(No Model.)

H. L. RAWSON.

APPARATUS FOR DRAWING WIRE.

No. 308,379. Patented Nov. 25, 1884.

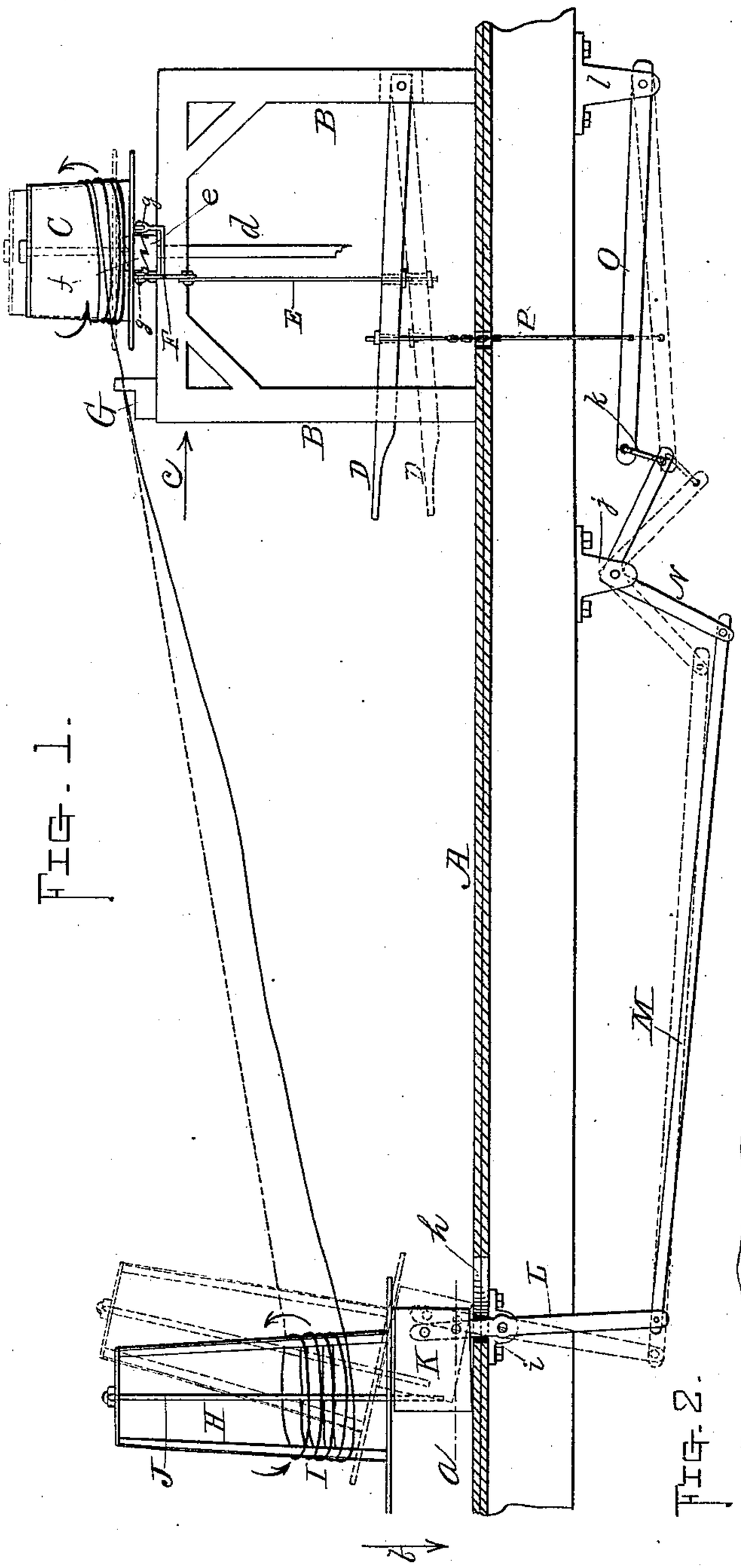

FIG. 1.

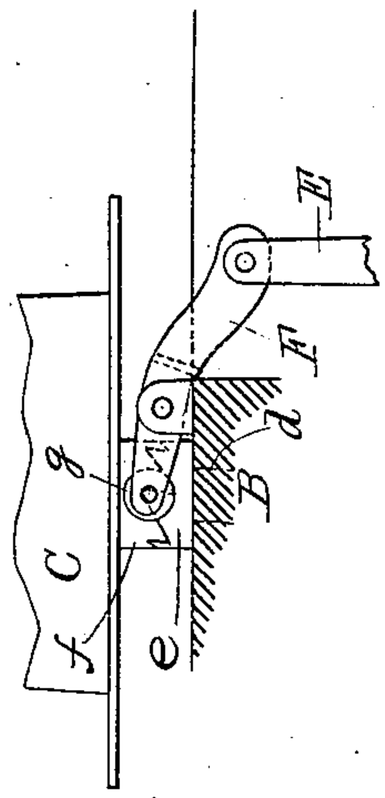

FIG. 3.

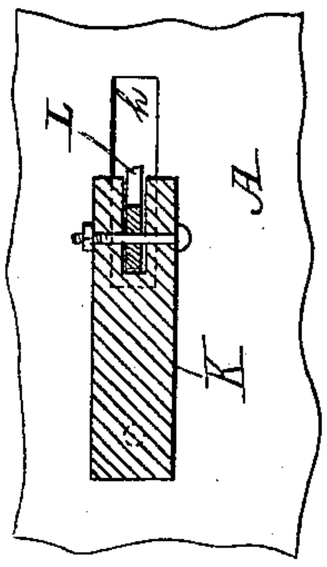

FIG. 2.

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APPARATUS FOR DRAWING WIRE.

SPECIFICATION forming part of Letters Patent No. 308,379, dated November 25, 1884.

Application filed March 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, HARRISON L. RAWSON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Drawing Wire; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 represents a vertical section through the floor, showing a side view of my apparatus and the parts connected therewith, the full lines showing the parts in their normal positions and the dotted lines the positions which they take when the block is automatically stopped by my apparatus, as will be hereinafter fully described. Fig. 2 represents on an enlarged scale a horizontal section on line *a*, Fig. 1, looking in the direction of arrow *b*, same figure; and Fig. 3 represents on an enlarged scale a side view of the lower part of the block and the lever for raising it so as to disconnect it from the shaft by which it is revolved, shown in Fig. 1, looking in the direction of arrow *c*, same figure.

My invention relates to an automatic apparatus to be used in connection with a delivery-reel and block or their equivalents, of the ordinary construction, and usually employed in connection with a die for reducing the size of wire rods; and it consists in a combination of levers so adjusted and operated in connection with the delivery-reel and block that in case of the stopping of the reel on account of a snarl in the wire or for any other cause the block upon which the wire is wound will be automatically disconnected from the shaft by which it is revolved and stopped, thus preventing the breaking of the wire, in the manner to be hereinafter fully described.

The block upon which the wire is wound and the frame upon which it is mounted, and the means for operating the same, and also the delivery-reel upon which the coil of wire is placed (shown in the drawings) are all old and well-known devices usually employed in reducing wire rods through a die, and therefore require only a brief description, as my invention relates only to the apparatus used in connection with said parts or any other parts equivalent thereto for automatically disconnecting and stopping the block at certain times.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents the floor, to which is secured the frame part B, upon which are mounted to revolve in the usual way a series of blocks, C, one of which is shown in the drawings. The block C is made to revolve by the mechanism usually employed, consisting of the vertical shaft *d*, having a cam or clutch, *e*, upon its upper end, which meshes with a cam or clutch, *f*, upon the lower side of block C, the weight of the said block holding the cams *e* and *f* in contact, as shown in the drawings. Upon the lower end of the vertical shaft *d* is secured a beveled gear, which meshes with a beveled gear secured upon a horizontal shaft extending under the frame B, and which is revolved by any suitable means. These last-named parts are not shown in the drawings, as they are old and well-known devices, and form no part of my present invention, and their arrangement and operation are well understood. The part marked D is a foot-treadle pivoted at the rear part of the frame B, and having the lever E attached thereto, the upper end of said lever being connected with the forked lever-arm F, which is pivoted upon the top of frame B, the forked ends of said lever-arm F being provided with small wheels *g*, (see Figs. 1 and 3,) which, coming in contact with the under side of block C when the treadle D is depressed, raises said block and disconnects it from the cam *e* upon the shaft *d*, by which it is revolved, all in the usual and well-known manner. The part marked G is the die through which the wire is drawn, constructed in the usual manner, and secured upon the top of frame B. The part H is the delivery-reel, constructed in the usual way, and upon which the coil of wire I is placed to be unwound. Said reel H rests upon the top of spindle J, upon which it revolves in the usual manner. In this instance the lower end of the spindle J fits into a hole in the part K, and is supported therein. Said part K is firmly bolted to the lever L, which fits into a slot or groove in the

part K, and extends through an opening or hole, *h*, in the floor A, and is pivoted in suitable bearings, *i*, secured to the floor. When the reel H is in the position shown by full lines, Fig. 1, the part K will rest upon the floor A, as shown; but when the reel is drawn into the position shown by dotted lines the part K will be supported by the lever L, as shown.

In lieu of the part K for connecting the spindle J with the lever L, any other suitable device may be used, and the lever L may be pivoted in a suitable socket set in the floor or in bearings upon the top of the floor. The lower end of lever L is pivoted or connected with the part M, which in turn is connected with the right-angle piece N, which is pivoted in bearings *j*, secured to the floor, the other arm of the part N being connected with one end of a lever, O, by means of a link, *k*, or other suitable means, and said lever O being pivoted in bearings *l*, secured to the floor. The lever O is connected with the treadle D, before described, by the piece or part P, extending up through the floor, as shown.

The operation of my automatic apparatus will be easily understood in connection with the drawings. The wire I, in being unwound from the reel H by the revolving block C, often becomes snarled or caught, so that the reel H will cease to turn upon its spindle J. The block C, continuing to revolve, will pull on the wire and draw the reel into the position shown by dotted lines, and this will cause the series of levers and their connecting parts to be moved, as shown by dotted lines, so that the treadle D will be drawn down, raising the block C and disconnecting it in the usual manner, so that it will stop, and thus prevent the breaking of the wire, which must happen if the block C should continue to revolve, and which will often happen before the operator, who has charge of several blocks, will have time to press down the treadle D and stop the block in the ordinary way.

After the block has been automatically stopped by my apparatus, in the manner described, the operator can at his leisure unsnarl the wire, and then start the block again by releasing the treadle D, the reel H having returned to its original position, and also the series of levers and their connecting parts.

Having described my improvements in apparatus for automatically stopping a block in the process of reducing wire-rods, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

The combination, with a wire-block and the means for operating the same in the usual manner, and a delivery-reel, of a series of levers and connecting parts, L, M, N, O, and P, constructed and operated substantially as described, and for the purpose set forth.

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