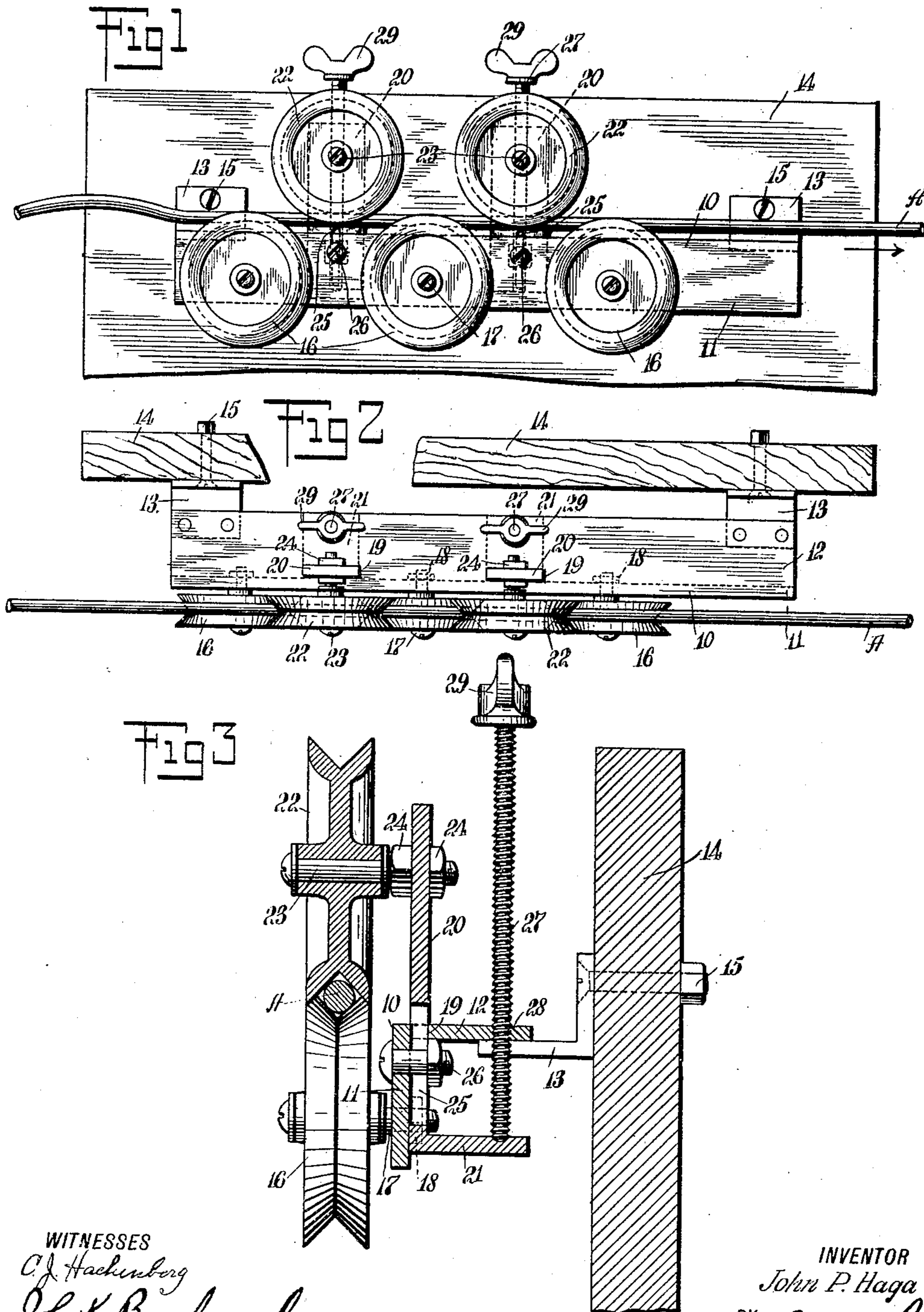


J. P. HAGA.
STRAIGHTENING MACHINE.
APPLICATION FILED DEC. 1, 1909.

962,831.

Patented June 28, 1910.



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UNITED STATES PATENT OFFICE.

JOHN P. HAGA, OF MINNEAPOLIS, MINNESOTA.

STRAIGHTENING-MACHINE.

962,831.

Specification of Letters Patent. Patented June 28, 1910.

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To all whom it may concern:

Be it known that I, JOHN P. HAGA, a citizen of the United States, and a resident of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and Improved Straightening-Machine, of which the following is a full, clear, and exact description.

This invention relates to machines for straightening wire or similar elongated bodies, and relates more particularly to a machine of this class comprising a frame adapted to be mounted upon a suitable support and having a stationary set of rolls, a carrier adjustable with respect to the frame and having a roll or rolls adapted to cooperate with the first rolls, and means for adjusting the carrier, the rolls being formed to have the wire pass therebetween so that they can remove kinks or bends therefrom.

The object of the invention is to provide a simple, strong and durable straightening machine which can be employed for easily and expeditiously removing bends or other malformations from fence wire or other elongated bodies, which can be easily put up and taken down, which permits of adjustments to adapt it for use with various kinds of wire or the like, which is compact in form, and which can be inexpensively manufactured.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a front elevation of an embodiment of my invention; Fig. 2 is a plan view of the same; and Fig. 3 is an enlarged, transverse section of the straightening machine.

Before proceeding to a more detailed explanation of my invention, it should be clearly understood that while the machine is particularly useful in straightening out fence wire or the like as it is unwound from a reel, it can also be advantageously employed for other like purposes in which it is necessary or desirable to remove bends or kinks from elongated bodies. I have found the machine to be particularly useful in straightening wire which is employed for re-

inforcing concrete structures. For such purposes it is of course desirable to have the reinforcing member free from all malformations.

Certain of the details of construction form no part of the invention and can be varied with individual preference and special conditions, without departing from the underlying spirit of the invention.

Referring more particularly to the drawings, I employ a main frame 10, consisting preferably of an angle bar having one flange 11, normally vertical and the other flange 12, normally horizontal. Suitable means are provided for mounting the frame upon a board or the like, and as shown for example, the means may comprise angular supports 13, fastened to the frame near the ends thereof and adapted to be attached to the board 14, by means of screws 15, or the like. The frame carries a number of relatively fixed rolls 16, which are peripherally flanged or V-shaped. The rolls have axle spindles 17, arranged in suitable openings of the frame and secured in position by means of nuts 18. Any suitable number of rolls may be employed, though I have shown in the drawings for example, three such rolls.

At separated points, the upper flange 12 of the frame, adjacent to the flange 11 has openings 19, in which are slidably located elongated carriers 20, having at the lower ends laterally disposed flanges 21. Each of the carriers, which as shown for example may be two in number, has mounted thereon a roll 22, similar to the rolls 16, and like them peripherally grooved. The rolls 22 have axle spindles 23, mounted in suitable openings of the carriers and held in place by nuts 24. The rolls 22 are arranged intermediate the adjacent rolls 16, as is shown most clearly in Fig. 1.

The carriers 20, near their lower ends are provided with longitudinal slots 25, which movably receive guide bolts 26 of the frame, so that the carriers are constrained to move in the directions of their lengths when being adjusted. Adjusting screws 27 are located in suitably threaded openings 28 of the flange 12 of the frame and engage the laterally disposed flanges 21 of the carriers. The adjusting screws have wing heads 29, so that they can be easily manipulated. By loosening the bolts 26 and screwing the members 27 down, the rolls 22 can be moved toward the rolls 16. As is clearly shown,

the wire A or other article to be straightened passes between the rolls, which in the usual manner straighten out the wire. By relatively adjusting the rolls, they can be
 5 adapted for use with wire of different thicknesses and kinds. The wire it will be understood, is drawn through the machine by hand or in any other suitable manner. After the machine has been properly adjusted the
 10 parts, if so desired, can be clamped in position by tightening the nuts of the guide bolts 26 to lock the carriers with respect to the frame.

The rolls 16 I prefer to designate as "stationary" rolls, though of course, they are
 15 rotatable. The rolls 22 I wish to call "adjustable" rolls, to distinguish them from the so-called "stationary" rolls 16.

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

1. A machine of the class described, comprising a frame having a flange, and carrying stationary rolls, said flange having open-
 25 ings, adjustable carriers mounted in said openings, rolls mounted upon said carriers, means for clamping said carriers in position with respect to said frame, and means for adjusting said carriers.

30 2. A machine of the class described, comprising a frame having a laterally disposed part and carrying stationary rolls, carriers adjustable transversely of the length of said frame, and having rolls mounted thereon,
 35 means for clamping said carriers in posi-

tion with respect to said frame, and means carried by said laterally disposed part of said frame, for adjusting said carriers.

3. A machine of the class described, comprising a frame having angularly disposed
 40 flanges, stationary rolls mounted on one of said flanges of said frame, the other of said flanges of said frame having openings, carriers slidably mounted in said openings and having rolls, means for securing said carriers
 45 with respect to said frame, and adjusting members for controlling said carriers.

4. A machine of the class described, comprising a frame having angularly disposed
 50 flanges, means for securing said frame to a support, one of said flanges carrying peripherally grooved rolls, the other of said flanges having openings, carriers slidably arranged in said openings and having at the
 55 lower end laterally disposed flanges, said carriers being provided with slots, said frame having guide and clamping bolts received in said slots, said carriers having peripherally grooved rolls, and adjusting screws carried
 60 by one of the flanges of said frame and engaging said flanges of said carriers respectively.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN P. HAGA.

Witnesses:

L. O. SOLEM,
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