

H. JONES.
METHOD OF CUTTING BLANKS FOR BRAKE SHOE BACKS.
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995,011.

Patented June 13, 1911

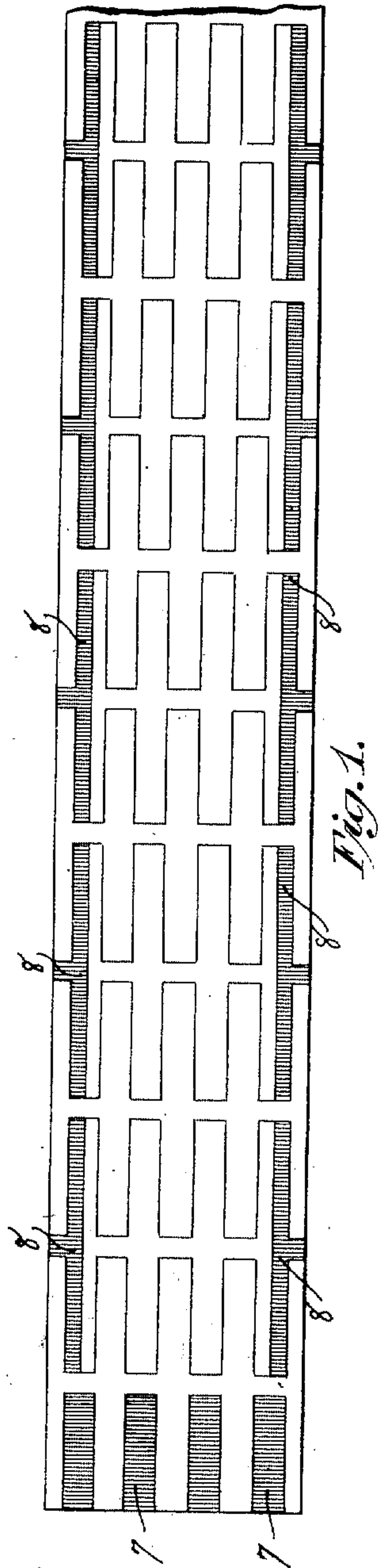


Fig. 1.

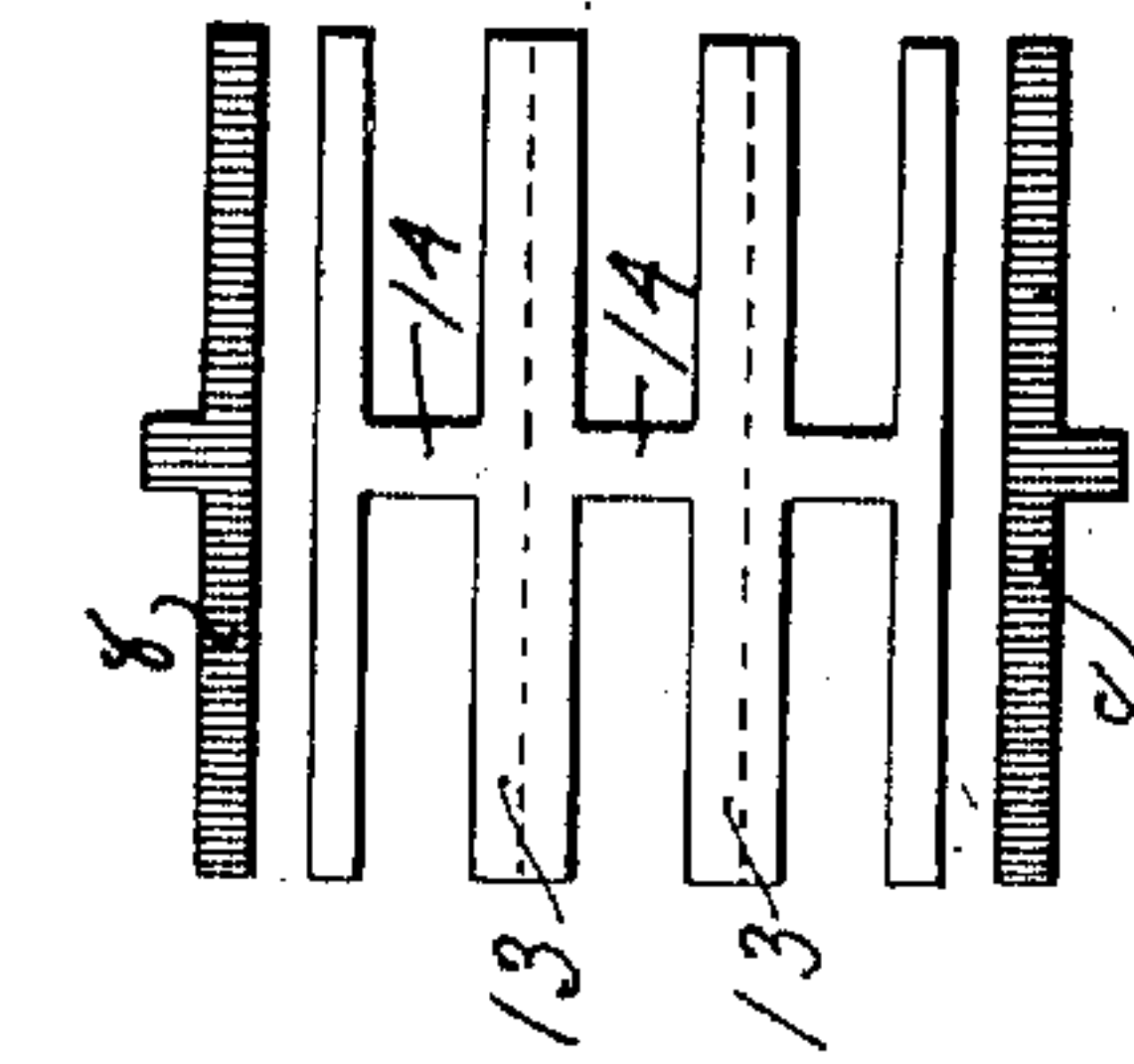


Fig. 4.

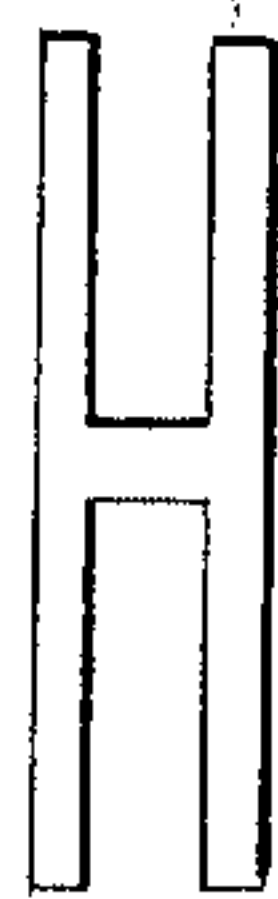


Fig. 5.

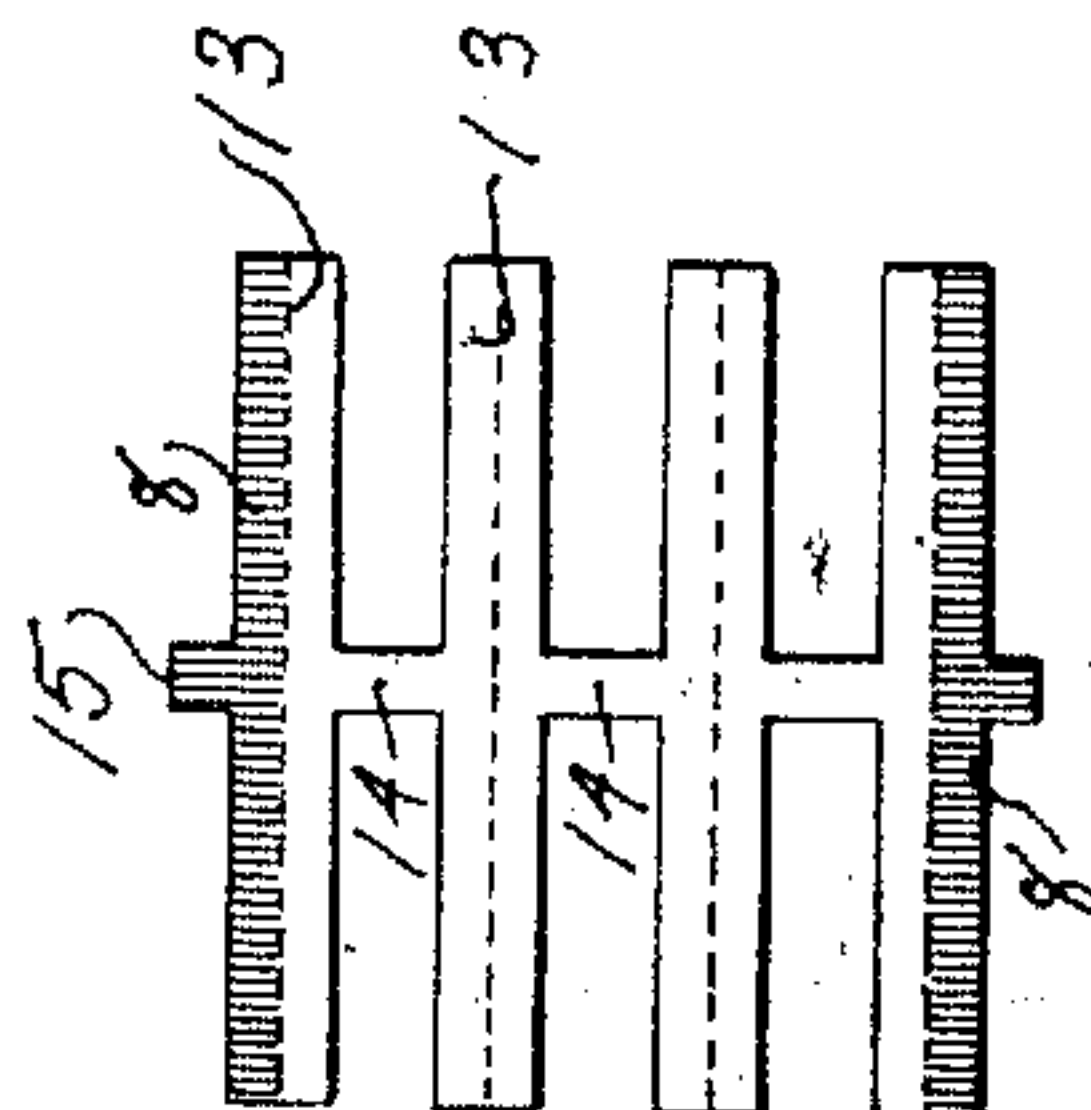


Fig. 3.

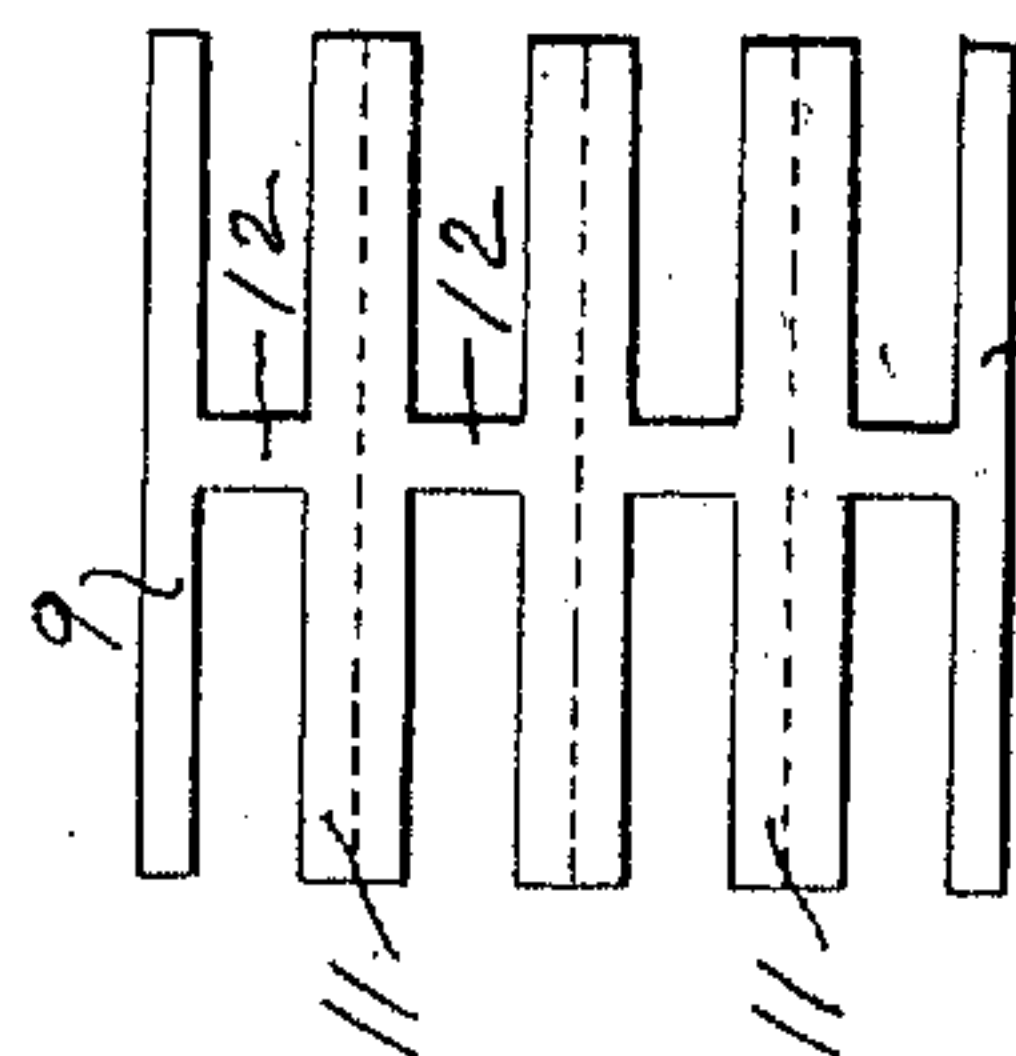


Fig. 2.



Fig. 6.

Attest:
Comptroller
R. N. Flint

by *Harry Jones*
George Cook Atty

UNITED STATES PATENT OFFICE.

HARRY JONES, OF SUFFERN, NEW YORK, ASSIGNOR TO EDWARD H. FALLOWS, OF NEW YORK, N. Y.

METHOD OF CUTTING BLANKS FOR BRAKE-SHOE BACKS.

995,011.

Specification of Letters Patent. Patented June 13, 1911.

Application filed February 10, 1911. Serial No. 607,725.

To all whom it may concern:

Be it known that I, HARRY JONES, a citizen of the United States, and a resident of Suffern, in the county of Rockland and State of New York, have made and invented certain new and useful Improvements in Methods of Cutting Blanks for Brake-Shoe Backs, of which the following is a specification.

My invention relates to the production of backs for brake shoes, the object of the same being to devise a method of cutting out the blanks from a strip or plate of metal with the minimum waste or loss of material, and to secure from a strip of metal of given dimensions a larger number of blanks than has heretofore been done, the blanks being subsequently bent or formed into the shape of finished backs.

In the drawing I show a sheet or plate of metal, and illustrate the various cutting operations performed upon it, and the various shaped pieces into which it is cut, in performing the process in which my invention consists, the process itself, considered in the abstract, being obviously incapable of illustration as a concrete entity.

In the accompanying drawing wherein the various steps of my process as performed upon a sheet of metal are indicated: Figure 1 is a view showing a part of a sheet of metal to be cut into blanks for backs of brake shoes; Fig. 2 is a view showing the form of one piece cut from the sheet in performing my process; Fig. 3 is a view showing the form of another piece cut from the sheet in performing my process; Fig. 4 is a view illustrating further cutting operations performed upon the piece shown in Fig. 3; Fig. 5 is a view showing a single blank such as is produced in performing my process, and; Fig. 6 is a view showing a finished back for a brake shoe, the same being formed by properly bending the blank shown in Fig. 5.

Referring to the drawing, the horizontal and vertical lines appearing upon the sheet of metal shown in Fig. 1 indicate the lines along which the sheet is cut in performing my process, and the shaded portions 7, 8 of the sheet indicate the portions thereof which are cut away as scrap.

In carrying out my process the rectangu-

lar portions 7 are first cut from the sheet as a preliminary step, whereby a series of projecting portions are provided at the end of the sheet, this operation being performed but once upon the same sheet, and is not considered as an essential step in the process; it is an operation performed preliminary to the actual process disclosed and claimed, and, if omitted, merely results in the production of a piece of metal which is scrap so far as the actual process is concerned, but which may be made into blanks; that is the first piece cut from the sheet would be like the piece shown in Fig. 2, except that the left hand half thereof would be solid.

It being assumed that the shaded waste portions 7 have been cut from the sheet, the first step in performing my process or method is to cut from the sheet a piece extending the entire width thereof and having the shape or form shown in Fig. 2; that is the piece is made up of two rectangular side portions 9, 10, rectangular intermediate portions 11 of double the width of the side portions and the number whereof depends upon the width of the original sheet, and connecting portions 12 at the middle of the rectangular portions, whereby they are connected with one another and form a single integral piece, as shown in the figure referred to. There is next cut from the sheet of metal shown in Fig. 1, a second piece of metal extending the entire width of the sheet and having the form or shape as shown in Fig. 3; that is, the piece is made up of rectangular portions 13 corresponding in width with that of the intermediate portions 11 of the piece shown in Fig. 2; connecting portions 14 at the middle of said rectangular portions whereby they are connected with one another to form a single integral piece as shown; and projecting portions 15 at the sides of the piece and midway the length thereof, the number of rectangular portions 13 obviously depending upon the width of the sheet of metal operated upon. The pieces shown in Figs. 2 and 3 are next divided to form blanks for backs for brake shoes of the form or shape shown in Fig. 5. The piece shown in Fig. 2 is divisible into such blanks by cutting the piece along the dotted lines extending longitudinally of,

and through the middle of each of the wider rectangular portions 11 of the piece.

The piece shown in Fig. 3 is divided by cutting along the dotted lines extending longitudinally of, and through the middle of the rectangular portions 13 of which it is comprised. The shaded portions 8 at the side of this piece are, however, waste material, and preferably first cut from the piece as indicated in Fig. 4, preparatory to dividing the remaining portion of the piece along the dotted lines referred to above. Because of these waste portions 8 it will be understood that the successive pieces such as are shown in Figs. 2 and 3 furnish numbers of blanks differing by one, the one furnishing an even and the other an odd number of blanks, although the question as to which piece, that is whether the one shaped as in Fig. 2 or as in Fig. 3, furnishes the even number of blanks is dependent upon the width of the plate operated upon. The piece, however, from which the waste portions 8 are cut always furnishes a number of blanks one less than the number furnished by the piece which has no waste portions.

It will be understood that my method or process is in no way concerned with the width of the sheet operated upon; and it will also be obvious that the waste represented by the shaded portions 8 is independent of the width of the plate; so that the wider the plate the less will be the proportion or fractional part thereof rejected as waste.

While I have referred to two pieces only, such as are shown in Figs. 2 and 3, it will be understood that such shaped pieces are cut from the plate in alternation until the entire plate is used up.

After the blanks of the form shown in Fig. 5 have been produced, they are bent by means of any suitable mechanism to form backs for brake shoes, a back in its completed form being shown in Fig. 6.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

1. The method of forming blanks for backs for brake shoes which consists in cutting from a strip of metal a piece extending the entire width thereof and comprising rectangular side portions, rectangular intermediate portions of double the width of said side portions, and connecting portions at the middle of said rectangular portions; cutting said piece along lines extending longitudinally of and through the middle of said wider rectangular portions; cutting from said strip a second piece extending the entire width thereof and comprising rectangular portions of a width corresponding with that of the intermediate portions of said first piece, connecting portions at the middle of said rectangular portions, and projecting portions at the sides of said piece midway the length thereof; and cutting said second piece along lines extending longitudinally of and through the middle of said rectangular portions.

2. The method of forming blanks for backs for brake shoes which consists in cutting from a strip of metal in succession two pieces each extending the entire width thereof and capable of forming an even and an odd number of back blanks; dividing one of said pieces without waste of material into a plurality of separate blanks; cutting from each side of the other of said pieces a scrap portion; and dividing the remaining portion of said other piece without waste of material into separate back blanks one less in number than the number of blanks furnished by said first mentioned piece.

Signed at Suffern in the county of Rockland and State of New York this third day of February A. D. 1911.

HARRY JONES.

Witnesses:

F. H. HARTWELL,
FRANK OSBORN.