Sheet 1 - 2 Sheets.

B. Clark,

Extension Table,

No. 16,350. Patented Jan. 6, 1857.

Fig. 1.

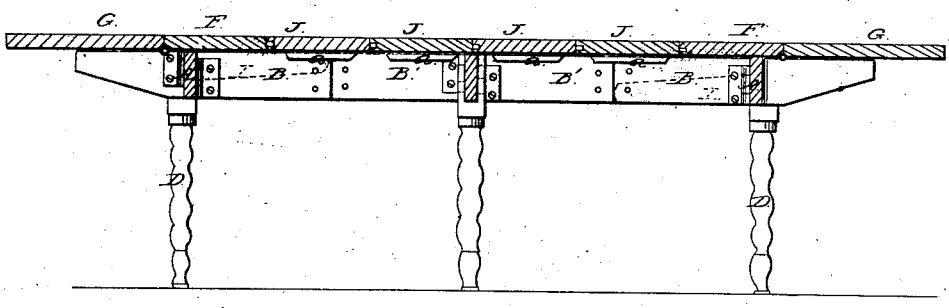


Fig. 2.

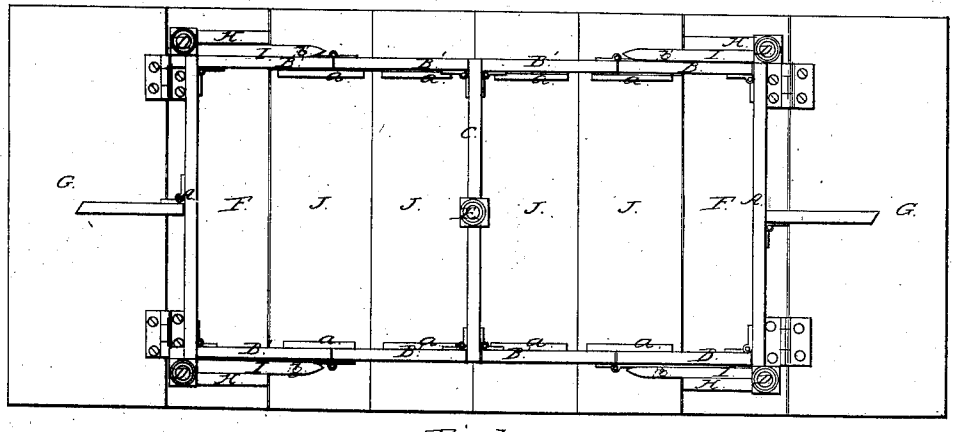
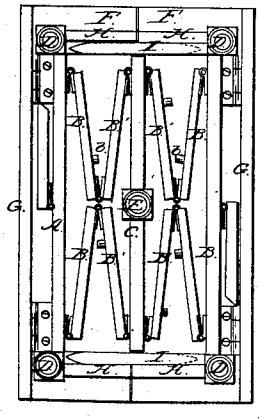


Fig. 3.



Sheet 2 - 2 Sheets.

B. Clark,

Extension Table,

No. 16,350. Patented Jan. 6, 1857.

Fig. 7.

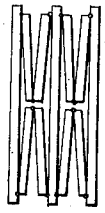


Fig. 6.

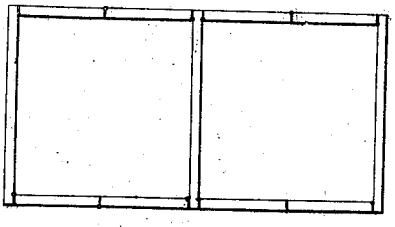


Fig. 4.

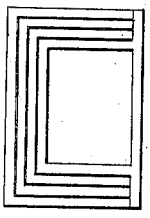


Fig 5.

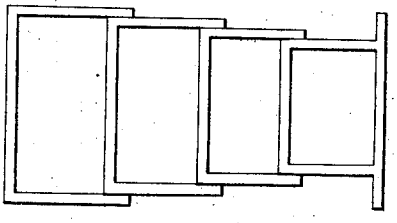


Fig. 8.

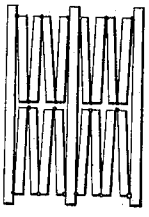
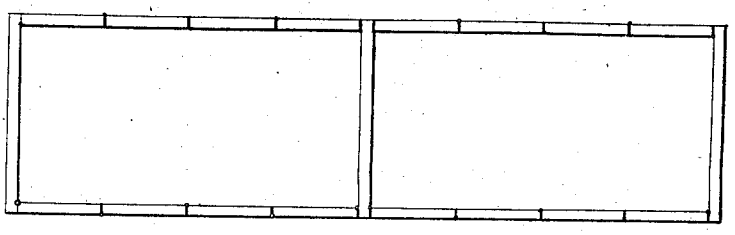


Fig. 9.



UNITED STATES PATENT OFFICE.

BENJAMIN CLARK, OF ORISKANY FALLS, NEW YORK, ASSIGNOR TO E. L. FERGUSON AND C. B. CLARK.

EXTENSION-TABLE.

Specification of Letters Patent No. 16,350, dated January 6, 1857.

To all whom it may concern:

Be it known that I, BENJAMIN CLARK, of Oriskany Falls, in the county of Oneida and State of New York, have invented a new and useful Improvement in Extension-Tables; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a longitudinal vertical section of the table constructed according to my invention showing it extended to its full length. Fig. 2, is an inverted plan of the same, showing it in a condition corresponding with Fig. 1. Fig. 3, is an inverted plan of the same showing it closed up to its shortest length. Figs. 4, 5, 6, 7, 8 and 9, are diagrams illustrative of the relative superiority of the folding-rail extension tables over the common slide-frame extension tables.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to that class of extension tables in which the side pieces or rails are hinged, so that they may be either extended or folded together as desired.

My invention consists in combining certain fixed pieces with the table for the purpose of strengthening and steadying or fastening the table both when it is open and when it is closed.

The use of hinged or folding rails for extension tables possesses obvious advantages over the method of having the side frames so made as to slide one within the other. But for want of some suitable method of bracing and steadying the table, the hinged rails have never proved of any practical utility, and are in general discarded in favor of the common sliding frames.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, A, are the end pieces of the extension frame; B B B, B, B′ B′ B′, B′ are folding side pieces, of which there are four on each side of the table, and C is a transverse center piece parallel with the end pieces A A. The end pieces are to be supported each by two legs D, D, viz one at each end or by a single pedestal on a broad footpiece. The center piece C, is supported by a central leg E. Each end piece has attached to it a fixed leaf F to which is hinged a flap leaf G. The side pieces B, B, B, B, are hinged two to the inner side of each end piece near the extremities thereof, and the side pieces B′, B′, B′, B′, are hinged two to each side of the center piece C, near the extremities thereof, the arrangement of the several hinges being such that the side pieces all fold inward toward the center of the table. The several pieces B, B, B, B, and B′, B′, B′, B′, are also hinged together at their adjacent ends.

H, H, H, H, are four short fixed side pieces of the same depth as the folding side pieces attached to end pieces A, A, or to the legs D, D, and to the fixed leaves F, F, so that they fit up close to each other at their inner ends when the table is closed up as shown in Fig. 3, and inclose the whole of the folding side pieces.

I, I, I, I, are four side pieces arranged between the folding side pieces and the exterior side pieces to the latter of which they are secured rigidly. These pieces I, I, I, I, are of a length nearly equal to that of the folding side pieces but only about half the depth, as those at one end are intended to fit on the top of those at the other end when the table is closed as is shown in Fig. 3. Those edges which come together are slightly tapered as exhibited in Fig. 1 where they are shown in dotted outline in order that they may come together very tightly and keep the table very firm when closed up. In the common extension tables movable staples are sometimes used to connect and hold the table together. But such fastenings soon become rickety, the table becomes loose, the sliding parts sag, and a wide crack between the permanent leaves is almost always seen. These pieces also serve to give stability to the table when it is extended as their rigidity prevents the folding side pieces B, B, B, B from opening too far outward, and by providing the movable extension leaves J, J, with cleats *a*, *a*, on their under sides to fit against the inner sides of the folding side pieces to hold them against the pieces I, I, I, I, the whole frame is braced in a lateral direction. The folding pieces are deep enough to keep the frame from sagging by abutting against each other at their ends especially as the pieces B, B, B, B, are provided with dowels *b*, *b*, to enter holes in the pieces I, I, I, I.

In order to illustrate and clearly set forth

the importance of my improvement, I will mention some of the disadvantages of the common extension tables, and then show some of the advantages of the folding rail tables. It should be understood that I distinctly disclaim the use of the folding rails, for it is a very old device.

Figs. 4 and 5 are diagrams showing the common method of constructing the frames of extension tables. Fig. 4 shows the frames compacted, and Fig. 5 extended. The side pieces slide one within the other, and when the table is closed the frames form what is know as a nest. It will be seen by reference to the diagram (Fig. 5) that this method is highly objectionable because the longer the table is extended the weaker it becomes, while the frames upon which the leaves rest become narrower and narrower, thus causing unsteadiness. This kind of table is also limited in its length of extension, because the nests can only be made of a certain size unless the dimensions of the frames and leaves are increased. If great length is needed the frames must be wide so that a large number of them will slide one within the other; or the side pieces of the frames must be longer, so that each will have an increased reach when drawn out. In the first instance the width of the table is unduly increased; in the last instance the table cannot be compacted into a small space.

The common method of connecting the frames together is by means of grooves and dovetails. This is objectionable because, first, it is a weak mode of union and the instability increases with the augmentation of the extension, there being no supports for the joints and no method of affording lateral rigidity. These tables therefore are easily broken, and must be carefully handled. Second, it is attended with much friction, for the grooves and dovetails necessarily bind together vertically in consequence of the inherent weight of the frames. Again, in the act of extension they bind laterally, if there is the least variation from a right line, during the drawing out. For these reasons the common extension tables require skill to operate them, and owing to the great friction often need the strength of two persons to open or close them; during this operation the frames are also apt to make a squeaking noise. Third, their construction involves considerable expense and skill, since all of the side pieces must be accurately plowed on one side, and fitted with rims and dove-tails. But even the best made tables of this kind will after a time wear at the grooves and dove-tails, and become rickety. When newly made, the common changes of the atmosphere causes the frames to warp and bind, so as frequently to become wholly inoperative. From the same reason and also by the great weight to which they are exposed, and by use, the side pieces frequently split, and require repairs.

The foregoing objections are entirely overcome in the tables having my improvement attached and certain new results are obtained that greatly increase their utility as articles of furniture. By hinging the side frames in the manner described, the table can be rapidly closed or extended by any person, however unskilled, while the force required is so slight that a child can operate it with perfect ease, neither is there any noise occasioned. No special skill is required, either in operating the table, nor in its manufacture. The parts require to have less labor expended upon them and the whole is therefore cheaper in construction. Each joint being steadied laterally and also vertically, the table is much stronger than the ordinary kind, while there is no wear or friction except at the hinges, and at this point it is obviously inappreciable. Another advantage of the hinged side pieces is that the side framing is of the same width throughout when extended so that the leaves have a broad and firm foundation in every part of the table. Again, a table thus made when compacted, occupies a less space than an ordinary table of the same extension capacity, and of two tables, both of the same size, when compacted, the folding rail table will also possess the greatest extension capacity.

The above facts will be seen by reference to Figs. 4, 5, 6, 7, 8 and 9. Fig. 4 shows the frame of a table of the common kind compacted. Fig. 6 shows the extended frame of a folding rail table having the same extension capacity as Fig. 4. Fig. 7 shows Fig. 6 compacted. The relative superficial space occupied by the hinged table it will be seen by comparing Figs. 4 and 7 is one-third less in my improvement, the dimensions of stuff being the same. Fig. 8 shows the frames of one of the hinged tables compacted and occupying the same space as the common table Fig. 4. Fig. 9 shows Fig. 8 extended. By comparing the extended table of the common kind, Fig. 5, with the hinged table, Fig. 9, it will be seen that the hinged table has a large gain in extension surface. The reason why the hinged table has an advantage in compactness is that the whole space under the stationary leaves, can be occupied by the folding side pieces; but in the common table, the pieces slide one within the other and the frames soon become too narrow for use, thus leaving a vacant space when compacted, as shown in Fig. 4.

The reason why a gain in the extension surface is had by the hinged frame, is because the frame pieces when extended do not require to overlap each other (as in

Fig. 5), but their ends abut one against the other as in Figs. 1, 2, 6, 9. In the common tables the side frames not only need to overlap, but they also require to be made shorter and shorter, the more they are increased in number, in order that they may fit together in the nest (see Figs. 4 and 5).

Many attempts have been made to apply fastenings and devise means to stiffen and strengthen the folding rails, but almost every plan has proved objectionable; so that notwithstanding the striking advantages of the folding rail system of extension for tables, the old plan of sliding frames is still preferred. When the parts are hinged together they yield and bend about with such ease and facility as to be of no use whatever without some means of firmly holding them.

In the rejected application for a patent of P. W. La Roza, for an extension table the folding rails are used and to stiffen the joints he provides extra movable pieces, which are made to cover the joints. The stiffening pieces are then connected with the rails by means of bolts, which must be taken out when the table is to be closed, and again inserted when it is to be extended. The inconvenience of having to fasten and unfasten each joint, the loss of time, expense etc., are obvious. What is needed is a cheap, permanent, strong and durable method of bracing the frame, otherwise the hinged or folding rails, with all their attendant advantages, cannot be practically employed. The above qualities are all obtained by my improvement, and the folding rail extension table thus rendered superior to all others.

I do not claim the stiffening of hinged joints by rigid bars or lips; neither do I claim the use of folding rails for extension tables. But—

What I claims as new, in extension tables, and desire to secure by Letters Patent, is—

The combination of the fixed side pieces H, I, with the table leaves F, and table legs D, in the manner specified, the side pieces H serving the double purpose of holding the table firmly together when compacted and closed, and also serving in conjunction with pieces I, to give stability to the frame when the same is opened or extended.

BENJAMIN CLARK.

Witnesses:
JOHN K. CLARK,
JOHN W. BROCKE.