

C. CORRON.
 APPARATUS FOR DYEING YARNS.
 APPLICATION FILED DEC. 14, 1908.

915,939.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.

FIG-1

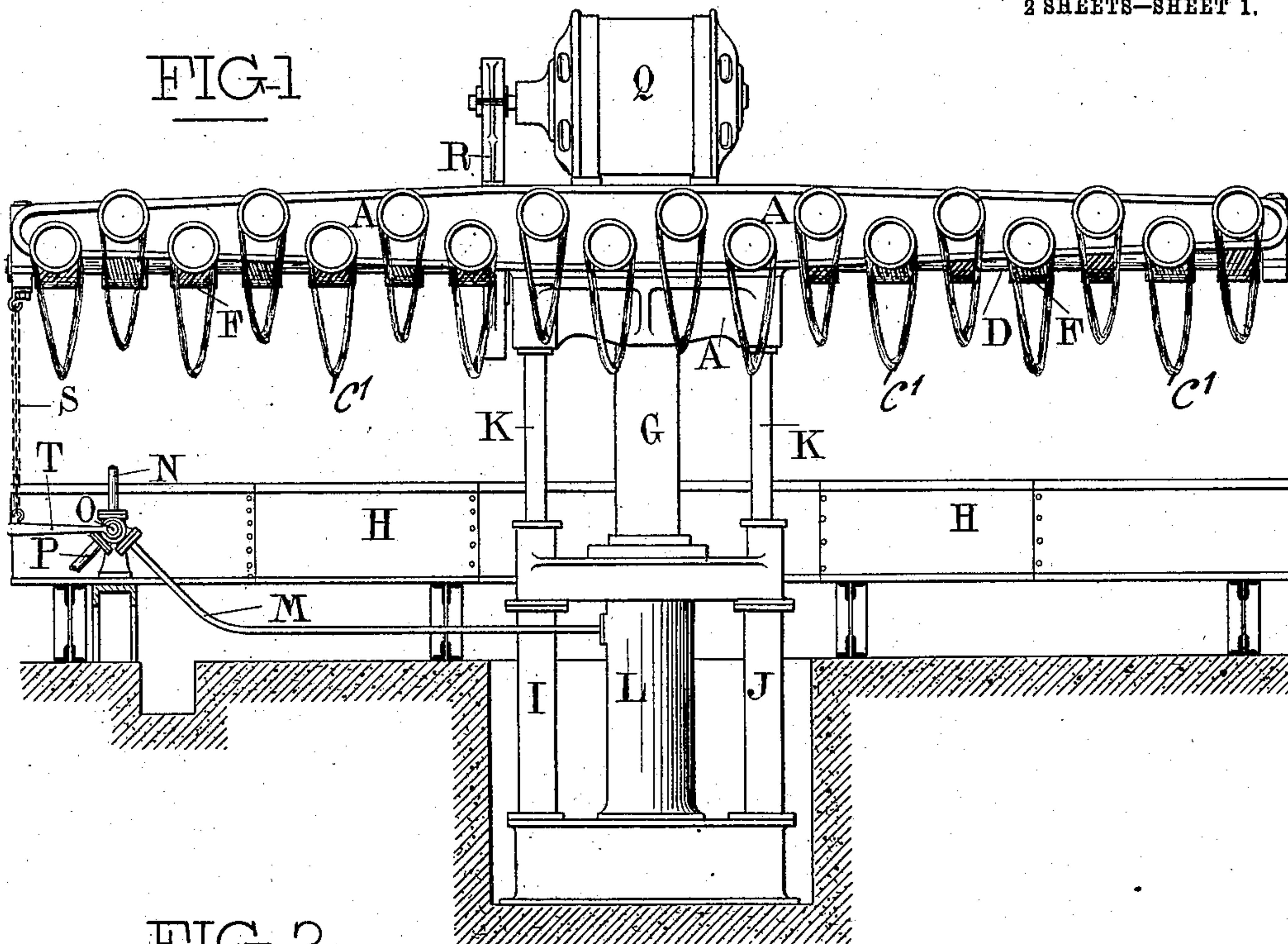
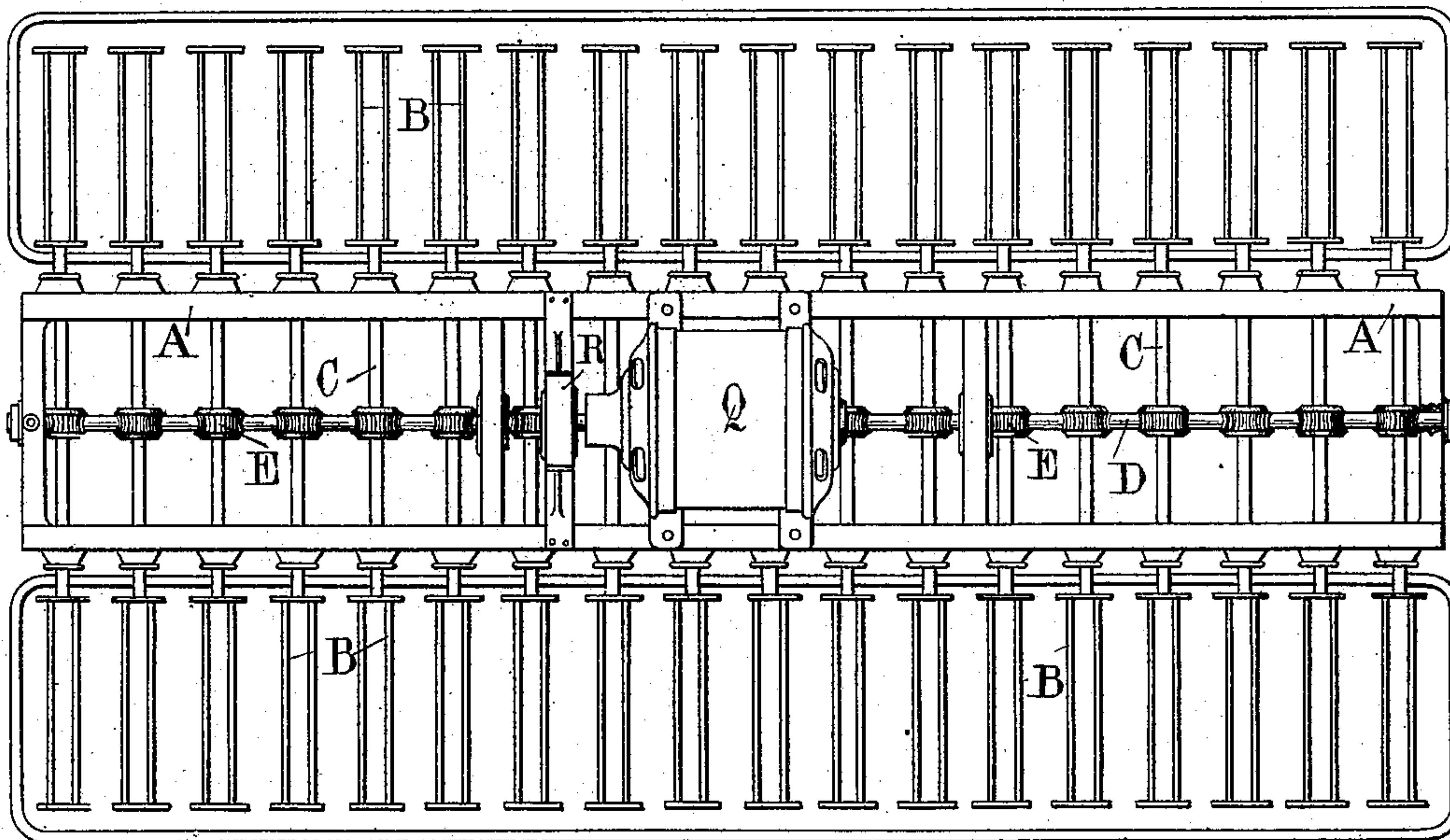


FIG-2



Witnesses:

Jean Germain
Guillaume Pioche

Inventor:

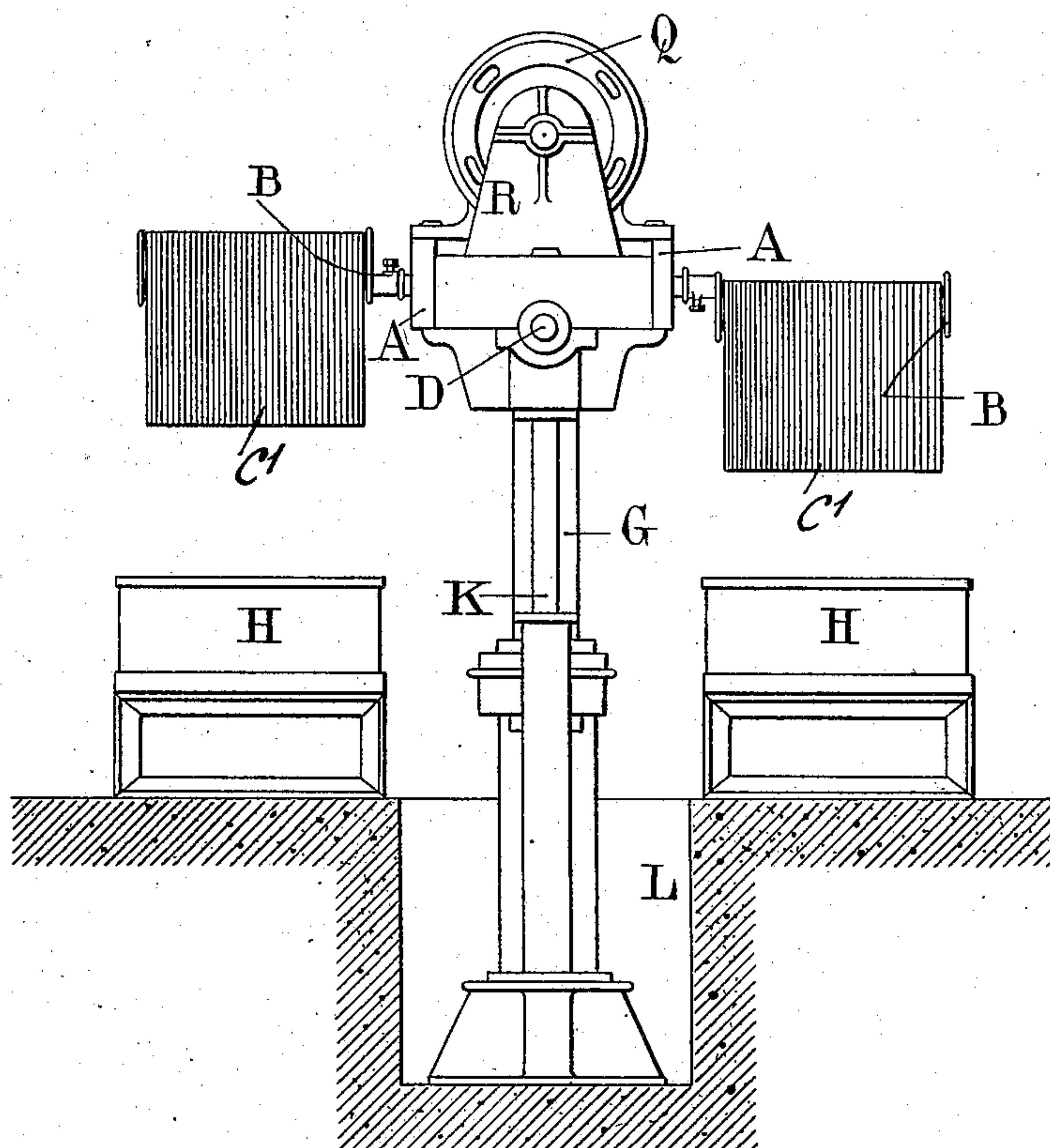
Cien Corron

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 2 SHEETS—SHEET 2.

FIG-3



Witnesses:
Jean Germain
Guillaume Pioche

Inventor:
C. Corron

UNITED STATES PATENT OFFICE.

CÉSAR CORRON, OF ST. CHAMOND, FRANCE.

APPARATUS FOR DYEING YARN.

No. 915,939.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed December 14, 1908. Serial No. 467,336.

To all whom it may concern:

Be it known that I, CÉSAR CORRON, a citizen of the French Republic, residing at St. Chamond, Loire, in France, have invented certain new and useful Improvements in Apparatus for Dyeing Yarns, of which the following is a specification.

The present invention relates to improvements in apparatus for dyeing or otherwise treating skeins of filamentous substances. In the improved apparatus the skeins can be treated in the different boiling, washing, fixing, dyeing, loading, clearing etc. baths without removing them from their carriers or supports.

The apparatus is particularly applicable for use in combination with the process and apparatus described in the British Specification No. 3114, dated February 7th 1907, although it can equally well be employed independently thereof.

The accompanying drawings illustrate apparatus constructed according to the invention.

Figure 1 is a front elevation of the machine. Fig. 2 a plan view, and Fig. 3 an end elevation thereof.

The machine comprises a horizontal frame A carrying a series of parallel shafts C, on which are mounted the reels B from which the skeins C' are suspended, the frame also carrying a driving shaft D arranged transversely and centrally to the reel shafts C. Each of said shafts is provided at its center with a worm wheel E which gear with worms F mounted on the driving shaft D. The said worms and worm wheels E are alternately of right and left hand pitch, thus causing opposite movements of rotation to be imparted to alternate or adjacent reels, so that the threads of the skeins placed side by side are moved in different directions, this arrangement preventing entanglement of the skeins.

The movement of the reels is produced by means of an ordinary electric motor Q mounted on the frame of the machine and actuating the shaft D by means of a suitable speed reducing gear inclosed in a casing R.

For the purpose of obtaining greater regularity in the treatment and a more uniform action of the baths on the skeins, the reels which carry same are given unequal alternate movements of rotation. These movements are automatically obtained by reversal of the direction of rotation of the elec-

tric motor at unequal periods. This reversal can be effected as desired without appreciable periods of rest, or with stoppages of greater or less length and automatic re-starting of the apparatus.

The proper movement of the skeins in the baths is obtained by mounting the reels B eccentrically on their shafts C by which means the skeins are moved firstly in one direction and then in the other in the baths during each rotary movement of the reels.

By inserting a suitable resistance in the motor circuit, the reels can be given various speeds of rotation suitable to the proper treatment of the skeins in the different baths.

The frame A of the machine is supported by the piston G working in the cylinder L of a hydraulic press for the purpose of raising the frame A, and parts carried thereby to remove the skeins from the baths in which they are immersed. These baths are contained in vats H located below the reels on each side of the apparatus.

Two hollow vertical columns I and J are provided in which guides E secured to the frame A are adapted to slide for preventing lateral oscillation of the frame so that the latter in its upward or downward movements will remain parallel to the vats H.

The cylinder L of the press is fed by a pipe M into which water under pressure is introduced from a main pipe N. A three-way cock O is arranged at the junction of these pipes by means of which the water can be admitted to the cylinder for raising the frame, or be discharged from said cylinder through an exhaust pipe P to lower said frame.

During the raising or lowering of the frame, the stoppage of the movement is progressively and automatically effected by the closure of the three-way cock O which is operated by the frame A at the end of its course by means of a lever T and chain S.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

Apparatus for dyeing yarns in skeins comprising in combination a frame, a series of shafts mounted therein, skein carrying reels eccentrically mounted on said shafts, a worm wheel on each of the latter, a driving shaft, worms thereon of alternate opposite pitch gearing with the aforesaid worm wheels, vats disposed below the frame, an electric motor having reversing means, for driving

the shaft, an electric resistance speed re-
ducer for the motor; a hydraulic press having
a piston adapted to raise the frame to remove
the skeins from the vats, and to lower said
5 frame, a supply pipe for said hydraulic press,
a three-way cock disposed in said pipe and a
chain connected to the cock and to the frame
whereby the rising and falling movements of

the frame are rendered progressive and auto-
matic.

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In witness whereof I have signed this speci-
fication in the presence of two witnesses.
CÉSAR CORRON.

Witnesses:

JUAN GERMAIN,
GUILLAUME PIOCHE.