Result of Testing Axies with a Ton Weight, \&c.-continued.

| 1. <br> Numbers of Axles Tested. | Brand on Axle. |  |  | Distance between Supports. |  | $\stackrel{4 .}{\text { Height of Fall. }}$ | 5. Number of Fall. | $\stackrel{6 .}{\text { Deflection. }}$ | Character of Fracture. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| J. 2. | Lancaster Wagon Company | ... |  | $\left\{\begin{array}{cc}5 \text { feet } & \cdots \\ " & \cdots \\ " & \text { axle turned, } \\ \cdots \\ " & \text { same position }\end{array}\right.$ | ..$\ldots$$\ldots$$\ldots$$\ldots$ | 1 foot 5 inches$"$$"$$"$ | 1st <br> 2nd <br> 3rd <br> 1st <br> 2nd | $1^{\frac{1}{2}}$ inch <br> $1^{\frac{1}{4}}$ inch <br> $1_{4}^{3}$ inch <br> Returned to $\frac{7}{b}$ inch <br> Broke | Crystalline in middle, white fibre, grey outerpart, three curved cracks. |
|  | " ${ }^{\text {\% }}$ | $\ldots$ |  |  |  |  |  |  |  |
|  | " " | $\cdots$ |  |  |  |  |  |  |  |
|  | " . " | $\ldots$ |  |  |  |  |  |  |  |
|  |  | $\ldots$ |  |  |  |  |  |  |  |
| K. 3 | " | ... | ... | ¢ $\quad$, .. | $\cdots$ | " | 1st | $\frac{11}{16}$ inch |  |
|  | $"$ " | ... | ... | 1 $\quad$. |  | " | 2nd | $1 \frac{3}{16}$ inch, total |  |
|  | " ", | $\ldots$ | . | $"$ |  | " | 3 rd | $1 \frac{13}{16}$ mach, total |  |
|  | $"$ | $\ldots$ | $\cdots$ | $\left(\begin{array}{l}\text { ( } \\ \\ , \\ \text { axle } \\ \text { same position }\end{array}\right.$ | $\cdots$ | ", | $\begin{aligned} & \text { 1st } \\ & \text { 2nd } \end{aligned}$ | Returned to $\frac{7}{8}$ inch Broke |  |
|  |  |  |  |  |  |  |  |  | Small crystals, white, part fibrous grey |
| K. 1 | Dunedin Axle |  | $\ldots$ | ( 5 feet | $\cdots$ |  | 1st | ${ }_{4}^{3} \mathrm{inch}$ |  |
|  | " | $\ldots$ | $\ldots$ | " |  | , | 2nd | 15 ${ }^{5}$ inch |  |
|  | " | $\ldots$ | $\ldots$ | " $\dddot{18} 0^{\circ}$ |  | " | 3rd | 2 ${ }^{\frac{1}{4} \text { inches }}$ |  |
|  | " | $\ldots$ | ... | $"$ axle turned, $180^{\circ}$ | ... | " | 1st | Returned to $1 \frac{3}{16}$ inch |  |
|  | " | $\ldots$ | ... | " same position |  | 2 feet" | 2nd | Returned to ${ }^{3}$ |  |
|  | " | $\cdots$ | $\cdots$ | \{ $\quad$.. |  | 2 feet ${ }^{2}$ feet 6 inches | 3 Brd | $\frac{11}{13}$ th inch below straight 17 inch below straight |  |
|  | " | $\cdots$ | $\cdots$ | " $\quad \cdots$ | $\ldots$ | 3 feet 6 inches | 5 5th | $3{ }^{4}$ inches below straight |  |
|  | " | $\ldots$ | $\ldots$ | " | $\ldots$ | 4 feet | 6th | 5 inches below straight |  |
|  | " | $\ldots$ | ... | " ... | ... | 5 feet | 7th | 7 inches below straight |  |
|  | " | $\cdots$ | . | $"$ | $\cdots$ | 6 feet | 8th | 9 inches below straight |  |
|  | " | $\cdots$ | $\cdots$ | ( $\quad$ axle turned, $180^{\circ}$ | ... | 7 feet | 9th | Broke | All fibrous, grey. |
| K. 2 | \% |  | . | f 5 feet | $\cdots$ | 2 feet | 1st | $1 \frac{1}{16}$ inch |  |
|  | " | ... | . | - | ... | 3 feet | 2nd | $2{ }_{4}{ }_{4}$ inches |  |
|  | " | $\cdots$ | ... | \{ $\quad$... | ... | 4 feet | 3rd | $4 \frac{13}{16}$ inches |  |
|  | " | $\ldots$ | ... | ) | ... | 5 feet | 4th | $7 \frac{1}{4}$ inches |  |
|  | " | ... | ... | ( $\quad$... |  | 6 feet | 5th | Broke | Grey, fibrous |
| Old | S. W. \& A. Co. | ... | ... | " $\quad$. | ... | 1 foot 3 inches | 1 st | $\frac{1}{2}$ inch |  |
|  | " | $\ldots$ | $\ldots$ | " $\quad .$. |  | " | 2nd | $1 \frac{1}{8}$ inch, total |  |
|  | " | $\ldots$ | . | " arle turned $\dddot{18}^{\circ} 0^{\circ}$ | ... | " | 3rd | $1 \frac{3}{4}$ inch, total |  |
|  | " | ... | $\ldots$ | $"$ axle turned, $180^{\circ}$ | $\ldots$ | " | 1st | Returned to $\frac{7}{8}$ inch |  |
|  | " | $\ldots$ | $\cdots$ | " same position | $\cdots$ | 2 ${ }^{\prime}$ | 2nd | Returned to $\frac{1}{8}$ inch |  |
|  | " | $\cdots$ | $\cdots$ | " " | $\cdots$ | 2 feet | 3 rd | $\frac{1}{2}$ inch below straight |  |
|  | " | $\cdots$ | $\ldots$ | " ${ }^{\text {, }}$ | ... | 2 feet 6 inches | 4th | $1 \frac{1}{2}$ inch below straight |  |
|  | " | $\cdots$ | $\cdots$ | " " | ... | 3 feet | 5 th | $\frac{21}{2}$ inches below straight |  |
|  | " | $\cdots$ | ... | " " | . | 3 feet 6 inches | 6 th | $3 \frac{3}{4}$ inches below straight |  |
|  | " | $\ldots$ | $\ldots$ | " $"$, $180^{\circ}$ | ... | 4 feet | 7 th | 5 inches below straight |  |
|  | " | $\cdots$ | $\cdots$ | " axle turned, $180^{\circ}$ | $\cdots$ | 4 feet 6 inches | 1st | Returned to $2 \frac{13}{16}$ inches |  |
|  | " | $\cdots$ | $\cdots$ | " $\quad$ " | $\ldots$ | 5 feet | 2nd | Returned to $1 \frac{1}{8}$ inch |  |
|  | " | ... | ... | 5 feet $\quad \cdots$ | ... | 5 feet 6 inches | 3 rd | Returned to 1 inch |  |
|  | " | ... | $\ldots$ | " | ... | 6 feet | 4th | 27 inches below straight |  |
|  | " | $\cdots$ | $\cdots$ | " ${ }^{18}{ }^{\circ}$ | ... | 6 feet 6 inches | 5th | 4 4 inches below straight |  |
|  |  | $\ldots$ | $\ldots$ | $"$ axle turned, $180^{\circ}$ | $\cdots$ | 6 feet 7 inches | 1st | Returned to $2 \frac{1}{8}$ inches |  |
|  | " | $\cdots$ | $\therefore$ | " $\quad$, | ... | 7 feet | 2nd | $\frac{1}{4}$ inch below straight |  |
|  | " | ... | $\ldots$ | " " | ... | 7 feet 6 inches | 3 rd | $3 \frac{1}{16}$ inches below straight |  |
|  | " | $\ldots$ | $\ldots$ | ( $\quad$ \# | $\ldots$ | 88 feet 6 feet 6 inches | 4th | $\left\lvert\, \begin{gathered}5 \frac{1}{2} \text { inches below straight } \\ \text { Broke after } 2 \text { foul blows }\end{gathered}\right.$ | Grey and fibrous. |

