Richard Montgomery's
Imp.d Ingot for the manufacture of
Corrugated Steel Beams.

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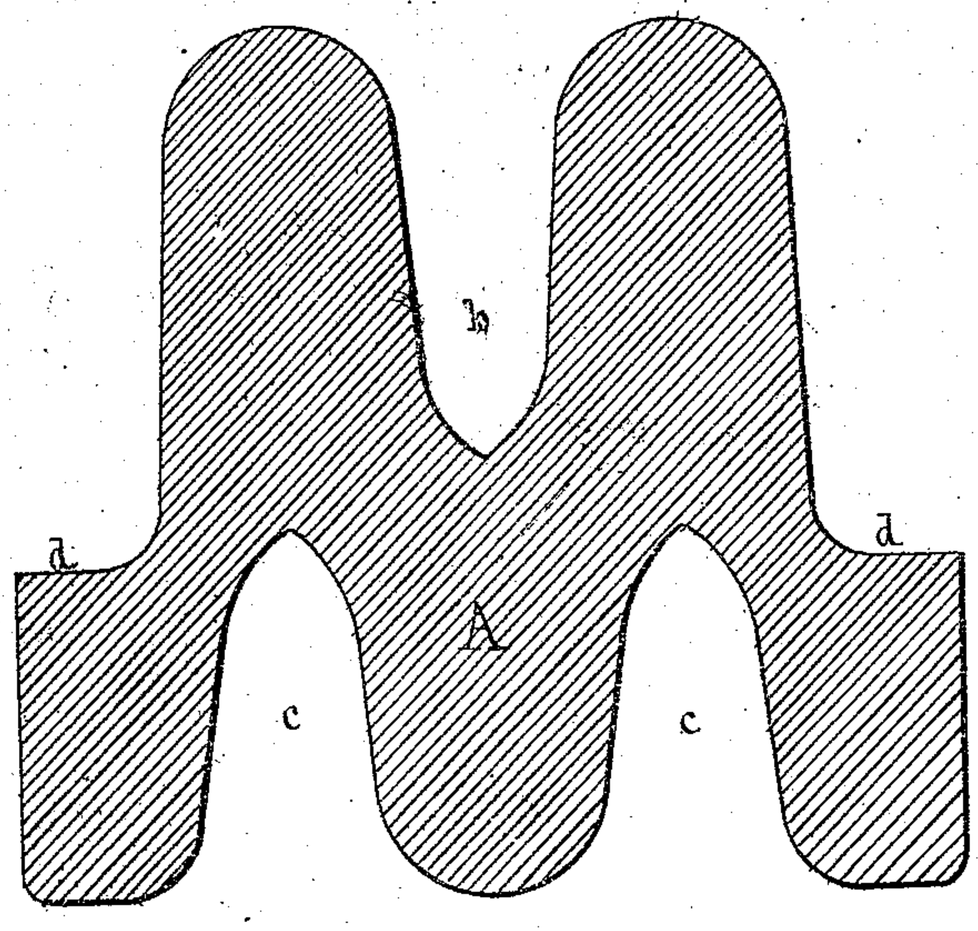
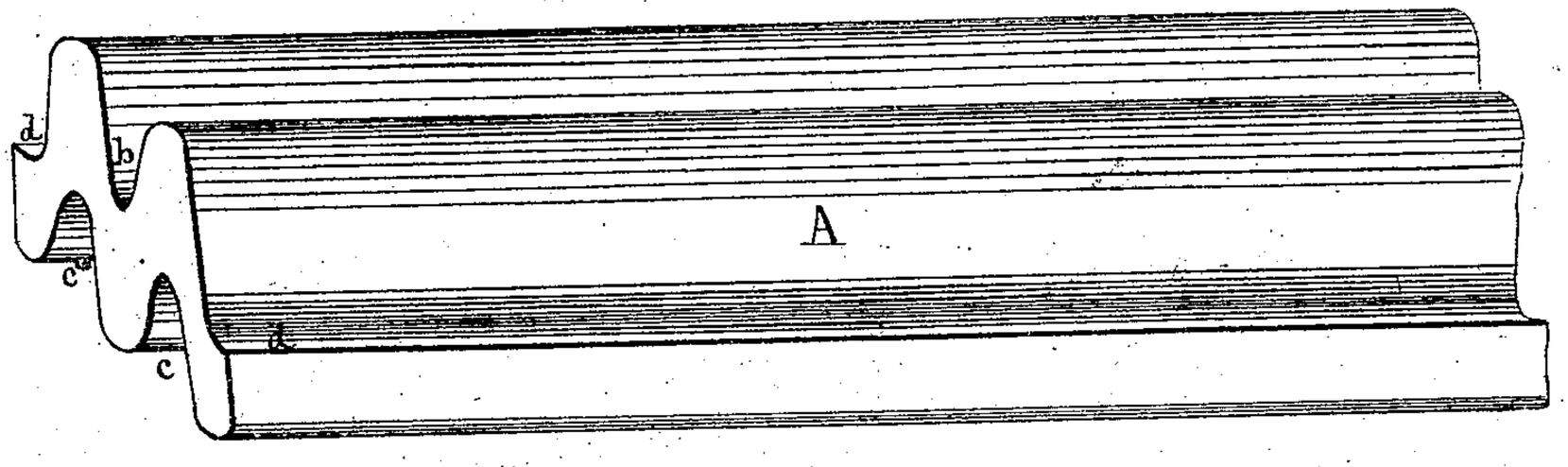
PATENTED AUG 23 1870





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United States Patent Office.

RICHARD MONTGOMERY, OF NEW YORK, N. Y.

Letters Patent No. 106,713, *dated August* 23, 1870.

IMPROVEMENT IN THE FORM OF INGOTS FOR CORRUGATED METAL BEAMS.

The Schedule referred to in these Letters Patent and making part of the same

I, RICHARD MONTGOMERY, of the city, county, and State of New York, have invented a new and useful Improvement in the Process of Manufacturing Longitudinally-fluted or Corrugated Steel Beams, of which the following is a specification.

Nature and Objects of the Invention.

My invention relates to the form of ingots of "Bessemer" or other good steel to be used in the manufacture of corrugated steel beams, the grooves being sunken longitudinally in the ingot, and made to correspond in number and in relative position with those desired in the finished beam.

To convert the ingot, thus formed, into a beam, it should be passed, at a suitable temperature, between rolls provided with a series of finishing grooves, the first of which being made to correspond very nearly with those of the ingot, the object of my invention being to diminish the number of passes between the rolls heretofore required to reduce an ingot to a finished beam, and thus save time and the expense of the greater length of rolls and additional grooves required, as well as of the power and the wear and tear expended in making the preliminary passes.

Description of the Accompanying Drawing.

Figure 1 is an elevation in perspective, and

Figure 2 a transverse section of the ingot as cast preparatory to rolling.

General Description.

The ingot is cast, by preference, of the best Bessemer steel, directly from the furnace. The mold used is formed of such capacity that the ingot shall contain the proper weight of metal for the desired beam, said metal being disposed longitudinally, as shown in fig. 1, and provided with longitudinal grooves on either side, corresponding in their relative position to the folds or corrugations required in the finished beam.

A in the accompanying drawing is an ingot, cast for a corrugated beam having double folds or arches.

A single longitudinal channel or groove, *b*, is formed centrally on one side, (the upper,) and two similar channels, *c c*, of less depth, at equal distances from the center, on the opposite side thereof.

The two remaining sides of the ingot are recessed or cut away, so as to leave longitudinal projections *d d* on each side of the double grooves *c c*, to constitute the flanges on the base of the finished beam, all as clearly shown in fig. 2 of the drawing.

By using an ingot thus cast, in preference to those heretofore employed, a beam may be produced with one-third less passes between the rolls, and the beam may be wholly finished at a single heat.

Claim.

I claim as my invention—

The within-described improvement in the form of ingots designed for use in manufacturing longitudinally-corrugated steel beams.

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