2 Sheets--Sheet 1.

C. C. TRACY.

Device for the Manufacture of Cames.

No. 165,386. Patented July 6, 1875.

Fig. 1.

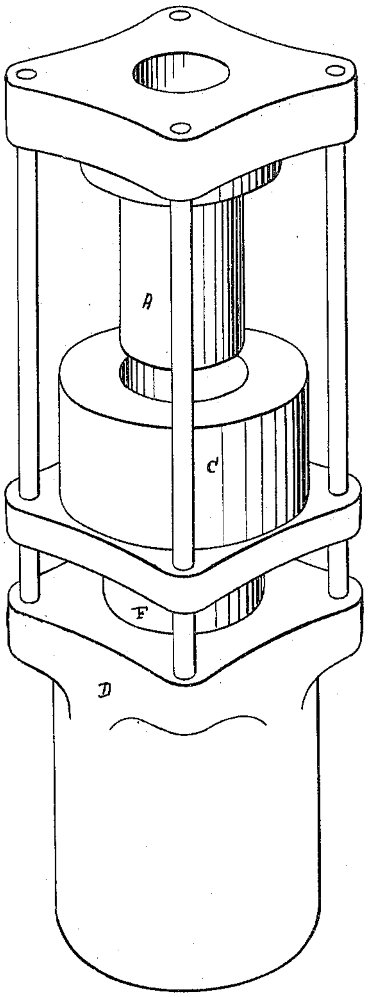


Fig. 2.

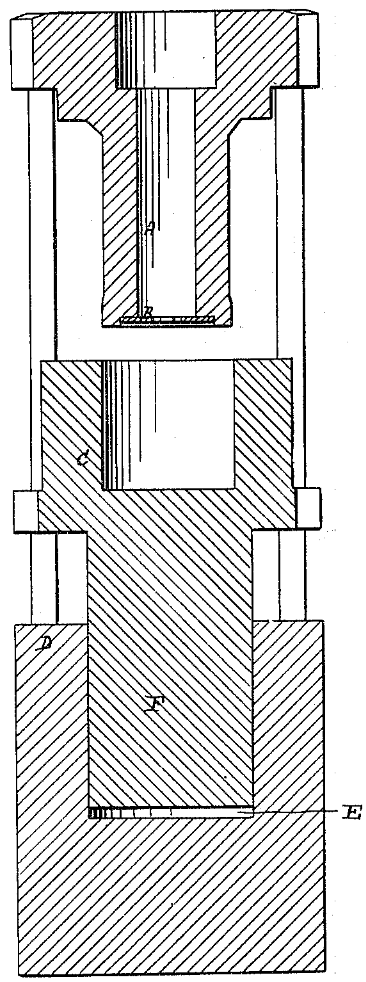
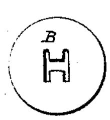


Fig. 3.



Witnesses:

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Inventor:

C. C. Tracy

by atty. Brook & Bixby

2 Sheets--Sheet 2.

C. C. TRACY.

Device for the Manufacture of Cames.

No. 165,386. Patented July 6, 1875.

Fig. 1.

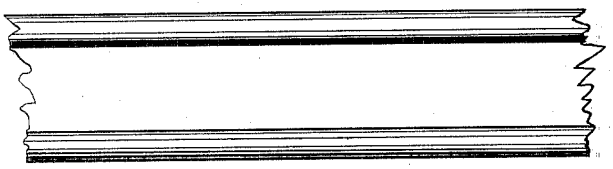
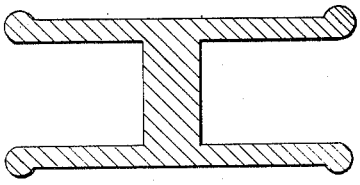


Fig. 2.



Witnesses:

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Inventor:

C. C. Tracy

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attys.

UNITED STATES PATENT OFFICE.

CHRISTOPHER C. TRACY, OF NEW YORK, N. Y., ASSIGNOR TO THE SHAW & ROGERS LEAD COMPANY, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR THE MANUFACTURE OF CAMES.

Specification forming part of Letters Patent No. **165,386**, dated July 6, 1875; application filed May 20, 1875.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. TRACY, of the city of New York, county of New York and State of New York, have invented certain new and useful Improvements in Devices for the Manufacture of Cames of Lead or other ductile metal or alloys, of which the following is a specification:

This invention relates to what are technically called "cames," which are slender rods or strips of H shape in cross-section, ordinarily made of lead, and used by glaziers and others, especially in putting together the small glass sections of painted or stained glass windows.

Hitherto, so far as I am aware, this article has been made by casting, or by first casting and then rolling it between grooved or die rollers of proper shape, which have the effect of lengthening and reducing the section of the crude cast strip. The casting operation is that which was first practiced; of later years, the rolling operation has been superadded. This method of manufacture, however, is at best poorly adapted to the purpose. It is tedious, expensive, and troublesome, involving several handlings of the metal, and requiring the services of a number of workmen. Moreover, it is not practicable by such method of procedure to obtain the article in long lengths, and it is therefore produced in comparatively short sections.

My invention dispenses entirely with the casting and rolling operations, and renders it practicable to produce the article in the form of a continuous strip of any length desired; and this with great celerity, and with a considerable reduction of expense.

To attain this result, I preferably bring the metal, of which the came is to be made, to a semi-fluid or pasty consistency, and press it, in this condition, through a die of the shape and dimensions of the cross section required for the came. This operation can readily be performed by apparatus similar in construction to the ordinary lead-pipe machine or press; save that the core-rod is dispensed with, and the die-opening, instead of being circular, is of the configuration hereinbefore specified.

Such a press is represented on Sheet 1 of the accompanying drawing.

Figure 1 is a perspective view, and Fig. 2 is a vertical central section, of the apparatus. Fig. 3 is a view of the die detached.

A is the stationary plunger, hollow, and closed at its lower end by a die, B, of a size and configuration to make the came. C is the movable lead containing cylinder, which is adapted to move up and down on the stay-rods that support and unite the plunger A with the base D. In this base D is formed the hydraulic cylinder E, (supposing the press to be a hydraulic press,) which is in proper communication with the source of power, and receives a piston, F, extending from the under side of cylinder C. When power is applied the cylinder C is forced upward toward the plunger A, and the lead contained in the cylinder is forced upward through the H opening in die B, and passes up through hollow plunger A in the shape of a came of continuous and unbroken length, which came can afterward be divided into sections of any length desired.

On Sheet 2 of the accompanying drawing I have represented on an enlarged scale in Figs. 1 and 2 a plan and a transverse section of a came-strip, made in accordance with my invention.

It will be understood that, for the purposes of my invention either the plunger or the cylinder may be movable; and also that the die may be arranged either in the plunger or in the cylinder.

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

The combination, for the manufacture of cames in the manner set forth, of the die having the structure and configuration specified, with the metal-containing cylinder and the piston or plunger, substantially as described.

In testimony whereof I have hereunto signed my name this 15th day of May, A. D. 1875.

CHRISTOPHER C. TRACY.

Witnesses:

R. A. PIPER,

HY. F. LEE.