

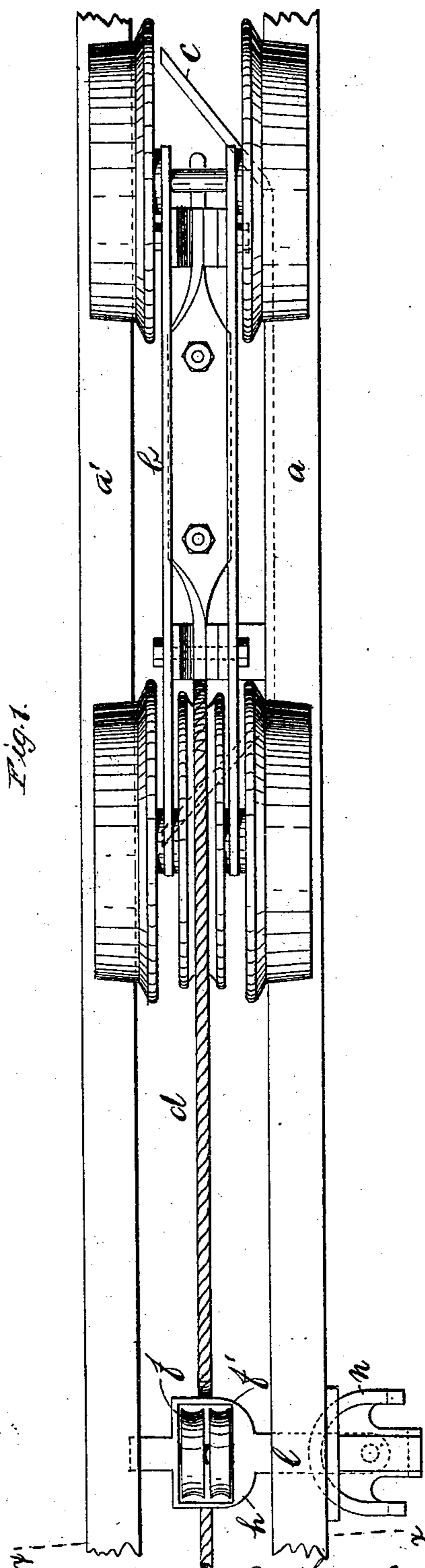
(No Model.)

3 Sheets—Sheet 1.

T. S. MILLER & H. N. COVELL.
CONVEYING APPARATUS.

No. 512,446.

Patented Jan. 9, 1894.



Witnesses
Fred S. Kemper
J. C. Greer

Inventors
Thomas Spencer Miller
By their Attorneys *Harry N. Covell*
Gifford & Saw.

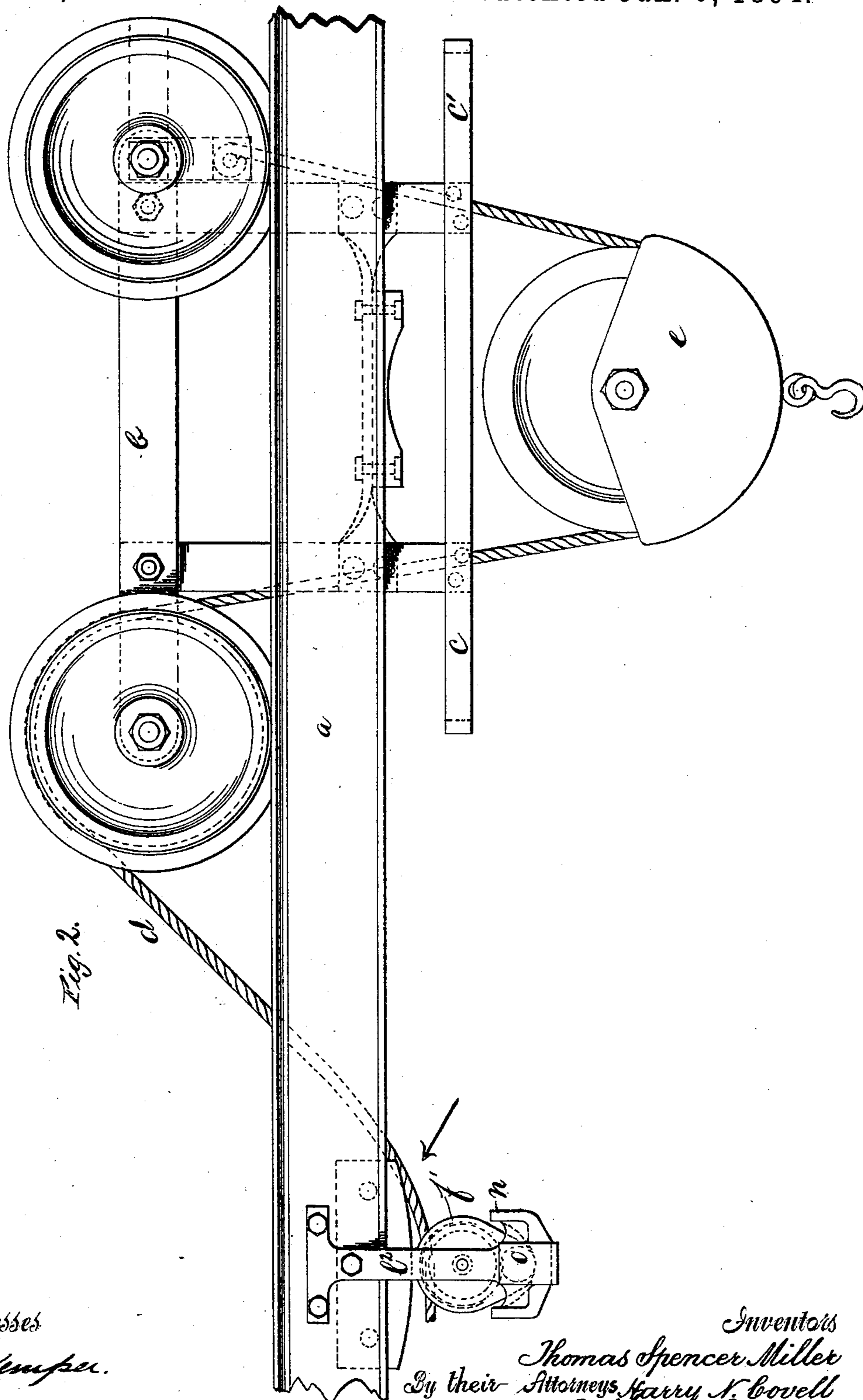
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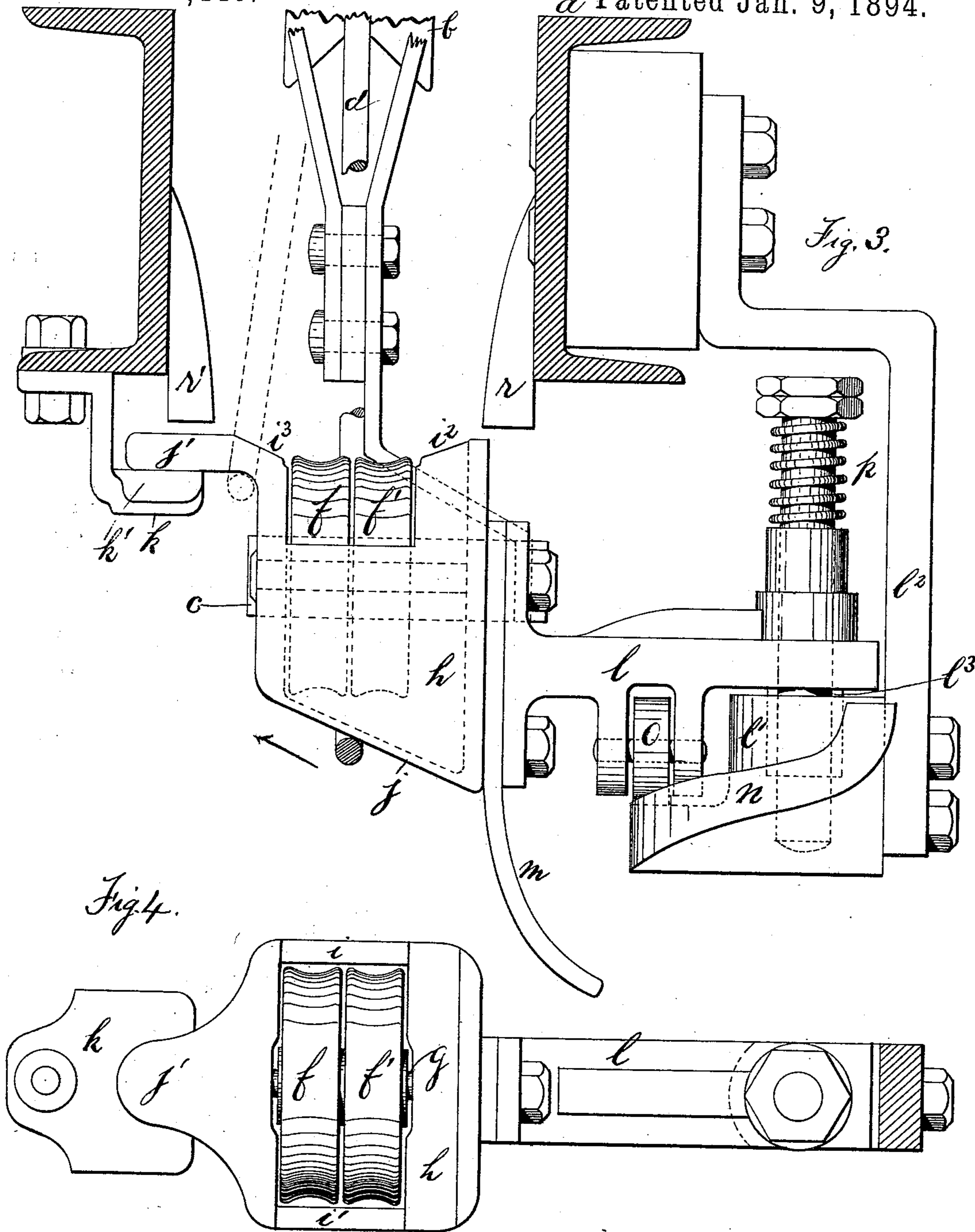
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UNITED STATES PATENT OFFICE.

THOMAS SPENCER MILLER, OF SOUTH ORANGE, NEW JERSEY, AND HARRY N. COVELL, OF BROOKLYN, NEW YORK; SAID COVELL ASSIGNOR TO THE LIDGERWOOD MANUFACTURING COMPANY, OF NEW YORK, N. Y.

CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 512,446, dated January 9, 1894.

Application filed January 5, 1893. Serial No. 457,370. (No model.)

To all whom it may concern:

Be it known that we, THOMAS SPENCER MILLER, of South Orange, in the State of New Jersey, and HARRY N. COVELL, of Brooklyn, in the State of New York, have invented a new and useful Improvement in Conveying Apparatus, of which the following is a specification.

In the accompanying drawings, Figure 1 is a plan view of a carriage, rope carrier and adjacent parts. Fig. 2 is an elevation of the same. Fig. 3 is a cross section of the parts below the upper level of the trackway on the line xx of Fig. 1. Fig. 4 is a plan view of the rope carrier with its support in section.

In Letters Patent of the United States No. 474,047, dated May 3, 1892, is described an arrangement wherein a rope carrier, connected with one cable or trackway, normally extended into the space between the cables or trackways, was thrown out of that position as the carriage passed.

Our present invention is designed as an improvement upon the structure therein described.

In the accompanying drawings, aa' are two parallel trackways.

b is a carriage that may be of any suitable construction provided with the hanging buffers or deflectors cc' and with proper supports for the fall rope d .

e is the fall block.

ff' are the rope carrier sheaves revolubly mounted on an axle g which is fixed in the casting h . This casting consists of a pocket open at the top, into which the sheaves ff' are sunk. The ends of this casting are cut away at ii' and its sides are beveled as at i^2i^3 from points above the top level of the sheaves f and f' down to the peripheries of those sheaves so as to form a device tending to center the rope onto the sheaves. Two sheaves ff' are used, as shown, in order to insure greater lightness and reduce the friction; it being found that the rope will work more efficiently in connection with the two wheels than with a single wheel of equal width. The bottom of the casting or pocket, at j , is inclined upwardly toward the free end of the rope carrier frame so as to deflect the rope in

that direction in case the latter shall accidentally get below the rope carrier.

j' is a lip projecting horizontally from the upper edge of the pocket and engaging with a supporting step k fixed with respect to the trackway a' .

l is an arm upon which the pocket h is secured.

m is a deflector secured so as to extend downward below the pocket h and form practically a continuation of the deflecting surface j . This deflector m is long enough to prevent any possibility of the rope ever getting behind it. The arm l is pivotally secured at its inner end to a vertical boss l' cast upon a hanger l^2 from the trackway a . Concentric with the boss l' is a semi-circular trackway n , the upper surface of which is downwardly inclined from both ends toward the middle as shown.

o is a wheel having its axle mounted in the arm l , which wheel is placed so as to run upon the trackway m as the arm l turns upon its pivot. The wheel o is pressed firmly into contact with the track n by a coil spring p and the weight of the rope carrier itself. The deflectors c and c' are so arranged that from whichever direction the carriage approaches the rope carrier, it will always have a tendency to swing the rope carrier ahead of it under the trackway a so as to permit the carriage to pass. This act will cause the wheel o to run up the incline toward one end of the track n and thus lift the rope carrier in antagonism to its own weight and to the spring p , both of which will have a constant tendency to return the rope carrier into the position shown in the drawings. As soon as the carriage has passed, the wheel o will run down the inclined trackway to the position shown in Fig. 3 and thus swing the rope carrier into its normal position between the vertical planes of the trackways. When the rope carrier reaches its normal position, the lip j' will rest upon the step k and thus relieve the pivotal connection of the rope carrier from the strain of supporting the rope to a large extent; and to facilitate the proper engagement of the lip j' with the step k , the

step may be provided with inclined surfaces, as k' . The rope is never expected to get below the rope carrier when in its normal position; but if this should occur by accident, the deflector m and inclined surface j will tend, as the carriage approaches and lifts the rope, to deflect it in the direction of the arrow, (Fig. 3) until it occupies the position beneath the lip j' as shown in dotted lines in Fig. 3 and in full lines in Fig. 2. As now, the carriage continues to approach, the pressure of the rope upon the lip j' will be somewhat in the direction of the arrow (Fig. 2) and calculated to push the lip j' forward in the direction in which the carriage is going until it has swung off from the top of the rope and allowed the rope to return to its normal position and the deflector c to act normally upon the rope carrier. Thus, any collision is prevented such as might occur if the rope should be held positively beneath the rope carrier upon the approach of the carriage.

r and r' are centering devices attached to the trackways co-operating with the inclines i^2 and i^3 to center the rope on top of the sheaves f and f' .

Obviously, a cable might be substituted for each of the trackways; and although we have shown an inclined under surface for the rope carrier as facilitating the mode of operation for the removal of the rope from beneath the rope carrier upon the approach of the carriage, yet in some cases another form of surface might answer providing always that it

were not of such form as to absolutely prevent the rope carrier from disengaging with the rope by being swung to one side.

The pocket h wherein the sheaves f and f' are sunk may be filled with oil or other lubricating material, which being picked up by the sheaves is deposited upon the rope and serves to properly lubricate the same and at the same time to prevent the wheels and rope from cutting each other.

We claim—

1. In a conveying apparatus in combination with a rope carrier pivotally secured to a support, an inclined trackway whereon the rope carrier is raised in being moved from its normal position, substantially as described.

2. In a conveying apparatus in combination with a rope carrier pivotally secured to a support, an inclined trackway whereon the rope carrier is raised in being moved from its normal position and a spring in antagonism to which the rope carrier is raised, substantially as described.

3. In a conveying apparatus in combination, a rope carrier pivotally secured to a support and a double inclined trackway whereon the rope carrier is raised in being moved from its normal position in either direction, substantially as described.

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Witnesses:

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