

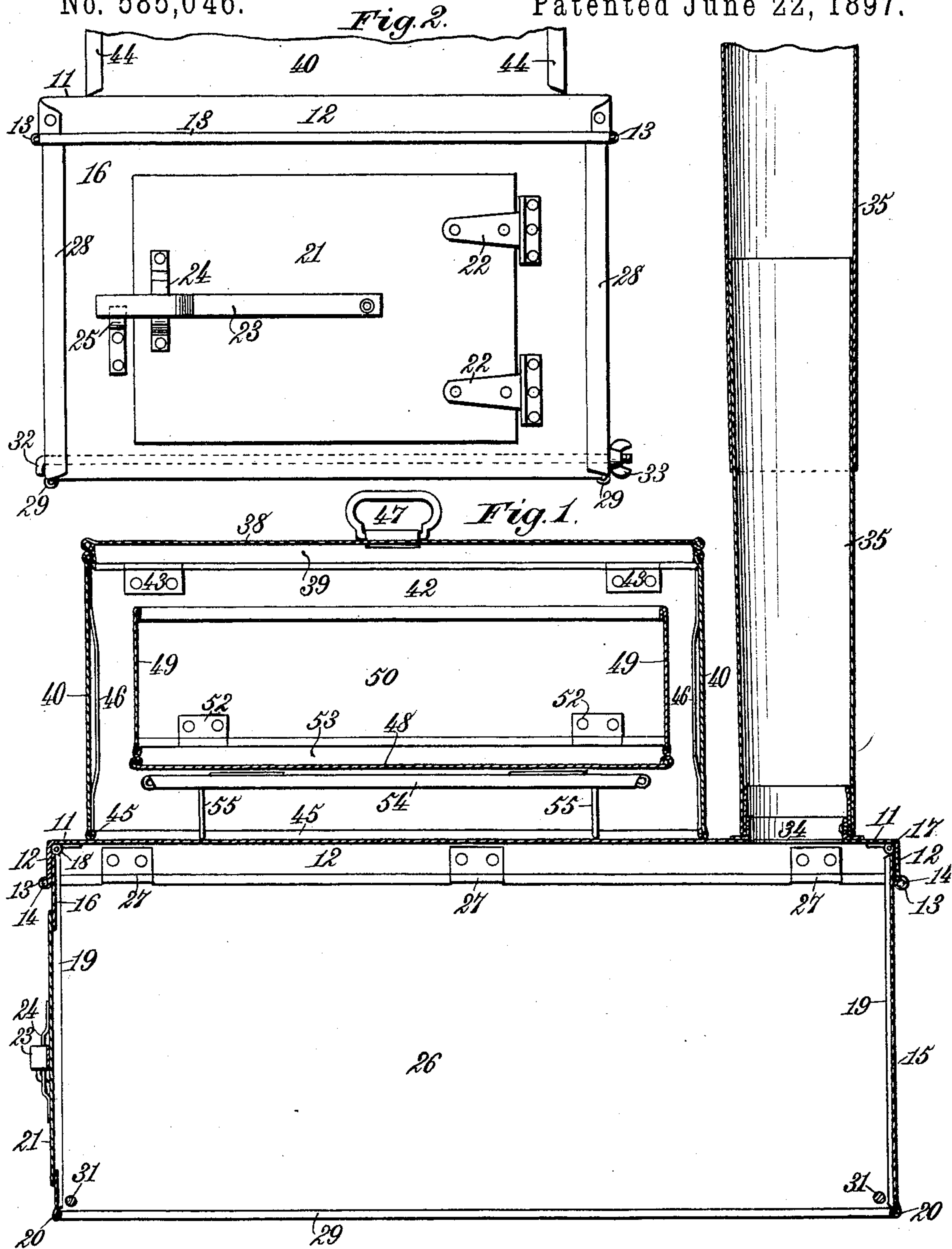
(No Model.)

3 Sheets—Sheet 1.

C. S. PENFIELD.
FOLDING CAMP STOVE.

No. 585,046.

Patented June 22, 1897.



Witnesses.
Robert Everett
Dennis Sundry,

Inventor.
Charles S. Penfield.
By *James L. Norris*
Attly.

(No Model.)

3 Sheets—Sheet 2.

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Fig. 3.

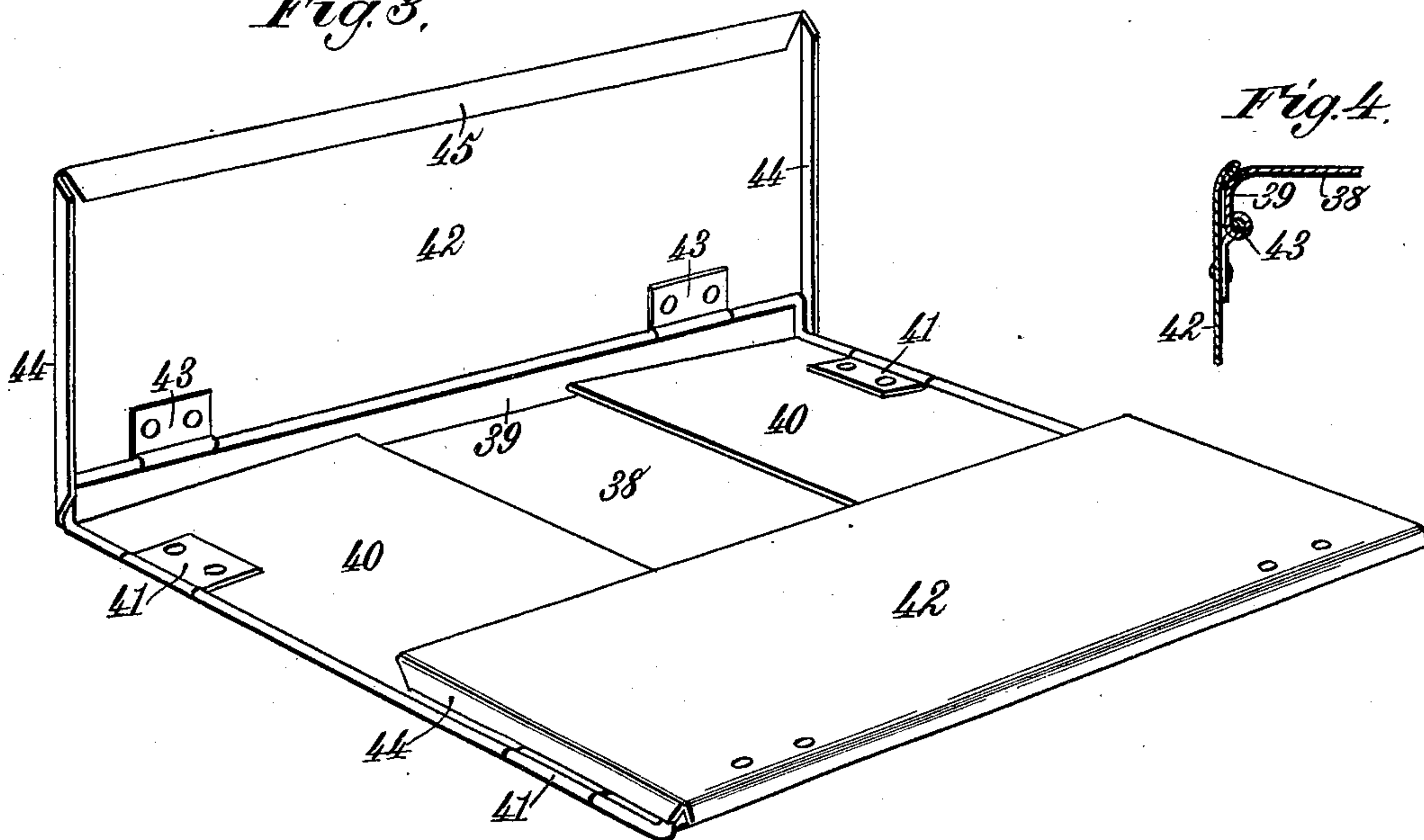


Fig. 4.

Fig. 5.

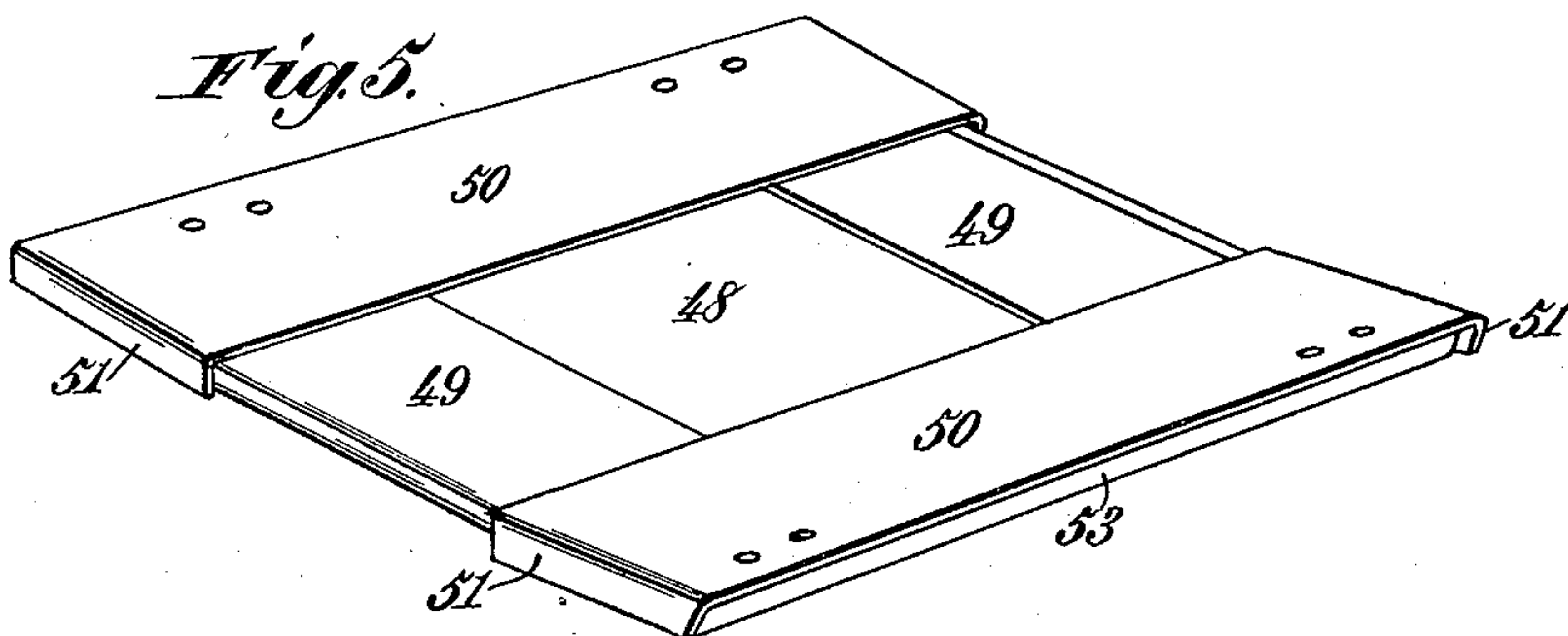


Fig. 6.

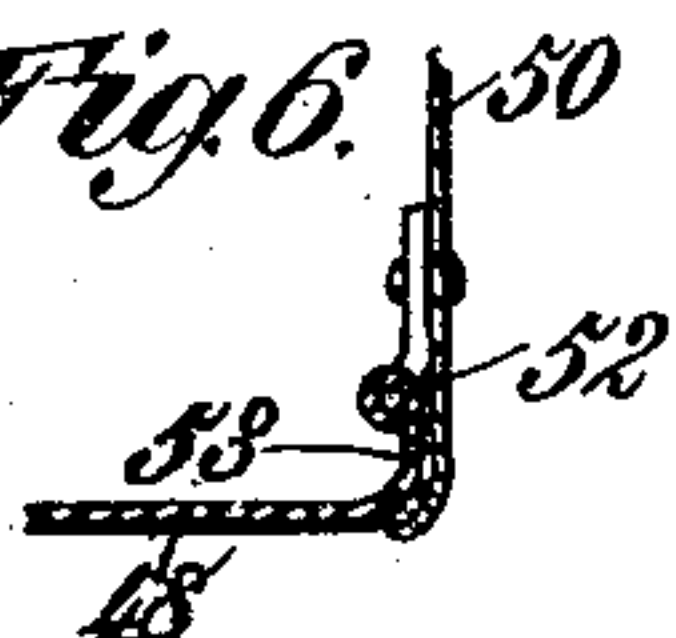
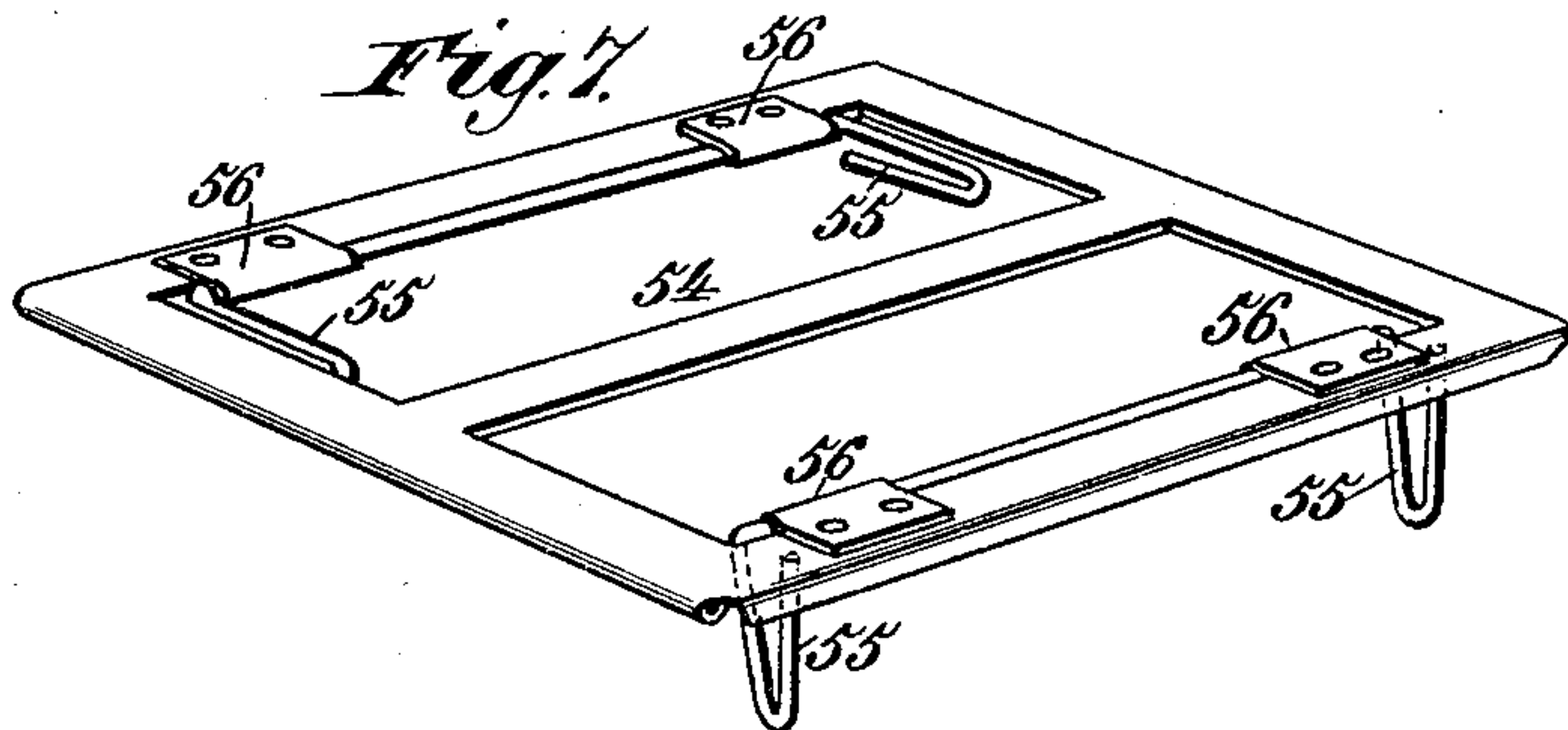


Fig. 7.



Witnesses:
Robert Everett.

Dennis Sumbly.

Inventor.

Charles S. Penfield.

By

James L. Norris.

Att'y.

(No Model.)

3 Sheets—Sheet 3.

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Fig. 8.

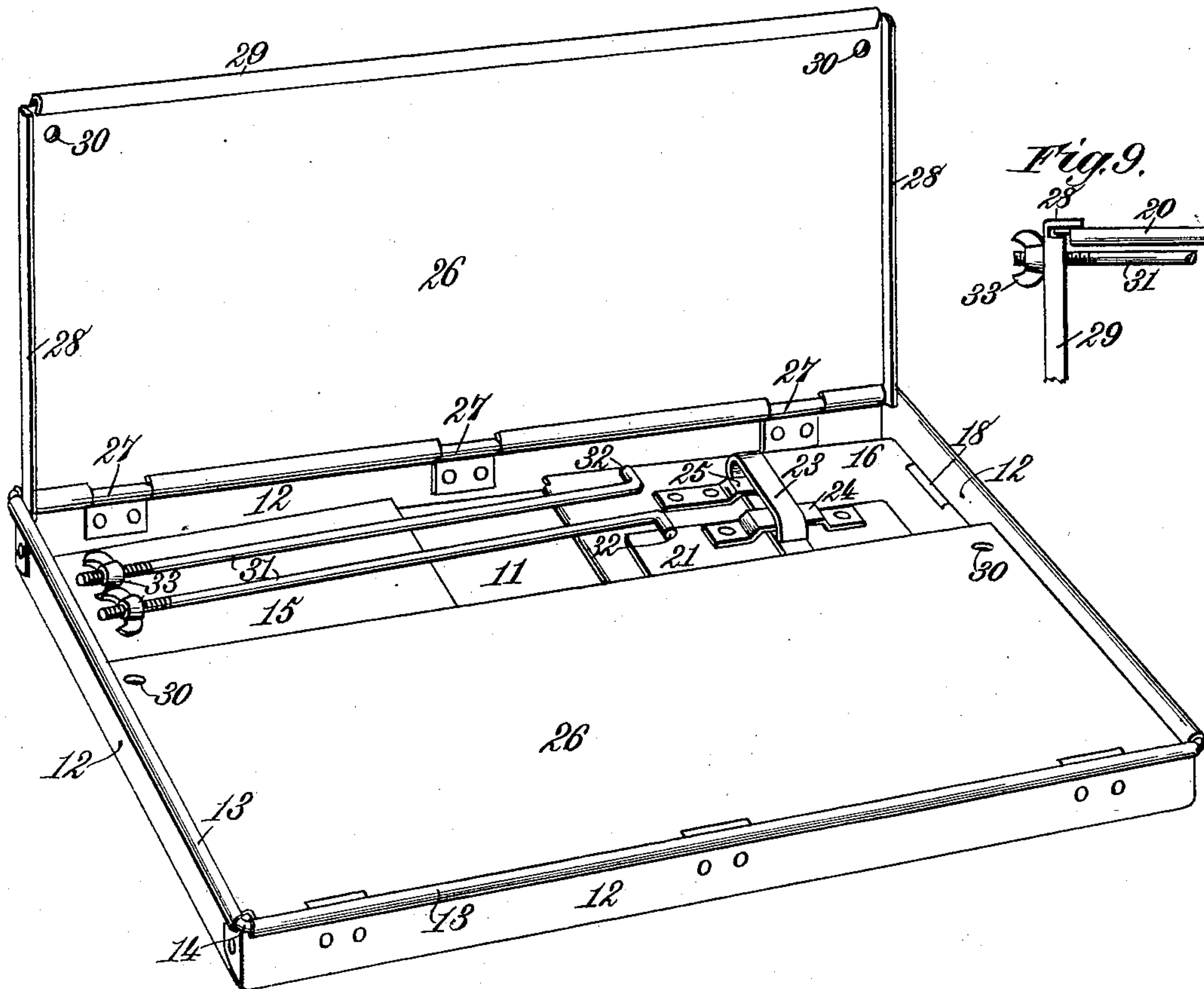


Fig. 9.

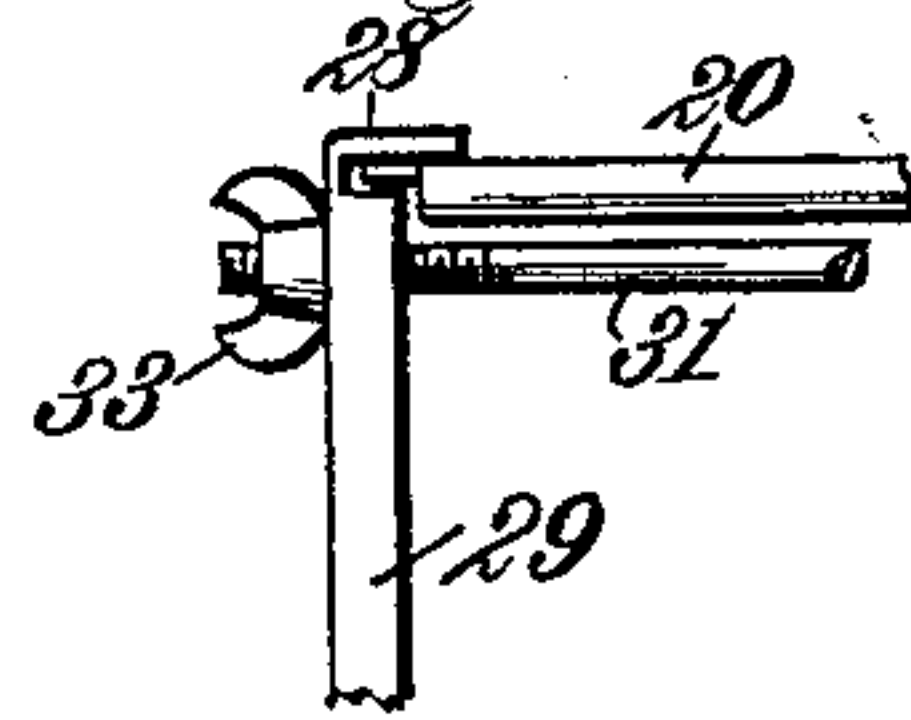
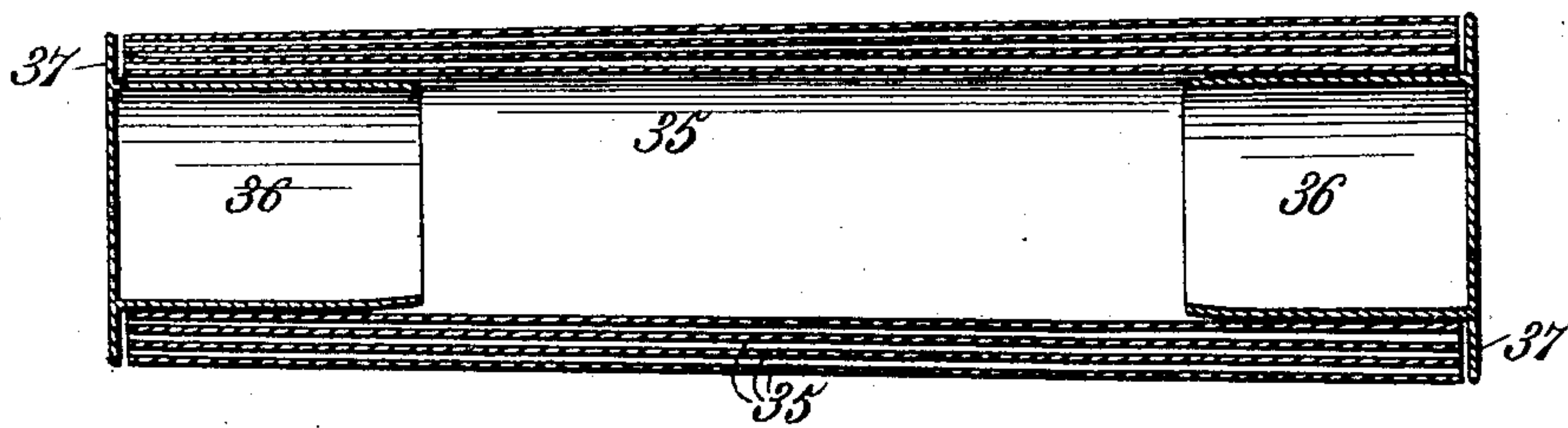


Fig. 10.



Witnesses,

Robert Garrett,

Jennie Sumby

Inventor,

Charles S. Penfield,

By *James L. Norris,*
Att'y.

UNITED STATES PATENT OFFICE.

CHARLES S. PENFIELD, OF SPOKANE, WASHINGTON, ASSIGNOR OF ONE-HALF TO MINER W. BRUCE, OF SEATTLE, WASHINGTON.

FOLDING CAMP-STOVE.

SPECIFICATION forming part of Letters Patent No. 585,046, dated June 22, 1897.

Application filed May 13, 1896. Serial No. 591,404. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. PENFIELD, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented new and useful Improvements in Folding Camp-Stoves, of which the following is a specification.

My invention relates to folding camp-stoves, and has for its object to provide a culinary apparatus that will be light, cheap, durable, and capable of being packed in a small space for transportation as part of a camp outfit and which can be quickly unpacked and easily set up for use.

The invention consists in the features of construction and novel combination of parts comprised in a folding camp-stove and culinary outfit, as hereinafter more particularly described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a longitudinally-sectional elevation of my improved folding camp-stove with folding oven supported on the stove-top and a folding bake-pan inclosed in the oven and resting on a folding support. Fig. 2 is a front elevation of the stove or fire-box and lower portion of the oven. Fig. 3 is a perspective of the oven inverted and partly folded. Fig. 4 is a section through a portion of the top and one side of the folding oven. Fig. 5 is a view of the bake-pan folded. Fig. 6 is a section through a portion of the bottom and one side of the folding bake-pan. Fig. 7 is a view of the bake-pan support partly folded. Fig. 8 is a view of the stove or fire-box inverted and partly folded. Fig. 9 is an under view of one corner of the fire-box. Fig. 10 is a longitudinal section of telescopic stovepipe with flanged cups or vessels inserted in the ends of the nested pipe-sections.

Referring to Figs. 1, 2, and 8, the reference-number 11 designates the top of the fire-box or stove proper, which top is constructed of sufficiently heavy sheet metal and provided with a depending flange 12 on all sides. The edge of this flange is provided with a bead 13 and inserted wire 14 for strength and stiffness.

Within the flange 12 and close to the under side of the fire-box top 11 are hinged a stove-

back 15 and a stove-front 16, each consisting of a rectangular piece of sheet metal, the stove-back being hinged at 17, Fig. 1, and the stove-front being hinged at 18, Figs. 1 and 8. By hinging the stove-back 15 and stove-front 16 in the angles-formed by the stove-top 11 and end flanges 12, as shown, said back and front will be capable of folding closely against the under side of the top in making the stove ready for transportation. It is preferable to provide the side edges of the back 15 and front 16 with narrow flanges 19, Fig. 1, and their lower edges may be folded over or beaded at 20, as shown, to prevent breaking and impart a requisite stiffness.

In the stove-front 16 is a rectangular opening closed by a fuel-door 21, hung on hinges 22, Fig. 2, and provided with a pivoted latch 23, having a looped end working in a guard-strap 24 and adapted to engage a catch 25 on the outside of the stove-front.

The sheet-metal stove sides 26 are hinged to lugs 27, Figs. 1 and 8, that are riveted to the inner sides of the side flanges 12, depending from the stove-top. These hinged stove sides 26 are each provided on their side edges with flanges 28, Figs. 2 and 8, that help to support the stove back and front and close the joints of the fire-box when unfolded or opened out for use, besides assisting to stiffen or brace the sides. The stove sides 26 are also stiffened or braced by having their lower edges 29 turned over or beaded, as shown.

By reference to Fig. 8 it will be seen that in packing the stove for transportation the back 15 and front 16 are first folded against the under side of the top 11 and then the sides 26 are folded successively inward upon the hinged front and back pieces. One of the sides 26 may be slightly shorter than the other to facilitate compact folding of the parts together.

In unfolding the stove or fire-box the sides 26 are first turned outward to a vertical position and then the back and front pieces, respectively, thus forming a rectangular sheet-metal box.

The lower corners of the side pieces 26 are provided with perforations 30, Fig. 8, for the passage of tie-rods 31, having hooked ends 32 and provided with thumb-nuts 33 on their

other ends which are suitable screw-threaded. By this means the fire-box when set up, as shown in Figs. 1 and 2, will be securely braced and prevented from spreading or collapsing with any weight placed thereon.

It will be observed that the fire-box is entirely open at the bottom, it being intended that the fire shall be built upon the ground. The door 21 is for use in supplying fuel as required, and a portion of the earth may be scraped away beneath the stove-front to afford such draft as may be needed.

The rear portion of the stove-top 11 is provided with a smoke-hole 34, Fig. 1, flanged on the outside for attachment of a telescopic smoke-pipe 35, formed in sections adapted to be nested one within another, as shown in Fig. 10, when not in use.

Among the appliances that may accompany the camp culinary outfit are metal cups or vessels 36, having their bottoms provided with broad flanges 37, so that when these vessels are inserted into the ends of the nested stove-pipe-sections, as shown in Fig. 10, the flanges 37 will extend across and protect the ends of the pipe-sections from access of dirt and moisture.

There is provided for use on the stove-top a collapsible or folding oven, Fig. 3, constructed of sheet metal. This oven comprises a top 38, having two opposite sides turned down to form a flange 39, Figs. 3 and 4. The ends of the oven-top piece 38 are not flanged, but have the end pieces 40 attached thereto directly by means of hinges 41, as shown in Fig. 3, so that these ends 40 will fold closely against the under side of the oven-top.

The oven sides 42 are hinged on their inner sides at 43, Figs. 3 and 4, to the edges of the flanges 39 on the sides of the oven-top, and it will be observed by reference to Fig. 4 that the oven sides 42 and their hinges 43 are so arranged that a portion of each oven side is extended along the outside of the flange 39 when the oven is unfolded, thus providing a secure bracing therefor. The side edges of the oven sides 42 are provided with flanges 44, that assist in supporting the oven end pieces 40 when the oven is unfolded and placed in position.

At their lower edges the oven end pieces 40 and side pieces 42 may be turned over or provided with beads or flanges 45, that will impart the necessary stiffness. The side edges of the end pieces 40 may be also provided with flanges 46, which, as shown in Fig. 1, may be folded over at their ends and slightly sprung at the center to give additional stiffness. A handle 47, Fig. 1, is provided on the oven-top for convenience in removing the oven to give access to its contents, the oven being wholly open at the bottom, as shown in Fig. 1. By reference to Fig. 3 the manner of folding the oven into a flat compact body will be readily apparent.

For use with the oven there is provided a folding sheet-metal bake-pan, Figs. 2 and 5,

which comprises a bottom 48, closely-folding end pieces 49, and hinged side pieces 50, provided with flanges 51 on their side edges. The end pieces 49 are hinged directly to the ends of the pan-bottom 48, and the sides 50 are attached by hinges 52 to flanges 53 on the sides of the pan-bottom, the construction being substantially the same as that already described with reference to the oven.

In order to support the bake-pan away from direct contact with the top of the stove or fire-box, there is provided a removable open-work support or pan-holder 54, consisting of a sheet-metal grid or frame having flanged or beaded edges and provided with inwardly-folding feet 55, each pair of feet being formed from a single piece of wire bent to the form shown in Fig. 7 and connected by hinges 56 to the body portion of the holder. This makes a very convenient, light, but strong pan-support that can be easily folded into a flat form.

It will be apparent that the fire-box or stove and its accompanying appliances can be quickly and easily folded or packed into close compact form for transportation with a camp outfit. The several parts are light and easily handled and will withstand hard usage without liability of breaking.

It is a peculiar advantage of the stove construction herein shown and described that it is especially designed with reference to easy and convenient packing on a horse, the entire stove outfit being so small in bulk that it will occupy but little space in a pack, and yet when set up for use the stove is capable of fulfilling the requirements of heating and cooking for a small party of men.

The usual camp-stoves heretofore on the market have pot holes and lids which are elements of weakness and bulkiness, and they are mostly of complicated construction and not readily brought within a small compass.

The strength, durability, small bulk, and convenience in packing, which are features of my stove, make it particularly useful for meeting the wants of hunters, prospectors, surveyors, and campers generally.

What I claim as my invention is—

1. In a folding camp-stove, the combination of the stove-top having a depending flange around all its sides, the stove-back and the stove-front hinged in angles between said top and the end flanges of the top, the said front being provided with a laterally-swinging door and its fastenings, the stove sides hinged to the edges of the side flanges on the stove-top and having their lower corners provided with perforations, and the detachable tie-rods adapted to engage in said perforations and brace the unfolded stove sides, substantially as described.

2. In a folding camp-stove, the combination with the fire-box, of a folding oven consisting of a top provided with depending side flanges, end pieces hinged directly to the end edges of said top, and side pieces provided with in-

wardly-flanged ends and hinged to the edges
of the side flanges on the oven-top and ex-
tended outside said side flanges, whereby the
said side flanges of the top will brace the un-
5 folded oven sides, substantially as described.

3. In a camp-stove, the combination with a
telescopic smoke-pipe composed of sections
adapted to nest one within another of the ves-
sels adapted to close the ends of the nested
10 pipe-sections and provided with broad flanges

to extend across the ends of the outer pipe-
section, substantially as described.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

CHARLES S. PENFIELD.

Witnesses:

A. G. AVERY,

GEO. H. LEONARD.