(No Model.) 2 Sheets—Sheet 1.

A. L. BARBER.

APPARATUS FOR REPAIRING ASPHALT PAVEMENTS.

No. 574,653. Patented Jan. 5, 1897.

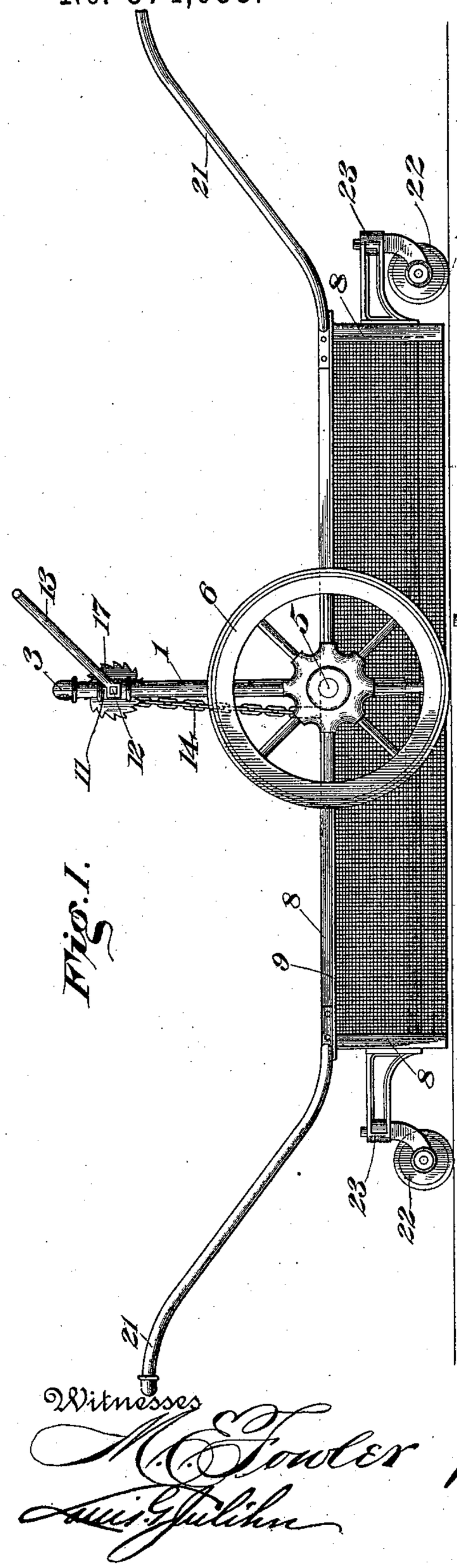

Fig. I.

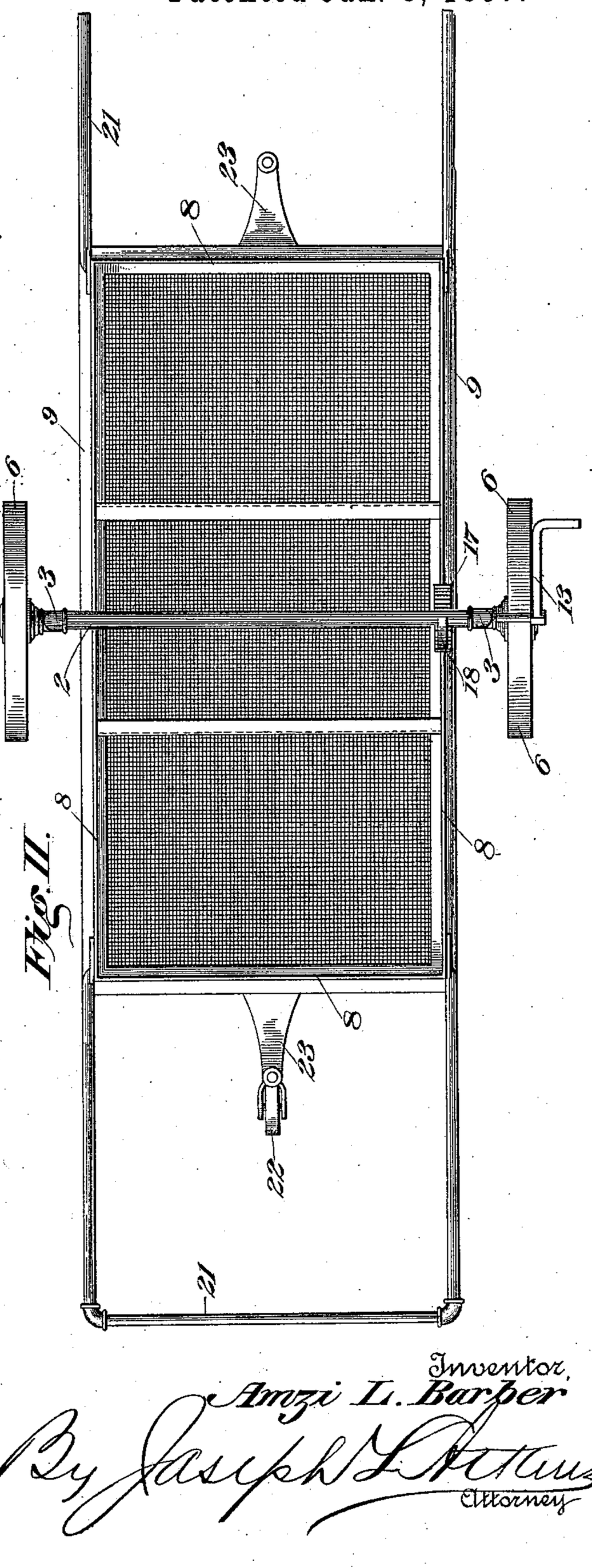

Fig. II.

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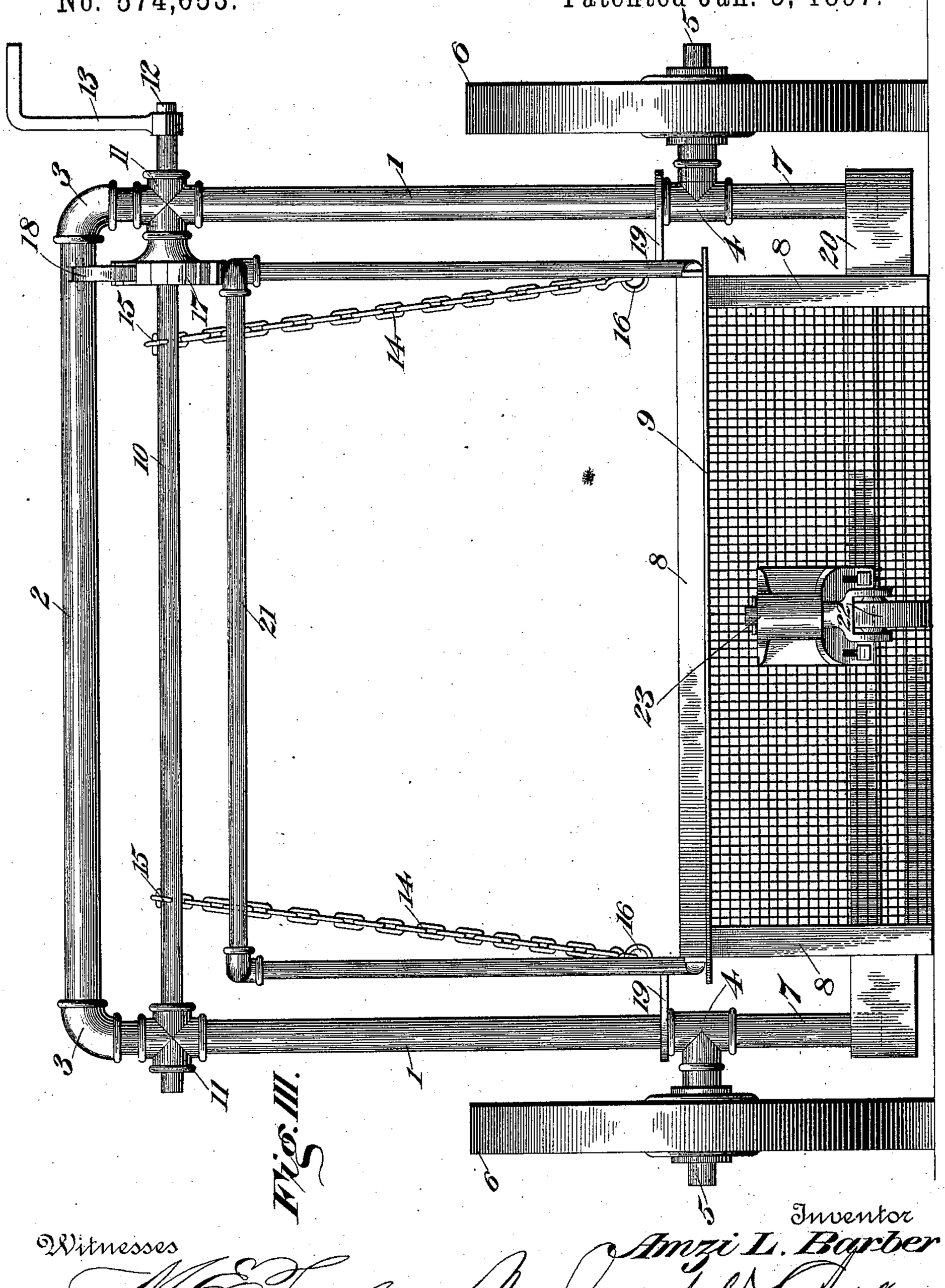

Fig. III.

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UNITED STATES PATENT OFFICE.

AMZI L. BARBER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE BARBER ASPHALT PAVING COMPANY, OF NEW YORK, N. Y.

APPARATUS FOR REPAIRING ASPHALT PAVEMENTS.

SPECIFICATION forming part of Letters Patent No. 574,653, dated January 5, 1897.

Application filed February 25, 1895. Serial No. 539,613. (No model.)

To all whom it may concern:

Be it known that I, AMZI L. BARBER, of Washington, District of Columbia, have invented certain new and useful Improvements in Apparatus for Repairing Asphalt Pavements, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a comparatively simple, economical, and effective apparatus for applying heat to surfaces of pavements composed of asphalt or similar material in order to soften the material of the spot to be repaired in a manner well understood in the art.

In the accompanying drawings, Figure I is a side elevation of the machine. Fig. II is a plan view thereof, and Fig. III is an end view of the same.

Referring to the figures on the drawings, 1 indicates the vertical side pieces or uprights of a rigid frame, which may be made of iron or steel tubing, and which may be united in a kind of arch by a cross-piece 2 of similar material and coupling-joints 3. To the lower ends of the uprights 1 may be secured T-couplings 4, as illustrated, which carry at right angles stud-axles 5, that carry in any suitable and ordinary manner main wheels 6. Guide-pieces 7, that form, substantially, continuations of the uprights 1, may be screwed into the lower ends of the T-fittings 4 and extend within a short distance of the ground when the uprights are in the vertical position.

8 indicates frame-pieces of a fuel-receptacle that is preferably made of metal, the frame-pieces being united together in any suitable manner in the shape of an oblong rectangular frame. The spaces between the frame-pieces of the receptacle are filled with any suitable perforated or reticulated material, as, for example, pieces of wire-cloth 9. The wire-cloth thus forms the bottom and four sides of the receptacle and is of a sufficiently narrow mesh to retain the pieces of fuel, as, for example, coke, which furnishes the heat in the receptacle, and the wire of which it is composed should also be sufficiently coarse to withstand ordinary wear and the effects of heat.

The design of the apparatus being to apply heat to pavements, it is necessary not only to provide means for moving the receptacle over the pavements to be repaired, but also to regulate the degree of heat which it radiates. The wheels 6 afford convenient means for changing the position of the receptacle, and the degree of heat which the receptacle, when filled with live coal, will radiate against a spot to be repaired may be simply and conveniently controlled by increasing or diminishing the distance of the receptacle and its heated contents from the surface of the pavement. For this reason I provide suitable elevating mechanism, which may consist, as illustrated, of a windlass 10, secured in bearings 11 in the uprights 1. The bearing-pieces 11 may consist of ordinary four-way fittings, as illustrated. The windlass preferably extends through the bearing-pieces and on one end is provided with a square head 12, upon which a crank 13 of any ordinary description may be fitted.

14 indicates chains or flexible connecting-pieces that are fastened at one end, respectively, as indicated at 15, to the windlass and at the other end, respectively, to ears 16, that are secured to opposite frame-pieces 8 of the receptacle. By the rotation of the windlass 10 the chains are wound thereon, and the degree of elevation of the receptacle above the pavement controlled thereby.

In order to secure the position of the receptacle at any desired height, I provide a suitable stop mechanism, as, for example, a ratchet-whee 117, firmly secured to the windlass and a pawl 18, depending, for example, from the cross-piece 2, and designed to engage the teeth of the ratchet-wheel. On opposite sides of the frame I provide guide-loops 19, which preferably surround the uprights 1, and, guiding the vertical movement of the receptacle, at the same time act as movable braces between the sides of the frame. Lower guide-lugs 20, moving on opposite sides of the guide-pieces 7, may also be provided near the lower end of the receptacle.

The mechanism above described comprehends the essential features of a vertically-adjustable movable pavement-repairing heater, but I prefer also to provide the receptacle at opposite ends with a handle-frame

21, and also with end supporting-casters 22. The latter are preferably rotatably carried in vertical bearing-brackets 23, that are secured to end frame-pieces 8 of the receptacle. These brackets may be made vertically adjustable, if preferred. Their office is to support the receptacle in the horizontal position when it is being moved from place to place, and may also prevent the receptacle itself from touching the ground at any point.

In practice the receptacle is filled with a mass of hot fuel, as, for example, incandescent coke, and its heat is freely radiated through the meshes of the wire-cloth which contains it against the underlying pavement that is to be treated and repaired.

What I claim is—

1. In pavement-repairing apparatus, the combination with the uprights of a frame and its wheels, of a vertically-adjustable fuel-receptacle on the frame, and guide-pieces secured to the receptacle and movable with it upon the vertical uprights, substantially as set forth.

2. The combination with side uprights, wheels and cross-piece uniting the side uprights, of a fuel-receptacle carried between the side uprights, a windlass carried underneath the cross-piece in the side uprights, stop mechanism, and chains supporting the receptacle upon the windlass, substantially as set forth.

3. The combination with cylindrical uprights, T-fittings secured to the ends thereof, stud-axles in the T-fittings, and wheels, of a cross-piece and fittings uniting the same to the uprights, four-way fittings combined with the uprights, a windlass revolubly mounted in the four-way fittings, a fuel-receptacle, and chains uniting the receptacle and the windlass, and stop mechanism for limiting the movement of the windlass in one direction, substantially as set forth.

4. The combination with a frame and wheels, of a fuel-receptacle vertically adjustable thereon and mechanism for regulating the adjustment, wheels upon the opposite ends of the receptacle, and handles also upon the opposite ends thereof, substantially as set forth.

5. In an apparatus for repairing asphalt pavement, the combination with a supporting-frame composed of arched side bars and transverse connecting-bars, of rear supporting-wheels a front swivel or steering-wheel, a fuel-receptacle arranged between the said front and rear wheels, and having a perforated bottom, a transverse shaft journaled on said supporting-frame, and suspension-chains connecting the fuel-receptacle with said shaft, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

AMZI L. BARBER.

Witnesses:
JOHN P. WHITEHORN,
J. C. ROCK.