

## APPENDIX II.

## BLACK-STEEL-WIRE ROPES.—BREAKING-LOADS.

(Quality: Special Improved Patent Steel. Tensile strength of wires, 90-100 tons per square inch.)

Size of Rope.		Construction: Six Strands of 19 Wires each.	Construction: Six Strands of 24 Wires each.	Construction: Six Strands of 37 Wires each.
Circumference, in Inches.	Diameter, in Inches (approximate).	Actual Breaking-load, in Tons.	Actual Breaking-load, in Tons.	Actual Breaking-load, in Tons.
1	$\frac{5}{16}$	3.0	2.7	2.9
$1\frac{1}{8}$	$\frac{3}{8}$	3.7	3.7	3.8
$1\frac{1}{4}$	$\frac{13}{32}$	4.7	4.5	4.3
$1\frac{3}{8}$	$\frac{7}{16}$	5.5	5.4	5.3
$1\frac{1}{2}$	$\frac{15}{32}$	6.7	6.3	6.4
$1\frac{5}{8}$	$\frac{1}{2}$	8.1	7.3	7.7
$1\frac{3}{4}$	$\frac{9}{16}$	9.1	8.4	9.0
$1\frac{7}{8}$	$\frac{19}{32}$	10.7	10.2	10.4
2	$\frac{5}{8}$	12.4	11.5	11.9
$2\frac{1}{8}$	$\frac{11}{16}$	13.6	12.8	13.6
$2\frac{1}{4}$	$\frac{23}{32}$	15.6	14.3	15.3
$2\frac{3}{8}$	$\frac{3}{4}$	17.6	15.8	16.2
$2\frac{1}{2}$	$\frac{13}{16}$	19.1	17.4	18.1
$2\frac{5}{8}$	$\frac{27}{32}$	20.5	19.8	20.2
$2\frac{3}{4}$	$\frac{7}{8}$	22.9	21.6	22.3
$2\frac{7}{8}$	$\frac{29}{32}$	25.4	23.4	24.6
3	$\frac{15}{16}$	28.9	25.4	26.9
$3\frac{1}{8}$	1	30.7	27.4	29.4
$3\frac{1}{4}$	$1\frac{1}{32}$	33.6	30.5	30.6
$3\frac{3}{8}$	$1\frac{1}{16}$	36.6	32.7	33.2
$3\frac{1}{2}$	$1\frac{1}{8}$	39.6	35.0	36.0
$3\frac{5}{8}$	$1\frac{5}{32}$	41.8	37.3	38.8
$3\frac{3}{4}$	$1\frac{3}{16}$	45.1	39.7	41.7
$3\frac{7}{8}$	$1\frac{1}{4}$	48.6	42.2	44.7
4	$1\frac{9}{32}$	50.9	46.0	47.8
$4\frac{1}{8}$	$1\frac{5}{16}$	54.6	48.7	51.1
$4\frac{1}{4}$	$1\frac{11}{32}$	57.1	51.4	54.4
$4\frac{3}{8}$	$1\frac{3}{8}$	61.0	54.3	56.2
$4\frac{1}{2}$	$1\frac{7}{16}$	65.0	57.2	59.6
$4\frac{5}{8}$	$1\frac{15}{32}$	67.7	60.2	63.3
$4\frac{3}{4}$	$1\frac{1}{2}$	71.9	64.7	67.0
$4\frac{7}{8}$	$1\frac{9}{16}$	74.8	67.9	70.8
5	$1\frac{19}{32}$	79.2	71.1	74.7
$5\frac{1}{8}$	$1\frac{5}{8}$	83.7	74.5	78.8
$5\frac{1}{4}$	$1\frac{11}{16}$	88.5	77.9	83.0
$5\frac{3}{8}$	$1\frac{3}{4}$	96.5	84.9	89.3
$5\frac{3}{4}$	$1\frac{27}{32}$	104.9	94.0	98.3
6	$1\frac{29}{32}$	115.5	101.7	107.6