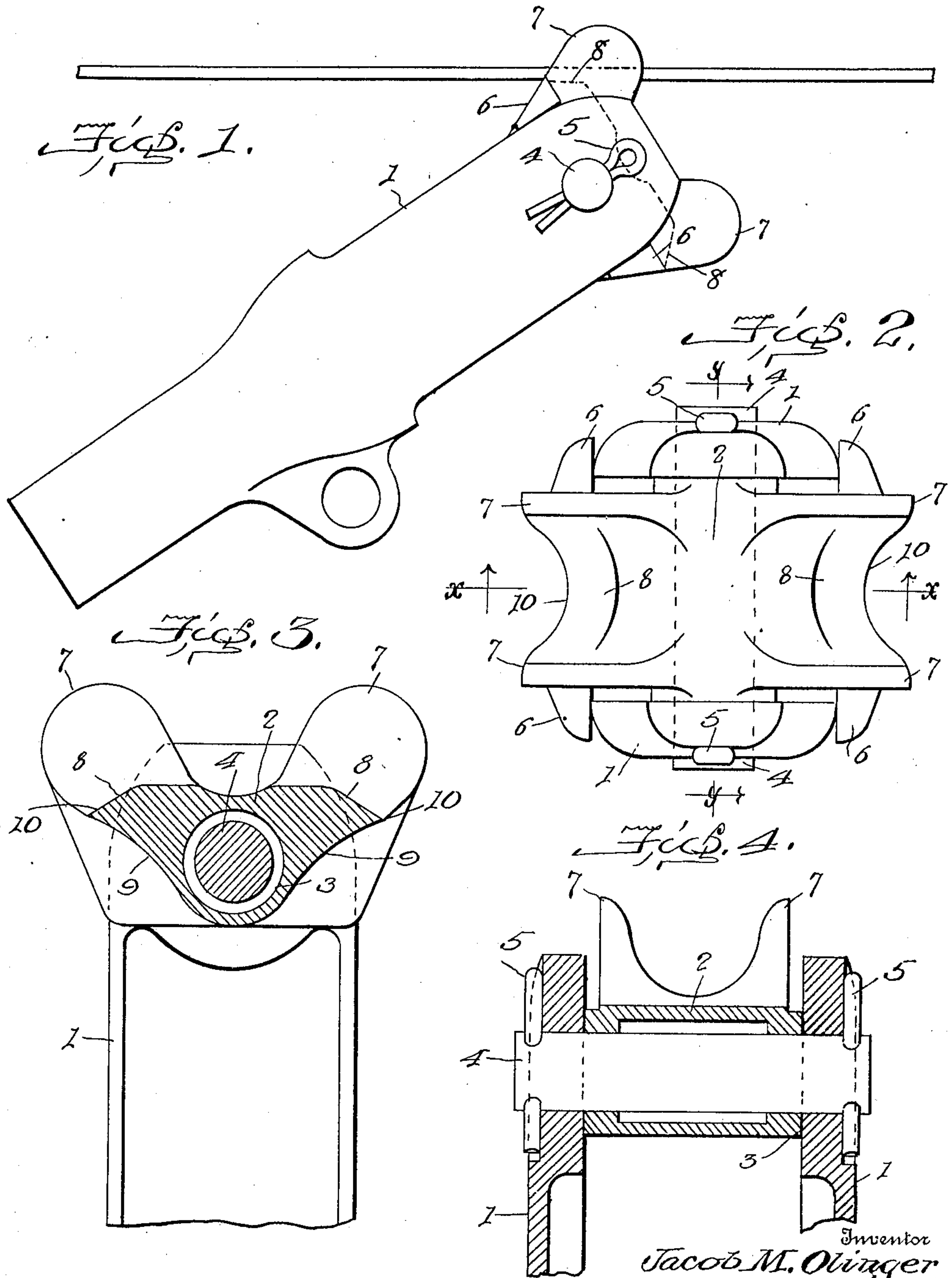


No. 885,368.

PATENTED APR. 21, 1908.

J. M. OLINGER.  
ICE CLEANER FOR TROLLEY POLES.  
APPLICATION FILED NOV. 23, 1906



Witnesses  
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# UNITED STATES PATENT OFFICE.

JACOB M. OLINGER, OF SPRINGFIELD, OHIO.

## ICE-CLEANER FOR TROLLEY-POLES.

No. 885,368.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed November 23, 1906. Serial No. 344,687.

*To all whom it may concern:*

Be it known that I, JACOB M. OLINGER, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Ice-Cleaners for Trolley-Poles, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The present invention relates to ice cleaners for trolley poles. Devices of this character as ordinarily constructed are in the nature of attachments which are secured to the harp or trolley pole simultaneously with the  
15 trolley wheel, thereby adding the weight of the attachment, which is sometimes several pounds, to that of the trolley pole and increasing the resistance to the tension of the spring at the base of the pole, and, consequently, diminishing the pressure of the  
20 wheel and the cleaner against the trolley wire at the time it is most needed. In order to overcome this difficulty and to provide an ice cleaner of this character which shall be  
25 compact in structure, efficient in operation, of a durable character and relatively cheap in construction and which shall serve both as an ice cutter and as a conductor shoe to take the current from the trolley wire, I have pro-  
30 vided a cutter which is substituted for the trolley wheel in a detachable harp which may be readily attached to or detached from the trolley pole as desired and which will be of less weight than the trolley wheel itself,  
35 thereby allowing the pressure to be increased instead of causing it to be diminished.

With these ends in view my invention consists in certain novel features of construction to be hereinafter described, and then more  
40 fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my device in its operative position; Fig. 2 is an end view of the same looking toward the trolley pole; Fig. 3  
45 is a longitudinal section taken on the line  $x x$  of Fig. 2; and Fig. 4 is a longitudinal section taken on the line  $y y$  of Fig. 2.

In carrying out my invention as illustrated in these drawings, I employ a detachable  
50 trolley harp which may be of any suitable construction, but I prefer that shown and described in patents issued to me September 29, 1903 and July 26, 1904, and numbered 740,037 and 765,852, respectively. The  
55 harp disclosed in these patents comprises a tubular lower portion or socket forming part

of a bayonet joint. The upper end of the harp is bifurcated to provide arms, as shown at 1 in the drawings, in which is supported a  
60 trolley wheel.

The ice cutter proper of my invention comprises a block 2 substantially rectangular in shape and adapted to be substituted for the  
65 trolley wheel between the arms 1 of the bifurcated upper end of the trolley harp, and is further provided with a bearing aperture 3 to receive the pivot pin or axle 4 which is secured in the apertures in the arms of the  
70 harp by means of suitable keys 5 and serves as a support for the cutter block. The block is provided on either side with a pair of lugs 6 adapted to engage on opposite sides of the arms 1 to prevent the block turning on its  
75 pivot pin 4 and to hold the same in a fixed position relatively to the harp. The upper edge of the block is provided near its opposite ends with upwardly projecting ears or  
80 lugs 7 which form between themselves a guideway for the trolley wire. That portion of the upper surface of the block which lies between the ears 7 is inclined, as shown at 8,  
85 so that that portion of the block will lie substantially parallel with the trolley wire when the device is in its operative position. The lower portion of the block is cut away at the  
90 opposite ends to form an inclined lower surface, as shown at 9, which intersects at an acute angle with the surface 8, thereby forming a cutting edge 10 adapted to travel  
95 along the wire to engage with the ice and accumulations of sleet thereon and remove the same, the cutting edge being held in engagement with the wire by the pressure of the spring at the base of the trolley pole which  
100 tends to move the pole toward the trolley wire. The block has both ends constructed after the same manner so that it can be reversed in the harp or the harp can be placed in either position upon the pole and the cutter will always present a cutting edge to the  
105 trolley wire. The block is preferably formed of brass and serves as a conductor for taking the current from the trolley wire, as well as for an ice cutter.

In the use of the apparatus, the block is  
110 mounted in a detachable harp as described and one of these harps may be carried on the car to be substituted for the harp carrying the trolley wheel when occasion may demand. The construction of these cutter blocks is  
115 such that there is practically no danger of breakage or of a disarrangement of the parts



thereof and the arrangement of the surfaces is such that the cutting edge is self sharpening, and the wearing away of the material serves only to maintain a sharp edge on the  
5 cutter.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, as obvious modifications will occur to a person  
10 skilled in the art.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character described,  
15 the combination, with a harp, of a block mounted between the arms of said harp and having one end extending beyond the forward edges of said arms at substantially a right angle to the length of said harp, said  
20 forwardly extending portion being partially cut away to form a cutting edge.

2. In a device of the character described, the combination, with a harp, of a block mounted between the arms of said harp and  
25 having one end extending beyond the forward edges of said arms at substantially a right angle to the length of said harp and provided with a guideway, and a cutting edge adjacent to said guideway.

3. In a device of the character described, the combination, with a harp having apertures in the arms thereof, of a block having one end extending beyond the forward edges of said arms at substantially a right angle to  
35 the length of said harp and provided with a cutting edge, axles carried by said block and adapted to engage the apertures in said arms, and means for holding said block against rotation.

4. In a device of the character described, the combination, with a harp having apertures in the arms thereof, of a block having one end extending beyond the forward edges of said arms at substantially a right angle to

the length of said harp and provided with a  
45 cutting edge, axles carried by said block and adapted to engage the apertures in said arms and a pair of lugs on each side of said block adapted to engage the edges of the adjacent arm.

5. In a device of the character described, the combination, with a harp, of a block mounted between the arms of said harp and having one end extending beyond the forward edges of said arms at substantially a  
55 right angle to the length of said harp, provided with a guideway, and having its lower portion cut away at an angle to said guideway to form a cutting edge.

6. In a device of the character described,  
60 the combination, with a harp, of a cutter comprising a block mounted between the arms of said harp and projecting beyond the front and rear edges of said arms, cutting edges near the projecting ends of said block,  
65 and guideways formed adjacent to said cutting edges.

7. A device of the character described, comprising a trolley harp, and a cutter block detachably mounted between the arms  
70 thereof and projecting beyond the front and rear edges of said arms, and cutting edges carried by said projecting portions.

8. A device of the character described comprising a trolley harp, a conductor shoe  
75 mounted between the arms of said harp and having a portion extending beyond the forward edges of said arms at substantially a right angle to the length of said harp and provided with a contact surface arranged diagonally of the length of said harp, and a cutting  
80 edge adjacent to said contact surface.

In testimony whereof, I affix my signature in presence of two witnesses.

JACOB M. OLINGER.

Witnesses:

FRANCIS M. HAGAN, Jr.,  
EDWARD L. REED.