

N. POUTILOFF.
CONSTRUCTION OF BUILDING.

No. 172,771.

Patented Jan. 25, 1876.

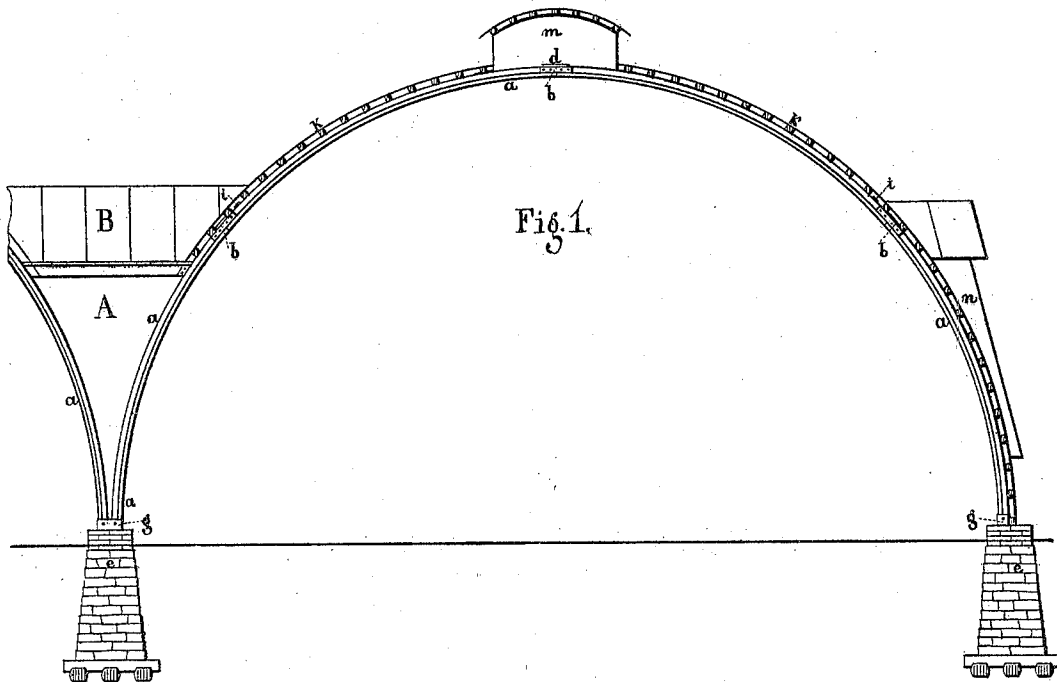
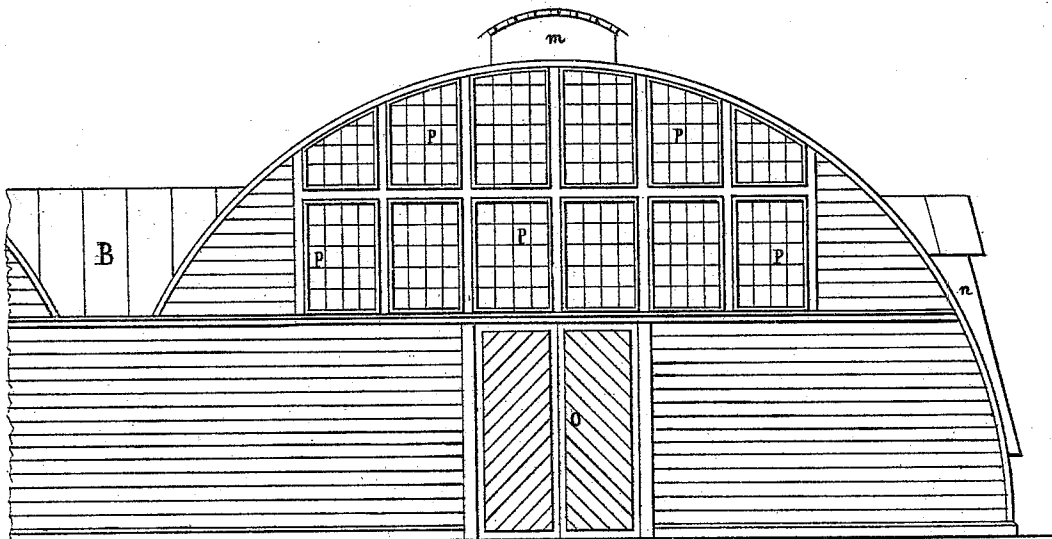


Fig. 2.



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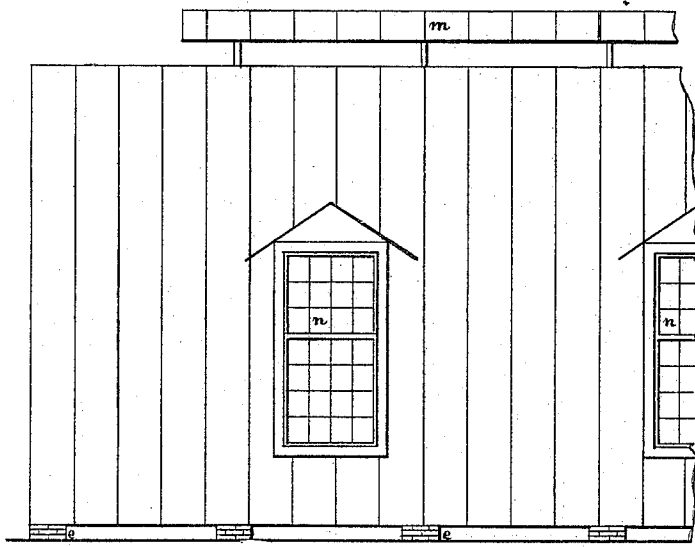


Fig. 3.



Fig. 4.

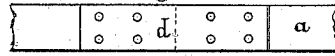


Fig. 5.

Fig. 12.

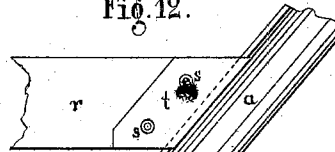


Fig. 13.



Fig. 6.

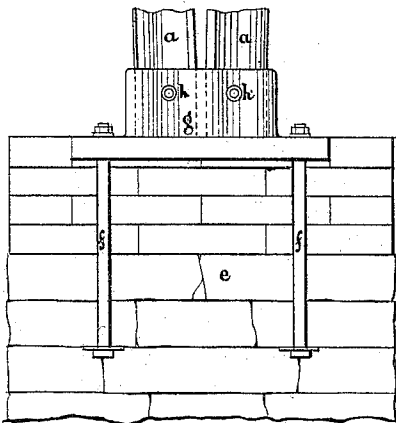


Fig. 8.

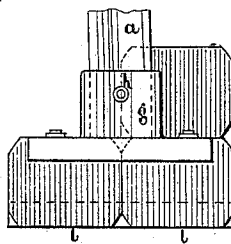


Fig. 10.

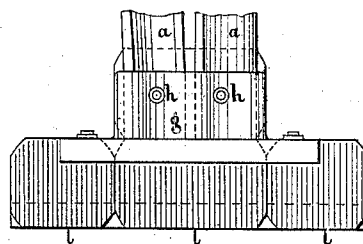


Fig. 7.

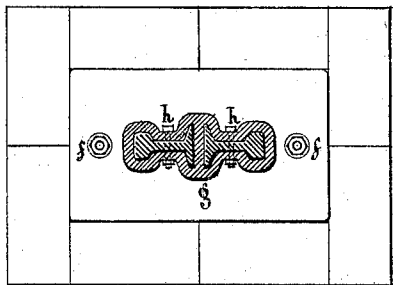


Fig. 9.

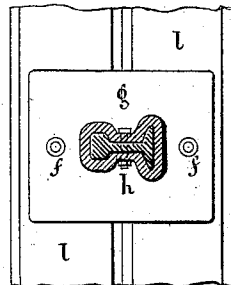
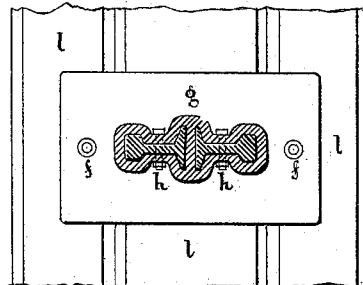


Fig. 11.



Witness
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UNITED STATES PATENT OFFICE.

NICOLAS POUTILOFF, OF ST. PETERSBURG, RUSSIA.

IMPROVEMENT IN THE CONSTRUCTION OF BUILDINGS.

Specification forming part of Letters Patent No. 172,771, dated January 25, 1876; application filed August 14, 1874.

To all whom it may concern:

Be it known that I, NICOLAS POUTILOFF, of St. Petersburg, Empire of Russia, have invented certain Improvements in the Construction of Buildings, of which the following is a specification:

The object of my invention consists in the construction of buildings of a durable and inexpensive material, without the use of columns, beams, or other such like parts necessary to all large buildings, the dimensions of which increase according to the height and breadth of the building itself. For instance, in the building of smithies, manufactories, foundries, warehouses, &c., and, in short, all cold buildings, which, for convenience, must be wide and high, this invention will prove to be of the greatest value.

The mode of construction of these new buildings, erected, preferably, of old railway-rails, reposing on stone foundations if the ground be soft, or on wooden ones if the ground be hard and dry, is shown in the annexed drawings, of which—

Figure 1 represents the transverse vertical section of a building constructed with rails reposing on a stone foundation, and covered with sheet metal; Fig. 2, an end view of the same; Fig. 3, a side view of the same.

The reference-letters are the same on all these figures.

The invention, principally, consists in constructing buildings of a number of arched ribs or principals, *a*, Fig. 1, placed at right angles to the length of the building, and made of railway-rails, bent according to the required curve, and so disposed that the head of the rail forms the inner, and the foot of the rail the outer, flange.

It is obvious that the number of these arched ribs depends upon the length of the building, and the number of rails in each arched rib upon the width of the building.

The abutting ends of the rails are secured together by means of two fish-plates, *b*, Figs. 4 and 5, accurately fitting in the recesses between the head and the foot of the rails, and secured to the sides of the abutting ends by means of four screw-bolts, *c c*. The rails are also secured together by another plate, *d*, Fig. 5, riveted to the abutting outer flange.

The arched ribs, constructed of rails in the manner described, repose on a stone foundation, *e*, Fig. 1 and Fig. 6. It is not necessary for this kind of building that the foundation should extend the entire length of the building. It is sufficient to have separate piers, *e*, of brick or masonry, placed about ten feet apart. Upon each of these piers *e*, Figs. 6 and 7, is fixed, by means of bolts *ff*, an iron socket or shoe, *g*, with one or more recesses, according to the number of ribs to be held. These recesses are of a shape corresponding to the configuration of the rails. Each end of rail is fixed in the recess of the socket corresponding to it by bolts *h h*.

The Figs. 8, 9, 10, and 11 show the way adopted in building on hard ground. In that case the single socket *g*, Figs. 8 and 9, or the double socket, Figs. 10 and 11, is fixed on wooden bearers *l l*.

Along the building the arched ribs *a*, Fig. 1, are fastened together by longitudinal tie-bars *i i* of flat iron, strongly riveted to the rails. The arched ribs are, furthermore, covered with wooden or iron purlins *k k*, on which is fastened the roof, which may be of sheet metal or wood.

In using, for the roof, bituminized card-board, slate, or tiles, the purlins *k* must first be covered with wooden boards.

Along the building, at the crown of the roof, is constructed a skylight, *m*, Figs. 1, 2, and 3, serving to light and ventilate the interior.

At the longitudinal sides of these buildings are placed the windows *n n*, Figs. 1, 2, and 3, and at the ends are the doors *o*, Fig. 2, and several windows, *p p*. The ends of the building are closed in by inclosures of wood, iron, or other material.

If, for the sake of gaining space, the building is composed of two or more such inclosed spaces, side by side, passages *A*, Fig. 1, may be left between them for communication, in which case the whole of the space *A* between the two adjoining spaces is covered in by the roof *B*. To gain height the roofing *B* is made circular. The roof *B* reposes on the bearers *r*, strongly fastened to the arched ribs by means of connecting-plates, Figs. 12 and 13, and of bolts *s*.

Thus constructed, preferably of old rails, the buildings are perfectly strong, and light, and inexpensive, and very spacious. They have, therefore, qualities which hitherto have only been attained by the use of iron lattice-girders, which are very expensive.

Having thus described my said invention, and the manner in which it is to be performed, I have to state that I do not restrict myself to the precise details herein described; but

I claim to be novel in my invention—

A frame for buildings, consisting of the arched rails *a*, fish-plates *b*, screws *c*, plate *d*, iron sockets *g*, bolts *h*, and purlins *k*, all constructed and relatively arranged as described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of June, 1874.

NICOLAS POUTILOFF.

Witnesses:

FREDERICK KAUPÉ,
NICOLAS TCHEKALOFF.