

(No Model.)

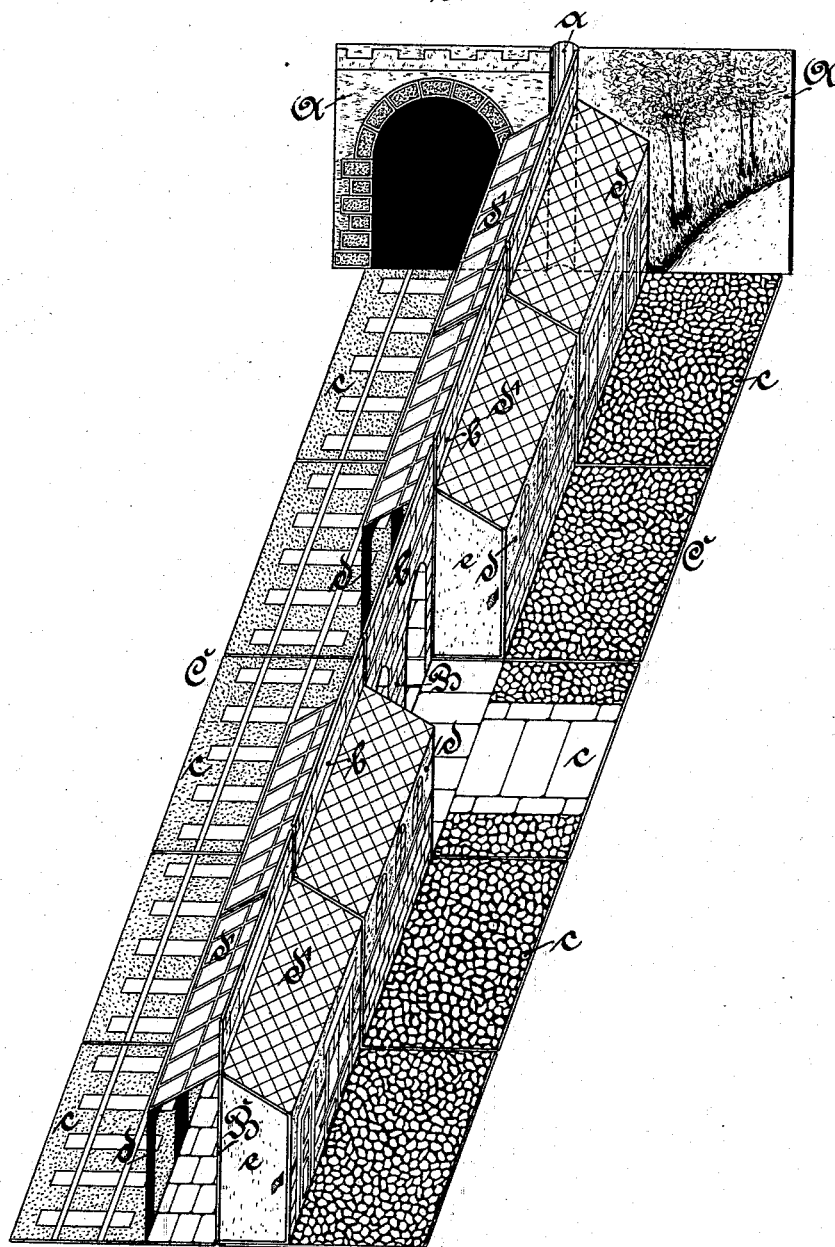
2 Sheets—Sheet 1.

F. C. KRANTZ.
FOLDING OR COLLAPSIBLE MODEL.

No. 524,855.

Patented Aug. 21, 1894.

Fig. 1.



Witnesses.
Ch. Koef
Hugo Dammann

Inventor:
Felix C. Krantz
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

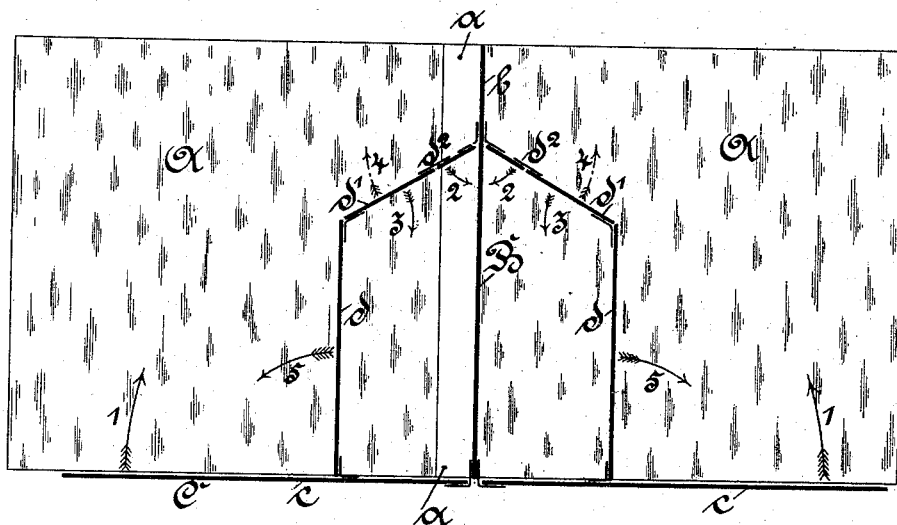
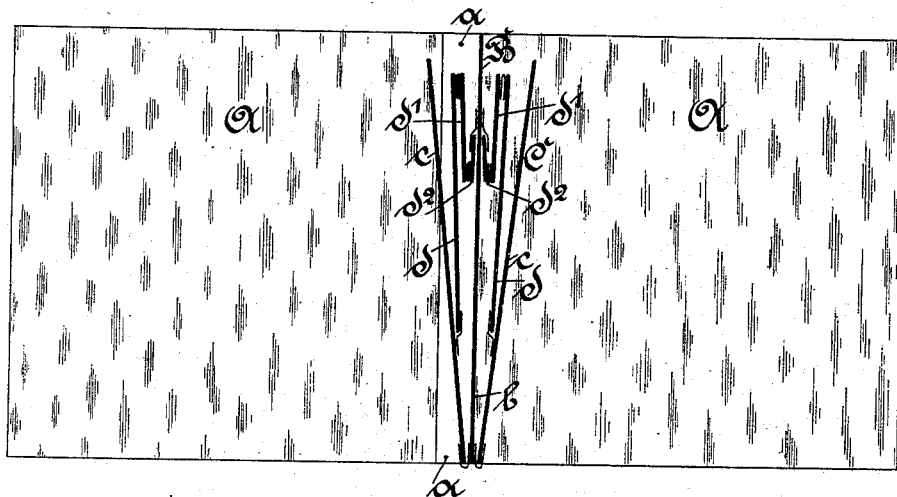


Fig. 3.



Witnesses:

W. H. Hoff
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UNITED STATES PATENT OFFICE.

FELIX CONSTANTIN KRANTZ, OF DRESDEN, GERMANY, ASSIGNOR TO EUGEN FRIEDRICH FRIESE AND JESCO LEO KONSTANTIN VON PUTTKAMER, OF SAME PLACE.

FOLDING OR COLLAPSIBLE MODEL.

SPECIFICATION forming part of Letters Patent No. 524,855, dated August 21, 1894.

Application filed March 15, 1894. Serial No. 503,786. (No model.)

To all whom it may concern:

Be it known that I, FELIX CONSTANTIN KRANTZ, a subject of the Emperor of Germany, residing at Dresden, Germany, have invented certain new and useful Improvements in Folding or Collapsible Models, of which the following is a specification.

The folding models or toy buildings which are the subject of this invention, contrary to the similar toys which have no use and serve no purpose apart from attractive appearance, represent and constitute a game or amusement which is in itself an occupation. The toys referred to consist of a number of separate articles or objects, ranged one behind the other, but flat in themselves; whereas those constructed according to this invention are really plastic models possessing form and substance, and without any reverse side. The former, in a certain manner, present only an apology for relief, while the latter give its actual realization and presentment. The former, by the association and union of parts which go to make the so-called raised or elevated pictures, have developed into books; the latter enable me to give perfect representations in wood, paste-board, or papier maché of the costly, troublesome and spacious fortresses, houses and buildings of cities, as they exist, and, like them, supply a genuine occupation, in the form of an amusement or game.

The application of my invention which is illustrated in the accompanying drawings, by way of example, is intended to represent a railway station as the central idea of a proposed game with railway-carriages, wagons, omnibuses, human figures, &c., and these lay the foundation and furnish the stage or scene for an actual game to be played; not merely something to be looked at and admired. In a similar manner, I have it in contemplation to develop a street, busy with traffic of all kinds, barracks with soldiers of all arms, and more of the same kind. The models fold up after the manner of a pocket-map or plan, a folding panorama, a "Leporello" album, and the like; they may be joined at one end to a book-cover with a view to their being folded inside the same; or also

joined to the bottom of a box or case. The former is supposed to be the case in the accompanying drawings, in which—

Figure 1 is a general perspective view of the folding model, and Figs. 2 and 3 cross sections showing the nature and method of the folding devices.

On one edge of the book-cover is fixed (by means of a linen or equivalent strip) with a hinge or flexible joint the vertical wall B, consisting of several leaves or sections *b* also united to each other by hinge-joints. To the lower edge of B are similarly attached, on both sides, with hinge-joints the leaves or sections *c* of the ground C which are likewise jointed together by hinges. Thus a structure or framework is formed, in the shape of an inverted T in cross section (Fig. 2), which forms the skeleton of the building. The side-walls *d* of the finished building are hinged together and to the leaves or sections *c* and the roofs *d'* are also hinged together and to the leaves or sections *b*. The necessarily greater breadth of the roof-sections *d'* as compared with the ground sections inclosed between the vertical sections *b* and *d*, consequent on and proportionate to their inclined position, would prevent the proper folding of the parts together, the one over the other, but for the provision of an extra folding joint at *d*² (Figs. 2 and 3). By means of this additional fold, the entire structure collapses in the form and position shown in Fig. 3 in section (somewhat after the fashion of an umbrella frame). In point of length *d* and *d'* must correspond to the length of a single leaf or section of B or C or be slightly smaller; thus in the prolonged structure constituting the station in this illustration, the parts *d* and *d'* are arranged in accordance with sections *b* and *c*. The gable-ends *e* serve to stiffen and support the model when duly expanded and set up, being hinged on the sections *b*, and they can be utilized as doors in the game.

In Fig. 1 the parts to the right of the central wall B of the model represent the outside or the street side, those to the left the inner or platform side of the railway station. The former can be used, in the game, for road-ve-

hicles, &c.; the latter for the trains of railway carriages with locomotives, &c. The model gives occasion for manifold suggestions and occupation for children; and the same holds good, naturally, for similar models representing buildings, &c., of other and various kinds, such as already mentioned.

Extremely attractive and interesting effects are readily obtainable by means of partial openings in the walls. Thus, for example, by means of door and window openings arranged in the central wall B, views can be given, from the platform-side into waiting rooms, telegraph-offices, &c., for which the walls *d* on the side of the street may furnish suitable backgrounds. Similarly the book-cover A, which serves to stiffen and sustain the entire structure of the model may be utilized, on its rear or inner side, *i. e.*, the side turned toward the station, for appropriate backgrounds, pictures or decorations, representing supplementary details of scenery and effects, as shown in Fig. 1.

As regards the folding together or collapse of the model structure, in the first place, the various sections or leaves representing the ground are turned up in the direction of the arrows 1 (Fig. 2) toward the central wall B; whereupon the joints *d*² become doubled inward and the roof sections fold in the direction shown by the arrows 2 and 3, the outer or lower parts pivoting, as it were, on their centers, in the direction indicated by the arrows 4, while the side walls *d* fold up against the sections *c*, as shown by the arrows 5. In this manner, the several parts or sections as-

sume the relative positions shown in section in Fig. 3, which enables the whole to be folded together within the book-cover, on the principle of the pocket-maps or "Leporello-albums" previously mentioned.

I claim—

1. A folding or collapsible model or toy building or structure comprising a central vertical wall composed of several hinge-jointed or flexibly connected leaves or sections, a ground or floor also consisting of several leaves or sections hinge-jointed or flexibly-connected to one another as well as to the central wall and on both sides thereof and constituting a framework, the side-walls and roofs of the building jointed together as well as to the ground and central wall respectively, the whole being practically destitute of any reverse side substantially as set forth.

2. In a folding or collapsible model or toy, the combination of a folding cover, a central vertical wall B hinged to said cover and consisting of several leaves or sections *b*, hinged together, and the ground or floor C consisting of leaves or sections *c*, hinged together and to the central wall B on both sides thereof, all as and for the purpose specified.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

FELIX CONSTANTIN KRANTZ.

Witnesses:

OTTO WOLFF,

HUGO DUMMER,

Both of Dresden.