3 Sheets--Sheet 1.

M. M. & R. P. MANLY.

Metallic Hand-Rails.

No. 148,725. Patented March 17, 1874.

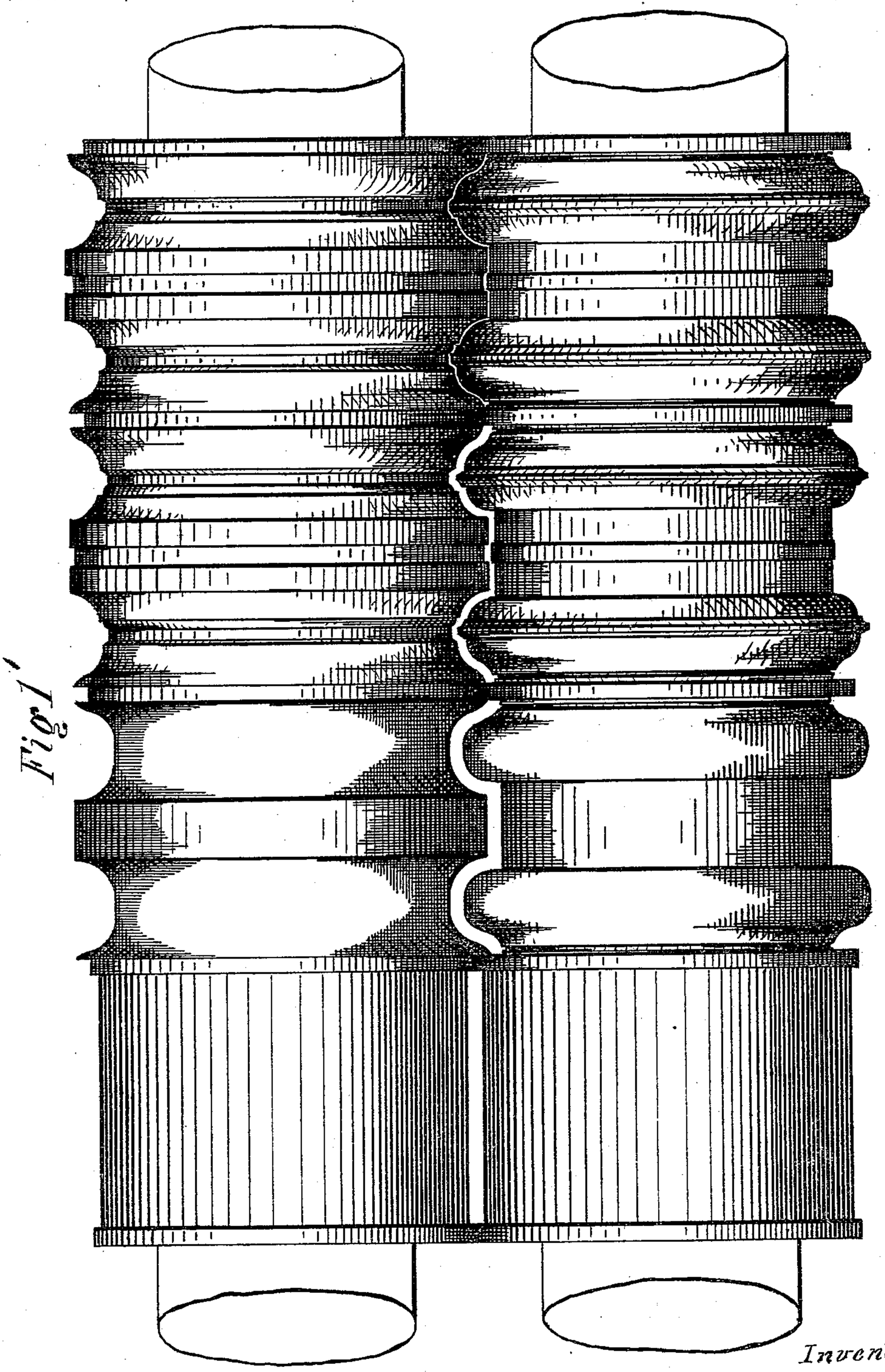


Fig. 1.

Witnesses.
Marcia P. Manly
T. P. Manly.

Inventors.
Marcus M Manly
Robert P Manly

3 Sheets--Sheet 2.

M. M. & R. P. MANLY.

Metallic Hand-Rails.

No. 148,725. Patented March 17, 1874.

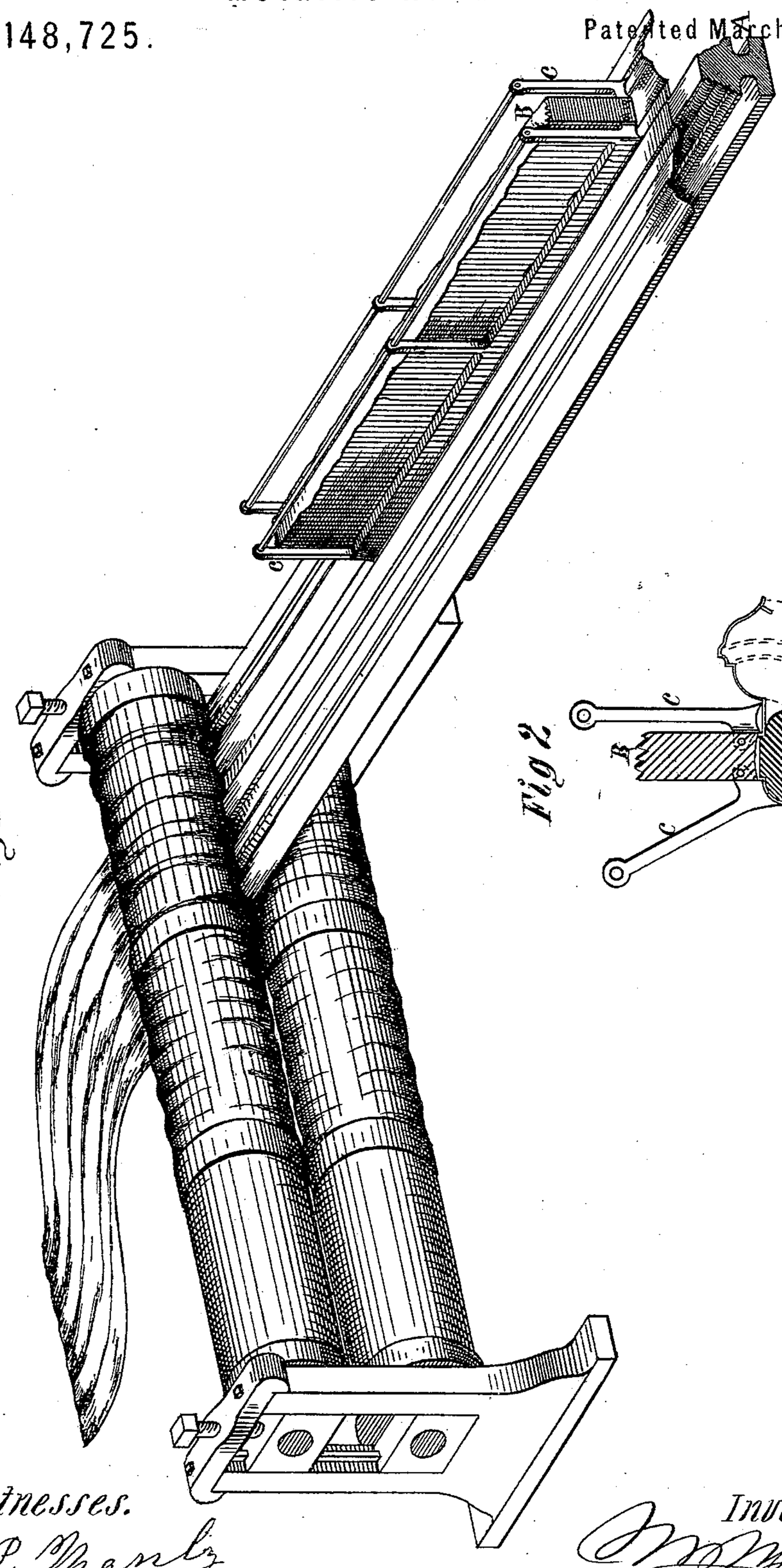


Fig 1

Fig 2

Witnesses.

M. P. Manly

M. A. Manly.

Inventors.

M. M. Manly

Robert P. Manly

3 Sheets--Sheet 3.

M. M. & R. P. MANLY.

Metallic Hand-Rails.

No. 148,725. Patented March 17, 1874.

Fig 3.

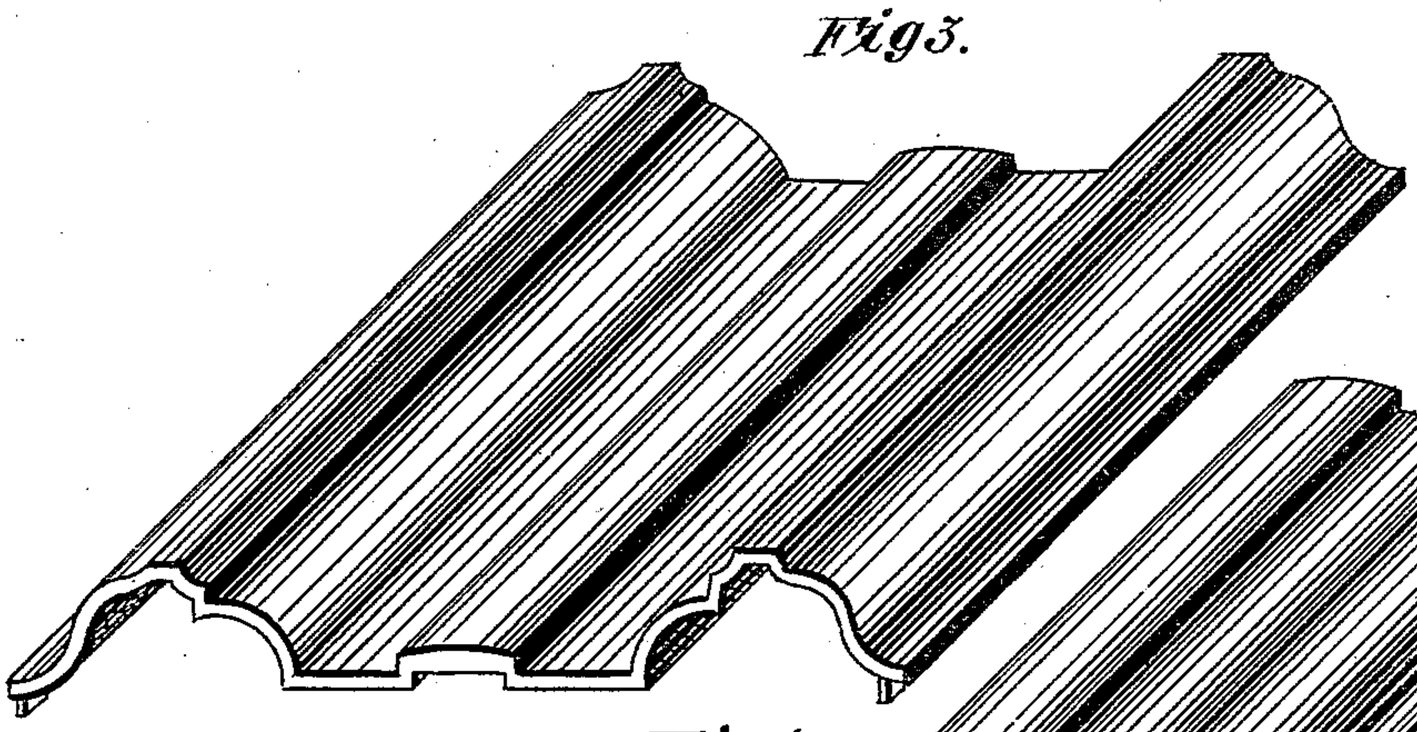


Fig 4.

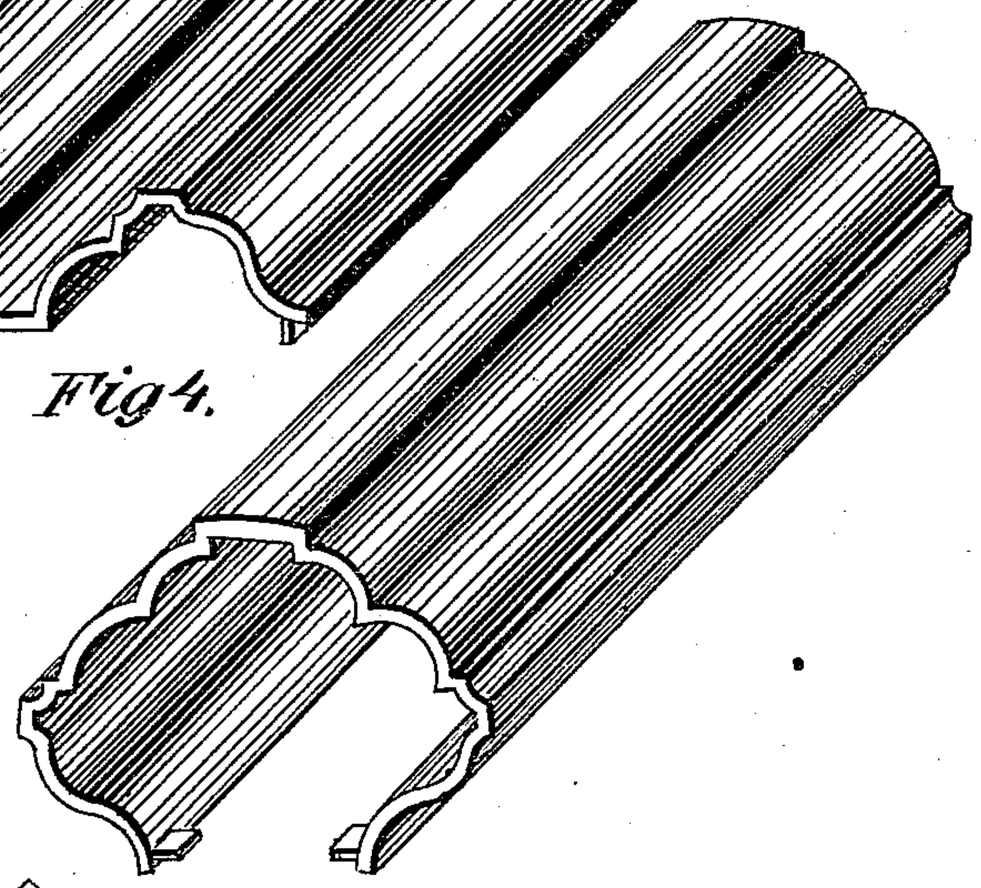
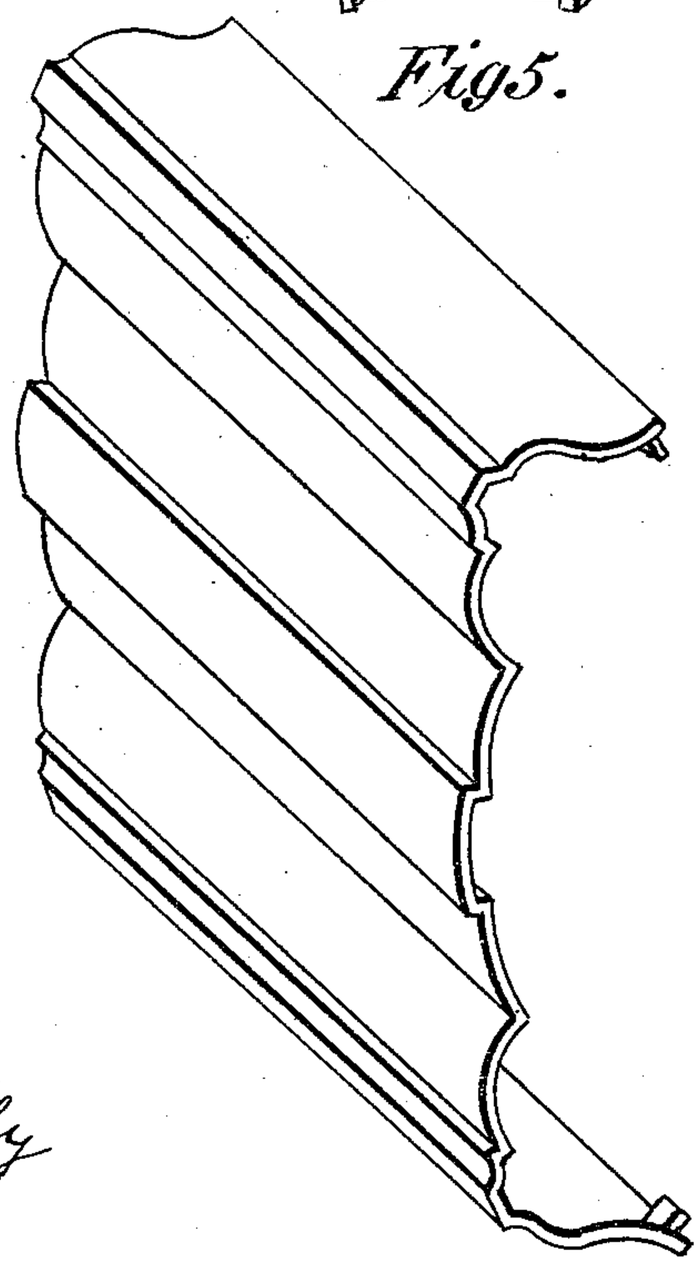


Fig 5.



Witnesses:

Marcia P. Manly
J. D. Manly

Inventor.

Marcus M Manly
Robert P Manly

UNITED STATES PATENT OFFICE.

MARCUS M. MANLY AND ROBERT P. MANLY, OF PHILADELPHIA, PA.

IMPROVEMENT IN METALLIC HAND-RAILS.

Specification forming part of Letters Patent No. **148,725**, dated March 17, 1874; application filed November 7, 1873.

To all whom it may concern:

Be it known that we, MARCUS M. MANLY and ROBERT P. MANLY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a Hollow Bent Rolled Hand-Rail, of which the following is a specification:

The nature of our invention consists in making a hollow rolled iron or steel hand-rail in one piece with the ornamental curves and angles made in rolling, and then bending it into the hollow form after it comes from the rolls while hot.

Figure 1 is a perspective view of the rolls and bender. Fig. 1′ is an enlarged view of the rolls. Fig. 2 is a cross-section of bender. Figs. 3 and 5 are perspective views of hand-rails, or blanks for forming hand-rail. Fig. 4 is a perspective view of a section of finished hand-rail.

The hand-rail or blank is rolled by the usual process of rolling iron, the required ornamentation of the hand-rail being given to the rolls, and in doing this it is desirable to have the general line of the blank as near a plane as can be and embrace all the sharp curves and angles, which are to be in the finished hand-rail, especially those on the edges. Some of the bolder ones near the middle should be left straight, as in Fig. 3, or partially curved, as in Fig. 5. The hollow form is given to the hand-rail immediately after it comes from the rolls while hot by conducting it directly onto the forming-rail *a*, when the clamp *b* is brought down onto the middle of the blank, and held there while the side hinged folders are brought down on each side, thus forming the finished hand rail.

We do not claim the process by which this hand-rail is made.

What we claim is—

A hollow ornamentally-molded rolled iron or steel hand-rail in one straight piece, substantially as described.

MARCUS M. MANLY.
ROBERT P. MANLY.

Witnesses:
HOPE MANLY,
MARCIA P. MANLY.