

Jan. 9, 1951

F. GIBERSON
DROP-LEAF TABLE

2,537,128

Filed Nov. 24, 1947

4 Sheets-Sheet 1

Fig. 1.

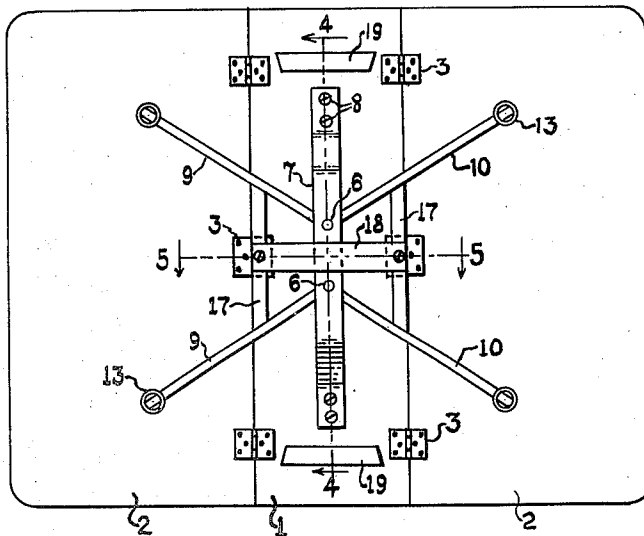
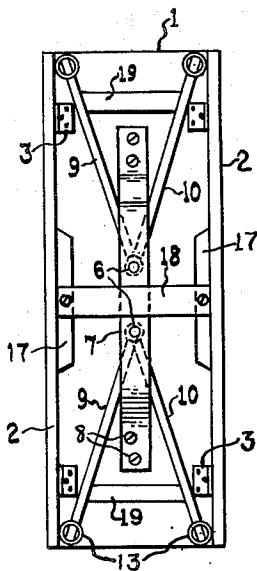


Fig. 2.

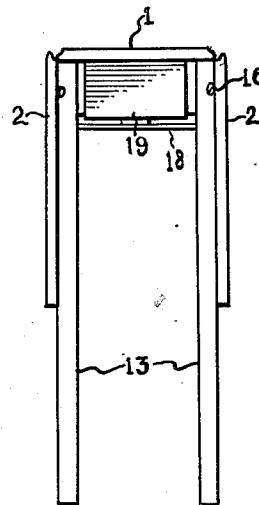


Fig. 3.

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F. GIBERSON
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2,537,128

Filed Nov. 24, 1947

4 Sheets-Sheet 2

Fig. 4.

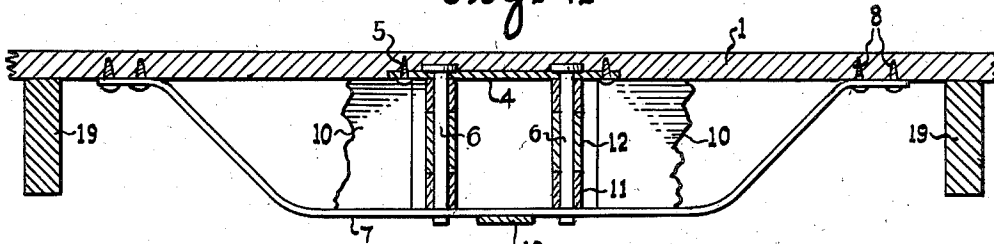
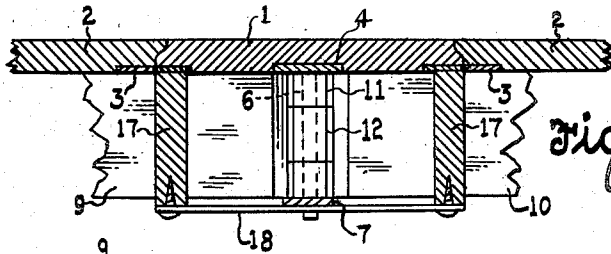


Fig. 5.

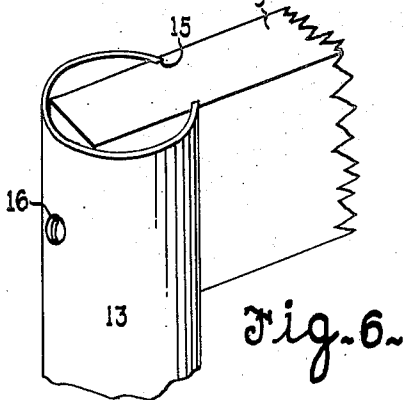


Fig. 6.

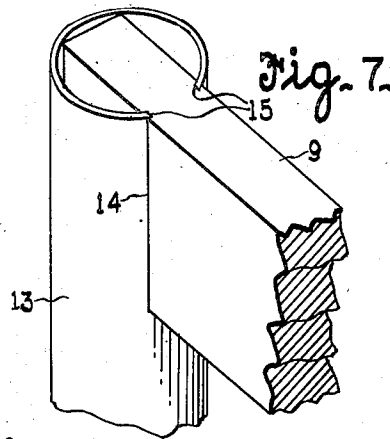


Fig. 7.

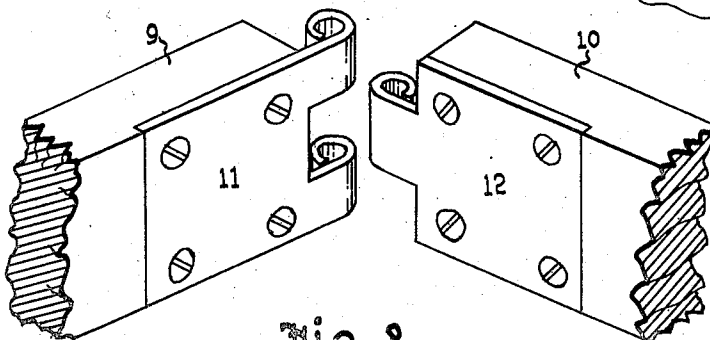


Fig. 8.

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F. GIBERSON
DROP-LEAF TABLE

2,537,128

Filed Nov. 24, 1947

4 Sheets-Sheet 3

Fig. 9.

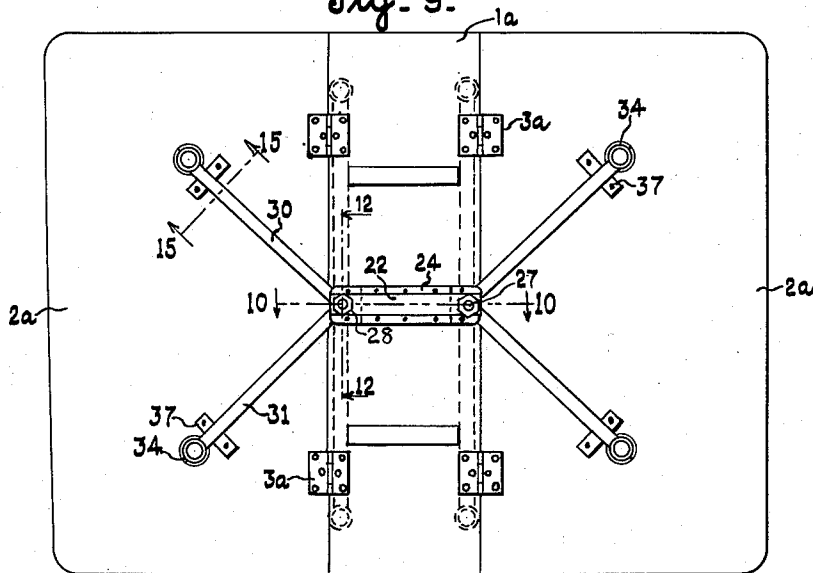
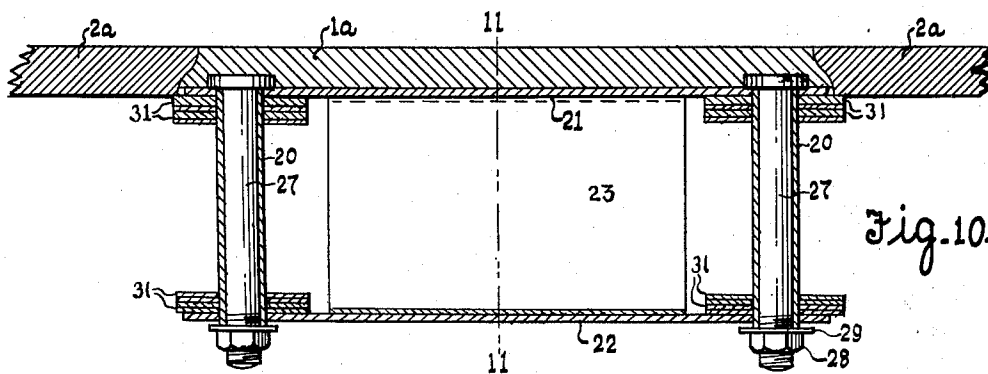


Fig. 10.

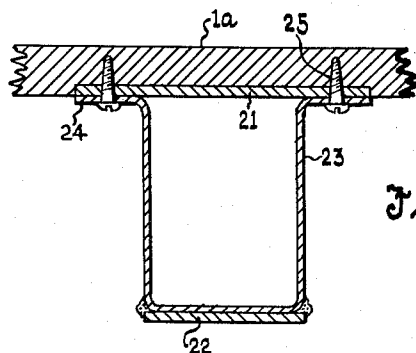


Fig. 11.

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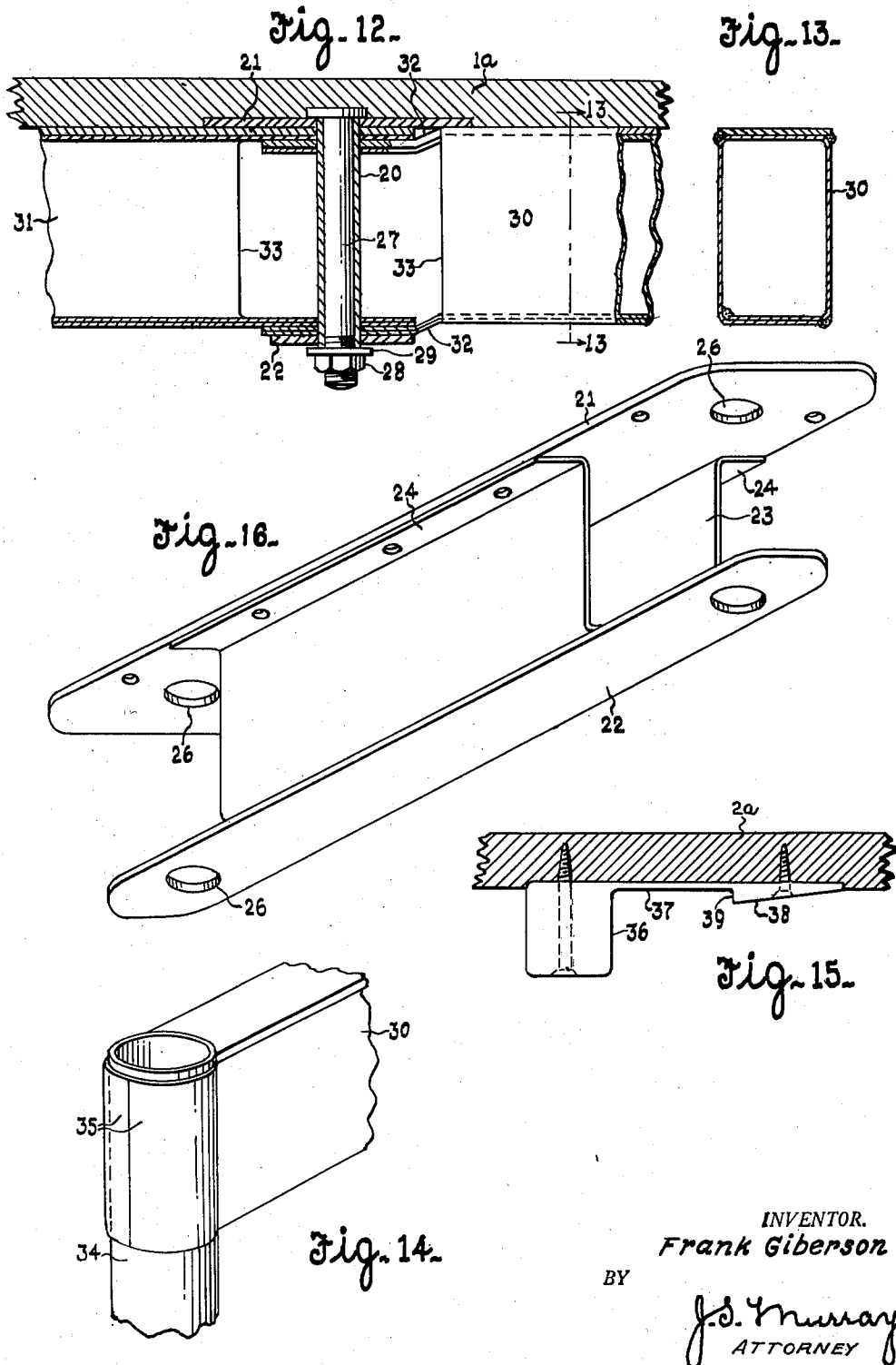
Jan. 9, 1951

F. GIBERSON
DROP-LEAF TABLE

2,537,128

Filed Nov. 24, 1947

4 Sheets-Sheet 4



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2,537,128

DROP-LEAF TABLE

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Application November 24, 1947, Serial No. 787,657

2 Claims. (Cl. 311-63)

1

This invention relates to swinging leg drop leaf tables, being an improvement on the construction disclosed by my Patent 2,425,370, issued August 12, 1947.

As exemplified in said patent, the practice heretofore, in equipping a drop leaf table with a set of swinging legs, has been to extend the legs rigidly downward from radius arms each having its own pivot pin, a group of such pins being mounted upon and beneath the fixed leaf of said table. An object of the invention is to adapt a plurality of leg-mounting swinging arms to be pivoted coaxially beneath the fixed leaf of a drop leaf table, whereby a single pin serves to install such arms.

Another object is to provide a table comprising a pair of drop leaves hinged to opposite edges of a fixed leaf, and to adapt a pivot pin installed upon and beneath the fixed leaf to pivotally carry two leg-mounting arms, so that the legs may be swung to respectively support the respective drop leaves in use positions.

Another object is to provide an improved means for mounting pivot pins for leg-carrying arms upon and beneath the fixed leaf of a drop leaf table.

Another object is to provide an improved rigid connection between a leg and arm pivoted for swinging the leg to selective positions beneath a drop leaf table.

These and various other objects are attained by the construction hereinafter described and illustrated in the accompanying drawings, wherein:

Fig. 1 is a bottom plan view of my improved table with its leaves extended and its legs outwardly swung.

Fig. 2 is a similar view of the table with its legs inwardly swung.

Fig. 3 is an end elevational view of the table with its leaves dropped.

Figs. 4 and 5 are vertical sectional details taken respectively on the lines 4-4 and 5-5 of Fig. 1.

Figs. 6 and 7 are perspective views of one of the joints between a leg and its supporting arm.

Fig. 8 perspective illustrates a hinged connection between the radius arms of two of the table legs.

Fig. 9 is a bottom plan view of an alternative construction of my swinging leg table.

Fig. 10 is a vertical sectional detail taken on the line 10-10 of Fig. 9, primarily showing a pivotal support for the leg-mounting swinging arms of the table.

Fig. 11 is a cross sectional view of said support taken on the line 11-11 of Fig. 10.

Fig. 12 is a vertical sectional detail taken on

2

the line 12-12 of Fig. 9 and showing the pivotal mounting of a pair of arms on said support.

Fig. 13 is a cross section of one of said arms taken on the line 13-13 of Fig. 12.

Fig. 14 is a perspective view showing the connection of one of said arms to the corresponding leg.

Fig. 15 is a sectional detail taken on the line 15-15 of Fig. 9, and showing an arm-positioning means carried by a drop leaf.

Fig. 16 is a perspective view of a swinging arm support for attachment to the center leaf.

In the construction shown in Figs. 1-8, the reference character 1 designates the fixed center leaf of my improved table, and 2 a pair of drop leaves hinged at 3 to opposite margins of the center leaf. Set centrally into the under face of the leaf 1 and elongated longitudinally of such leaf is a metal plate 4, preferably held in place by screws 5. The end portions of this plate mount a pair of vertical pins 6 which are preferably extended through and headed above the plate and welded to the latter. The pins 6 extend a few inches downwardly from the plate 4 and their lower ends are snugly inserted in a metal bar 7 elongated in parallelism with the plate 4 and having its ends upturned and fastened by screws 8 to the leaf 1.

Each pin 6 pivotally mounts the inner ends of two swinging arms 9 and 10, such ends rigidly carrying interfitting hinge leaves 11 and 12 the barrels of which receive the pins. The leaves and arms have equal vertical dimensions such that they may swing freely between the plate 4 and bar 7, without material up or down travel. The outer end of each arm 9 and 10 rigidly carries a tubular metal leg 13, preferably aluminum, each arm being inserted in the corresponding leg through a slot 14 and interiorly abutting the leg in diametrically opposed relation to the slot, as best appears in Figs. 6 and 7. Also it is preferred to form each arm with a pair of shallow opposed vertical saw kerfs 15, snugly receiving vertical margins of the corresponding slot 14. To further strengthen this joint, one or more screws 16 extend through each leg into the end of the corresponding arm 9 or 10.

In their leaf-supporting positions, the arms 9 and 10 are swung apart at a considerable divergency, locating their outer ends respectively beneath the respective drop leaves, as best appears in Fig. 1. When the leaves 2 are dropped, the arms 9 and 10 fully underlie the leaf 1, and diverge acutely, as per Fig. 2. Outward swinging of said arms is limited by a pair of stop blocks 17 secured to and beneath the leaf 1 midway of its lateral margins, said blocks having their ends

beveled to conform to the outswung arms, and it is preferred to interconnect said blocks by a metal strap 18 centrally crossing the bar 7 and welded to the latter. Inward swinging of the arms is limited by a pair of stop blocks 19 fixed on and beneath the leaf 1 at opposite ends of the bar 7, and beveled to conform to the inswung arms. The blocks 19 are preferably applied as a final step, since they must be so positioned as to establish the legs in substantial contact with the dropped leaves. Thus such leaves will resist outward shifting of the legs, particularly when the table is being moved.

Pivoting each arm 9 coaxially with one of the arms 10 simplifies construction of the table and reduces its cost, and a further cost reduction is attained by mounting the pivot pins 6 on the leaf 1 in the disclosed simplified manner. Interfitting relation of the hinge leaves 11 and 12 establishes a mutually reinforcing relation between the arms carrying such leaves. A further desirable and original feature of the construction is the joint between each leg and its supporting arm. Such joint possesses a high degree of rigidity and is established quickly and inexpensively.

In the modified construction illustrated in Figs. 9-16, the fixed leaf 1a has drop leaves 2a hinged to its opposite margins, as indicated at 3a. Secured to the under face of the leaf 1a, midway of its length is a hollow sheet metal support for a pair of tubular pivot pins 20. Said support comprises spaced upper and lower plates 21 and 22 elongated to extend substantially the full width of the leaf 1, and a substantially U-shaped rectangular member 23 disposed between and welded to said plates, said member having its vertical walls flanged outwardly against the lateral margins of the plate 21, as indicated at 24. Screws 25 engaging the flanges 24 and plate 21 secure the described hollow support to the leaf 1a. The end portions of the plates 21 and 22 extend beyond the member 23 and are centrally apertured at 26 to receive the pivot pins 20 which have a snug fit in such apertures. Through each pivot pin extends a bolt 27 headed above the plate 21 and receiving a nut 28 beneath the corresponding pin, a washer 29 being clamped against the pin by such nut. Swung on each pivot pin and fitted between the projecting ends of the plates 21 and 22 are the inner ends of a pair of hollow rectangular sheet metal arms 30 and 31. Said paired arms are substantially duplicates, but the top and bottom of one of the arms, as 30, are offset slightly downward as indicated at 32 so that their inner end portions underlie the corresponding portions of the arm 31. Also the side walls of the paired arms are cut away, as indicated at 33 at their pivotal ends, so that the arms have clearance, relatively, for their required swinging travel. To the outer end of each arm 30 and 31 is rigidly secured the upper end of a tubular metal leg 34. This connection, as best appears in Fig. 14, is preferably established by abutting the top and bottom elements of the arm against the leg and arcuately conforming such elements to the leg, the side walls of each arm extending sufficiently beyond its top and bottom to permit their embracing the leg, as indicated at 35. This connection is maintained by welds at suitable points.

When the arms 30 and 31 are in drop leaf supporting positions, as shown in full lines in Fig. 9, they have a considerable relative divergency

and extend substantially toward the free corners of the drop leaves. Such position of the legs is predetermined by stop blocks 36 formed on metal plates 37, a pair of which are secured to the bottom face of each leaf 2a and preferably each plate 37 has also a wedge-shaped end portion 38 terminating in a shallow shoulder 39, so that the arms may ride across said wedge portions in approaching the blocks 36, effecting a slight lifting of the drop leaves above their horizontal use positions, said leaves dropping as the arms clear the shoulders 39 so that the latter are confined between the blocks and shoulders. This locks the arms positively in their outswung positions, and a slight manual lifting of the drop leaves to clear the shoulders 39 is a prerequisite to inward swinging of the arms. When the arms 30 and 31 are inwardly swung, they extend along the hinge margins of the leaf 1a, oppositely from the pivot pins so as to locate the legs beneath the corner portions of the fixed leaf, as per the dash line showing of Fig. 9.

By pivoting the leg-mounting arms in proximity to the lateral margins of the fixed leaf, as in the construction last described, said arms for any given length are adapted to extend further beneath the drop leaves than when pivoted at the center line of the fixed leaf, as in the first described construction. This adapts the construction to larger types of tables, since the best equilibrium requires positioning of the legs about midway of the width of the drop leaves, and such width may be increased proportionately to the outward extent of the swinging arms. Forming the arms and the member on which they are swung of sheet metal in a box form is conducive to great strength, and further lends itself to inexpensive quantity production. Interfitting relation of the copivotal paired arms derives a mutually reinforcing effect from said arms, and copivotal mounting of the arms moreover reinforces the pivot pins against bending stresses.

What I claim is:

1. In a drop leaf table, a fixed leaf, a pair of drop leaves, means hinging the drop leaves to opposite margins of the fixed leaf, a pair of substantially vertical pins, means securing said pins upon and beneath the fixed leaf and spacing them apart along the medial longitudinal axis of the fixed leaf, a pair of arms pivoted on each of said pins, and a leg secured to the outer end of each arm, the arms of each pair being swingable on said pins to dispose the legs on such arms beneath the center leaf or respectively beneath the respective drop leaves, and a metal bar elongated lengthwise of the fixed leaf and downwardly spaced from such leaf, said bar having a width materially less than that of the fixed leaf, and the lower ends of said pins being mounted on the central portion of said bar, the end portions of said bar being extended divergently upward to the fixed leaf, and means rigidly securing such end portions to the fixed leaf.

2. In a drop leaf table as set forth in claim 1, a pair of stops secured to the fixed leaf, therebeneath, and limiting outward swinging of both pairs of arms, and a bar interconnecting said stops and centrally secured to the first mentioned bar.

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5

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