

KESSLER WAGON WORKS, PHILADELPHIA, PENNSYLVANIA.

WORKING DRAFT OF A DUMPING WAGON BODY.

Five-Eighth-inch Scale

Built by Kessler Wagon Works, Philadelphia, Pennsylvania
Carriage Monthly May 1906 page 30-31.

With this draft we illustrate the side and half front of rear elevation, also half of top, and show the full bottom view. The peculiar construction of the body and the entire wagon warrants its illustration, as well as the body in connection with the gear. These wagons are used largely by contractors, especially in cities to cart refuse and ashes. These wagons will carry from three to four tons of anthracite coal. In order to arrange the wagon to carry a larger amount of refuse a board frame is attached to the upper edges of the body, which extends from 6 to 12 inches, and which may be stationary or removable.

The length of body sills is 9 feet 5 inches, 3 inches thick and $4\frac{1}{4}$ inches wide. They are sometimes made $4\frac{1}{2}$ inches wide. The end crossbars are $3 \times 3\frac{7}{8}$ inches, and the others are $2 \times 3\frac{7}{8}$ inches. They are 1 inch less for the thickness of the bottom boards. All the crossbars are mortised through the sills, as shown on side elevation where the end wood of the tenons is shown. All the posts are mortised to the sills, and the end wood of tenons is shown on bottom view. The posts are tapered on the side and front elevation, but from the flat side straight up and down. All boards are 1 inch thick, and all posts are $1\frac{7}{8}$ inches thick.

The center sill is $2\frac{1}{2}$ inches thick by $3\frac{1}{2}$ inches deep; is level with the bottom boards, and the rest extends below the side sills to the extent of $1\frac{1}{2}$ inches. The bottom bars are, notched entirely into the center sills and bolted together. All of the posts run up to the slanting boards and are fitted under it. All the front cross boards are bolted to the posts the same as the sides, but in the back they are all made to fit, and are held in position by the two strong iron posts which are screwed to the sills. These bodies are well ironed. There are two short plates on each side shown on side elevation, which are met by inside plates from top to bottom, and which are $\frac{1}{4} \times 1\frac{1}{2}$ inches. Another plate is on the second and middle post from the rear, and all are shown on top view. These two are strap bolt plates. There are also two plates inside and outside on each rear end the same size as the other plates, and bolted to the sideboards.

Besides the above plates there are three outside slanting stays on each side, which are intended to keep the upper, slanting boards in position. The length of the body on top of sill from outside to outside of cross boards is 7 feet 3 inches, and on top 8 feet $9\frac{1}{2}$ inches. The width across the sills is $50\frac{1}{2}$ inches and across the posts 50 inches, thus proving that the posts are set inside of the sills $\frac{1}{4}$ inch on each side. The entire width of the body on top edge is 70 inches. The following are the sizes for all pieces of the body, and which are all oak:

Two side sills, $3\frac{1}{2}$ inches thick, $4\frac{1}{4}$ inches wide, 9 feet 5 inches long.

One center sill, $2\frac{1}{2}$ inches thick, $3\frac{1}{2}$ inches wide, 8 feet 5 inches long.

Two end crossbars, 3 inches thick, $3\frac{7}{8}$ inches wide, 4 feet $2\frac{1}{2}$ inches long.

Four bottom crossbars, 2 inches thick, $3\frac{7}{8}$ inches wide, 4 feet $2\frac{1}{2}$ inches long.

Two front end side posts tapered 1 inch, $1\frac{7}{8}$ inches thick, $4\frac{3}{8}$ inches wide, 2 feet 8 inches long.

Ten side posts tapered on top $\frac{1}{2}$ inch, $1\frac{7}{8}$ inches thick, 3 inches wide, 2 feet 8 inches long.

Three front posts tapered on top $\frac{3}{4}$ inches, $1\frac{7}{8}$ inches, 3 inches wide, 3 feet 5 inches long.

Three bottom boards, 1 inch thick, 14 inches wide, 8 feet long.

Two lower side boards, 1 inch thick, 12 inches wide, 8 feet 3 inches long.

Two upper side boards, 1 inch thick, 14 inches wide, 8 feet 6 inches long.

Two slanting boards, 1 inches thick, $15\frac{1}{2}$ inches wide, 8 feet 9 inches long.

One lower front cross board, 1 inches thick, 12 inches wide, 4 feet 4 inches long.

One middle front cross board, 1 inch thick, $13\frac{1}{2}$ inches wide, 4 feet 11-inches long.

One upper front cross board, 1 inch thick, 12 inches wide, 6 feet long.

One lower rear cross board, 1 inch thick, 12 inches wide, 4 feet 11 inches long.

One middle rear cross board, 1 inch thick, 12 inches wide, 4 feet 11 inches long.

One upper rear cross board, 1 inch 15 inches wide, 5 feet 11 inches long.

Six rear cross rails, 1 inch thick, 2 inches wide, 2 feet long.

Two rear cross board rails, 1 inch thick, 2 inches wide, 1 foot 2 inches long.

Two side boards bolted to posts, 1 inch thick, 8 inches wide, 8 feet 3 inches long.

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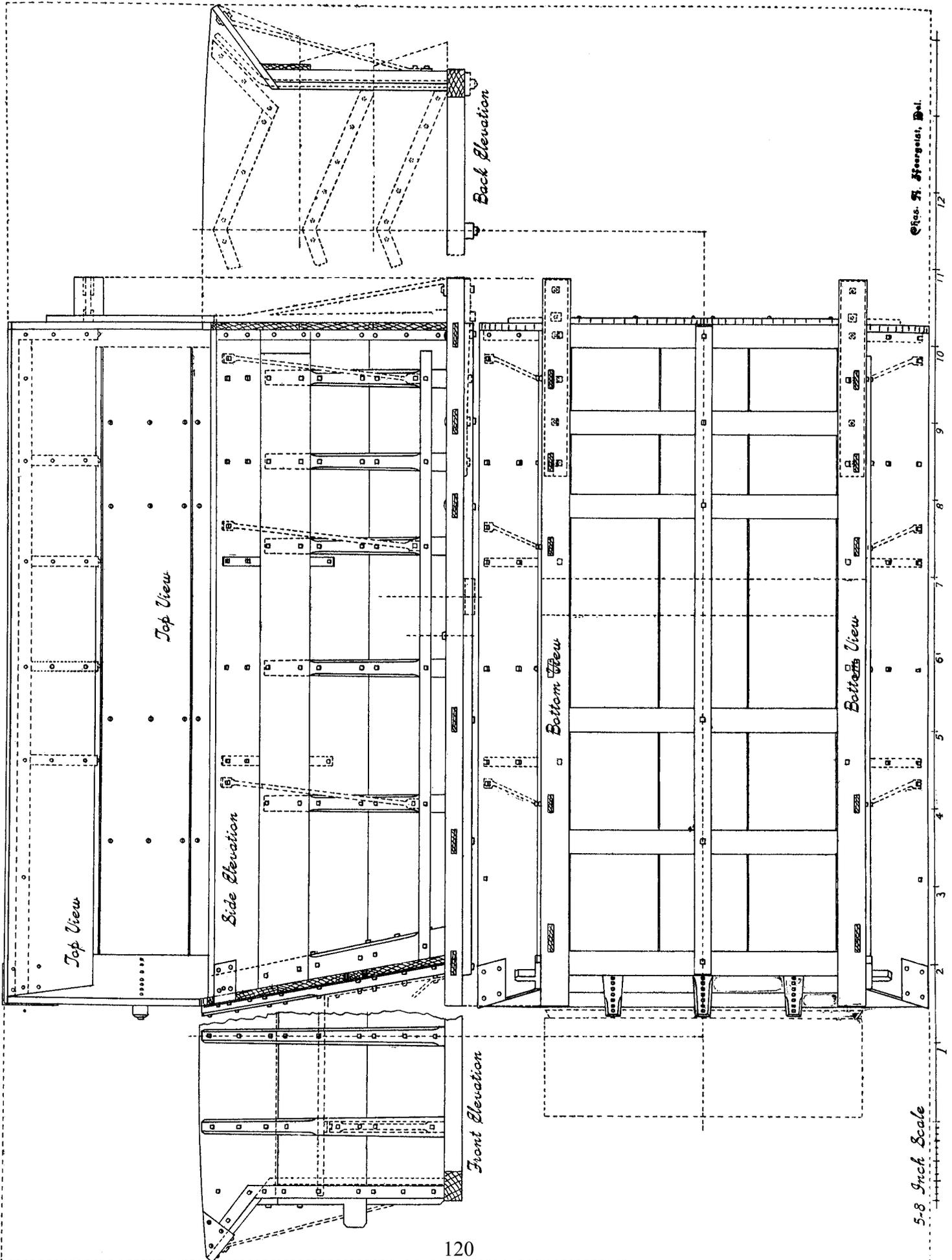
WORKING DRAFT OF A CONTRACTOR'S DUMPING WAGON.

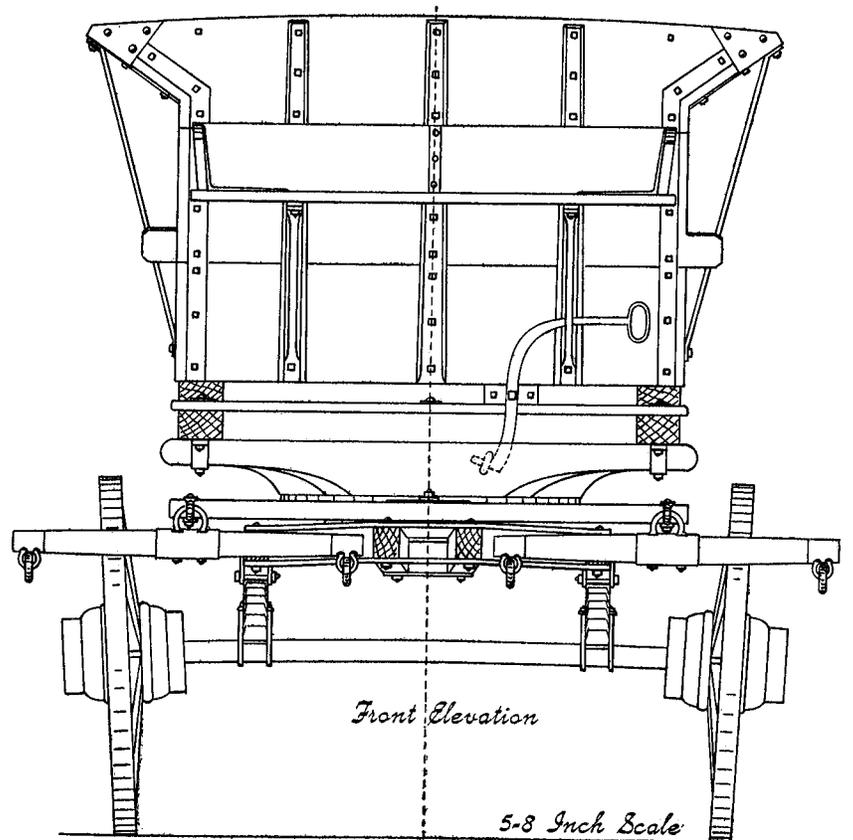
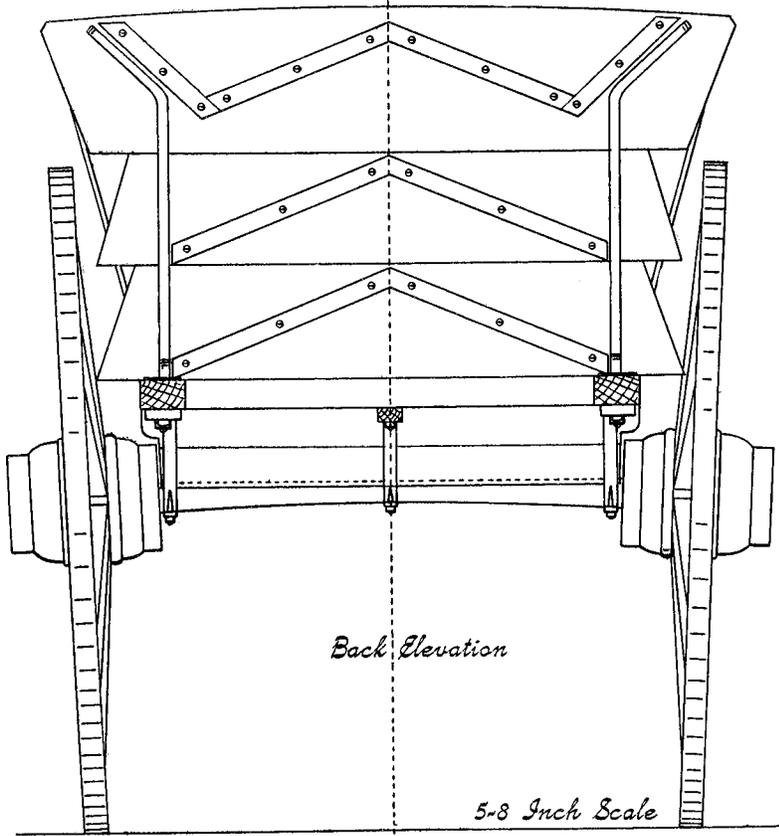
Five-Eighth-Inch Scale.

Carriage Monthly May 1906 page 32-34.

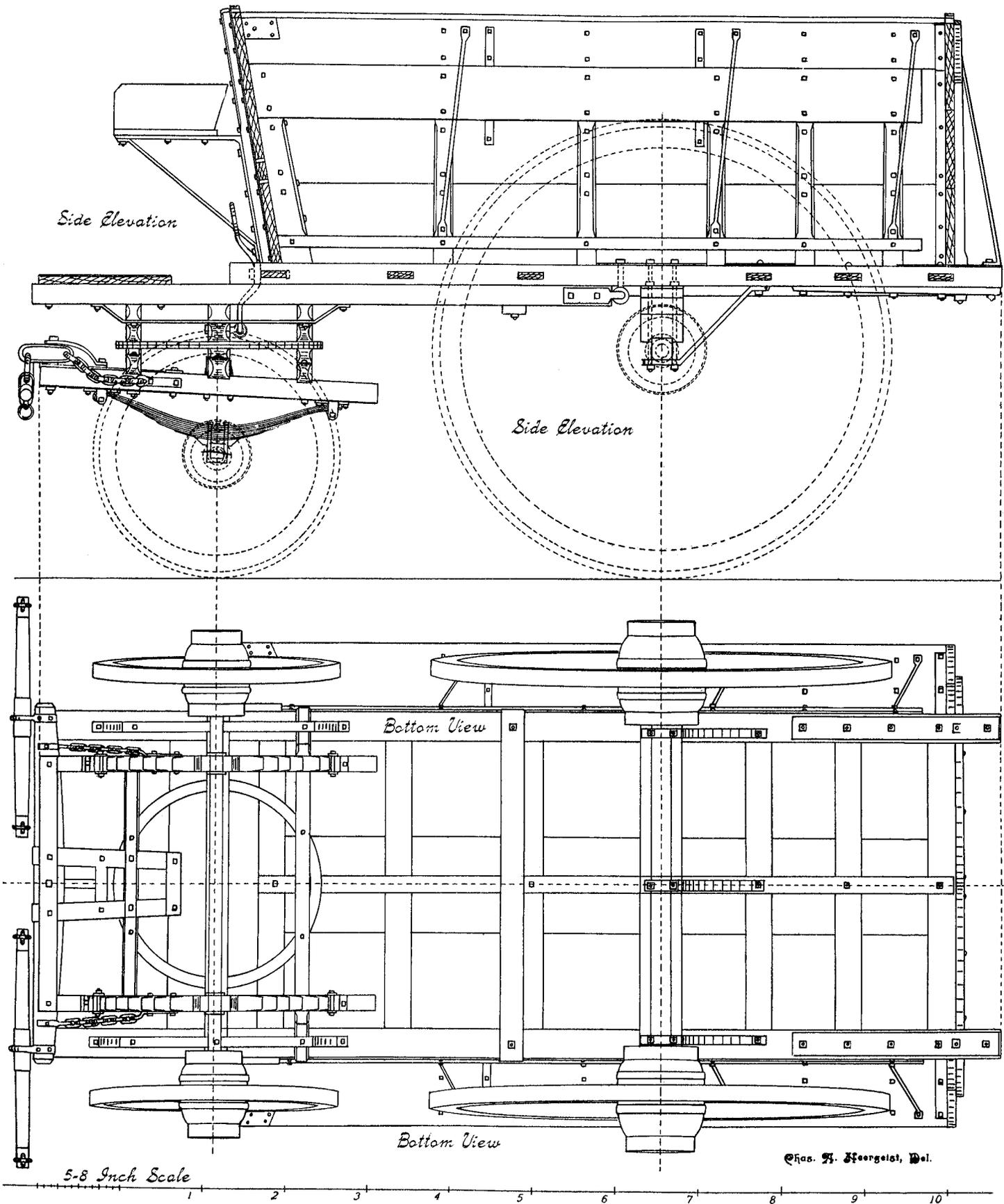
SUSPENSION OF THE BODY.

The front gear is similar to other gears seen under wagons and trucks, but there are peculiarities which need explanation. The front wheels are 36 inches diameter outside of tires, space between tire and lower sill $3\frac{3}{4}$ inches. Thickness of lower sill 3 inches. The body rests on the lower sill, consequently the lower surface of the body sill is $42\frac{3}{4}$ inches from the floor. The upper three transoms are 5 inches deep and the two fifth wheel circles $\frac{3}{4}$ inch thick or $\frac{3}{8}$ inch each. The lower futchels, which are directly under the upper ones, have different depths, because the side futchels are considerably out of level. The wheels are low, and therefore the futchels must be raised front to have the pole in the right position on the front end. To increase that height the pole





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futchels are raised more than the side futchels, as seen on side and front views. On account of the depth of both upper and lower transoms: and the low wheels, the springs are clipped directly on top of the axle and have not a great deal of opening, as can be seen on the side view.

The rear wheels, on which almost the entire load is carried, are 5 feet 6½ inches, the tires being 1¼ inches thick, making the diameter of the wheels without tires 5 feet 4 inches. The axle is 3 inches diameter at square and round arm, the axle shack is 6 x 8 inches, and is made out of two pieces of 4-inch thick stock each, and the joint is shown on the back elevation, The axle is partly let into the stock, as shown by dotted lines. To strengthen the axle and axle stock in connection with the body, three stays take the axle stock bolts at the bottom surface of the axle, and the rear end of the stays are bolted to the sills of the body, as shown best on bottom view. The under sills on which the body rests are fastened on rear end near the axle stock, and move in a link on either side when the body is upped. The front seat is bolted to the two front posts, and is best seen on side and front elevation.

DIMENSIONS FOR GEARS ARE AS FOLLOWS:

PLAIN WOOD HUBS FOR FRONT WHEELS.

Diameter without tires, 34¼ inches.

Diameter of hubs at center, 10 inches.

Diameter front and back outside, 7½ x 8 inches.

Length, 12 inches.

Size, of spokes at square end 1¼ x 2¾ inches.

Number of spokes, 12.

Size of felloes, 2¼ x 2¾ inches.

Size of tires, 7/8 x 2½ inches.

PLAIN WOOD HUBS FOR BACK WHEELS.

Diameter without tires, 52 inches.

Diameter of hubs at center, 12½ inches.

Diameter of hubs front and back outside, 9 x 10¾ inches.

Length, 15 inches.

Size of spokes at hub end, 3½ x 1 5/8 inches.

Size of spokes at felloe end, 2 3/8 x 1 7/8 inches.

Number of spokes, 14.

Size of felloes, 2 3/8 x 2 7/8 inches.

Size of tires, 1¼ x 2 5/8 inches.

Size of axles front and back, 2 and 3 inches.

Width of track out to out, 62 inches.

SPRINGS, FRONT.

Length from out to out, 36 inches.

Width of plates, 2½ inches.

Number of plates, 8.

Number of steel, No. 2 steel.

Other plates, No. 3 steel.

Springs apart from out to out, 37 inches.

Diameter of fifth wheels, 36 inches.

Size of fifth wheels, 3/8 x 1 5/8 inches.

The upper transoms front and back, 2¼ x 5¼ inches.

Upper center transom, 3¼ x 5¼ inches.

Lower transom front, 2¼ x 3¾ inches.

Lower transom back, 2¼ x 5 inches.

Lower center transom, 3¼ x 4½ inches.

Two side futchels above the springs, 2¾ x 3 inches.

Two pole futchels, 2½ x 3 inches.

No irons on under side of pole futchel.

The seat and body irons can be seen on the different views.

Note the iron plate on side elevation above the sills.

They are 1¼ x 1¾ inches, and are bolted to the parts. There is one plate on each side and top edge of each side board, which is ¼ x 1¾ inches. They are indicated by dotted lines in top view of the working draft of body. Note also heavy plates on rear under surface of body.

Photo of George Kessler, proprietor Kessler Wagon Works, East Girard Avenue near Norris Street-- photo of factory Kessler Wagon works, George Kessler, Proprietor. East Girard Avenue near Norris street. Manufacturer of all kinds of wagons, carts drays, trucks, wheelbarrows, etc.k, for city and exprot trade. can be seen in *Philadelphia Pennsylvania, the Book of Its Bourse & Co-operating Bodies*, by George Washington Engelhardt, published by Lippincott Press, Philadelphia, 1898-1899 page 391.