

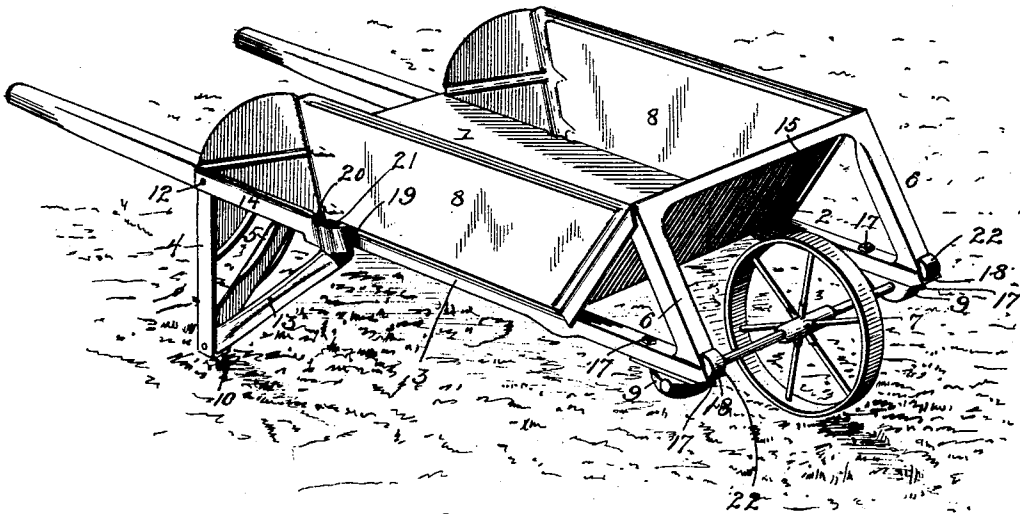
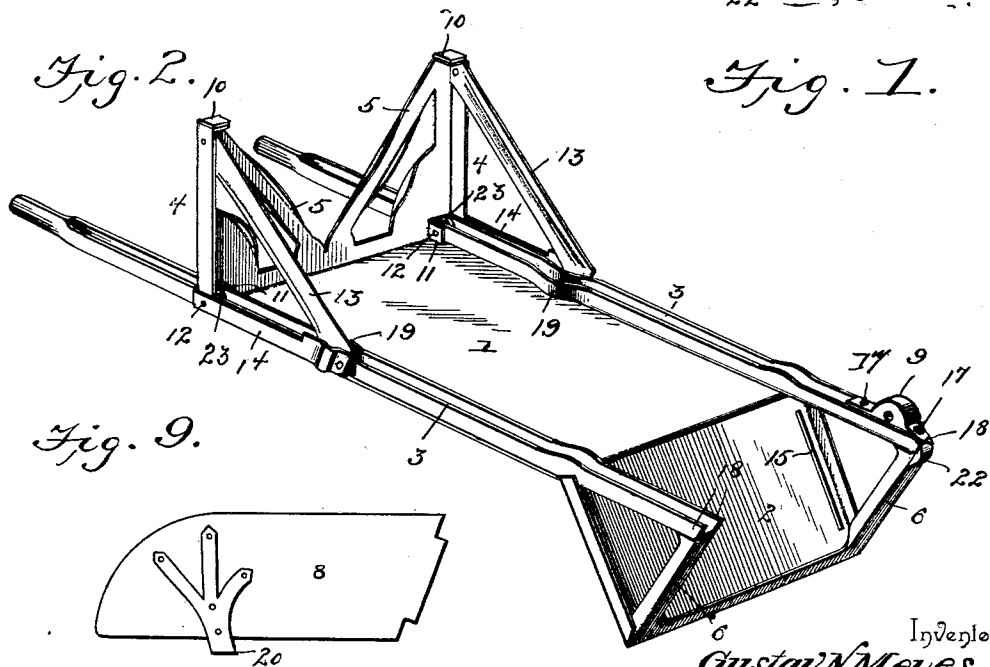
(No Model.)

2 Sheets—Sheet 1.

G. N. MEVES.
WHEELBARROW.

No. 587,985.

Patented Aug. 10, 1897.



Inventor
Gustav Meves,

Witnesses

E. H. Munn By his Attorneys,
V. B. Hillyard.

Cash & Co.

(No Model.)

2 Sheets—Sheet 2.

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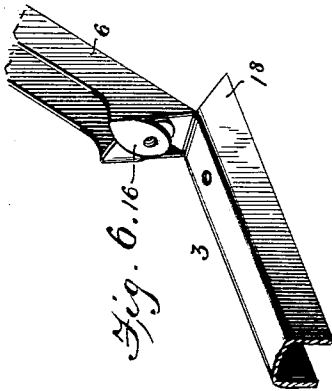


Fig. 6.16.

Fig. 5.

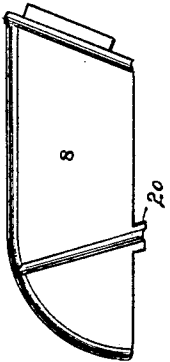
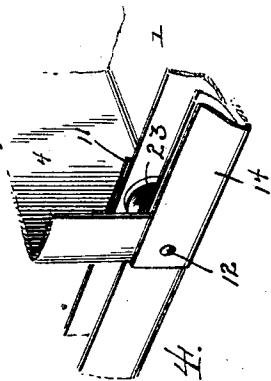


Fig. 4.

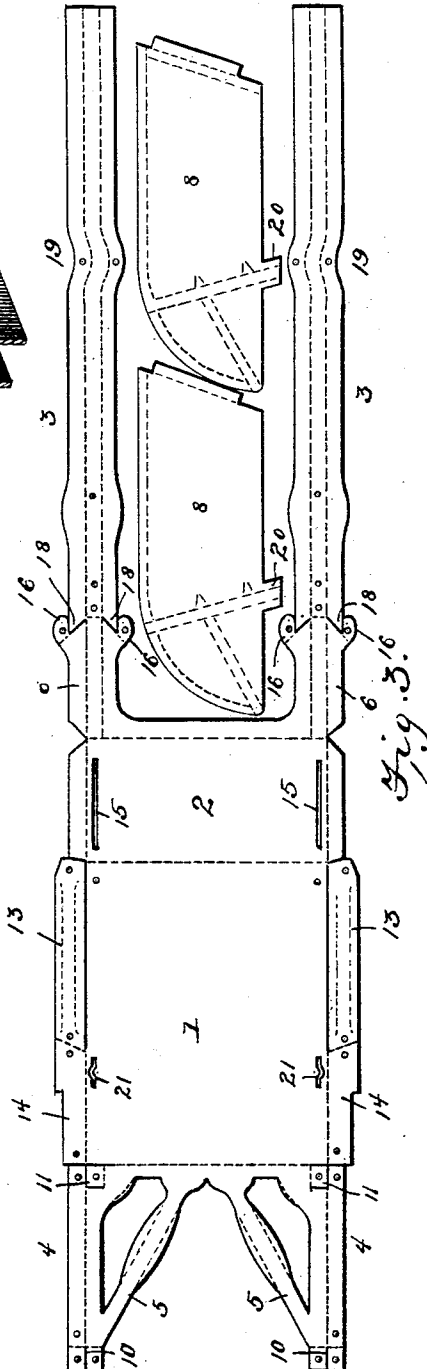


Fig. 3.

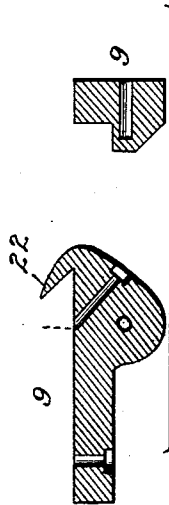


Fig. 8.

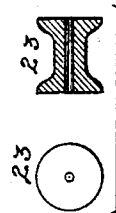


Fig. 7.

Witnesses

E. N. Monroe

V. B. Hillyard.

By *W. S.* Attorneys,

Inventor

Gustav N. Meves,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

GUSTAV NICHOLAS MEVES, OF DAVENPORT, IOWA.

WHEELBARROW.

SPECIFICATION forming part of Letters Patent No. 587,985, dated August 10, 1897.

Application filed December 26, 1896. Serial No. 617,053. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV NICHOLAS MEVES, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Wheelbarrow, of which the following is a specification.

This invention aims to provide a wheelbarrow constructed of a single blank of sheet material cut in the desired shape and bent into the required form, thereby reducing the number of joints and the consequent cost of manufacture, while at the same time producing a barrow which is light, strong, and durable.

The principal object is to enable comparatively light stock being utilized in the manufacture of the device, the requisite strength being secured by flanging the edge portions of the parts and by crimping or corrugating the body where required.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a wheelbarrow constructed of a single piece of sheet material in accordance with this invention. Fig. 2 is a detail perspective view of the barrow inverted having the side pieces and the wheel removed and a wheel-bearing omitted. Fig. 3 is a plan view of the blank as it will appear when sheared, the dotted lines representing the lines upon which the several parts are folded, bent, or corrugated, the full lines indicating cuts or slots, and the circles representing bolt or rivet openings. Fig. 4 is a detail view showing the juncture of a side arm, leg, and body. Fig. 5 is a detail view of a side piece as seen from the inner face. Fig. 6 is a detail view of an arm and the back-brace connected therewith, the parts being partially bent. Fig. 7 shows, respectively, an end view and longitudinal section of a spacing-block. Fig. 8 shows, respectively, a

longitudinal and a transverse section of the wheel or axle bearing. Fig. 9 is a detail view of a modified form of side piece.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference-characters.

The vital feature of the invention is the construction of a wheelbarrow from a single blank or piece of sheet material, either of steel or any other metal or material suitable for the purpose, the blank being sheared by means of hydraulic or other machinery into the required form and subsequently bent into the required or finished shape. In general appearance the wheelbarrow is of ordinary form and comprises the body 1, back 2, side arms 3, terminating in handles, legs 4, leg-braces 5, back-braces 6, wheel 7, and sides 8, the latter, the wheel, and its bearings 9 being separate and distinct parts and secured in place in the manner presently to be explained.

The body 1, back 2, arms 3, legs 4, and the several braces form elementary parts of the same blank and have the outline substantially as shown in Fig. 3, the legs 4 and their braces 5 being at one end of the blank and the arms 3 and the back-braces 6 at the opposite end. The side pieces 8 are formed from the piece cut from between the arms 3 and back-braces 6, as clearly indicated in Fig. 3, thereby reducing the waste of material to the smallest amount possible. The leg-braces 5 are diagonally disposed and are widened intermediate of their ends, the widened parts or lateral extensions being bent on the dotted lines, so as to stiffen and strengthen them. A slit 10 extends inward from the extremity of each leg 4, and the parts bordering upon the said slit are folded on the dotted line and overlap when the leg is bent, and are secured together by a rivet or like fastening passing through registering openings formed therein. An ear 11 is formed at the juncture of each leg 4 with the body 1 and is separated on three sides from the blank and is bent on the dotted line so as to come against the inner side of an arm, to which it is secured by a rivet or fastening 12, as most clearly indicated in Fig. 4. The space formed by bending the ear 11 in the manner set forth provides for the passage of the adjacent arm 3,

as indicated in Figs. 2 and 4, said arm being secured to the ear 11 and the adjacent portion of the flanged part of the leg 4. The legs 4 are further braced by rear stays 13, which are separated from the body 1 by longitudinal slits or cuts and which are bent on the dotted lines and are riveted or otherwise fastened at their lower front ends to the flanged or bent parts of the legs 4. The parts 14, forming prolongations of the braces or stays 13, are bent on the dotted lines corresponding to extensions of the slits or cuts which separate the braces 13 from the body 1, and their front ends overlap the upper terminals of the bent or flanged portions of the legs 4 and are secured thereto and to the ears 11 by the fastenings 12, as clearly indicated in Fig. 4. The back 2 is bent along the dotted line, as indicated, and its upper portion is bent rearwardly and downwardly to secure stiffness and rigidity and is strengthened by the back-stays 6, which extend from the rear extremities of the arms 3 to the upper corners of the back 2. Slots 15 are formed in the back 2 adjacent to and parallel with its edges and are intended to receive the rear ends of the side pieces 8 in the ordinary manner. These slots 15 may be formed by cutting out the metal at its ends and sides or by cutting the blank at one side and at each end and bending the separated part along the dotted line at the opposite side, as indicated at the bottom side of the blank in Fig. 3. This latter construction is preferred, as it strengthens and stiffens the back and provides an extended surface for the end of the side piece to bear against when subjected to pressure from within when the barrow is loaded.

The back-braces 6 are stiffened by having their edge portions bent along the dotted lines and are widened at their juncture with the arms 3 and are separated therefrom by slits, as indicated by the full lines, so as to form ears 16, which are bent on the dotted lines, so as to overlap, as more fully indicated in Fig. 6, said overlapping ears 16 being secured together to the rear ends of the arms and to the wheel-bearings 9 by bolts 17 or other suitable fastenings. The corners or points 18 at the rear ends of the bent-edge portions of the arms are bent to extend over the rear portion of the wheel-bearings, as illustrated in Fig. 2, thereby supplementing the action of the fastenings in securing the wheel-bearings in place. The arms 3 have their edge portions bent to stiffen and strengthen them and extend beneath the sides of the body 1 to support it, and their front ends are bent to provide handles or grips of rounding form to prevent hurting the hand of the person trundling the barrow. The arms are offset, as shown at 19, to afford clearance for the projections 20 at the lower edges of the side pieces 8, said offsets coming opposite slots 21, near the edges of the body 1, through which the projections 20 pass when the side pieces 8 are in place.

The side pieces 8 are stiffened and strengthened by corrugations or flutes formed therein by having portions pressed therefrom, as indicated by the dotted lines in Fig. 3 and by the full lines in Fig. 1. These side pieces are held in place by having their rear ends passing through the slots 15 and the lower projections 20 entering the slots 21, as will be readily understood on reference to Fig. 1.

The axle or wheel bearings 9 are secured between the bent-edge portions of the arms and have rear extensions 22 to overlap the rear braces 6 at their juncture with the arms, thereby preventing fracture and strengthening the joint or point of connection between the said rear braces and the arms. The rear fastening employed for connecting the bearings to the arms also passes through the overlapping ears 16 and connects them with the arms, thereby further strengthening the connection between the arms and the rear braces.

The projections 20 of the side pieces are crimped or fluted intermediate of their edges to secure strength and stiffness, and the slots 21 are of corresponding shape to the projections 20 in cross-section, so as to receive them when the side pieces are in place. Blocks or filling-pieces 23 are interposed between the bent-edge portions of the arms, the ears 11, and the overlapping ends of the parts 14 and the bent-edge portions of the legs 4, and the bolts or fastenings 12 pass through them and the adjacent parts, so as to firmly secure all together, as most clearly indicated in Fig. 4, these blocks or filling-pieces preventing the bent parts of the blank from bending inward upon tightening the bolts or fastenings 12.

A one-piece wheelbarrow constructed substantially as herein set forth can be cheaply manufactured, inasmuch as the blank can be sheared at one operation and subsequently bent into the required form by means of properly-constructed dies, and when completed embodies a minimum number of fastenings. Hence there are no joints to work loose and require attention, as is the case with devices of this nature as generally constructed.

It is obvious that any form of side piece may be used in connection with the wheelbarrow, but that shown in Figs. 3 and 5 is preferred. Fig. 9 shows the side piece flat and an iron riveted thereto, the upper end of the iron being trifurcated and the lower end extending and forming the projection 20.

Having thus described the invention, what is claimed as new is—

1. As a new article of manufacture, a wheelbarrow constructed of a single blank or piece of sheet material which is cut to provide a body, legs, back, arms, and braces for the legs and back, said blank being subsequently bent into the form substantially as herein shown and described.

2. In a wheelbarrow, a body and legs formed from a single piece of sheet material, the legs having their outer edge portions bent and having slits extending inward a short dis-

tance from their extremities, and having the portions bordering upon the slits bent and overlapping, substantially as set forth.

3. In a wheelbarrow, a body, legs and braces
5 formed of a single blank, the legs having their outer edge portions bent, and the rear braces for the legs being formed by longitudinal cuts along the edges of the body, and having the edge portions of the body bent and the parts
10 formed by the longitudinal cuts folded upon the bent edge portions and secured at their free ends to the lower ends of the legs, substantially in the manner set forth.

4. In a wheelbarrow, a body and legs formed
15 of a single piece, and having ears formed at the juncture of the legs with the body formed by cutting portions from the blank on three sides and bending the ears on a line corresponding with the fourth side, and having
20 edge portions of the body and legs bent with their adjacent terminal ends overlapping and coming opposite to the said ears, and arms passing through the spaces provided by forming the ears and secured to the latter and to
25 the overlapping terminals of the bent edge portions of the body and legs, substantially as set forth.

5. In a wheelbarrow, a back, rear braces and arms formed of a single blank, the lower

ends of the rear braces being widened to provide ears, and having their edge portions bent and the said ears folded, overlapped and secured to the arms, substantially as set forth.

6. In a wheelbarrow, a back, rear braces and arms constructed of a single piece, the
35 arms having their edge portions bent and formed with points, and axle or wheel bearings secured to the arms and having the pointed extremities thereof bent over the said bearings, substantially as and for the purpose
40 specified.

7. In a wheelbarrow, the combination with the arms and rear braces, of axle or wheel bearings secured to the arms and having rear extensions overlapping the lower ends of the
45 rear braces, substantially as specified.

8. A side piece for a wheelbarrow constructed of a single blank having an integral projection at its lower edge and formed with flutes or corrugations to stiffen and strengthen
50 it, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GUSTAV NICHOLAS MEVES.

Witnesses:

A. F. RAUCK,
WM. M. BUROW.