2 Sheets—Sheet 1.

H. C. FIELD.

MACHINE FOR MAKING TOE-CALKS.

No. 189,349. Patented April 10, 1877.

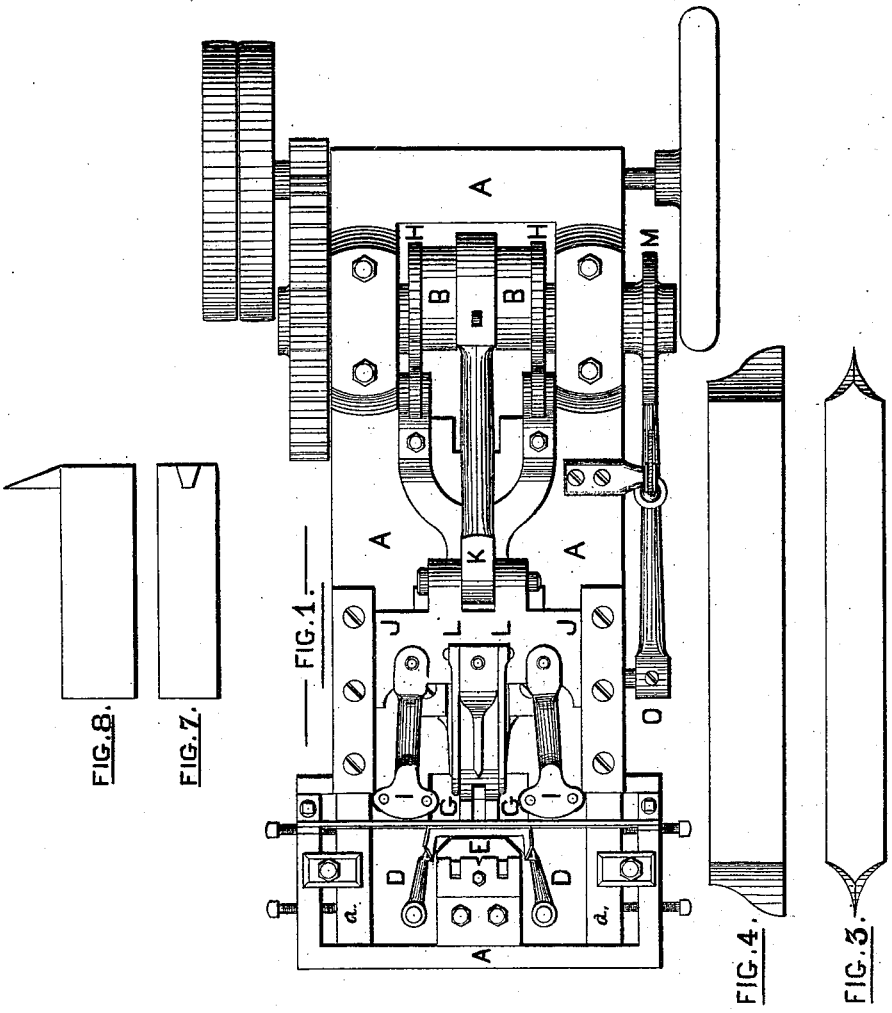

FIG. 1.

FIG. 8.

FIG. 7.

FIG. 4.

FIG. 3.

WITNESSES.

Henry C. Knight.

Walter B. Vincent

INVENTOR.

Henry C. Field.

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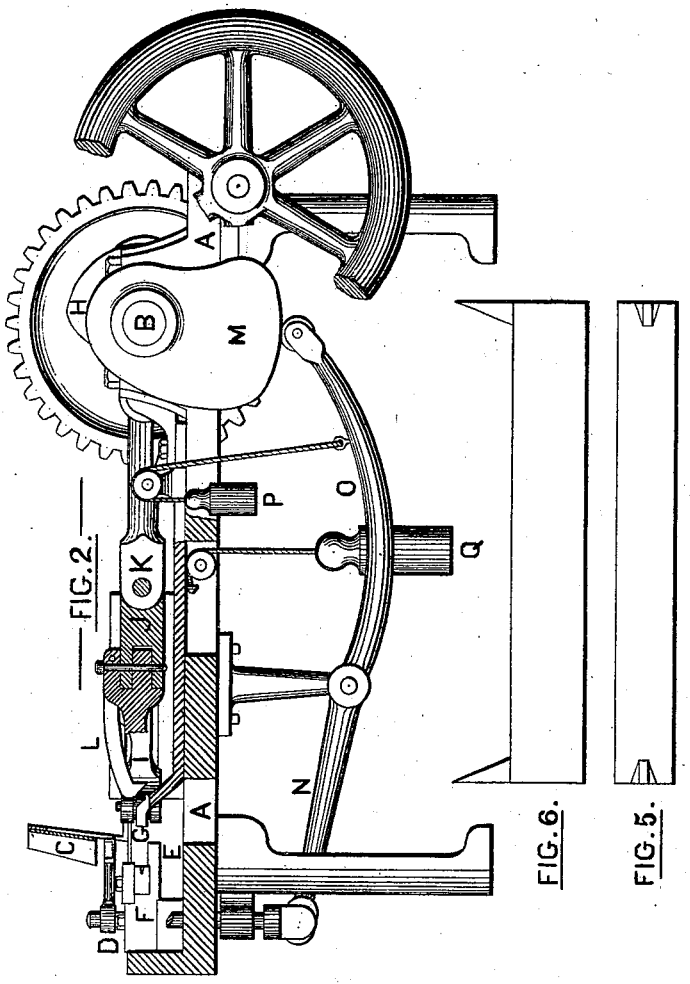

FIG. 2.

FIG. 6.

FIG. 5.

WITNESSES.

Henry C. Knight

Walter B. Vincent

INVENTOR.

Henry C. Field

UNITED STATES PATENT OFFICE.

HENRY C. FIELD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN MACHINES FOR MAKING TOE-CALKS.

Specification forming part of Letters Patent No. **189,349**, dated April 10, 1877; application filed November 24, 1876.

To all whom it may concern:

Be it known that I, HENRY C. FIELD, of Providence, in the State of Rhode Island, have invented a new and useful Machine for Making Toe-Calks; and I do hereby declare that the following specification, taken in connection with the drawing, making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a top view of my machine. Fig. 2 is a side and sectional elevation of same. Figs. 3 and 4 are side and top views, respectively, of the double blank prepared for the machine. Figs. 5 and 6 are top and side views of the blank after passing through the machine. Figs. 7 and 8 are top and side views of the toe-calk complete.

The object of my invention is to produce a machine for making toe-calks, which shall be perfect and rapid in its operation, and at the same time not liable to get out of repair, and consists in the mechanism for that purpose, hereinafter described.

A is a bed, supported by suitable legs. B is a crank and cam shaft, through which motion is imparted to the several parts. C is a guide into which the blank is dropped by the operator, and which conducts it to the pockets D D, which recede and leave it upon the table E, in proximity to the die F. G G are elevated fingers, which slide in guides and press the blank against the die F, holding it in that position until the machine has performed its work. I I are arms, respectively attached at one end to a cross-head, J, sliding in guides, and having at the other a pair of friction-rollers. L L are hooked fingers, which remove the blank at the completion of the operation.

Having now described the several parts of my machine I will now proceed to describe its operation, commencing with the parts in the position shown in the drawings.

The bar of metal having been heated to the proper degree is cut in suitable lengths by dies, which leave each end of the double blank thin and sharp, as shown in Figs. 3 and 4. The blank is then taken while hot and placed in the guide C, and is carried by its gravity to the pockets D D. The pockets D D, operated by the cam M upon the shaft B through the levers N O, gradually recede and leave the blank upon the table or lip E, in front of the die F. The die F is stationary, and is provided at each end with a recess in the form of the point upon a toe-calk. As the pockets D D recede, the elevated fingers G G operated by the cams H H upon the shaft B, move forward and press the blank against the die F, and hold it securely in that position.

As soon as the fingers G G have secured the blank the arms I I, operated by a crank upon the shaft B through a connecting-rod, K, move forward, and the pairs of friction-rollers passing into the spaces between the ends of the die and the adjustable guides *a a* upon the frame, force the thin projecting ends of the blank into the recess in the die at each end at one and the same time, thus producing the double blank shown in Figs. 5 and 6. The arms I I and fingers G G now return to their original position, and the same operation is repeated. The blank, being caught by the fingers L L and removed from the table E, drops through an opening in the frame. The double fingers G G may be made adjustable and adapted to secure toe-calks of different sizes.

After coming from the machine the points at each end of the blank are given their proper set in any desired way, and the blank itself divided into two toe-calks, as shown in Figs. 7 and 8.

The lever O and double fingers G G are kept in contact with their respective cams by suitable weights P Q or other equivalent means.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the table E, fingers G G, double die F, guides *a a*, and pivoted arms I I, having friction-rollers, as described, substantially as and for the purpose specified.

HENRY C. FIELD.

Witnesses:
HENRY C. KNIGHT,
WALTER B. VINCENT.