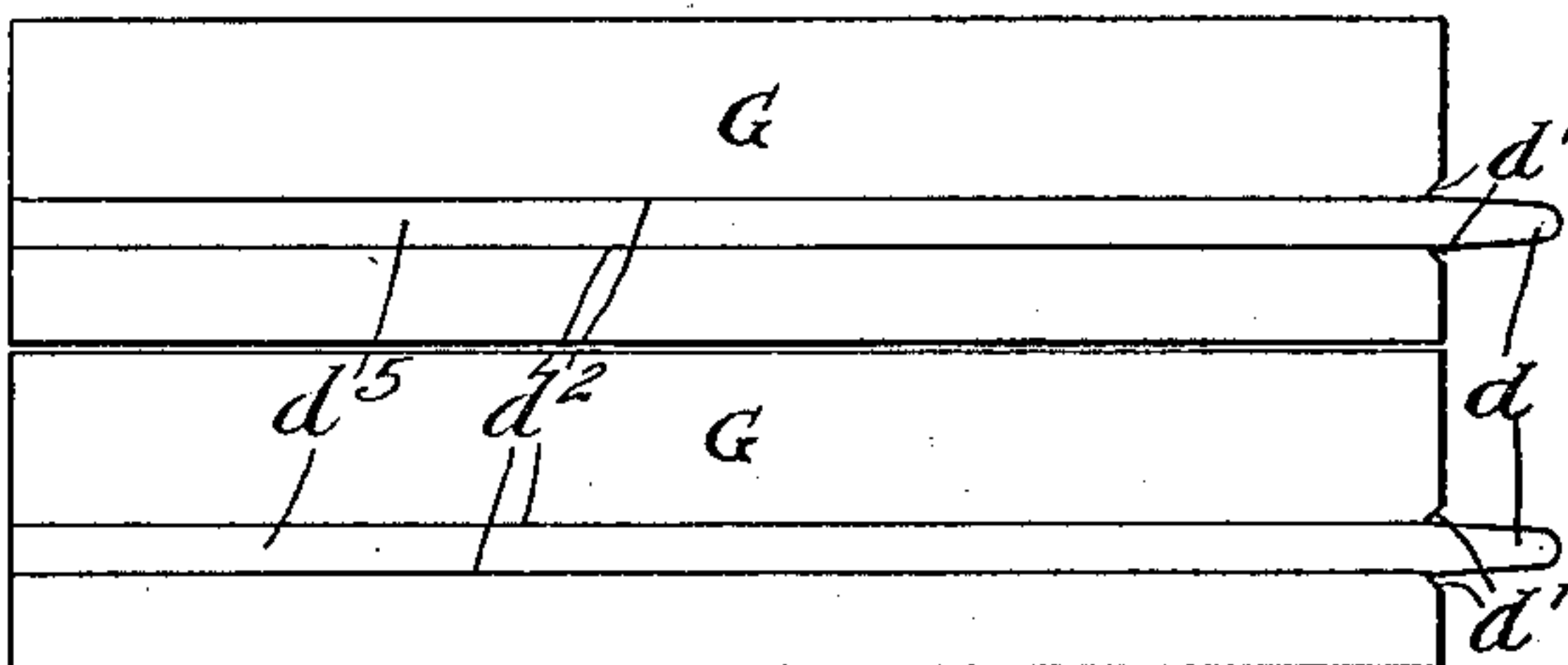
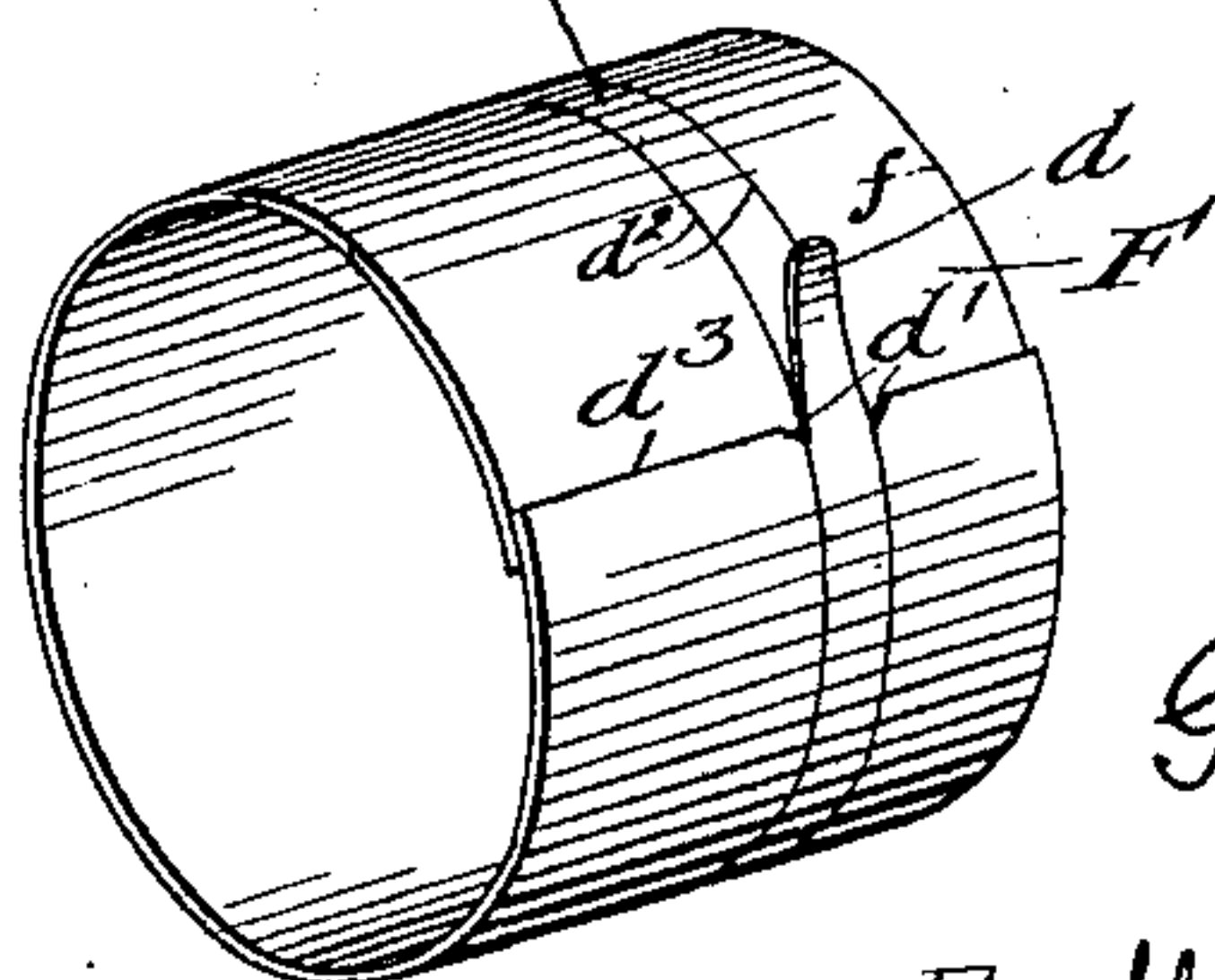


Fig. 6



Witnesses:

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# UNITED STATES PATENT OFFICE.

GEORGE W. WEBER, OF ST. PAUL, MINNESOTA, ASSIGNOR TO AMERICAN CAN COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## MANUFACTURE OF KEY-OPENING TONGUED TEARING-STRIP CANS.

SPECIFICATION forming part of Letters Patent No. 735,850, dated August 11, 1903.

Application filed February 28, 1903. Serial No. 145,460. (No model)

*To all whom it may concern:*

Be it known that I, GEORGE W. WEBER, a citizen of the United States, residing in St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in the Manufacture of Key-Opening Tongued Tearing-Strip Cans, of which the following is a specification.

My invention relates to improvements in the method or process of manufacturing key-opening tongued tearing-strip can-bodies. Heretofore in manufacturing such can-bodies it has been customary to first cut the tin-plate into blanks long enough to form the can-body and the projecting tongue of the tearing-strip, then cut away from one end of the blank the surplus stock at each side of the tongue, so as to leave the tongue projecting as required, and then form the scores or weakened lines at each side of the tearing-strip, then bend or form the blank into a can-body and solder the side seam thereof.

The object of my invention is to provide a method or process by means of which the amount of scrap or waste produced in the manufacture of tongued tearing-strip can-bodies may be greatly reduced and by which also the time, labor, and expense of manufacturing the can-bodies may be greatly reduced, thus materially cheapening the cost of the manufacture.

My invention consists in the means I employ to practically accomplish this important object or result—that is to say, it consists in first cutting from a sheet of tin-plate a quadruple can-body blank, a blank long and wide enough to form four tongued tearing-stripped can-bodies; second, dividing this quadruple blank into two double can-body blanks and simultaneously forming the necessary four projecting tongues for the four can-bodies, the tongues being staggered in respect to each other and all formed out of the same intervening piece of scrap, which is severed from the quadruple blank at the time the quadruple blank is divided and the tongues formed; third, forming the scores or weakened lines of the two tongued tearing-strips on each of the two double can-body blanks; fourth, bending or forming the double can-

body blank into a double can-body and soldering its side seam, and then finally cutting or dividing the double can-body at its middle into two separate or single can-bodies. By this method or process it will thus be seen that the scrap or waste stock is reduced to a minimum and that the time and labor required for forming the scores or weakened lines, forming the can-bodies, and soldering the side seams are reduced substantially one-half.

To enable my invention to be more readily and clearly understood by those skilled in the art, I have in the accompanying drawings, forming a part of this specification, illustrated the several steps or stages of forming tongued tearing-strip can-bodies by my method or process.

In said drawings, Figure 1 represents the quadruple-tongued tearing-strip can-body blank into which a sheet of tin-plate is cut as the first step. Fig. 2 shows this quadruple blank divided into two double can-body blanks, each having two tongues formed thereon. Fig. 3 is the same as Fig. 2, showing the parts separated for greater clearness. Fig. 4 illustrates the third step of the process, showing one of the two double can-body blanks after passing through the scoring-machine to form the scores or weakened lines at the edges of the two tearing-strips. Fig. 5 illustrates the fourth step, showing the double can-body formed from the double blank illustrated in Fig. 4. Fig. 6 shows the final step of severing the double can-body into two separate tongued tearing-strip can-bodies. Fig. 7 illustrates a modification in which the double can-body blank illustrated in Fig. 4 is divided or slit into two can-body blanks while yet in the flat.

In the drawings, A represents a quadruple-tongued tearing-strip can-body blank.

B B are the two double-tongued tearing-strip can-body blanks formed from the quadruple blank A by cutting out at one operation the intervening single piece of scrap C, out of which the four tongues *d* are simultaneously formed, all out of one and the same intervening piece of scrap C. The dies which cut out the scrap C from the quadruple blank



and form the tongues  $d$  also form the notches at  $d'$  at each edge of each tongue  $d$ . After the double-tongued tearing-strip can-body blank B is thus formed it is passed between scoring-rolls, and the four scored or weakened lines  $d^2$  are simultaneously formed on the double can-body blank, as illustrated at Fig. 4. The double can-body blank B is preferably next formed into the double can-body D and its side seam  $d^3$  soldered. The side seam  $d^3$  may be a lap-seam, as illustrated in the drawings, or any other customary form of side seam employed in making can-bodies. After the double can-body is thus formed it is cut or divided at its middle at the dotted line  $d^4$  into two separate or single-tongued tearing-strip can-bodies F F.

If desired, the double can-body blank B after being scored or simultaneously with the scoring operation may be slit or divided into two can-body blanks G G, as illustrated in Fig. 7, though by so doing the labor of forming the can-bodies and soldering the side seams would thus be increased.

It will be observed that the can-bodies F formed by my process are all exactly alike and have their tearing-strips  $d^5$  and tongues  $d$  all in the same relative position in respect to the top and bottom end edges of the can-bodies and of the blanks from which the can-bodies are formed and that the top edge  $f$  is adjacent to the bottom edge  $f'$  of the adjacent can body or blank and that the tongues  $d$  on one double blank B are staggered in respect to the tongues  $d$  on the other double blank B, as will be clearly understood from the dotted lines in Figs. 1, 2, and 5.

I do not claim the process or method of first making a double can-body blank and then simultaneously dividing it into two can-body blanks and forming a tongue on each thereof by cutting out and removing from its middle portion a single piece of scrap, out of which both tongues are formed, as is more fully set forth in the pending application of Bernard H. Larkin, Serial No. 148,987, filed March 21, 1903.

I claim—

1. The method or process of manufacturing tongued tearing-strip can-bodies consisting in first making a quadruple can-body blank; second, dividing the quadruple blank into two double blanks by cutting from its middle portion a single piece of scrap, out of which the four tongues are simultaneously formed, two on each double can-body blank; said tongues being left integral each with its respective can-body blank, and the two tongues on the one double blank being staggered in respect to the two tongues on the other double blank, and all said tongues being cut out of the waste middle portion at the same time said waste middle portion is cut from between the double can-body blanks; third, forming scores or weakened lines on

the double blanks at the edges of the tearing-strips; fourth, forming the double can-body blanks into double can-bodies and soldering the side seams thereof; and fifth, cutting or dividing the double can-bodies into single can-bodies, substantially as specified.

2. The method or process of manufacturing tongued tearing-strip can-bodies consisting in first, making a quadruple can-body blank; second, cutting from its middle portion a single piece of scrap, and thereby dividing the quadruple blank into two double blanks, each having two tongues thereon; said tongues being left integral each with its respective can-body blank, and the two tongues on the one double blank being staggered in respect to the two tongues on the other double blank, and all said tongues being cut out of the waste middle portion at the same time said waste middle portion is cut from between the double can-body blanks, scoring the double blank to form the tearing-strips thereon, forming the double blank into a double can-body, and cutting or dividing the same into single can-bodies, substantially as specified.

3. The method or process of manufacturing tongued tearing-strip can-bodies consisting in the following steps: making the quadruple can-body blank, dividing the same into two double can-body blanks and forming four tongues, two on each double blank, by cutting out a waste middle portion from between the two double can-body blanks, said tongues being left integral each with its respective can-body blank, and the two tongues on the one double blank being staggered in respect to the two tongues on the other double blanks, and all said tongues being cut out of the waste middle portion at the same time said waste middle portion is cut from between the double can-body blanks and again subdividing, substantially as specified.

4. The method or process of manufacturing tongued tearing-strip can-bodies consisting in first making a quadruple can-body blank, dividing it into two double can-body blanks, and forming two tongues on each double blank, by cutting out a waste middle portion from between the two double can-body blanks, said tongues being left integral each with its respective can-body blank, and the two tongues on the one double blank being staggered in respect to the two tongues on the other double blanks, and all said tongues being cut out of the waste middle portion at the same time said waste middle portion is cut from between the double can-body blanks and finally scoring, subdividing and forming the same into can-bodies, substantially as specified.

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Witnesses:

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