

COLONIAL ENGINEERING CO., Limited,

Consulting and Contracting Engineers.

222-224, St. JAMES STREET, - - MONTREAL.

Machine Cut Double Helical Wheels,

WITH STAGGERED TEETH CUT IN SOLID BLANKS, WÜST'S PATENT,

Are **the** Gear for all **High-Speed and Heavy Drives** from electric motors, steam turbines, etc., and for the safest transmission of heavy torques, without vibration or shock.

They are **in successful operation** in connection with almost every class of machinery, and their advantages are particularly appreciated when driving:

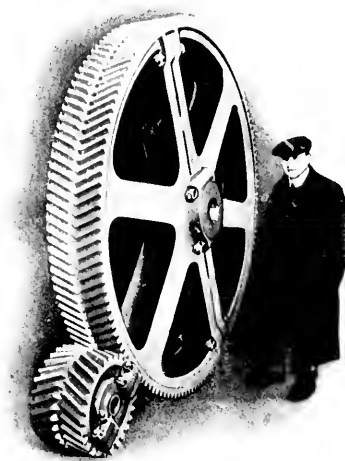
Pumps and Compressors,

Haulages,

Rolling Mills,

Machine Tools,

Calender Rolls,



Elevators,

Conveyors,

Woodworking Machinery,

Textile Machinery,

Coal Screening Plants, etc.

8ft. Split Wheel and Split Pinion 2 1/2 in. pitch by 12 in. face.

These Gears have the following advantages over Straight Cut Wheels:—

1.—They are considerably stronger than straight cut wheels of similar dimensions, owing to the greater average engagement, and to the tooth pressure acting at a much smaller leverage than with straight cut teeth.

2. They can safely run at the highest velocities (up to 60 feet per second) without any danger, as they do not set up vibration. This is due to the fact that pinion and wheel do not suddenly come into and out of engagement as in straight wheels, whilst the total engagement is practically constant on account of the staggered arrangement of the teeth.

3. Owing to the engagement being gradual, the teeth are not subject to the hammering action so frequently met with in straight cut gears, where uneven torques have to be transmitted. Much finer pitches can be employed than usual in straight cut gear practice on account of greater strength and freedom from shocks.

4. They are far superior to raw hide and paper wheels in point of durability and strength.

5. They are less noisy than any other type of spur gear, and when running in oil bath and balanced with care, they can be considered as practically noiseless. This is accounted for by the gradual engagement.

6. The staggering of the teeth produces the same effect as halving the pitch and doubling the number of teeth in straight wheels, but without the corresponding reduction in strength.

7. They possess the highest efficiency, by reason of the almost complete absence of sliding friction.

8. They render the use of high ratios of reduction between pinion and wheel possible without any danger of rapid wear or noisy transmission. Single gear ratios up to 25 : 1 are already in successful operation. They are cheaper than machine cut double helical wheels as hitherto made.

We supply these wheels in sizes up to 14 feet diameter and 3 feet wide with highest accuracy.