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MARCH, 1909

## PRICE LIST

OF

# LATHING AND REINFORCING



MANUFACTURED BY

**The B. Greening Wire Company**  
Limited

HAMILTON, ONTARIO

MONTREAL, QUEBEC

WINNIPEG, MAN.

## Wire Lathing.

Before introducing the various kinds of Metallic Lathing we are now making, we wish to point out some of the advantages obtained by using a metal lath, instead of the wooden one. These advantages are common to most of the metal lathing on the market, but pre-eminently so in ours, as an investigation will prove.

The perfect key formed, and the absence of all shrinking and warping, prevents the cracking of the plaster that is to be seen in almost every building where wood lathing has been used, and for this reason it is invaluable for use on walls and ceilings that are to be frescoed.

The mortar cannot become detached from the lathing, because when the plaster is applied it clenches on both sides of the wire, and forms a double surface of plaster. It is, therefore, especially adapted for use in stores, factories and warehouses, where the vibration of machinery or the moving of heavy weights is likely to shake off the plaster.

Its advantages from a sanitary point are obvious: the avoidance of imperfect plastering in tenement houses, hospitals, or any building where the interiors are exposed to impure atmosphere, being of the greatest importance.

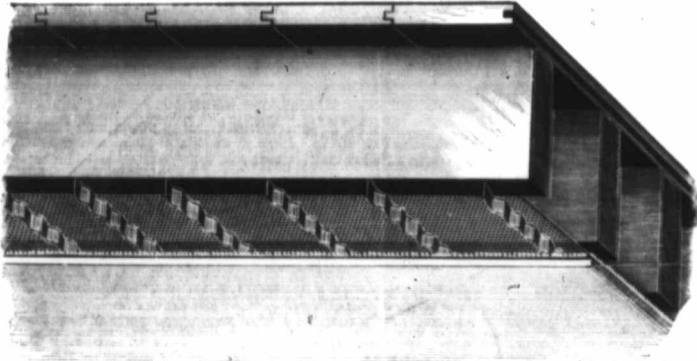
Another good point in its favor is that it is rat-proof.

With regard to its durability, it stands the test of time better than any other lathing. We have seen it stated that the French Government, during the reign of the first Napoleon, used wire lathing in constructing some of the public buildings in Paris; that lathing remains intact to-day. In 1853 wire lathing was used in the Boston theatre, and when examined in 1873 was found as perfect as when first put on, the iron lathing showing no signs of corrosion. This is owing to the fact that lime mortar is a perfect protection to iron against corrosion.

Lathing manufactured by us has been used, amongst others, in the following fine buildings:

Quebec Court House, Quebec; Imperial Fire Insurance Co., Montreal; Temple Building, Montreal; Mechanics' Institute, Montreal; Canadian Pacific Station, Montreal; Montreal Armory; Bank of Montreal, Toronto; Bank of Commerce, Toronto; Canada Life Building, Toronto; Board of Trade, Toronto; Asylums for Insane, Mimico; Asylums for Insane, Hamilton; Infantry Barracks, London; Asylum for Idiots, Orillia; Bank of Toronto, Toronto; Mrs. McConkey's residence, Drummond street, Montreal; R. Fisher's Apartment House, Sherbrooke Street, Montreal; R. J. Tooke's residence, Peel Street, Montreal; Municipal Buildings, Toronto; Grand Trunk Depot, Montreal; Parliament Buildings, Toronto; Asylum for Insane, Brockville; Victoria University, Toronto; Mr. Wilson's residence, Woodstock; Departmental Buildings, Ottawa.

### Greening's Patent Fire-Proof Lathing.



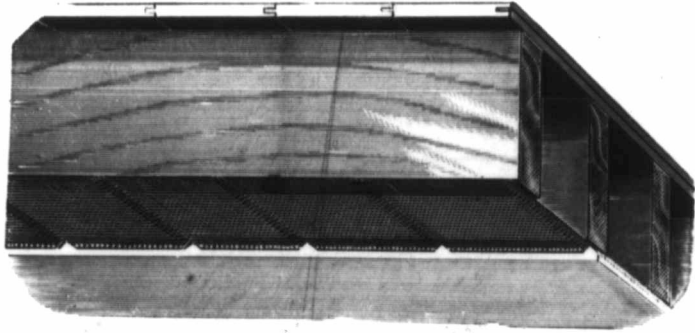
This lathing consists of a combination of wire cloth,  $\frac{3}{8}$  inch mesh, made of No. 18 steel wire, and a crimped iron furring varying from  $\frac{3}{8}$  to 1 inch wide. In applying, the furring strips are first stapled across the joists every nine inches, the cloth being then stretched over and stapled and tied to the furring, giving great strength and stiffness to the fabric.

The advantages we claim for our new lathing are, that it has fire-proof qualities not possessed by any other make on the market. By the use of our patented corrugated iron strips, the mortar can be kept clear of the joists a sufficient distance to insure perfect protection against their firing, even if the mortar becomes red hot. To practically demonstrate this, in August, 1888, we built a brick furnace, covering it on the inside with our lathing, and plastered same with ordinary two-coat work. We copy the following newspaper account of the test:

(From the Hamilton Spectator, August 31st, 1888.)

**A Successful Invention.—B. Greening & Co.'s New Fire-Proof Substitute for Laths.**—Yesterday afternoon a large number of architects, insurance men, school trustees, aldermen, and others interested in buildings were present at a test of a new wire substitute for laths, which has been recently perfected by B. Greening & Co., the well-known wire workers of this city. A brick furnace was erected in a vacant lot opposite the factory, and over the top of it and one side was built an ordinary ceiling of mortar on the wire screen which they propose to substitute for laths. The furnace had no other top but this coat of plaster, and across the top of the imitation ceiling on the upper side was placed an ordinary joist, at a distance of one inch above the plaster and wire screen. The object of the test was to demonstrate such a ceiling in a room would withstand intense heat without cracking or breaking off or allowing the fire to communicate to the joists beneath the plaster. The fire was lighted at 4.15, and was fed with tarred felt and dry pine until the flames fairly roared out of the two apertures left in the sides of the furnace to afford a draft. The experiment was closely watched by the gentlemen present, and was declared in every respect an entire success. The fire was kept going for nearly an hour, and the furnace packed with wood nearly to the roof, but though the brick wall cracked in several directions under the intense heat, the thin ceiling did not show the slightest symptom of cracking and the joist above it did not even char.

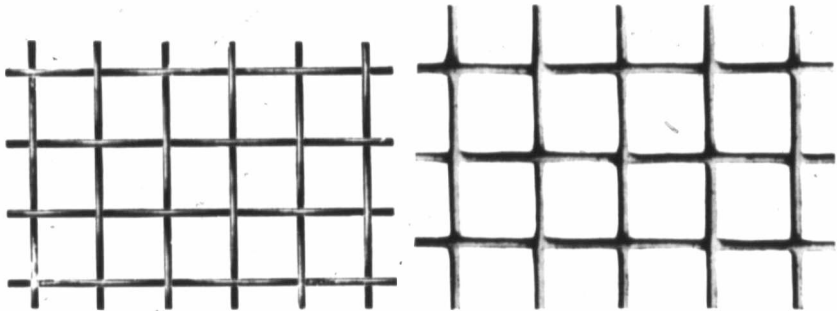
### Patent Corrugated Wire Lathing.



In the foregoing pages we generalize the advantages derived by the use of wire lathing. The above style contains all the good qualities therein enumerated. By corrugating the cloth, and cutting it into lengths, it is easily applied, and there is no longer any necessity for furring.

The cloth is made of  $\frac{3}{8}$  inch mesh of No. 18 steel wire, the corrugating being done by a separate process after weaving.

We have supplied some of the finest buildings in Canada with the lathing.



$2\frac{1}{2} \times 2\frac{1}{2}$  Mesh of No. 18 Wire, black.  $2 \times 2$  Mesh of No. 18 Wire, re-galvanized.

Made in rolls of about 200 lineal feet by 36 inches wide.

Special prices for large lots.

## Wire Reinforcing.

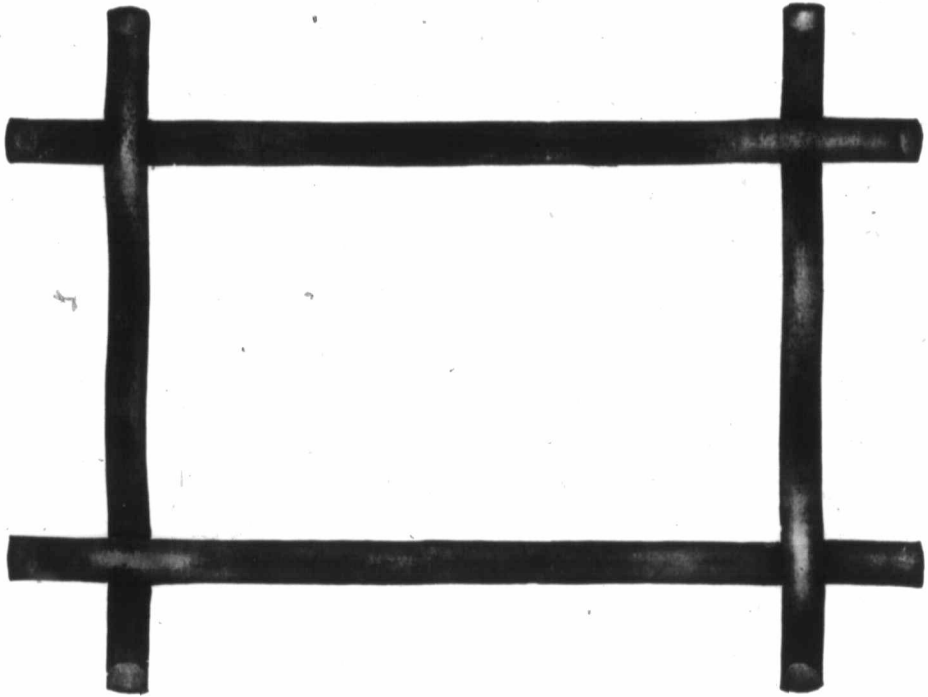
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The progress made in the past few years by the use of concrete reinforced with steel, has been so rapid, and so many of the largest building operations in which this system of fire proofing has been adopted have been completed within recent years, that, at the present time, a system that combines fire-resisting qualities, with load-carrying capacity, is readily admitted to the specifications of the most eminent architects and engineers.

Greening's Wire Reinforcings are made of all strengths of material and in any lengths desired. Long lengths forming a continuous bond are features of our reinforcing. For roofs and floors of great length, the superiority of this feature is no longer questioned.

The superiority of concrete construction, of stone, or cinder concrete reinforced with one or other forms of steel embedded in the concrete, over any other system of fire-proof arch, is now readily conceded.

Other uses for reinforced concrete are floors of bridges, the construction of culverts, tunnels, shafts, sewers, retaining walls, footings, etc.

**WIRE REINFORCING.**

2½ inch x 4 inch Mesh, made of No. 3 Steel Wire.

Cut full size.



2½ inch x 8½ inch Mesh, made of No. 6 Steel Wire.

Cut half size, showing construction of coarser  
and lighter meshes.

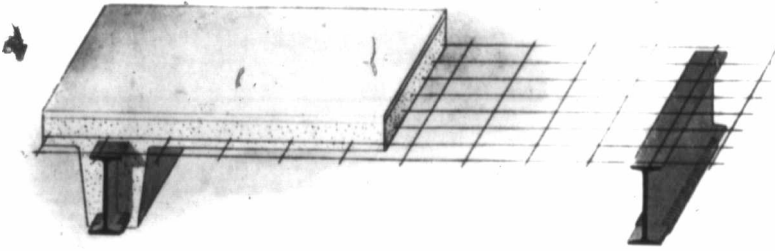
**Wire Reinforcing.— Continued.**

Figure 1 represents fire-proof construction of floor, reinforced with our Crimped Steel Wire Reinforcing, stretched on the top of I beams near the bottom of floor-slab.

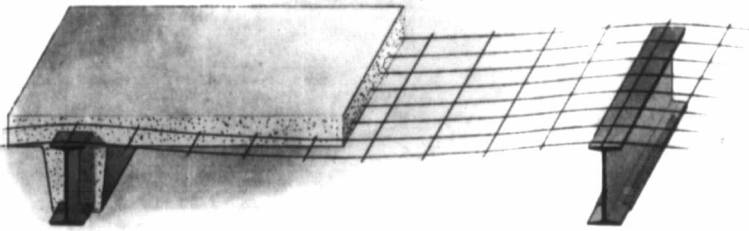


Figure 2 is the same as No. 1, excepting that the reinforcing is placed near the top of floor over the I beams, and deflected to near the bottom of the floor slab in the centre, between the bearings.

For Table of Breaking Strains, etc., see page 160.

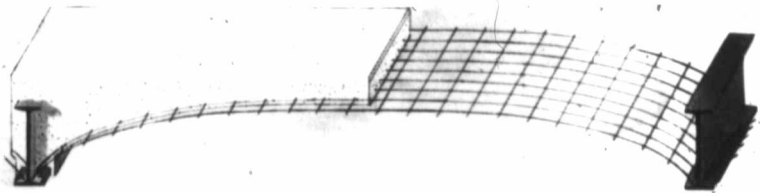
**Wire Reinforcing. Continued.**

Figure 3 shows a light construction, with spans as wide as 15 feet centre to centre.

Our Crimped Steel Wire Reinforcing of 2 inch x 4 inch mesh, made of No. 3 Steel Wire, would be suitable for this construction.

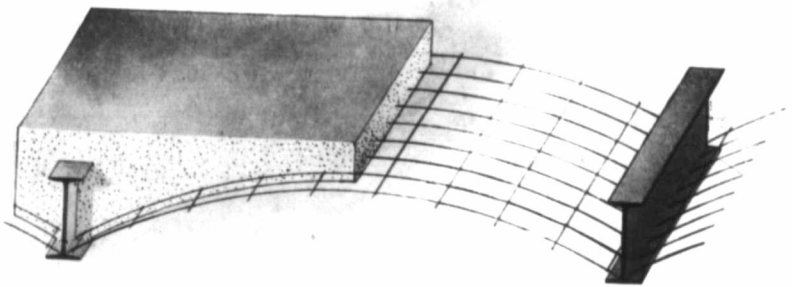


Figure 4 shows a heavy construction, with spans of 6 feet centre to centre.

Our Crimped Steel Wire Reinforcing of 2½ inch x 4 inch mesh, made of No. 6 Steel Wire, would be suitable for this construction.

For Table of Breaking Strains, etc., see page 160.



Wire Reinforcing.—Continued.

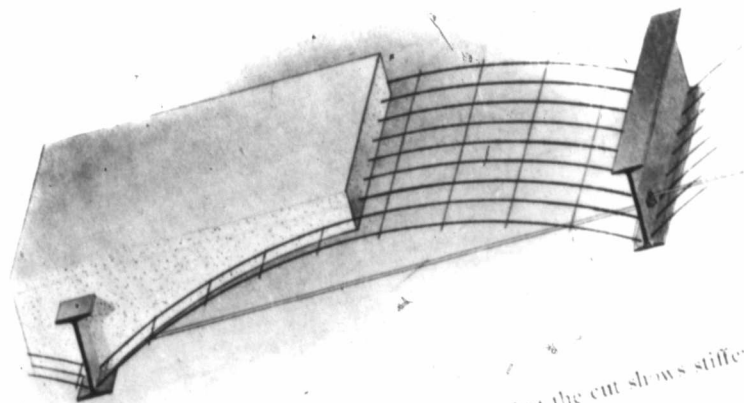


Figure 5 is the same as No. 4, excepting that the cut shows stiffening rods to brace the I beams.

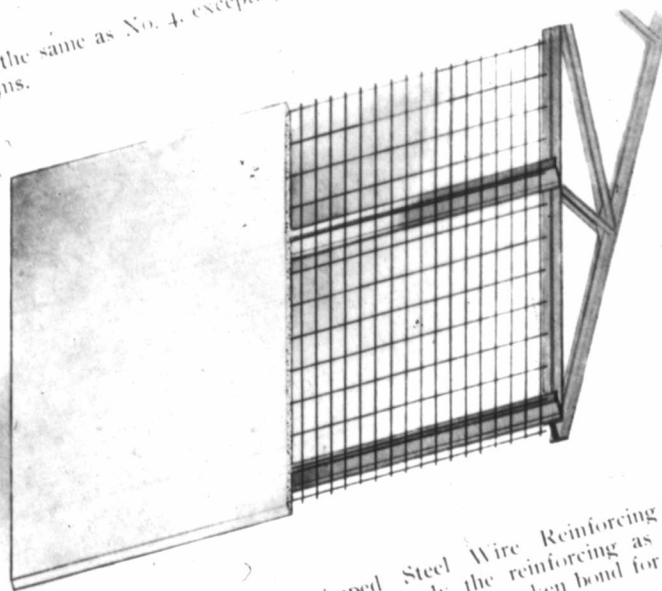
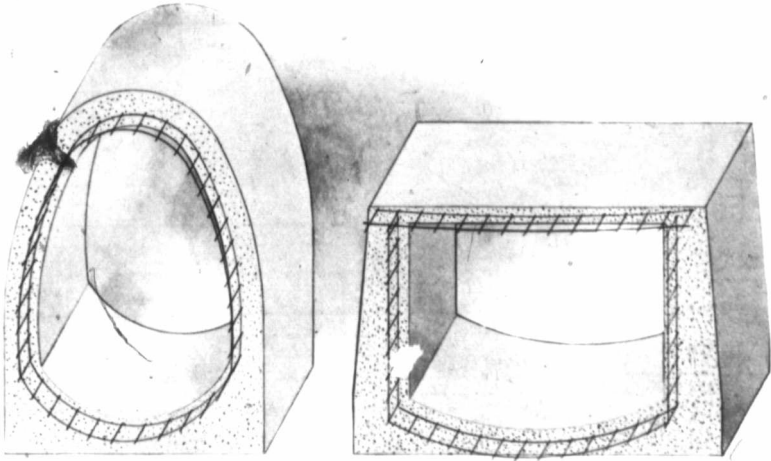


Figure 6 illustrates our Crimped Steel Wire Reinforcing applied to pitched roofs. For this purpose we can supply the reinforcing as wide as 10 feet and in any desired lengths, thus insuring an unbroken bond for hundreds of feet. For Table of Breaking Strains, etc., see page 160.

### Wire Reinforcing.—Continued.



Figures 7 and 8 show our Crimped Steel Wire Reinforcing, as applied to sewers, drains, tunnels, tanks, silos and work of a similar character.

We can supply the reinforcing in a continuous length sufficient to make the entire circumference of the work being done, and by securing the ends of the meeting wires the full strength of the fabric is obtained.

#### STANDARD MESHES AND GAUGES.

2	x	4	inch mesh of	Nos.	3	4	5	6	7	8	9	10	wire.
2½	x	4	"	"	3	4	5	6	7	8	9	wire.	
2½	x	8½	"	"	3	4	5	6	wire.				

The long way of the mesh runs the long way of the bonding.

For Table of Breaking Strains, etc., see page 160.

Tensile strength of longitudinal wires in one foot of the width of wire reinforcing, when spaced as follows:—

Size on Wire Gauge	Diameter in Inches	Weight per Foot of One Wire	Tensile Strength of One Wire	Tensile strength of longitudinal wires in one foot of the width of wire reinforcing, when spaced as follows:—				
				2 Inch Centres	2½ Inch Centres	3 Inch Centres	3½ Inch Centres	4 Inch Centres
3	.252	.164	3990	23940	19152	15960	13685	11970
4	.232	.139	3381	20286	16228	13524	11597	10143
5	.212	.116	2824	16944	13555	11209	9686	8472
6	.192	.095	2476	14856	11885	9904	8493	7428
7	.176	.080	2136	12816	10253	8544	7326	6408
8	.160	.066	1813	10878	8702	7252	6219	5439
9	.144	.054	1507	9042	7234	6028	5169	4521
10	.128	.045	1233	7398	5918	4932	4229	3699
11	.116	.035	1010	6060	4848	4040	3464	3030
12	.104	.028	810	4860	3888	3240	2778	2430

Size on Wire Gauge	Weight per square foot of longitudinal wires when spaced as follows:—					Weight per square foot of transverse wires when spaced as follows:—				
	2" Centres	2½" Centres	3" Centres	3½" Centres	4" Centres	2½" Centres	4" Centres	5½" Centres	7" Centres	8½" Centres
3	1.1100	.9000	.7500	.6600	.5400	.9000	.5400	.4200	.3300	.2700
4	.9455	.7666	.6389	.5622	.4600	.7666	.4600	.3577	.2811	.2300
5	.7811	.6333	.5277	.4644	.3800	.6333	.3800	.2955	.2322	.1894
6	.6372	.5166	.4305	.3789	.3100	.5166	.3100	.2411	.1894	
7	.5344	.4333	.3611	.3178	.2600	.4333	.2600	.2022		
8	.4522	.3666	.3055	.2689	.2200	.3666	.2200	.1711		
9	.3700	.3000	.2500	.2200		.3000	.1800			
10	.2877	.2333	.1944			.2333	.1400			
11	.2261	.1833				.1833				
12	.1831					.1500				

EXAMPLES—The longitudinal wires No. 4 gauge spaced on centres of 2½ in. weigh .7666 of pound to square foot, and the transverse wires No. 4 gauge spaced on centres of 5½ in. weigh .3577 of pound to square foot. Therefore a reinforcing 2½ in. x 5½ in. of No. 4 wire would weigh approximately 1 lb. 2 oz. per square foot of reinforcing.

The longitudinal wires No. 8 gauge spaced on centres of 3½ in. weigh .2689 of pound to square foot, and the transverse wires No. 8 gauge spaced on centres of 5½ in. weigh .1711 of pound to square foot, therefore a reinforcing 3½ x 5½ in. centres of No. 8 gauge wire would weigh .44 pounds to square foot.

Longitudinal wires may be spaced on centres of two or more inches in steps of ½ inch. Transverse wires may be spaced on centres of 2½ or more inches in steps of 1½ inches as per above table. We can supply the reinforcing in any of these meshes as wide as 120 inches, and in any length desired, excepting those fabrics that are too stiff and heavy to be made into a roll.

Select a mesh and size of wire suitable to your requirements, giving quantity, and we shall be pleased to quote you prices.

It is considered good practice to use a reinforcing sufficiently strong to carry the desired weight without reference to the added strength of the concrete.

A factor of safety of ten should be observed.

A generally accepted mixture is that of cement 1, sand 2½, stone 5.

The stone should be broken so as to go through a ¾ or 1 inch diameter ring.

The nearer the reinforcing is to the underside of cement slab the more effective it becomes to carry the load.

WE HAVE SUPPLIED REINFORCING TO THE FOLLOWING FIRMS:

Barnett & McQueen Co., Port Arthur, Ont., for Atikokan Iron Co., 2½" x 4" x No. 6 Gauge Wire; J. B. Smith & Sons, Callendar, Ont., for roof of Saw Mill, 3½" x 4" x No. 10 Gauge Wire; J. H. Tromanouser, Goderich, Ont., for Elevator, 2½" x 4" x No. 10 Gauge Wire; City of Winnipeg, 4" x 4" x No. 8 Gauge Wire; R. Forbes Co., Hespeler, Ont., for Woolen Mill, 2" x 5½" x No. 7 Gauge Wire; Town of Orillia, for Dam, Otis-Fenson Elevator Co., Hamilton, Ont., for Roof of Works, 2" x 8" x No. 8 Gauge Wire; Jos. Crevier, St. Annes De Bellevue, Que., 4" x 2" x No. 3 Gauge Wire; for Bank of Montreal; Christie Bros., Owen Sound, Ont., 2" x 4" x 3-16 Gauge Wire; Hamilton Bridge Co., for Bridge Flooring, 2" x 4" x No. 6 Gauge Wire; Township of Trafalgar, Oakville, Ont., 2" x 4" x No. 6 Gauge Wire, for Bridge Flooring.

# The B. GREENING WIRE COMPANY

LIMITED

HAMILTON, CANADA

MANUFACTURERS OF

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MASONS' SCREENS.

MASONS' RIDDLES.

BOILER TUBE CLEANERS.

ASH SIFTERS.

SPARK GUARDS.

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GALVANIZED DERRICK STAY ROPES.

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GALVANIZED SMOKE STACK STAYS.

CAST STEEL DERRICK HOISTING ROPES.

PASSENGER ELEVATOR ROPES.

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STEEL WIRE REINFORCING FOR CONCRETE.

STEEL WIRE LATHING.

**WIRE CLOTH, ALL KINDS, FOR ALL PURPOSES**

Special Illustrated Catalogue of any of these goods on application.