

(No Model.)

3 Sheets—Sheet 1.

H. P. DE LASTELLE.
SEPARABLE SKELETON STRUCTURE.

No. 491,288.

Patented Feb. 7, 1893.

Fig. 2

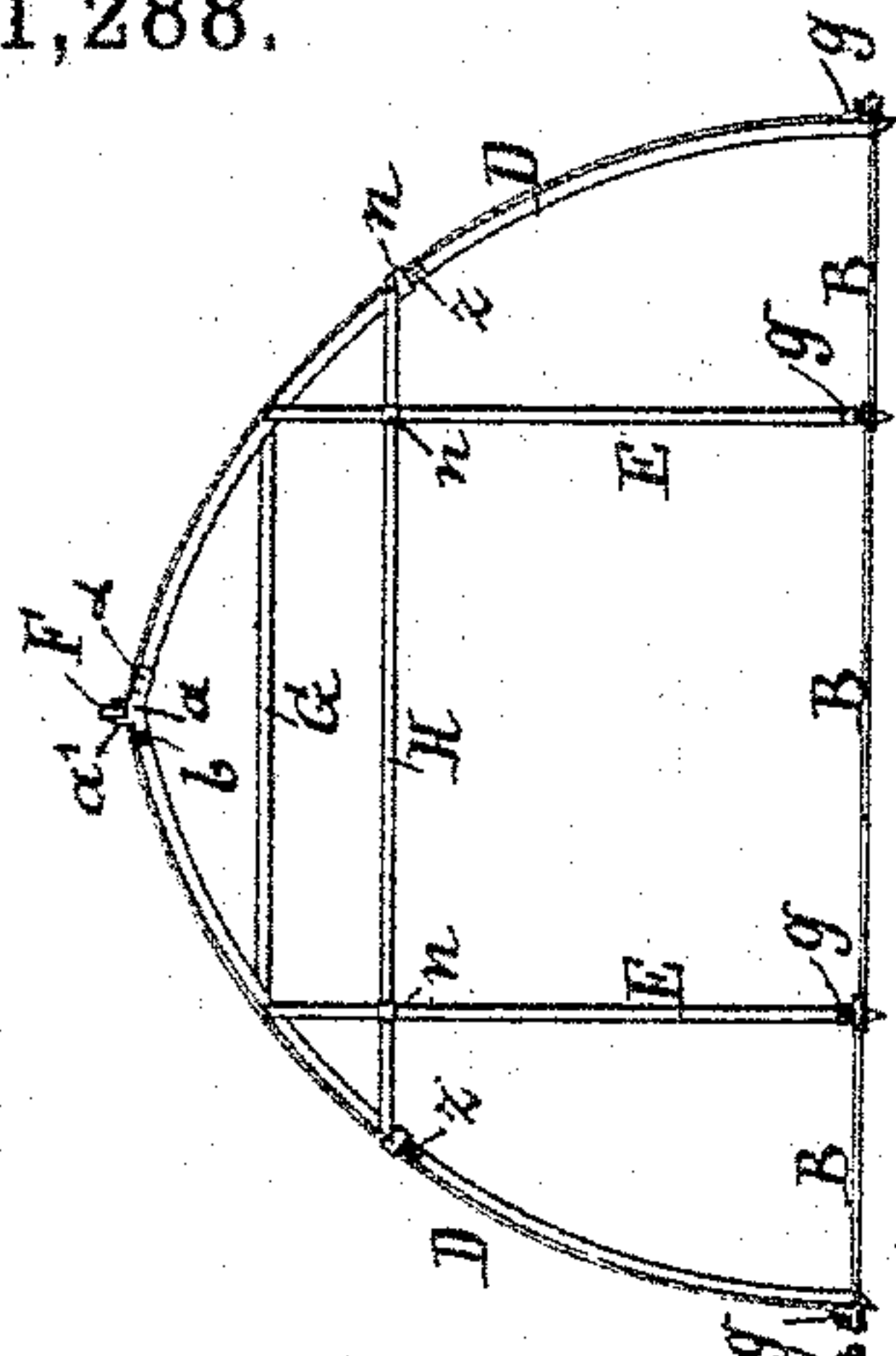


Fig. 1

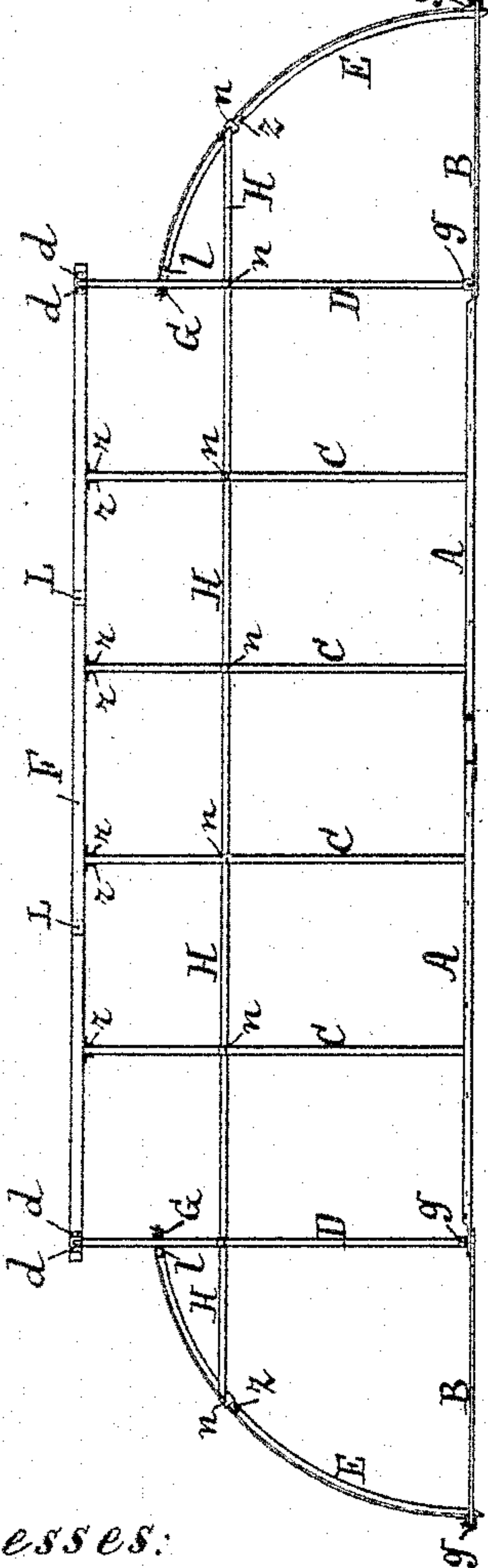
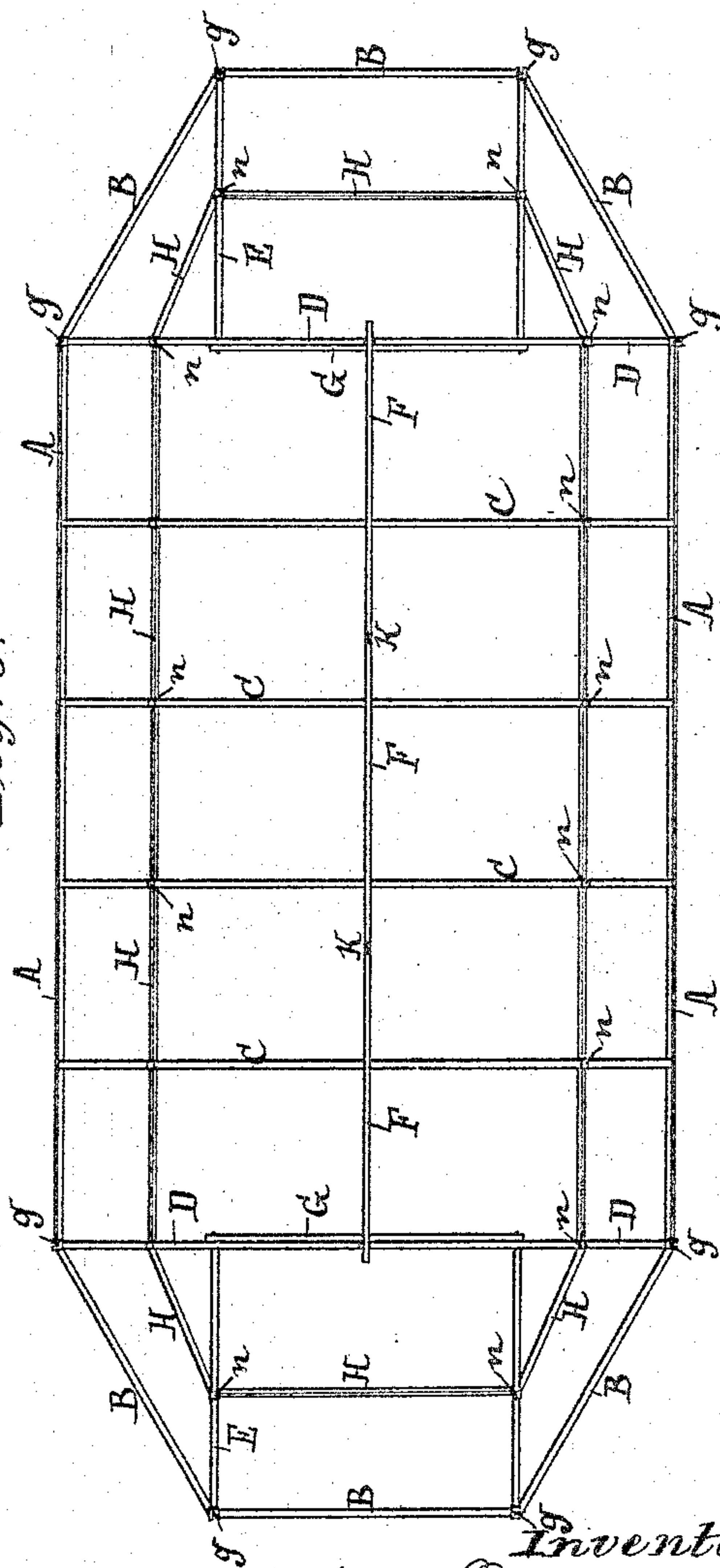


Fig. 3.



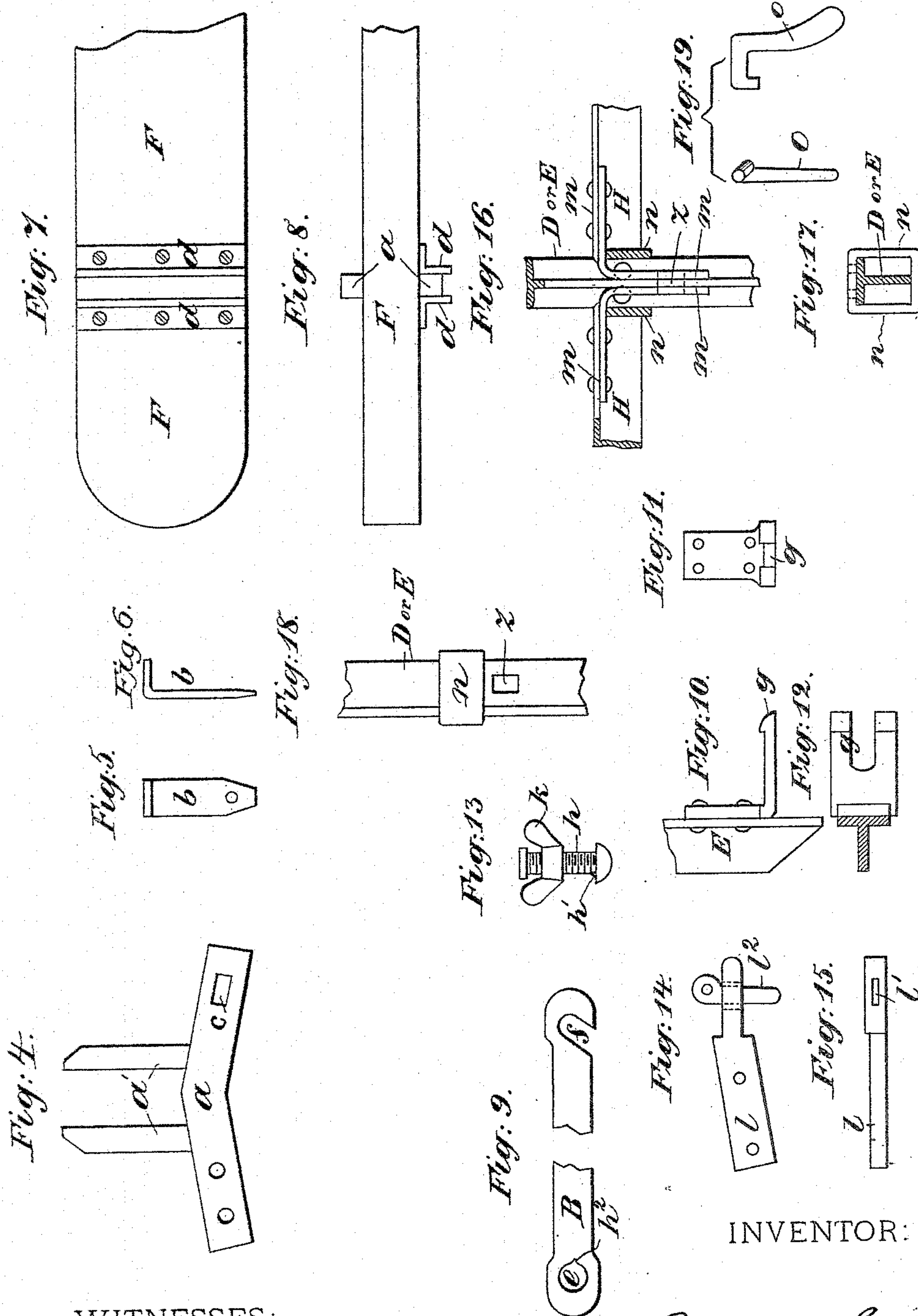
Witnesses:
Herbert Bloom
Peter A. Ross

Inventor:
Henry P. de Lastelle.
by Henry Courant
his Attorney.

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WITNESSES:
Herbert Blossom
Peter A. Ross.

INVENTOR:
Henry Pellerin de Lastelle
By Henry Connors
Attorney.

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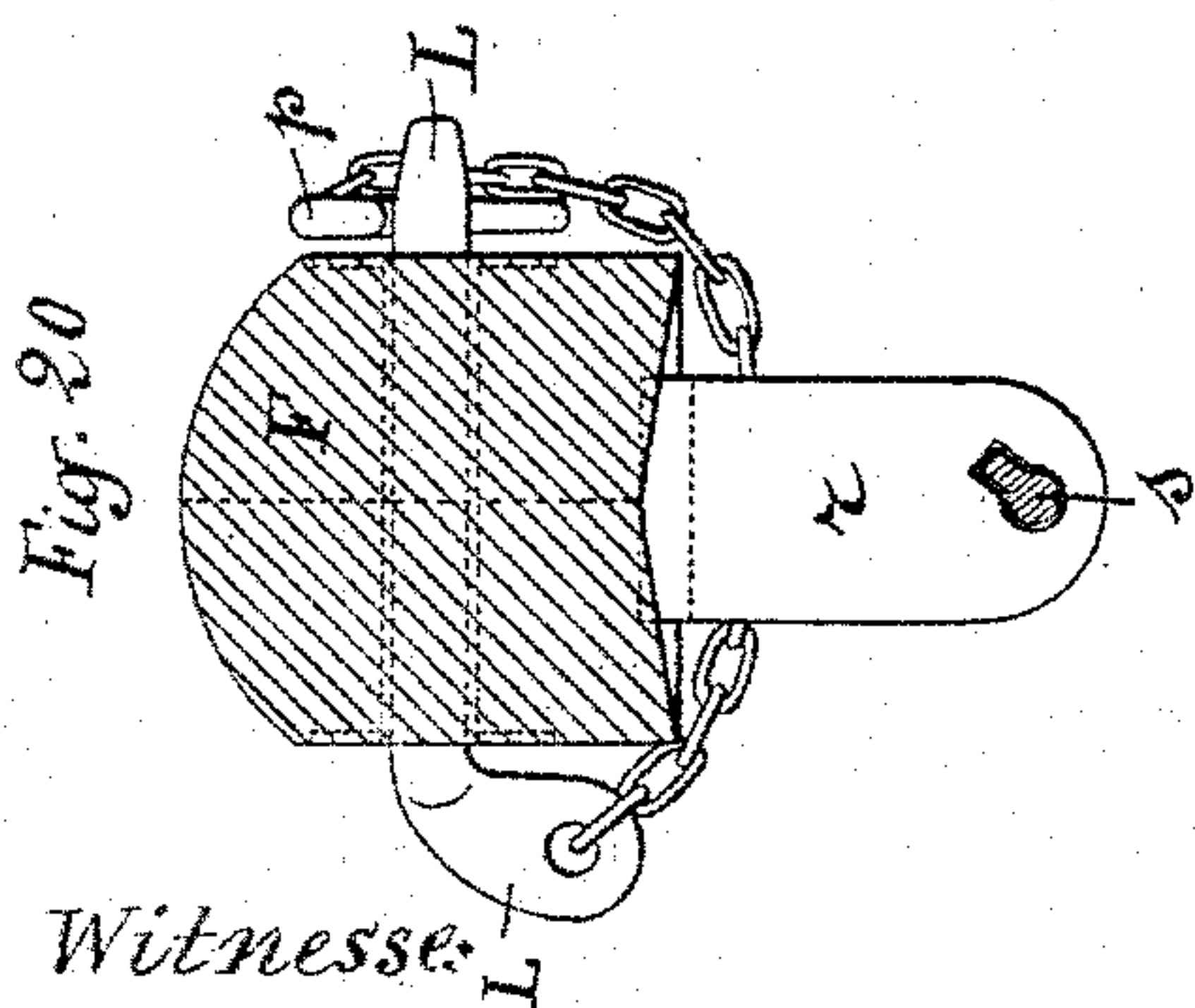
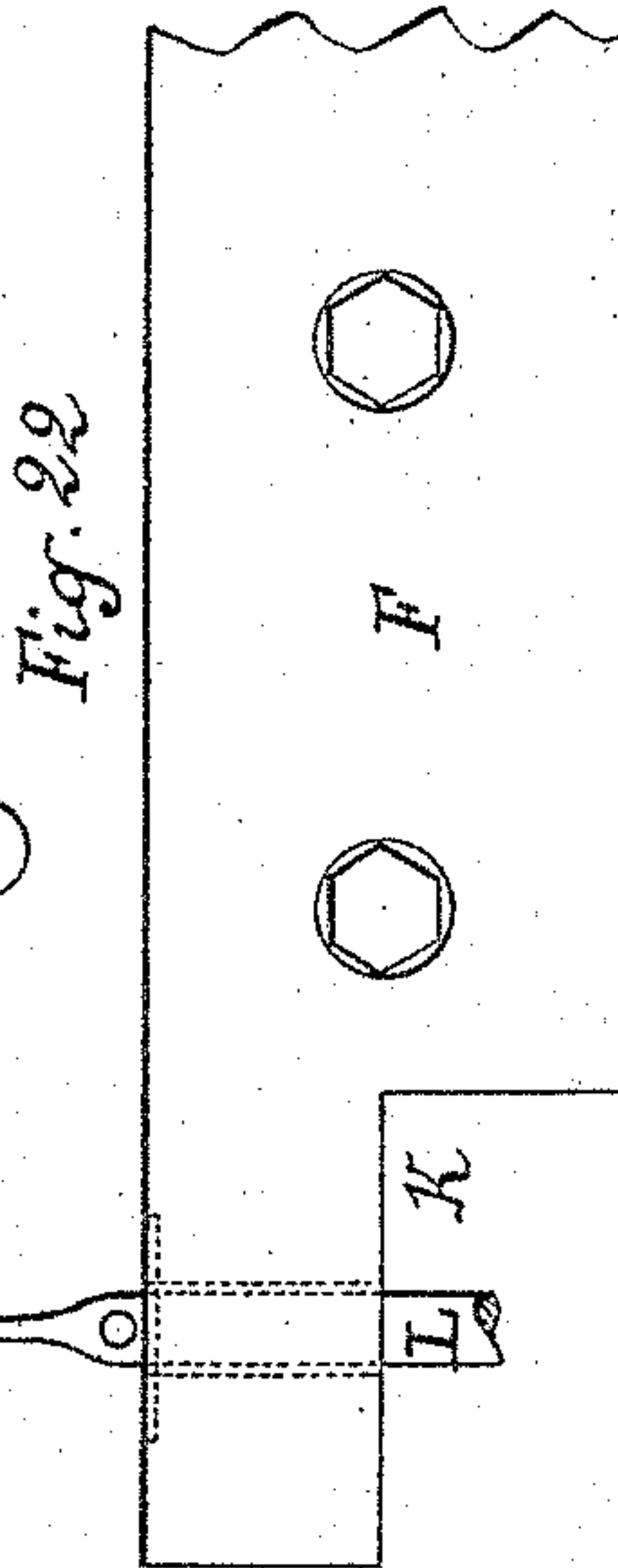
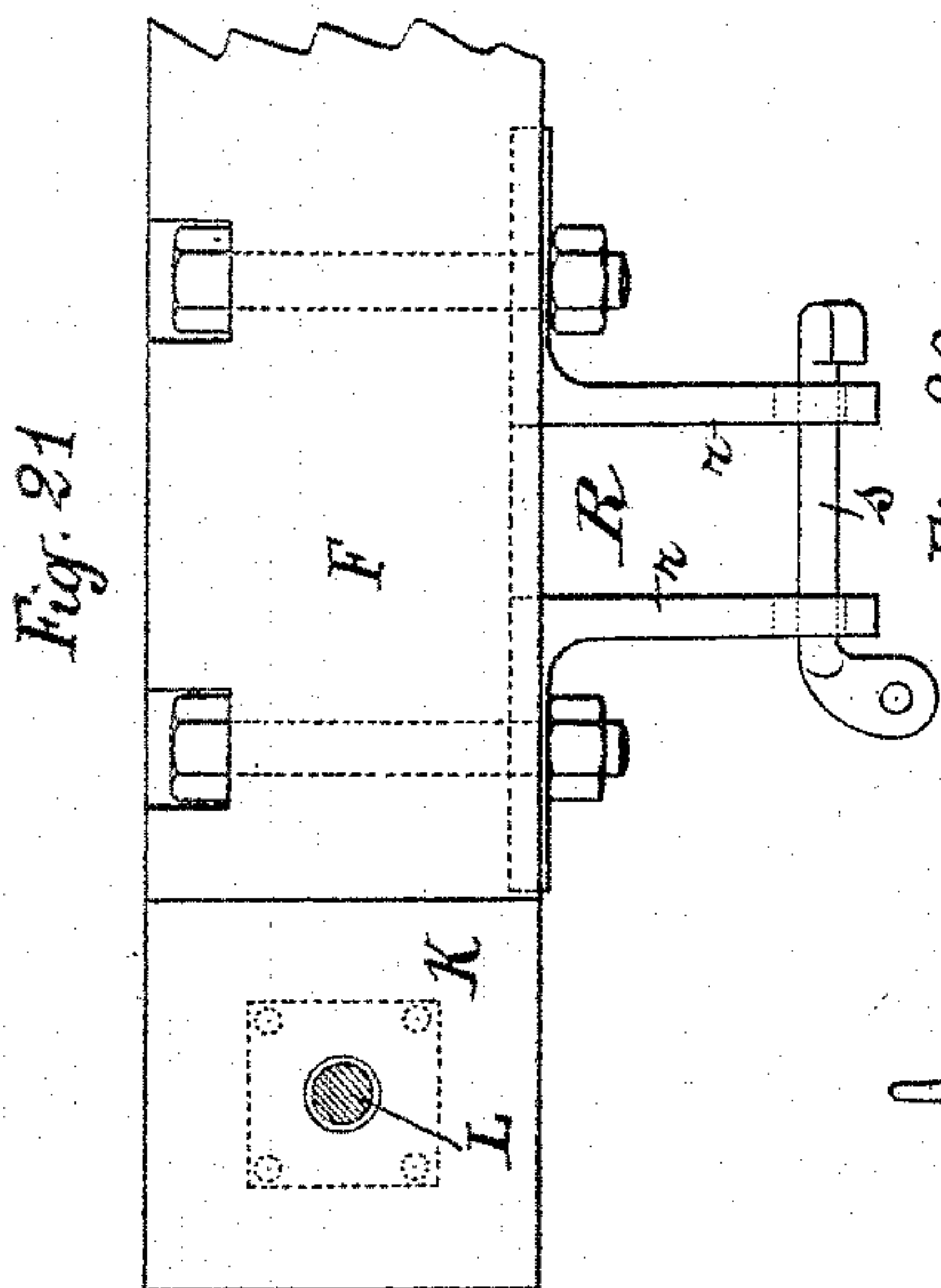
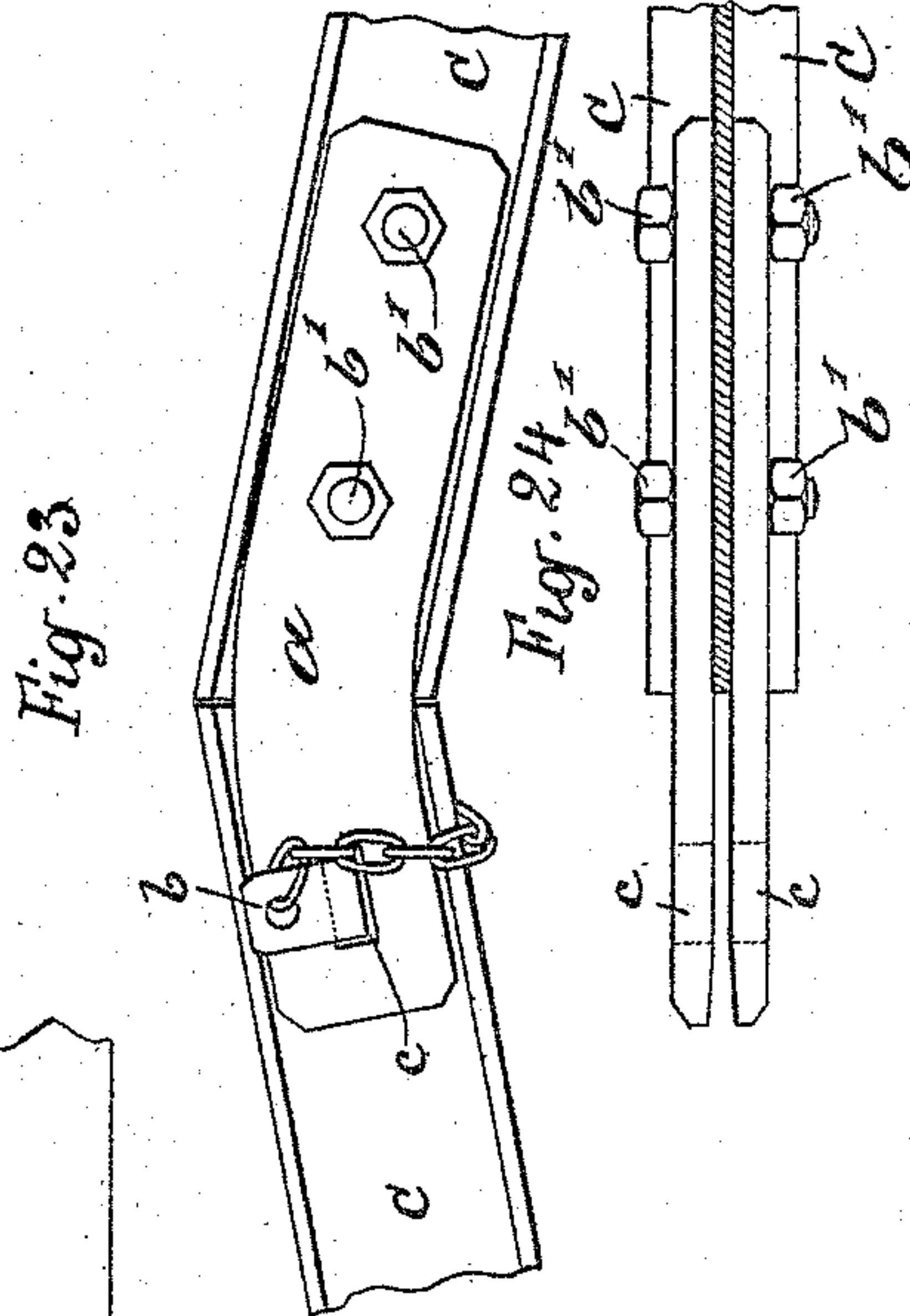
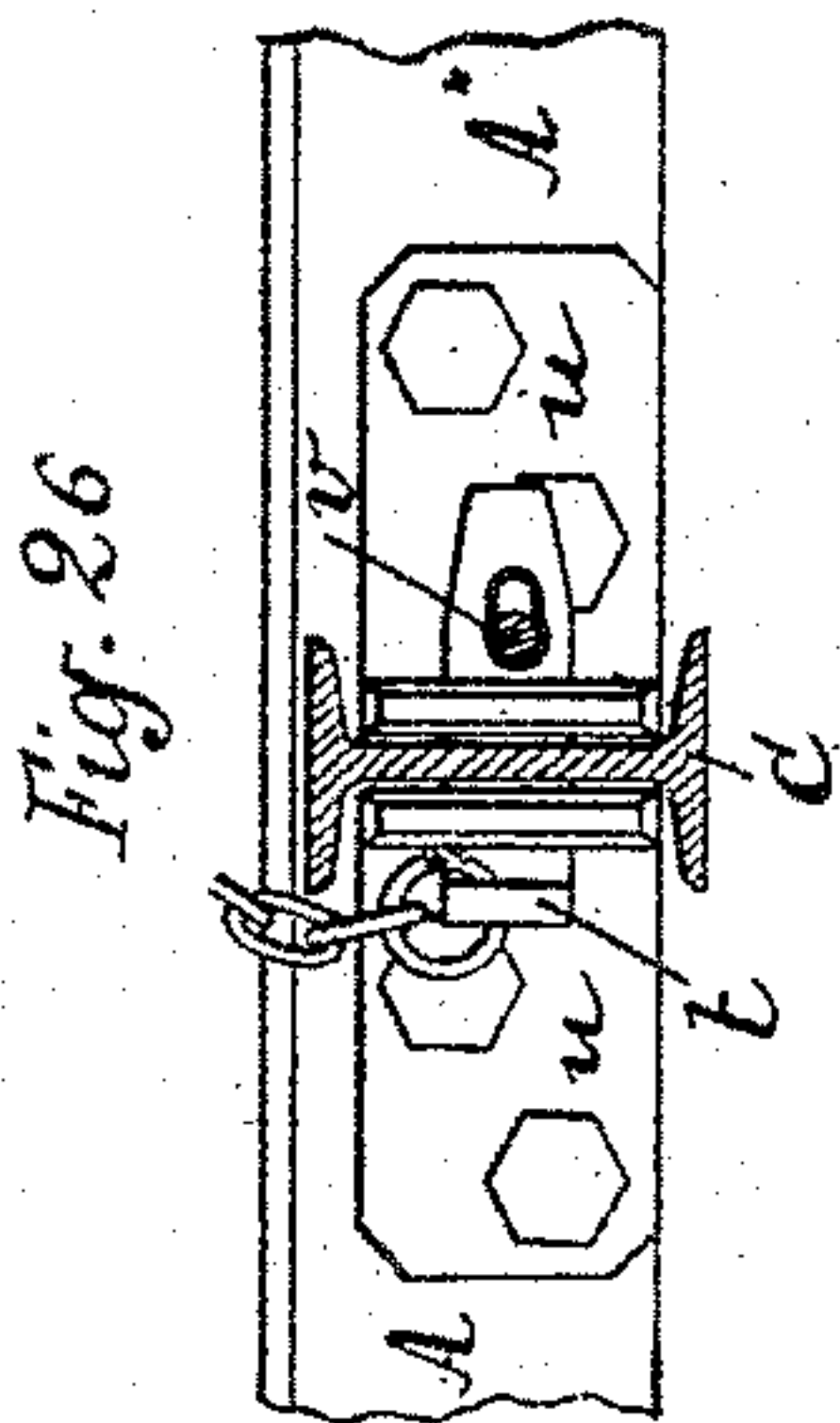
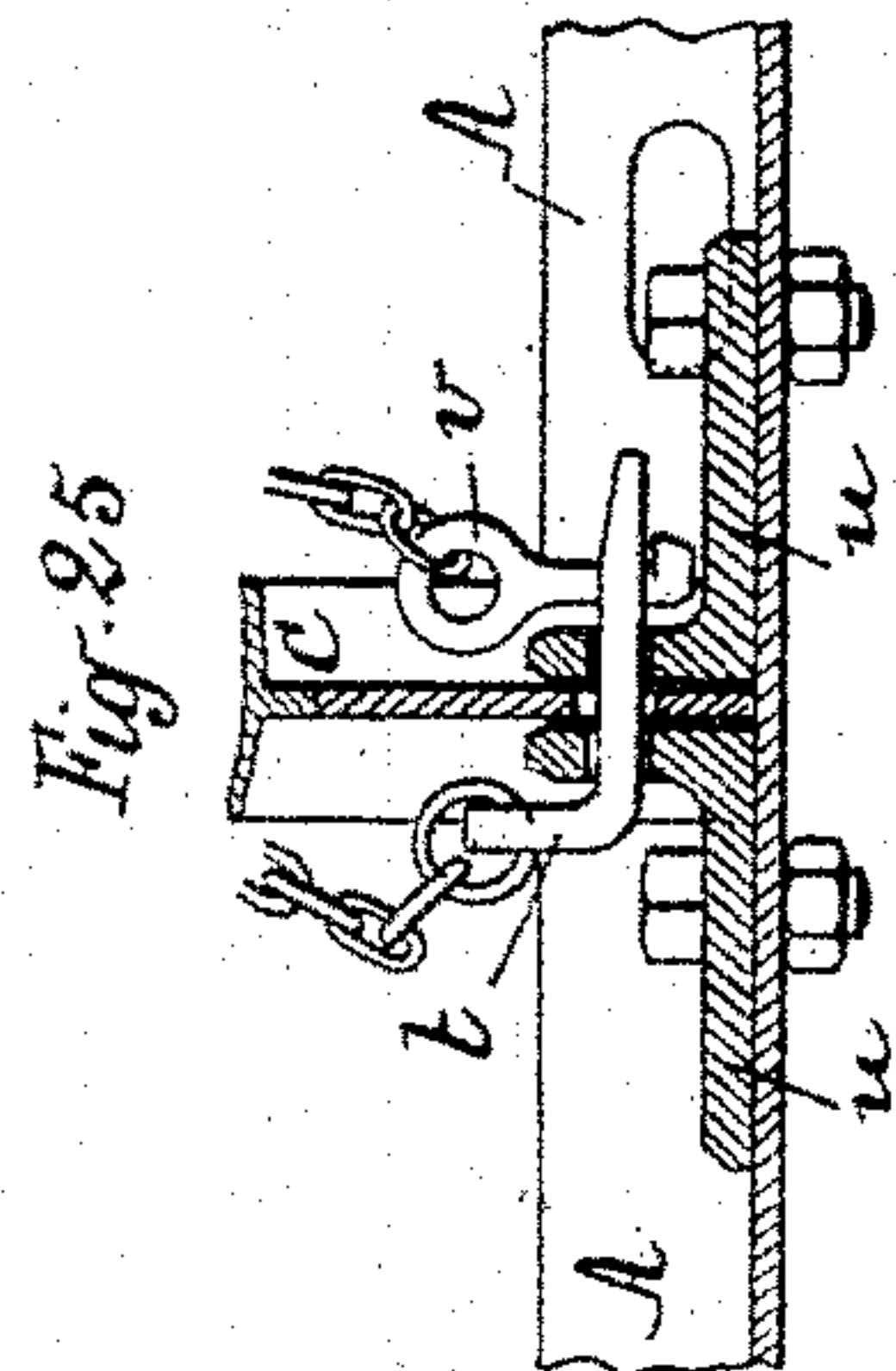


Fig. 16 bis

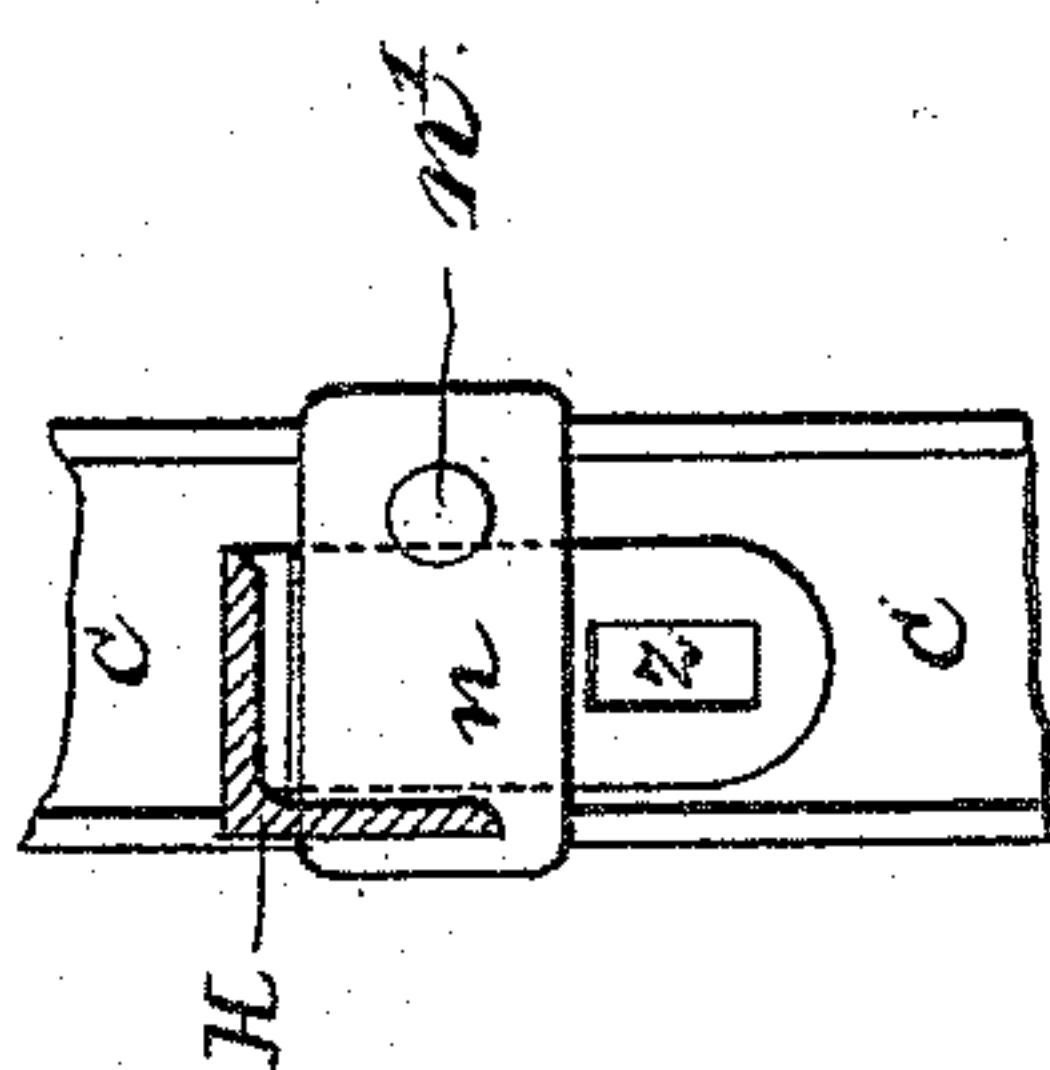
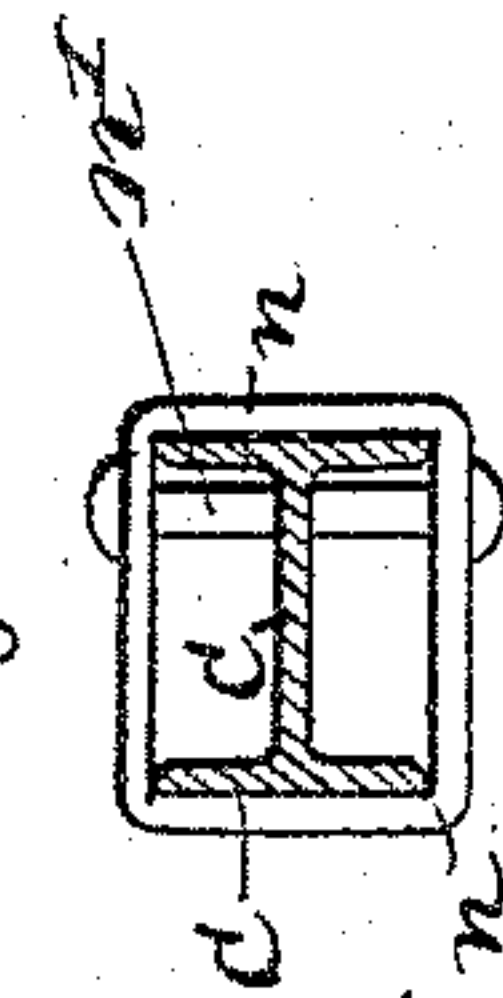


Fig. 17 bis



Witness:
Herbert Bloom
Peter A. Ross

Inventor:
Henry P. de Lastelle
by Henry Brown
his Attorney

UNITED STATES PATENT OFFICE.

HENRY PELLERIN DE LASTELLE, OF PARIS, FRANCE, ASSIGNOR TO SOCIÉTÉ NOUVELLE DE CONSTRUCTIONS SYSTEME TOLLET, OF SAME PLACE.

SEPARABLE SKELETON STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 491,238, dated February 7, 1893.

Application filed June 25, 1892. Serial No. 437,996. (No model.)

To all whom it may concern:

Be it known that I, HENRY PELLERIN DE LASTELLE, a citizen of the French Republic, residing at Paris, France, have invented certain Improvements in Separable Skeleton Structures, of which the following is a specification.

My invention relates to the class of frames for temporary structures, such as pavilions, tents, &c., usually of metal, or of metal and wood combined.

The invention will be fully described hereinafter and its novel features carefully defined in the claims.

In the accompanying drawings—Figure 1, is a side elevation of a skeleton structure embodying my invention; Fig. 2, is an end view of the same, and Fig. 3, is a plan of the same. Figs. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 16^{bis}, 17, 17^{bis}, 18, 19, 20, 21, 22, 23, 24, 25 and 26, are detached detail views, on a larger scale, illustrating the construction.

The principal figures represent a structure composed of ogival trusses connected at their upper ends by a ridge-pole and at their bases by soles or sole-beams, the whole being stiffened by cross-beams or bars. The soles A, are made of angle iron, and are connected at their extremities to flat bars B, which form the base finish at the ends of the structure. The body-trusses, C, are of I-iron, the head or end-trusses, D, are of T-iron and the hip-trusses, E, are also of T-iron. The ridge-pole, F, is of wood, and is connected to the end-trusses D by the means illustrated in Figs. 4, 5, 6, 7 and 8. A metal plate, *a* (Fig. 4), is riveted to one member of the truss D, and has at its apex or angle a fork, *a'*, to receive the ridge-pole F. The plate *a*, is secured to the other member of the truss D by means of a key *b*, two views of which are given in Figs. 5 and 6. This key is driven through a mortise *c* (Fig. 4) in the plate *a*, and through a nearly corresponding mortise in the flange of the other member of the truss D, whereby the parts are drawn solidly and firmly together.

In order to secure the ridge pole F the more firmly in place in the fork *a'*, this pole is provided on one or both of its faces with pairs of cleats *d*, of angle iron, as seen in the side

and plan views of the ridge-pole, Figs. 7 and 8. The branch of the fork *a'* occupies the space between the pair of cleats and is embraced thereby, as indicated in Fig. 8.

The end-sole plates B, of flat iron, have their extremities formed as indicated in Fig. 9, one extremity having it in an eye *e*, and the other extremity having on it a hook *f*. At the foot of each member of the truss E, is fixed a forked bracket, *g*, seen in side view, front view, and plan in Figs. 10, 11, and 12, respectively. A bolt *h*, (seen in Fig. 13) the snug, *h'*, of which engages a notch, *h²*, at the eye-end of the sole plate B, is engaged by the hook *f*, of the next sole plate, and also by the fork in the bracket *g*, on the truss, a wing-nut, *k*, serving to clamp all of the parts solidly and firmly together when the bolt is in place. The members of the hip-trusses E, are also secured to the sole plates B in the manner described above, and in Figs. 10 and 11, the hip-truss is shown. To the upper end of the member of the hip-truss, is riveted a plate *l*, seen in side elevation in Fig. 14 and in plan in Fig. 15. This plate has a mortise, *l'* in a tenon on its end, to receive a key, *l²*. When the tenon has been passed through an aperture in the end-truss, the key *l²* is entered and driven in to draw the parts firmly together. The tenons on the plates *l* also pass through apertures in the extremities of the transom plates or bars G, seen in the principal views, thus securing all together, as will be readily understood.

Figs. 16 and 17, are sectional views, and Fig. 18, a side view, illustrating the manner of securing the intermediate bars H, to the trusses D and E, of T-iron. The bar H has secured to each end a flat hook, *m*, which hooks into a square collar *n*, riveted to the flanges of the truss at the proper height. After the hook *m*, is in place, a key *o*, with a snug, seen in Fig. 19, is inserted in registering mortises Z in the flange of the truss and the hooks *m*, and secures the parts firmly together.

Figs. 16^{bis} and 17^{bis} illustrate the mode of securing the bars H to the members of the intermediate trusses C, which are of I-iron. In this case the sleeve *n*, is secured by a pin *n'*, which passes through the web of the truss member and is riveted down at its ends.

The ridge-pole F, is composed of several parts connected together endwise in the manner illustrated in Figs. 20, 21 and 22. A gain or rabbet K, (see plan, Fig. 22) is formed in the side of one extremity of the end portion of the ridge-pole, and similar gains are formed on both ends of the intermediate parts of the pole; and when the parts of the pole are aligned and the laps made, as seen in the cross-section Fig. 20, a key L, is driven through nearly registering apertures in the parts and locked therein by a pin *p*. This pin may be connected to the key by a chain. The key draws the sections of the ridge-pole firmly together.

The members of the intermediate trusses C, are secured together at the apex of the arch by the means illustrated in Figs. 23 and 24, the former being a side view and the latter a sectional plan. This construction is substantially the same as that employed for the trusses D, except that the fork *a'* to receive the ridge-pole is omitted. The plates *a*, may be secured to the member by bolts *b'*.

In order to establish a close connection between the ridge-pole F and the intermediate trusses C, keepers R, one of which is seen in Fig. 21, are formed on the underside of the ridge-pole by securing to the latter keeper plates, *r*, in pairs, as shown. When the parts are assembled, the apex of each truss C,—seen in Fig. 23,—occupies one of the keepers R,—seen in Fig. 21,—and is embraced by the keeper plates *r*; and held in place by a key *s*,—seen in Figs. 20 and 21,—passed through apertures in the keeper plates below the truss. The foot of the member of the truss is secured to the sole, A, by the means illustrated in Figs. 25 and 26, of which the former is a sectional elevation and the latter a sectional plan. A keeper is formed on the sole A to receive the web of the member of the truss, by securing to the sole two keeper plates, *u*, *u*; and the truss-member is secured in the keeper by means of a key *t*, which passes through apertures or mortises in the upright flanges of the keeper plates and through a corresponding mortise in the web of the truss-member. The key *t*, is held in place by an auxiliary key *v*, as shown.

My skeleton structure, which is adapted to be readily taken apart and put together, may be employed for any purpose where a structure capable of holding people or goods is required, as at fairs, expositions, &c., or for a hospital. When taken to pieces its parts will pack closely for shipment. It may vary in form from the embodiment illustrated, and it may be covered with canvas or other material. The form illustrated is well suited for canvas.

Having thus described my invention, I claim—

1. A skeleton structure of separable parts, comprising a base frame formed of the shoes A and B, connected together, the trusses C and D, of ogival form, secured at their feet

to the shoes A, the trusses E, at the respective ends of the structure, secured at their feet to the shoes B, and at their upper ends to the end trusses D, the ridge pole F, secured to the apexes of the trusses C and D, and the series of intermediate bars H, extending around the structure and tying together the trusses C, D and E, the members of the structure being keyed together and adapted to be put together and taken apart with facility, as set forth.

2. In a skeleton structure, the combination with the members of an ogival truss, of a plate *a*, secured rigidly to one member of the truss at the apex and keyed to the other member of the truss, and provided with a fork *a'*, to receive the ridge pole F, and the said ridge pole, provided with plates *d*, *d*, forming a keeper to engage a branch of the fork *a*, substantially as set forth.

3. In a skeleton structure, the combination with the members of the end trusses D, the plates *a*, which secure said members together in pairs, the members of the intermediate trusses C, and the plates which secure said members together in pairs, of the ridge pole F, provided with keeper plates *d*, to engage the branches of the forks on the plates *a*, and with keepers R to embrace the apexes of the trusses C, substantially as set forth.

4. In a skeleton structure, the combination with the series of trusses, of the ridge pole F, composed of sections gained at their extremities and provided with securing keys L and *p*, as set forth and with keeper plates, *r*, in pairs, on the underside of the pole as described.

5. In a skeleton structure of separable parts, the combination with the members of the trusses of flanged metal provided each with a collar *n* of the cross pieces or bars H, each provided with a flat hook *m*, which hooks into the said collar, and a key *o*, which passes through registering apertures *z*, in the member and the hooks *m*, as set forth.

6. In a skeleton structure of separable parts, the combination of the truss members, provided each with a forked bracket *g*, and the securing bolt *h*, provided with a snug *h'* and nut *k*, of the flat sole plates, B, each having in one end an eye *e*, with a notch *h²* and on the other hook, *f*, the whole assembled, substantially as set forth.

7. In a skeleton structure of separable parts, the combination with the end truss D, of ogival form, the sole plates, and the ogival truss members E, secured at their bases to the sole plates and provided at their upper ends with tenon plates *l*, which extend through the flanges of the members of the trusses D and are secured by key, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY PELLERIN DE LASTELLE.

Witnesses:

JULES ARMENGAUD, Jeune,
ROBT. M. HOOPER.