

No. 782,651.

PATENTED FEB. 14, 1905.

F. B. HAGAMAN.
PORTABLE CASE.

APPLICATION FILED JUNE 4, 1904.

2 SHEETS—SHEET 1.

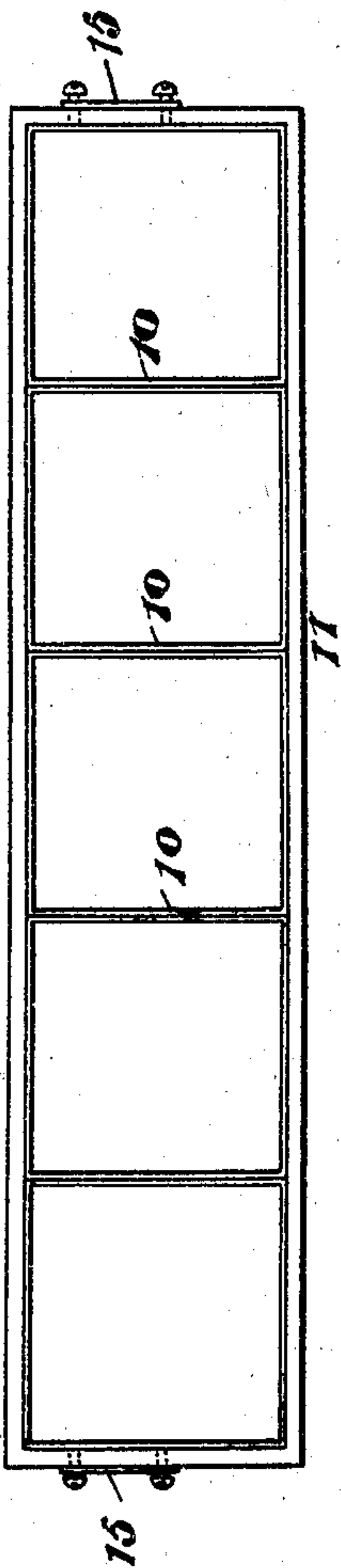


Fig. 3.

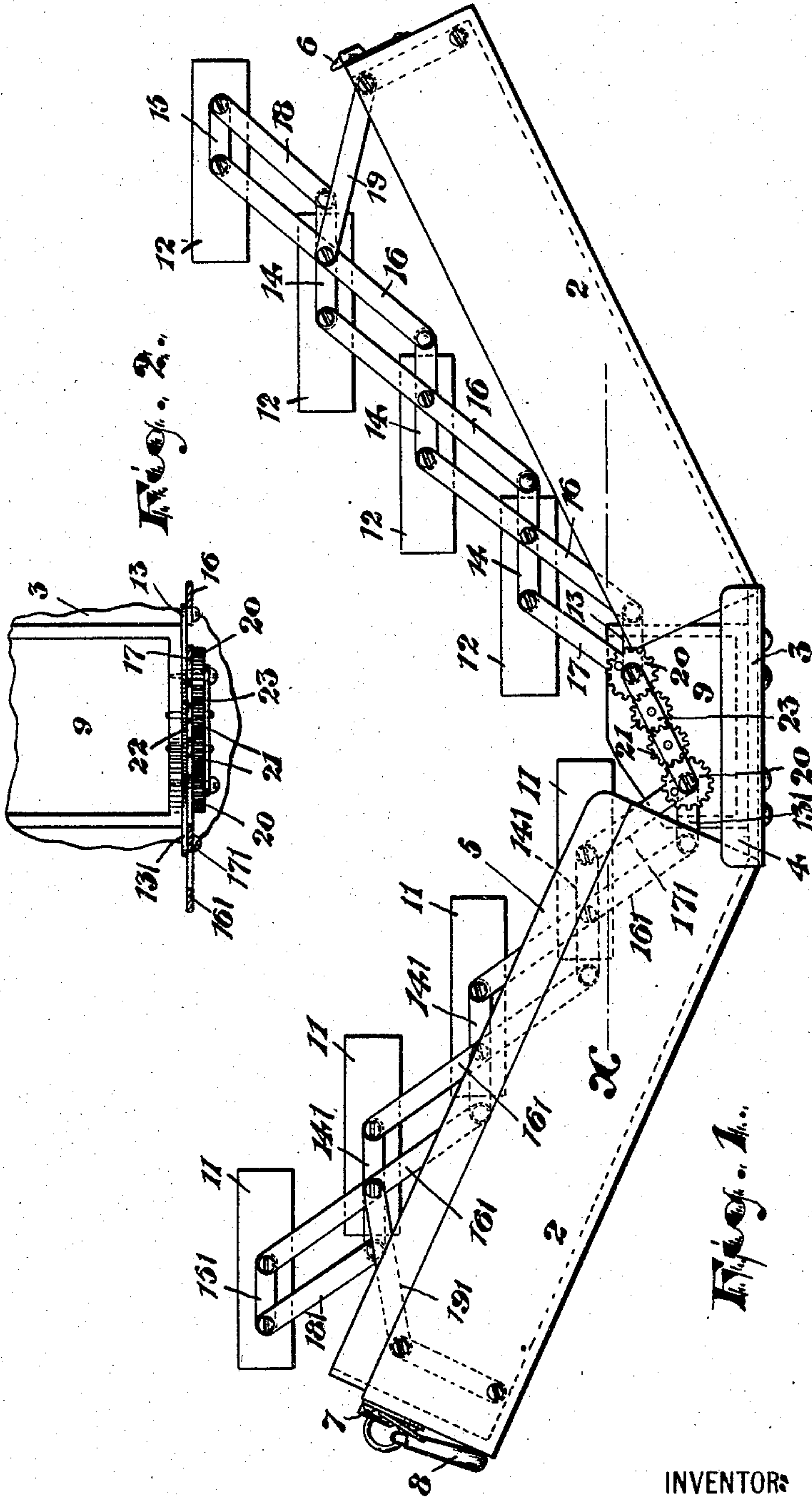


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 5.

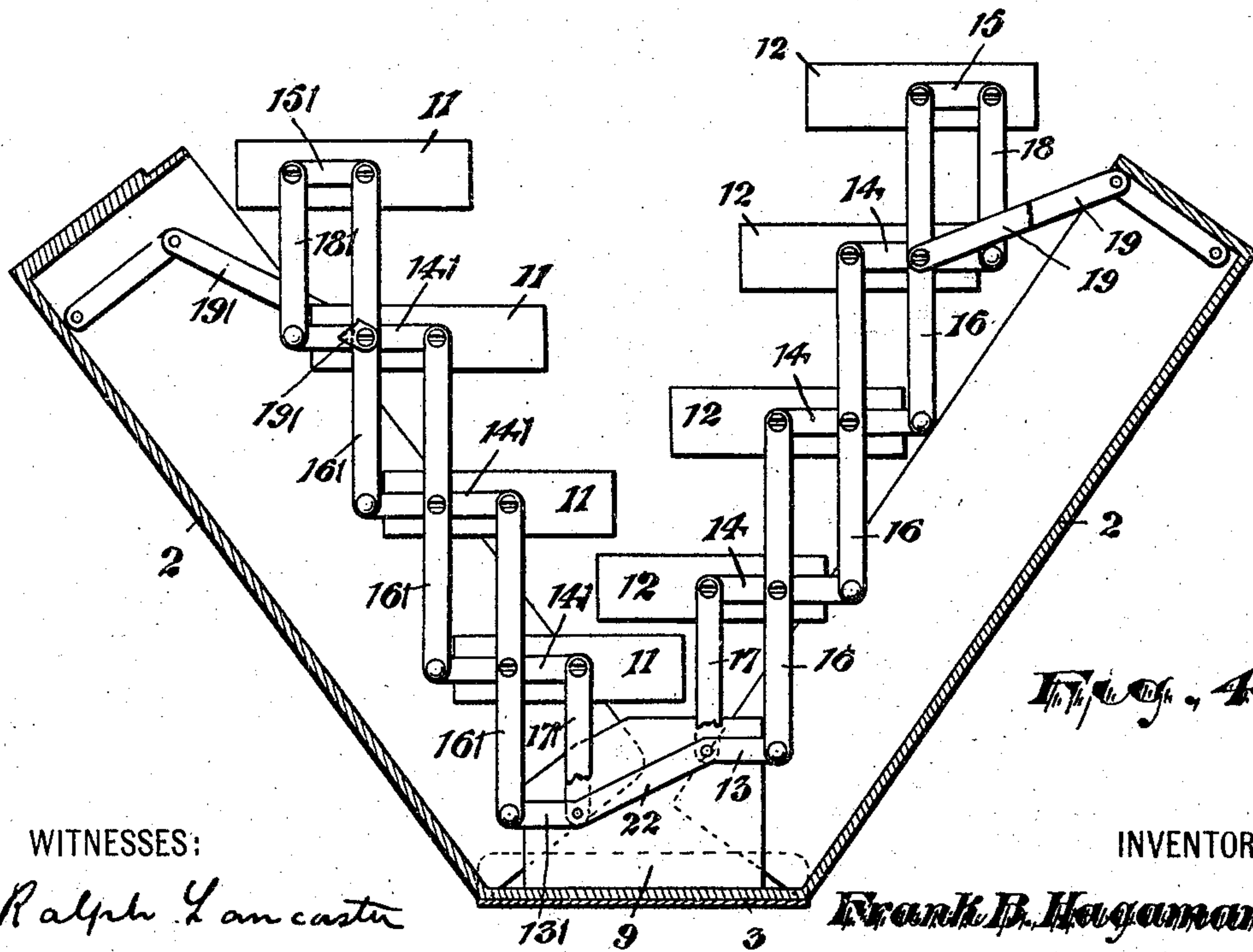
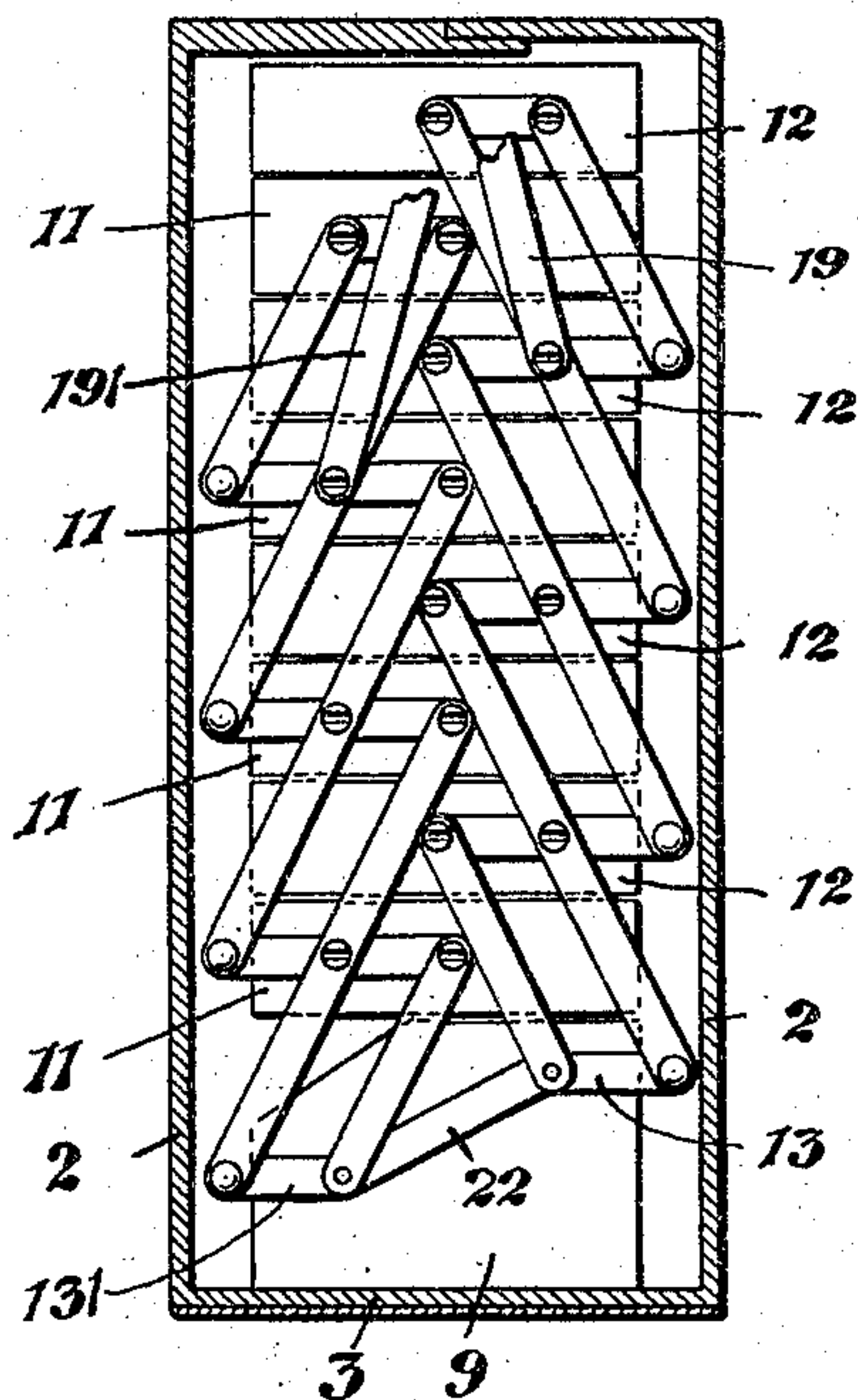


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANK B. HAGAMAN, OF NEWARK, NEW JERSEY.

PORTABLE CASE.

SPECIFICATION forming part of Letters Patent No. 782,651, dated February 14, 1905.

Application filed June 4, 1904. Serial No. 211,075.

To all whom it may concern:

Be it known that I, FRANK B. HAGAMAN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Portable Cases; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to portable cases adapted to contain a variety of small objects or articles, such as salesmen's sample-cases, instrument or tool cases, and the like; and the objects of the invention are to secure such a case which can be compactly closed to have about the same shape and appearance as a dress-suit case or cases of similar nature, to secure within the closed case a single tier of trays which when the case is opened will be arranged in two upwardly-diverging series with every tray accessible, to thus secure great convenience and a pleasing appearance and at the same time a compact closing of the entire device, to obtain such a construction in which the two series of trays shall intersect in closing or those of one series pass alternately between those of the other, to this end to so connect the two series of trays that they shall operate in unison, and to obtain other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved portable case and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is an end elevation of my improved case in open position, and Fig. 2 is a sectional view of the same upon the horizontal plane indicated by line *x* in Fig. 1. Fig. 3 is a detail plan of one of the trays. Fig. 4 is an end elevation showing the two series of trays

partially closed together, the case being in section and the gears at the end of the bottom box being removed; and Fig. 5 is a similar view showing the series of trays completely closed into a single vertical tier.

In said drawings, 2 2 indicate the halves or sections of a rectangular case, made of leather or other suitable material in any manner common to the art of making dress-suit cases and the like, said sections 2 2 being pivotally connected by a bottom piece 3, with metal angle-pieces 4 applied at its ends for reinforcement. One of the sections 2 provides an inside valance 5, adapted to overlap the line of joining of the sections, as is common in trunk and bag making, and at their upper edges said sections have cooperating clasp members 6 7 for closing as well as a handle 8 for carrying the case. Upon the said bottom piece 3 of the case is mounted in fixed position a bottom box 9, which is thus within the case and is open at its top to contain any articles which it may be desired to store therein, such as a salesman's folding umbrella, overshoes, linen, stationery, or the like. Above the said bottom box 9 the trays of my improved device arrange themselves when the case is closed in a vertical tier, as shown in Fig. 5, each of said trays being of the same shape and size in plan as the said bottom box and of any desired depth. Obviously said trays may be constructed of any desired material or in any known manner and either provide a single receptacle or be subdivided by partitions 10, as shown in Fig. 3. Of the said trays as they stand in a vertical tier in closed position the alternate ones, commencing with the first at the bottom, constitute one series and the others a second series, the trays of the first series being marked 11 and those of the second series 12 in the drawings. At each end of each series of trays the individual trays are pivotally connected to each other and to the bottom box by a system of levers arranged after the manner of lazy-tongs which will next be described with particular reference to the trays 12.

Upon the end of the bottom box 9 is a horizontally-disposed strip 13, shown in the drawings as projecting slightly from the box

at that side toward which the series of trays opens. The end of each tray of the series is also provided with a similar horizontal strip, those, 14, of the intermediate trays also projecting at their ends and the one, 15, upon the top tray being devoid of any such projecting portion for convenience sake. To the outer end of the strip 13 of the bottom box 9 a cooperating strip 16 is pivoted and extends across the first tray to the inner end of the horizontal strip 14 of the second tray, where it is also pivoted, the middle of said strip 16 being, furthermore, pivoted to the strip 14 of the first tray intermediate of the ends thereof. Other strips, 16 16, pivotally connect in a similar manner the first and second trays to the next two above them, respectively. A link 17 connects the inner end of the strip 13 upon the bottom box to the inner end of the strip 14 of the first tray, and another link, 18, connects the outer end of the strip 14 of the next to the upper tray to the strip 15 of the said upper tray. All said strips 16, 17, and 18 are parallel, and the horizontal strips 13, 14, and 15 are at equal distances apart, and therefore the said parts form the lazy-tongs construction above referred to. Each series of trays is similarly supported at the opposite ends of its individual trays, and from a suitable point, preferably the middle point of the horizontal strip 14 of the next to the upper tray, a link 19 extends to the adjacent section 2 of the outer casing, whereby as the hinged case-section is opened the series of trays is opened with it.

Obviously the above description of one series of trays applies also to the other series in the main, the only difference being that one series is set enough lower on the bottom box 9 than is the other so that in closing its first tray will pass between the bottom box and the first tray of the other series, and the upper trays correspondingly alternate. In the drawings, therefore, I have lettered with reference characters 131 141 151 161 171 181 191 the parts supporting the trays 11 and corresponding to the parts 13 to 19, inclusive, which support the trays 12. The series of trays 11 is also shown as the lower series of the two.

To insure unison in the opening movements of the two series of trays, gears 20 are fixed upon the lower ends of the links or strips 17 and 171 to turn upon the same pivotal pins therewith, and said gears are connected by intermediate gears 21 21. Said intermediate gears are pivotally mounted upon a strip 22, preferably connecting the horizontal strips 13 131 and being integral therewith, an outer strip 23 extending between the pivots of the end gears 20 parallel to the inner strip 22 and forming bearings for the gears. Thus as one series of trays is opened up corresponding motion will be automatically imparted to the other.

It will be noticed that the bars 16, 17, and

18 of each lazy-tongs are in inclined position when the case is open and also when the case is closed and between such positions pass through the vertically-upright position shown in Fig. 4. The effect of this is that when the case is closed the trays lie close together and also when the case is open the trays approach the same place; but in closing, as shown in Fig. 4, the trays assume their maximum distance apart to facilitate the intersection or entrance of the trays of one series alternately between those of the other. By my construction I thus secure in a closed case a single vertical tier of trays which will open into two symmetrical inclined series of separated trays, as shown in Fig. 1.

It will be noted that each system of levers is mounted upon the ends of its series of trays adjacent to the outer edges of the trays or edges away from the opposite series of trays, and thus the inner edges of both series of trays are freely exposed, so that when the two series intersect or close together said inner edges of each series can enter between the lever systems of the other series and the two lever systems at either end of the closed case not interfere with each other, as illustrated more particularly in Fig. 5.

Having thus described the invention, what I claim as new is—

1. The combination with a suitable base or support, of two series of trays adapted to close into a single vertical tier with the individual members of one series alternating with those of the other, and a system of levers at each end of each series of trays pivotally connecting the individual trays to one another and to said base or support, each system of said levers being arranged at its tray ends adjacent to the outer edges of the trays, or edges away from the other series of trays, whereby the inner edges of the trays are free to permit intersection of the trays.

2. The combination with a suitable base or support, of two series of trays adapted to close into a single vertical tier with the individual members of one series alternating with those of the other, and systems of levers one at each end of each series of trays and connecting the individual trays to each other and to the base or support, each system of levers comprising a series of parallel strips and being pivoted to each tray end at two points adjacent to the outer edge of the tray or edge away from the other series of trays, the inner edges of the trays being free to permit intersection of the trays.

3. The combination with a suitable base or support, of two series of trays adapted to close into a single vertical tier with the individual members of one series alternating with those of the other, and systems of levers one at each end of each series of trays and connecting the individual trays to each other and to the base or support, each system of levers comprising

two series of parallel strips, the strips of one series being fixed upon the tray ends adjacent to the outer edges of the trays or edges away from the other series of trays, and the strips of the other series being pivoted to said first-mentioned strips, the inner edges of the trays being free to permit intersection of trays.

4. The combination with a suitable base or support, of two series of trays adapted to close into a single vertical tier with the individual members of one series alternating with those of the other, and a system of levers at each end of each series of trays pivotally connecting the individual trays to one another and to said base or support, each system of said levers being arranged at its tray ends adjacent to the outer edges of the trays, or edges away from the other series of trays, whereby the inner edges of the trays are free to permit intersection of the trays, and means for compelling the two series of trays to move in unison.

5. The combination with a suitable base or support, of two series of trays each having its individual trays pivotally connected to each other and to said base or support to swing oppositely thereon, and means for compelling said series to move in unison.

6. The combination with a suitable base or support, of two series of trays each having its individual trays pivotally connected to each other and to said base or support to swing oppositely thereon, and a train of gearing positively connecting the two series of trays.

7. The combination with a suitable base or support, of two series of trays, the individual trays of each series being pivotally connected at their ends to one another and to the base or support, and gear-wheels fast upon the lower end of each series and adapted to positively transmit its motion to the other series.

8. The combination with a bottom box providing a receptacle, of two series of trays each having its individual trays pivotally connected to each other and to the ends of said bottom box, and trains of gearing upon said ends of the bottom box positively connecting said series of trays.

9. The combination with a casing comprising a bottom piece 3, and sections 2, 2, hinged thereto, of a box 9, secured to said bottom piece 3, two series of pivotally-connected trays hinged oppositely to said box 9, the trays of one series alternating in vertical position with those of the other and being adapted to fold into the same vertical tier therewith upon the bottom box, links attaching each series of trays to the adjacent section of the casing, and means compelling said sections and series of trays to swing in unison.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of May, 1904.

FRANK B. HAGAMAN.

Witnesses:

CHARLES H. PELL,
RUSSELL M. EVERETT