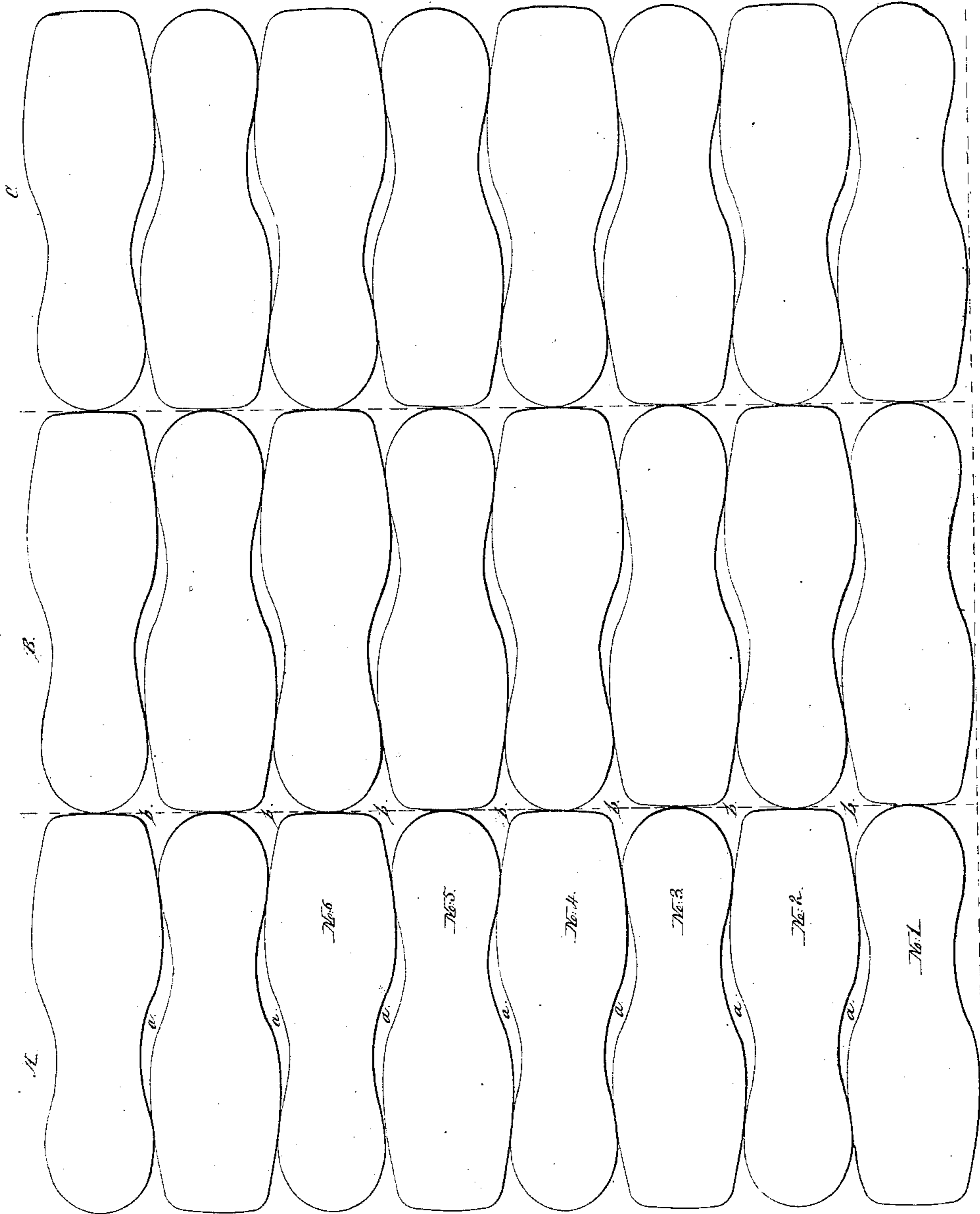


J. H. Walker.

Cutting Shoe Soles,

No. 49,572,

Patented Aug 22, 1865.



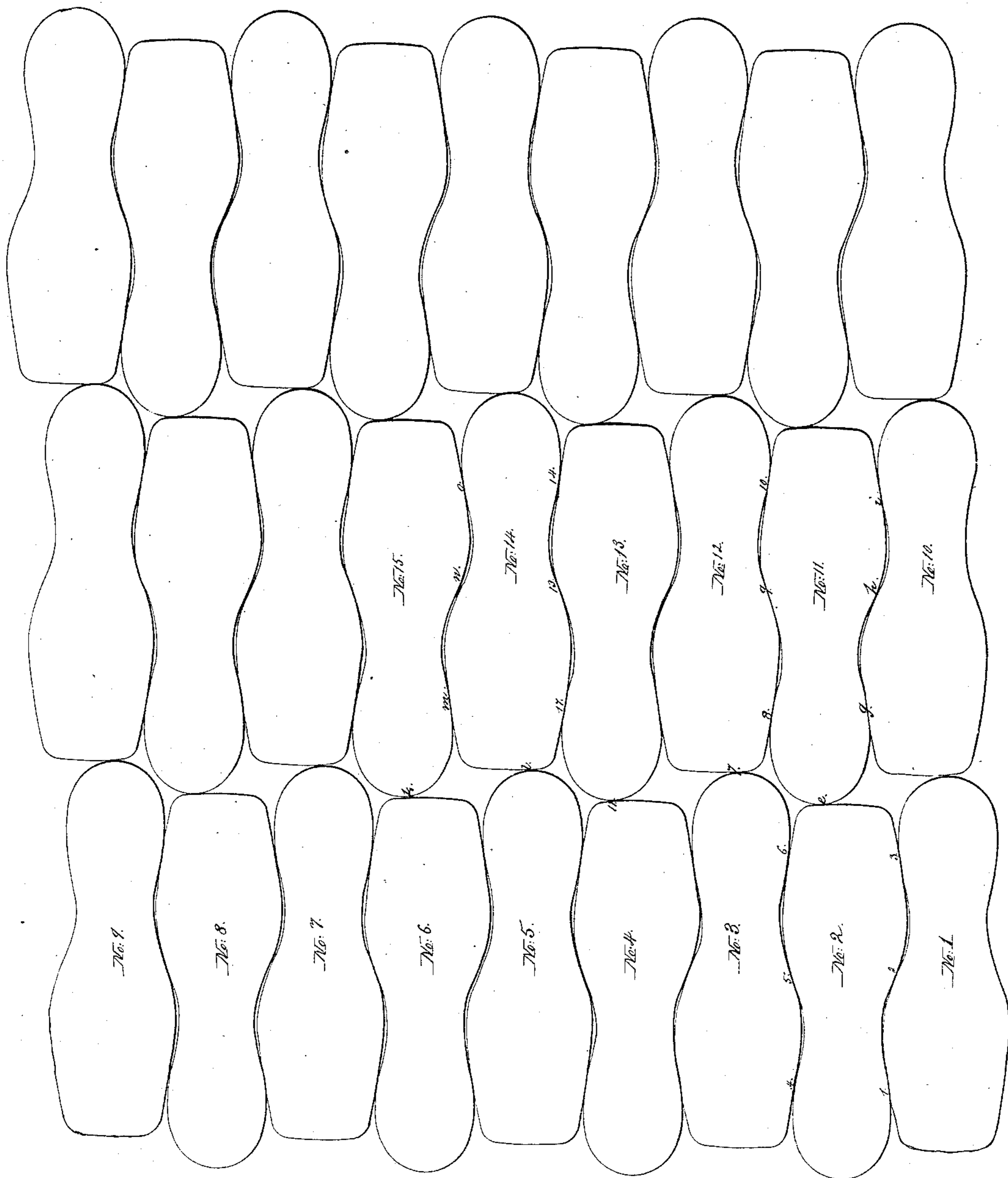
Sheet 2 - 2 Sheets.

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UNITED STATES PATENT OFFICE.

J. H. WALKER, OF WORCESTER, MASSACHUSETTS.

IMPROVED MODE FOR CUTTING SOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 49,572, dated August 22, 1865.

To all whom it may concern:

Be it known that I, J. H. WALKER, of the city and county of Worcester, and State of Massachusetts, have invented a new and useful Mode of Cutting Soles for Boots and Shoes from Whole Sides of Leather; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

The drawings upon Sheet 1 represent the position of the soles as respects each other when cut according to my plan, and the drawings upon Sheet 2 represent the position of the soles as respects each other when cut according to the old mode.

On Sheet 2 is represented the soles, which have usually been cut from strips wide enough to form the length of a sole. The mode of operation was to first cut the side into strips, and then cut up the strips by dies into soles, the die being reversed after each sole was cut. For instance, suppose the die was applied and No. 1, Sheet 2, cut, the die was then reversed and No. 2 cut, and so on until strip A was cut up into eight soles. The operation would then be repeated as to the other strips, B and C, and so on. The same plan has heretofore been adopted even when attempting to cut soles from the side. The side has usually been marked off with a straight-edge and creaser, and the soles cut in a similar manner as when the side was cut into strips.

It will be seen that by this mode of cutting a waste of leather is made which is equal to the pieces *a* and *b*, and as this waste is from the best part of the hide, to save such waste is an important matter. Having been for years extensively engaged in the manufacture of boots and shoes, the question as to how I could prevent such waste has often been considered, and I have made extensive experiments to attain that object. After years of study and experiment I have at last succeeded in overcoming the difficulties, so as to make an actual saving of from three to five per cent. upon the whole leather cut up. I abandon cutting the leather into strips entirely, and cut the soles from a whole side laid upon a proper table.

The mode of operation is as follows: The operator takes his die and cuts from the side sole No. 1, Sheet 1. He then reverses the die and

places it so that its edge will touch the points 1, 2, and 3, which formed the inner side of sole No. 1, when he cuts sole No. 2. The die is then reversed and placed so that its edge will touch the points 4, 5, and 6 of No. 2, when No. 3 is cut, and so on till the entire width of the side has been cut up into soles.

By this mode of cutting it will be seen that nearly all the leather which was wasted between the soles by the old mode is saved, and in addition thereto about one-third is saved between the ends of the soles, which entire saving I have found by actual test to amount in the aggregate to nearly five per cent of the whole amount of leather cut up.

After having discovered the above mode of cutting leather from the side, I still found a difficulty in carrying it out successfully, owing to the fact that the most skillful cutter could not apply the die to cut the first sole (No. 10) of the second series in such exact and proper position as would enable the series to be cut through without either running to the right or left, and thus disarrange the cutting. I found that this difficulty could be successfully overcome by simply placing a common pattern-sole upon the inside of the die and bringing the heel of the pattern-sole to touch the line at *e* and the toe of the die the line at *f*, and so that both would in addition touch each other at the three points *g*, *h*, and *i*, when the sole No. 10 could be cut, after which all the others would follow with exactness, the only thing required being that the die should be so placed that it would touch the points *e*, *g*, *h*, and *i* in cutting sole No. 11 and the points 7, 8, 9, and 10 in cutting No. 12, and so on until the second series was cut. The third and all subsequent series are cut in the same manner as the second series.

Another great advantage resulting from my invention is that the operator can commence in the middle of the side and cut both ways, and hence can take up the swell which is found in the middle of all sides of leather. For instance, suppose that instead of commencing with No. 10 the operator had desired to commence in the middle, he would have placed his die upon No. 14 and his pattern-sole on No. 15. Then by bringing the heel of the pattern-sole to touch the line *k* and the toe of the die to touch the line *l*, and in addition thereto so that the pattern-sole and die would touch each other

at the points *m*, *n*, and *o*, he could have cut sole No. 14, and after that he could have cut either way by observing the directions heretofore explained—that is, when he commenced to cut sole No. 13 he would have to place his die so that it would touch or be even with the points 11, 22, 13, and 14, while, when he commenced to cut the other way, in cutting sole No. 15 the die would have to be so placed that it would touch or be even with the points or lines at *k*, *m*, *n*, and *o*.

By my improved mode it does not require skillful cutters, since the manner of operation is such that nothing is left to the discretion or skill of the cutter. He is simply informed how to place his die, and proceeds without further trouble to cut up the side into soles of the exact size required, and with but little waste of material as compared with the old mode.

The size of the soles is the same upon both sheets of drawings, and by measuring up from

the red dotted lines on both sheets it will be seen that the amount of saving in cutting even eight soles by my improved mode is quite apparent.

In cutting up leather from the side I find it best to commence at the butt-end and cut the first series as near the end as possible.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. Cutting up sides of leather into soles for boots and shoes, in the manner described, and as shown on Sheet 1 of the accompanying drawings.

2. Determining the true position of the die to commence cutting the second series of soles, in the manner described.

J. H. WALKER.

Witnesses:

THOS. H. DODGE,

J. HENRY HILL.