

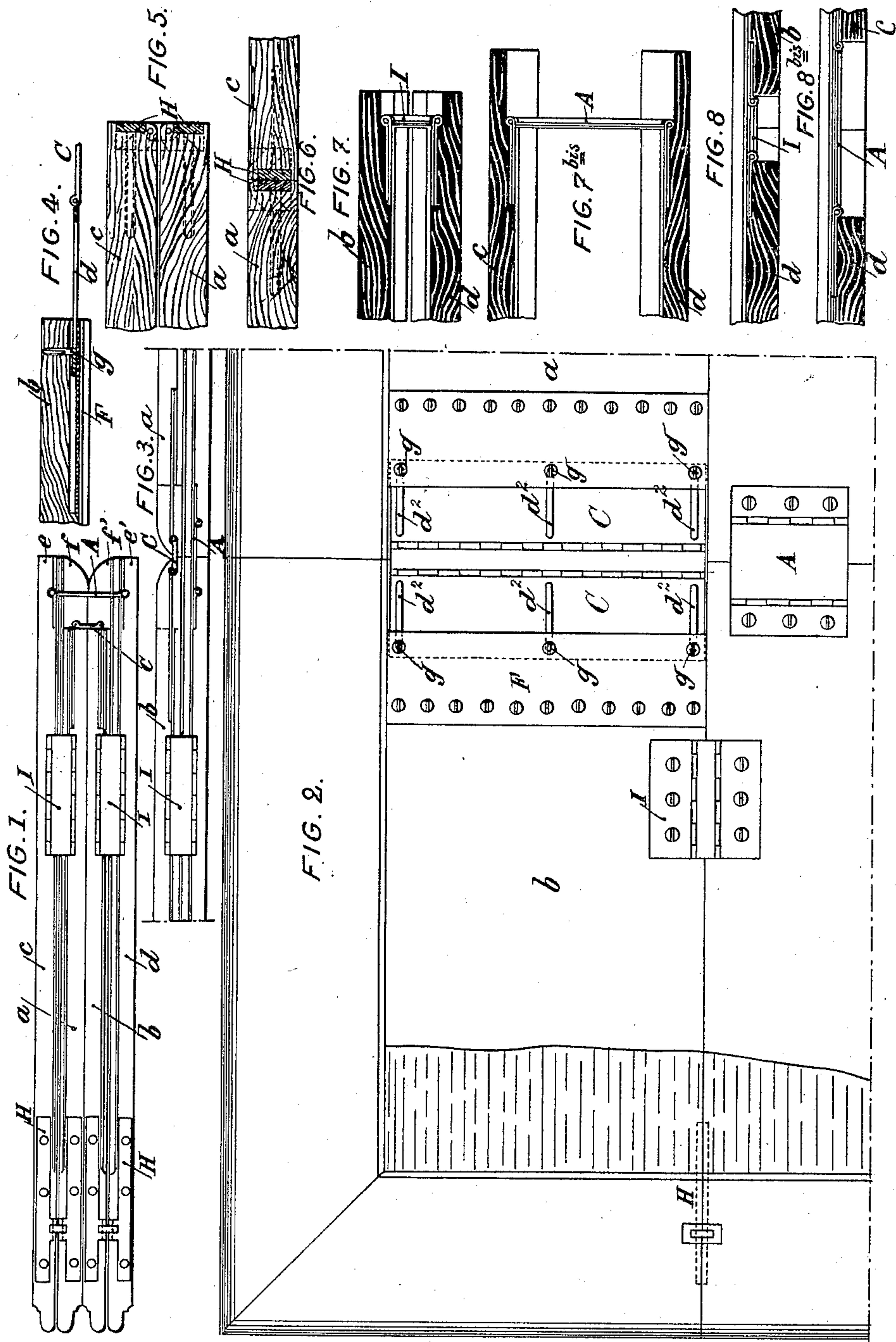
(No Model.)

2 Sheets—Sheet 1.

A. C. F. BALNY.
FOLDING TABLE TOP.

No. 397,486.

Patented Feb. 12, 1889.



Witnesses:

John M. Speer.
T. F. Bourne.

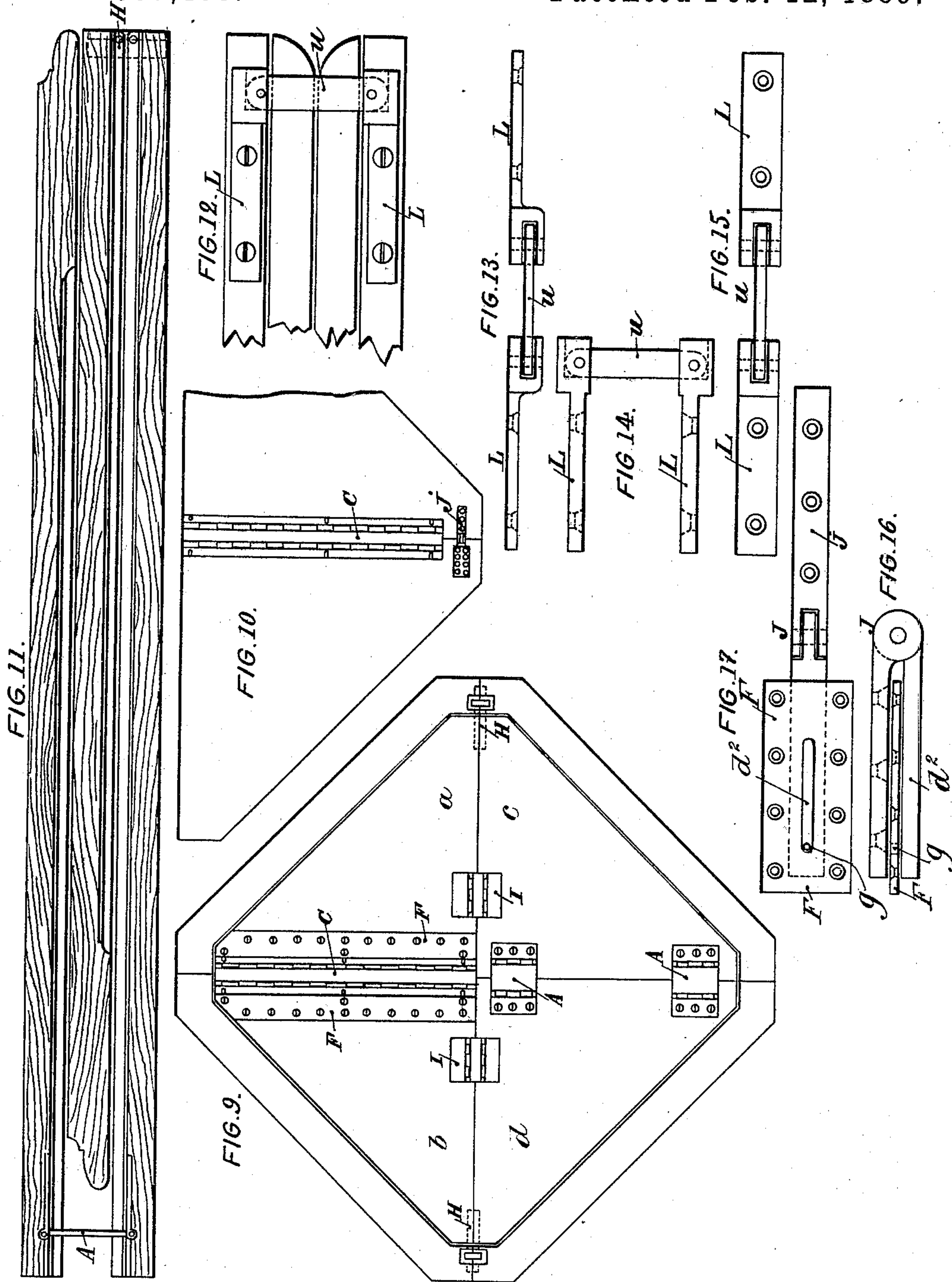
Inventor:

Ammand C. F. Balny
by Briesen & Steele
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UNITED STATES PATENT OFFICE.

ARMAND CAMILLE FRANÇOIS BALNY, OF PARIS, FRANCE.

FOLDING TABLE-TOP.

SPECIFICATION forming part of Letters Patent No. 397,486, dated February 12, 1889.

Application filed February 28, 1888. Serial No. 265,616. (No model.) Patented in France April 28, 1887, No. 183,149.

To all whom it may concern:

Be it known that I, ARMAND CAMILLE FRANÇOIS BALNY, of the city of Paris, France, have invented new and useful Improvements in Folding Table-Tops, (for which I have obtained Letters Patent in France, No. 183,149, dated April 28, 1887,) of which the following is a full, clear, and exact description.

My invention consists of a new system of leaves or sections superposed and combined to form a multiple folding table-top.

It has principally for its object to so arrange these leaves or sections that they may be capable of extending in every direction, and present a surface larger in proportion to the number of leaves or sections employed. These leaves or sections are more generally made with a covering of cloth surrounded with a border of wood or entirely of wood. They are in form square, rectangular, and convoluted or not on the edges, according to the developed form of the table, of which they represent a part of the surface. When the table is square and the leaves or sections are four in number, they present when superposed the form of a square or of a rectangular triangle the hypotenuse of which represents one outer side of the table. If the table is round, the superposed leaves or sections will present on their edges the form of a quarter of a circle, or of a quarter of an ellipse when the extended table is of elliptical form, or of other contour according to the styles employed in furnishing. In all cases it will be understood that the figures will vary with the greater or smaller number of leaves or sections which will be folded one on the other or according to the geometric forms of the extended table.

And in order that my invention may be more clearly understood, I have represented in the accompanying drawings one example of the manner in which I carry my invention into effect.

Figure 1 represents an edge view of a rectangular table folded in four leaves or sections. Fig. 2 represents a part of the surface of this same table extended and the cloth covering torn away in order to enable the iron-work to be seen. Fig. 3 shows a part of this table folded in two parts only in the direction of its

length. Fig. 4 illustrates an arrangement of sliding hinge which I employ in my system of leaves or sections. Fig. 5 represents in the closed position another arrangement of hinge or joint of two adjacent leaves or sections. Fig. 6 represents this same hinge open. Figs. 7 and 7^{bis} show the special mounting and arrangement of hinge, which enables me, by giving to the back of hinge a greater or less height, to realize my invention by superposing any number of leaves or sections the extension of which will constitute the surface of the table-top. Figs. 8 and 8^{bis} show these hinges opened out by the turning down of the leaves or sections. Fig. 9 represents an arrangement of leaves or sections of a table of my invention having a square form and shown opened out, the leaves or sections of which have a triangular form. Fig. 10 represents this table, of which only two leaves or sections are extended. Fig. 11 shows a table extending only in one direction, but having only three superposed leaves or sections. It is evident that the number of leaves or sections thus arranged can be multiplied without departing from my invention. Figs. 12, 13, 14, 15, 16, and 17 show the details of the arrangement of the iron-work, the application of which enables me to construct table-tops with multiple foldings.

Certain adjacent leaves or sections—say those marked *d c*—of the table are united by hinges A, provided with two motions, having between the two knuckles or backs a strip of a size about equal to the total thickness of the interior leaves or sections and the borders of the exterior leaves or sections. The two borders and leaves or sections of the middle are preferably rounded according to a curve the radius of which starts from the axis of the two movements of the hinges A. (See Figs. 1, 2, 3, 7, 7^{bis}, 8, 8^{bis}, and 9.)

To permit the closing of the table, the two leaves or sections of the middle *a b*, Fig. 1, that are to be closed between the parts *c d*, are shorter by one part, equal to the height of the hinge A, in order to permit the movement of this hinge in the folding of the leaves or sections.

In order to cover the space between these leaves *a b* left after the opening of the table,

I have provided these two leaves or sections *a* and *b* with hinges *C*, having a sliding movement, as shown in plan in Fig. 2 and in section in Fig. 4. As represented in Figs. 2 and 4, this hinge has a double movement and is covered by a plate or plates, *F*, under which it can slide. The hinge is provided with hollows or grooves $d^2 d^2$, through which screws or pins *g* on the plates or leaves may pass. By this means the hinge will be drawn to cover the opening between the leaves *a b* when the leaves are opened, as in Fig. 4, and may close or slide in when the leaves *a b* are closed, as in Fig. 1. The inner edges of the leaves or sections *a c* are joined to corresponding edges of the leaves *b d* (see Figs. 1 and 9) by hinges *I* and *H*, having two motions, the play of which is shown in the drawings closed and opened, respectively, in Figs. 5 to 8^{bis}—that is to say, the two wings of the hinges are connected by a central strip of proper size. One of the hinges, *H*, is placed at the border and the other, *I*, upon the leaves or sections themselves. When it is desired to extend the table from its folded position, the two top leaves or sections, *a* and *c*, Fig. 1, are swung over so that the stop *e* on section *c* comes against the stop *e'* on section *d*, and the stop *f* on section *a* comes against *f'* on section *b*, while at the same time the hinge *C*, sliding upon the plates *F*, remains held by the pins *g*.

Where the top of the folded table, instead of consisting of two leaves or sections to be inclosed, as in Figs. 1, 2, and 3, would require a greater number of leaves or sections, the hinges *H I* would be replaced by hinges like those marked *A*. In this case the size of the back or connecting piece between the wings of the hinges would be about equal to the combined thickness of the leaves or sections superposed between these hinges. The size of the hinges proper, *A*, will be correspondingly increased. With the increased number of leaves above stated the extended size of the table can be increased, while the size of the table when folded will not be unduly increased.

If the top of the table is made up of a series of leaves or sections extending in a single direction and one from the other, these successive extensions are obtained simply by the combination of the hinges *A* and *II*, above described, and clearly represented in Fig. 11. In this case the table can be lengthened without increasing its width.

In the table-top represented in Fig. 9 the application and arrangement of my system of leaves or sections and hinges is also clearly seen in the extended position.

To fold this table, the leaves *a b* are first swung over on their hinges *H I*, so as to rest on the leaves *c d*, and then the two abutting leaves *a c* or *b d* are swung on their hinges *A* and *C* to cover the opposite leaves. When thus swung, the hinges *A* act to lay the leaf *c* or *d* over the other leaves, thereby inclosing

the leaves *a* and *b* between *c* and *d*. The hinge *C* guides the leaves *a b*, and, when the leaves are all closed, may be pushed inward against the edges of the leaves *a b*, as in Fig. 1.

In order that the tops of tables may be smooth without using covering material and with superposed leaves or sections, the hinges like those marked *A* are replaced by irons or hinges having two motions. (See Figs. 12 and 13.) The wings *L* of the hinges are narrow and their flat sides are placed on the edges of the two leaves or sections, so that the small flat bar *U*, pivoted to and connecting the wings *L*, may be outside of these leaves or sections and pass along the edges of the leaves when being swung, or these hinges can be replaced by the irons or hinges shown in Figs. 14 and 15. In this case the interior leaves or sections may be recessed to receive the wings *L* of the hinges, while the leaves are cut away or are narrower to allow the small connecting-bar *U* to pass into the leaf. The leaves *a* and *b*, which are joined by the hinge *C*, and the plates *F* in the table-top, furnished with cloth, as in Figs. 1, 2, and 9, may be dispensed with. The leaves or sections can still be rounded upon their edges, like the borders *f f*, Fig. 1, and they are held together by irons or hinges, like those marked *J*, Figs. 10, 16, and 17, which increase the solidity. Especially for table-tops of small dimensions these hinges *J*, arranged as shown in Figs. 16 and 17, may replace the hinge *C*. One wing or tongue of the hinge may be secured to a leaf, while the free tongue of the hinge is furnished with a pin, *g*, that works in a groove, d^2 , pierced in the plate *F*. As the meeting edges of the leaves recede in this case, the free tongue of the hinge *J* is free to travel and is guided in and held to the plate *F* by the pin *g*.

I claim—

1. In a table-top capable of being folded in any desired number of superposed leaves or sections, the combination of the leaves *c d*, connected on their meeting edges by hinges *A*, formed in three parts, with the leaves *a b*, the leaf *a* being connected to the leaf *c* by a hinge, *I*, between the meeting edges of the leaves *a c*, and the leaf *b* being connected to the leaf *d* by a hinge, *I*, between the meeting edges of the leaves *b d*, the hinges *I* being formed in three parts, the middle parts of the hinges *A* being broader than the middle parts of the hinges *I*, whereby the parts may be folded upon each other, substantially as described.

2. In a table-top capable of being folded in any desired number of superposed leaves or sections, the leaves *c d*, having connecting-hinges *A* between their meeting edges, said hinges being formed in three parts; combined with the leaves *a b*, the leaf *a* being connected to the leaf *c* by a hinge, *I*, and the leaf *b* being connected to leaf *d* by a hinge, *I*, the hinge *I* being formed in three parts, the middle part

of the hinges A being broader than the middle parts of the hinges I, and with an extension-hinge, C, connecting the leaves *a b* between their meeting edges, said hinges having
5 grooves *d*², that receive pins *g*, thereby permitting a sliding movement to the hinge, whereby the parts may be folded successively upon each other, substantially as described.

The foregoing specification of my improvements in folding table-tops signed by me this 10
4th day of February, 1888.

ARMAND CAMILLE FRANÇOIS BALNY.

Witnesses:

ROBT. M. HOOPER,
ALBERT MOREAUX.