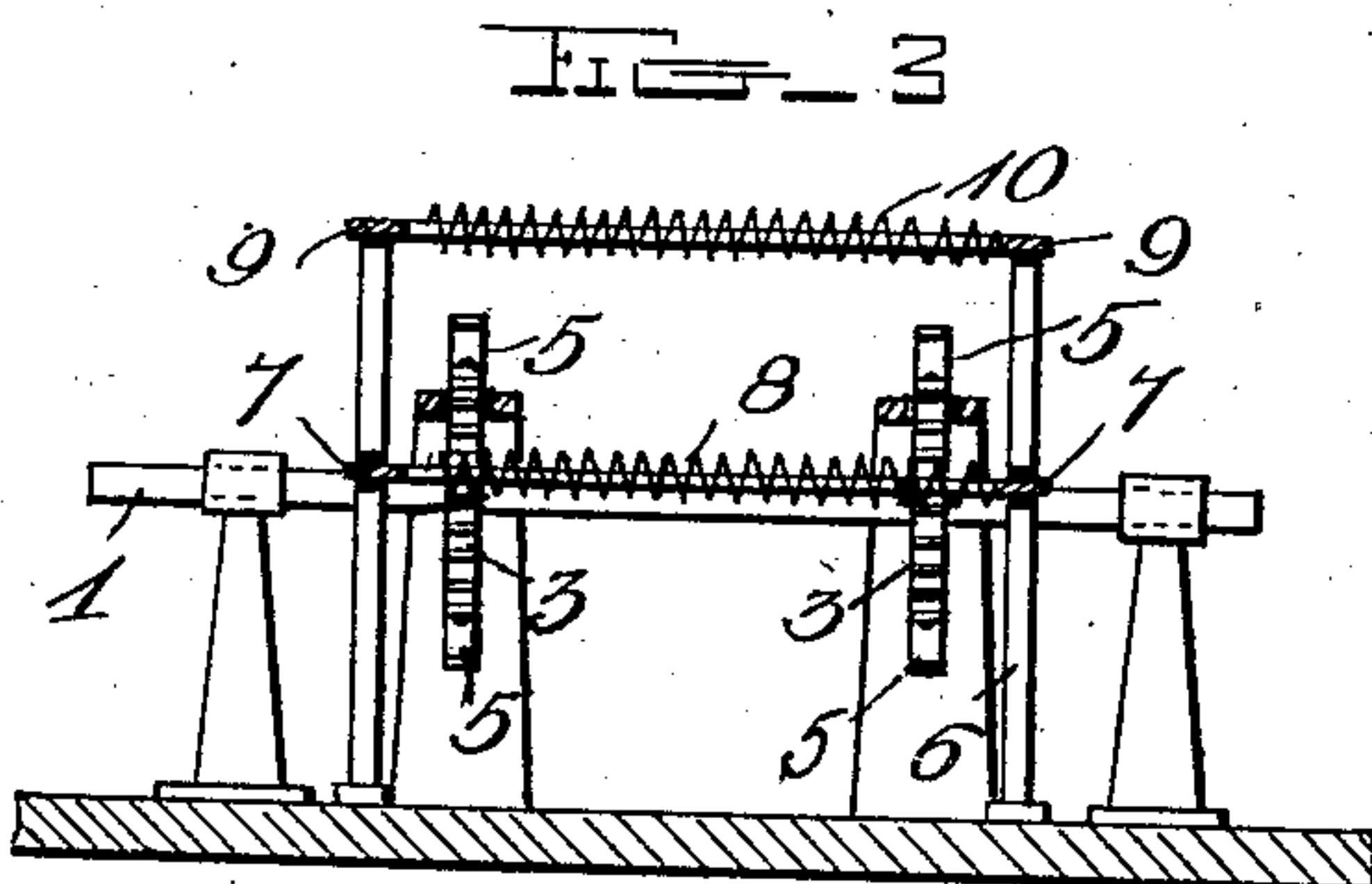
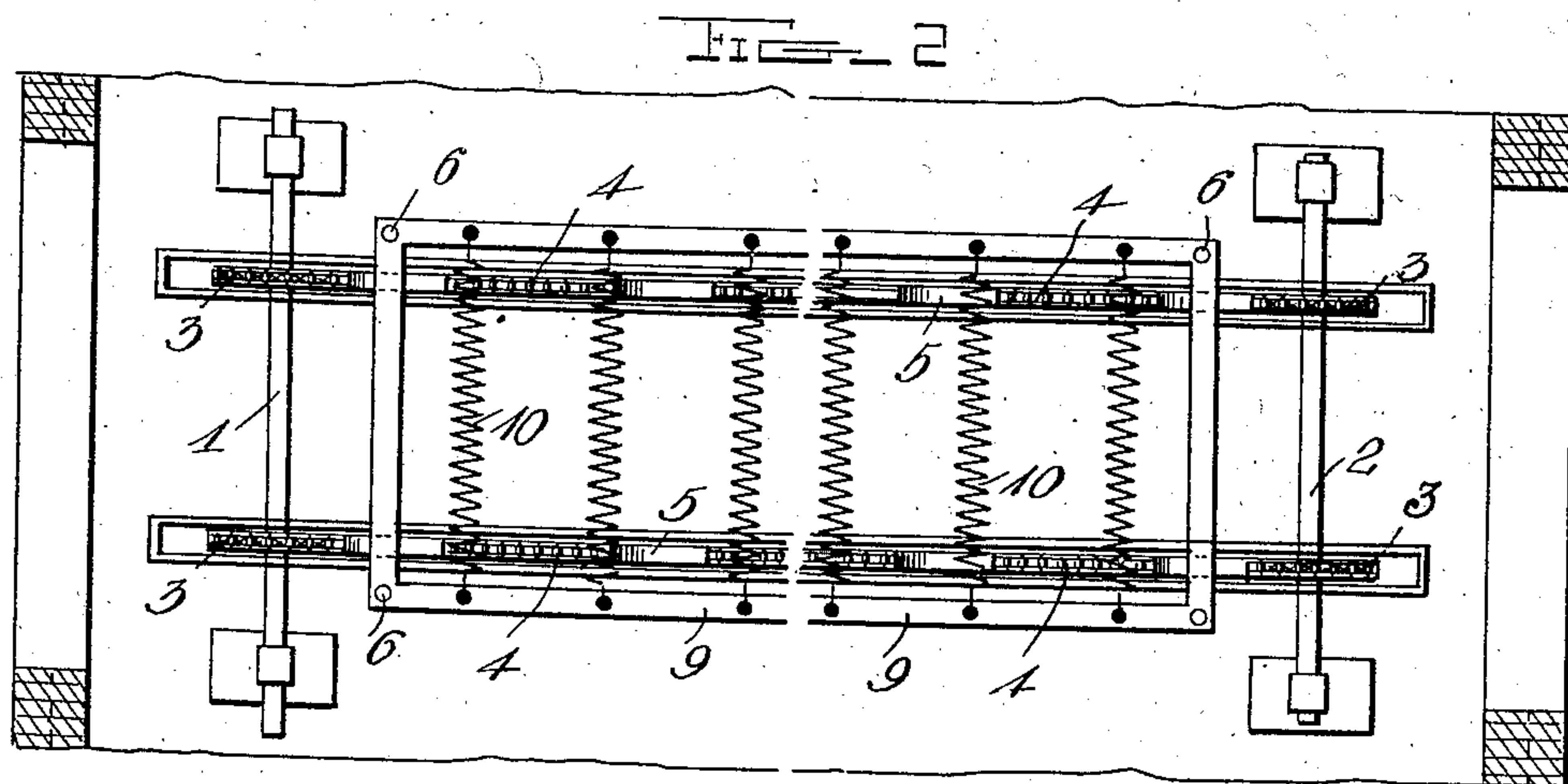
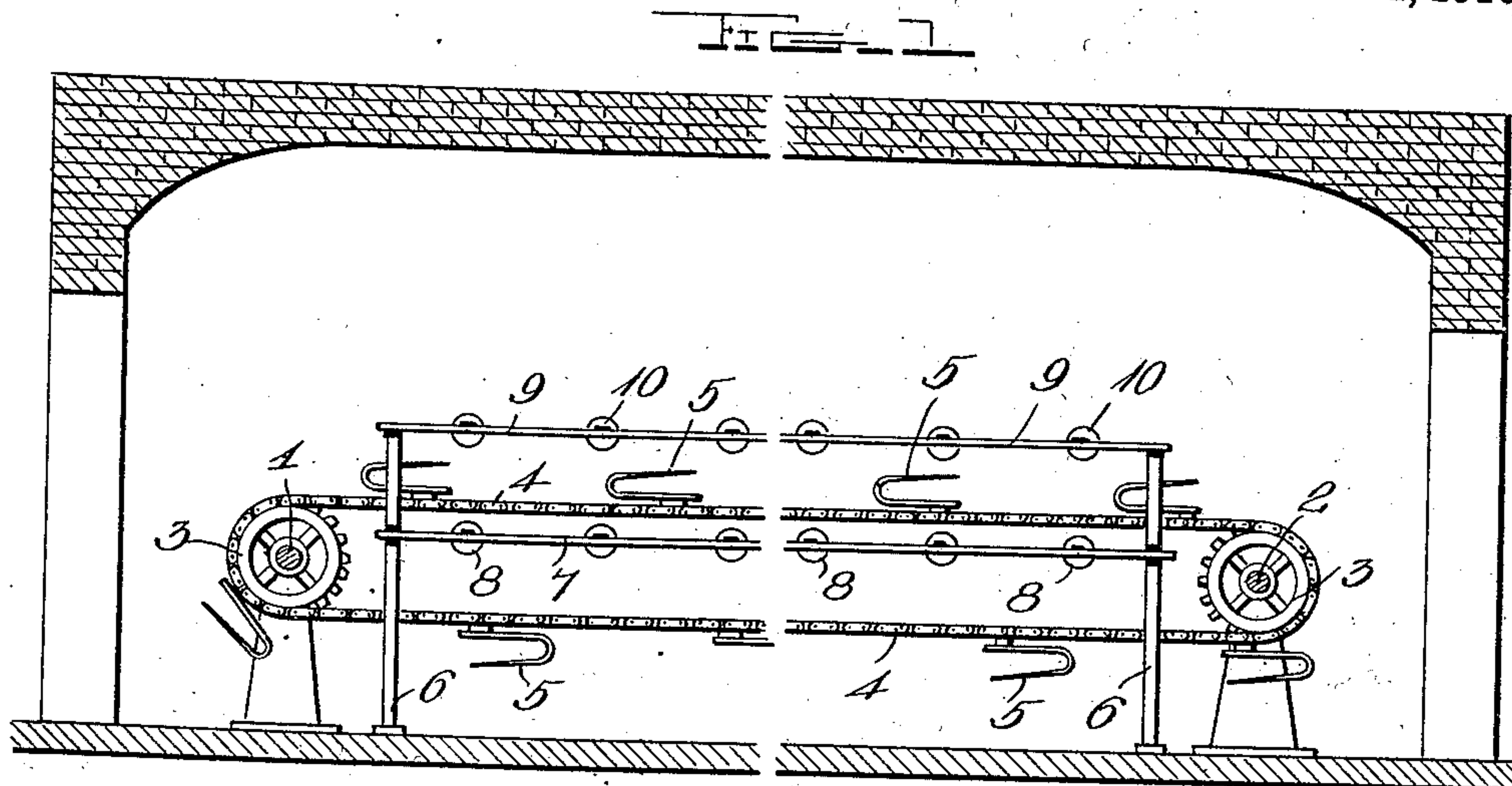


C. HILLMAN.  
TIN AND SHEET BAR HEATER.  
APPLICATION FILED FEB. 4, 1909.

950,669.

Patented Mar. 1, 1910.



Witnesses  
C. H. Griesbauer.

Inventor  
C. Hillman

by *A. B. Wilson & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

CHARLES HILLMAN, OF NEW CASTLE, PENNSYLVANIA.

TIN AND SHEET BAR HEATER.

950,669.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed February 4, 1909. Serial No. 476,132.

To all whom it may concern:

Be it known that I, CHARLES HILLMAN, a citizen of the United States, residing at New Castle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Tin and Sheet Bar Heaters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to heaters for heating sheets of tin or bars of metal.

The object of the invention is to provide a simple and inexpensive device of this character which may be readily and easily installed and which will prevent the excessive dust prevalent in the annealing rooms of rolling mills.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the drawings: Figure 1 is a side elevation of the heater, showing the culvert or bosh in section; Fig. 2 is a longitudinal section of the heater; and Fig. 3 is a transverse section thereof.

Referring more especially to the drawings, 1 and 2 represent transverse shafts which extend from side to side of the culvert. Adjacent each end of the shafts 1 and 2 I provide heavy sprocket wheels, 3, over which run the supporting sprocket chains, 4. These sprocket chains are provided at predetermined intervals with engaging hooks or arms, 5, which are adapted to engage and carry end sheets or bars between the heaters which will be hereinafter described. The operating or driving mechanism for these chains is not shown herein as it forms no particular part of this invention but it will be clearly understood that the shafts 1 and 2 are driven simultaneously and that the sprocket wheels 3 are keyed to the shaft with their teeth in alinement.

Supported beneath the upper reach of the chains on uprights, 6, is a suitable bed plate, 7, upon which are mounted the heat coils, 8, and separated from the bed plate, 7, is a suitable frame, 9, upon which the upper heat-

ing coils, 10, are supported. This upper frame is arranged a predetermined distance 55 above the chains, 4, so that the material carried by the chains passes between the coils, 8 and 10. The coils may be connected in any suitable manner to the generator and may be arranged in the circuit in series or in parallel as is found desirable. 60

Extending on either side of the chains and on either side of the sprocket wheels are separate bars, *a* and *b* which are supported by standards *d* at such a height as to prevent 65 the chains from sagging under the weight of the material carried thereby into engagement with the lower heating coils. This structure does not form any part of applicant's invention and is only shown in order to make 70 the device a more operative one, as without the bars, the chains frequently sag sufficiently to permit the material to contact and disrupt the heating coil.

From the foregoing description taken in 75 connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion 80 and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claim.

Having thus described my invention, what I claim and desire to secure by Letters-Patent, is:— 85

In combination with an open ended culvert, a pair of shafts, separated sprocket 90 wheels thereon, chains connecting said shafts, means on the chains for supporting material uprights on the outside of the chains, a bed plate mounted on the uprights and arranged beneath the upper stretch of the chains, a 95 frame supported on the uprights above the upper stretch of chains, and electrical heating coils supported on said bed plate and frame.

In testimony whereof I have hereunto set 100 my hand in presence of two subscribing witnesses.

CHARLES HILLMAN.

Witnesses:

WM. A. JONES,  
M. E. CRABILL.