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ELECTROMAGNETIC APPLIANCE FOR HANDLING PLATES, RAILS, BARS, AND THE LIKE

Filed May 17, 1921

FIG. 1.

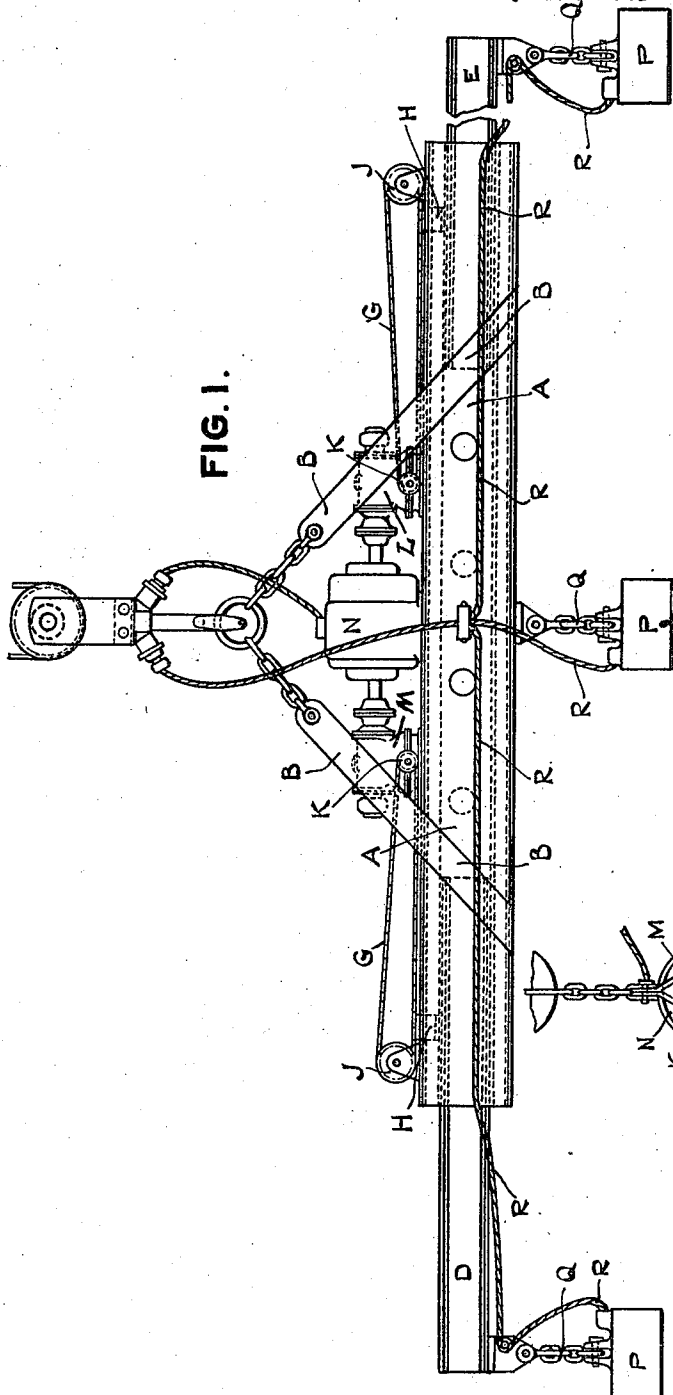
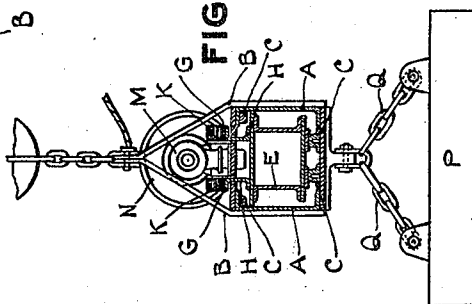


FIG. 2.



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ELECTROMAGNETIC APPLIANCE FOR HANDLING PLATES, RAILS, BARS, AND THE LIKE.

Application filed May 17, 1921. Serial No. 470,463.

To all whom it may concern:

Be it known that I, JOSEPH JEFFREY INGLIS, a subject of the King of Great Britain and Ireland, and a resident of Motherwell, in the county of Lanark, Scotland, have invented certain new and useful Electromagnetic Appliances for Handling Plates, Rails, Bars, and the like, of which the following is the specification.

The invention has for its object a simple and effective electromagnetic appliance for use with cranes and the like for handling plates, rails, bars and the like, and such that it may be adjusted to conveniently handle plates of various lengths, the shorter plates being equally accommodated while overhanging of the ends of long plates and their consequent detachment from the magnets owing to the oblique and bending strain is avoided.

An appliance made according to the invention comprises essentially a central housing adapted to be slung from a crane and which carries laterally extensible members. From the housing and from the ends of the members are suspended electromagnetic lifting devices of any convenient known type. Means, preferably power operated, are provided for extending and retracting the extensible members. It is apparent that if desired a second series of extensible members carrying lifting devices may be carried on and be extensible laterally beyond the first extensible members.

A simple illustrative example of the invention is shown on an accompanying sheet of explanatory drawings in which Figure 1 is a side elevation and Figure 2 a transverse section.

As shown in these drawings there is provided a housing member A which consists of a box-girder-like structure supported from a crane or the like by slings B and carrying in guides C within it two laterally extensible members D, E, which are of similar construction. The extensible members D, E, are each operated by two endless chains or ropes G anchored thereto by

angle-irons H working in slots in the upper side of the housing member A and passing over chain wheels J, K, carried two at each outer end of the housing member A and two towards the centre thereof. The latter is operated through enclosed worm reduction gearing L, M, by an electric motor N carried on the housing A. From the housing A and from the ends of the members D, E, electro-magnets P are suspended by chains Q. Current is led to the magnets and to the motor by leads R. The worm gearing operating the one extensible member is of opposite hand to that operating the other so that rotation of the motor N in one direction drives the extensible members D, E, outwards—so moving the magnetic devices P on their ends further apart to accommodate a large plate—while rotation oppositely brings them together to accommodate a smaller plate.

What I claim is:—

1. An electromagnetic appliance for handling plates, rails, bars and the like, comprising a rigid central housing, laterally extensible beams telescopically carried in said housing, means for extending and retracting said beams with respect to the housing, and electromagnetic lifting devices suspended from the housing and from the extensible beams, substantially as described.

2. An electromagnetic appliance for handling plates, rails, bars and the like, comprising a housing, a beam telescopically mounted within said housing, said housing having a slot in its upper side, an anchor secured to the extensible beam and working in said slot in the upper side of the housing, an endless band connected to said anchor, rollers mounted on the housing and over which said endless band travels, an electric motor carried by the housing, and means for driving said endless band from said motor, substantially as described.

In testimony whereof I have signed my name to this specification.

JOSEPH JEFFREY INGLIS.