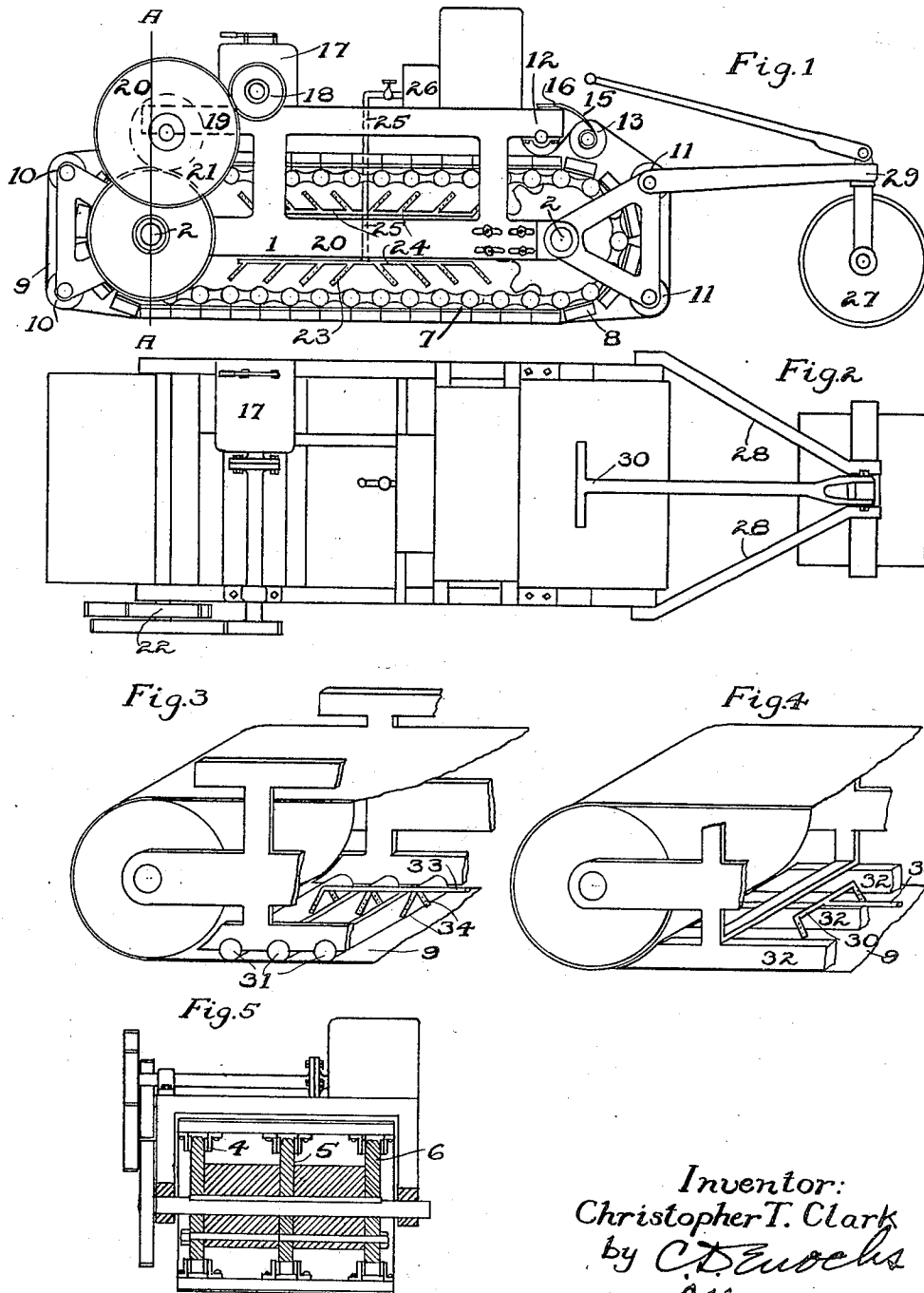


C. T. CLARK.
 FLAT SURFACE PRESSURE DEVICE.
 APPLICATION FILED AUG. 21, 1916.

1,312,518.

Patented Aug. 12, 1919.



Inventor:
 Christopher T. Clark
 by C. Deuchs
 Attorney

UNITED STATES PATENT OFFICE.

CHRISTOPHER T. CLARK, OF EAST SHORE PARK, MINNESOTA.

FLAT-SURFACE-PRESSURE DEVICE.

1,312,518.

Specification of Letters Patent.

Patented Aug. 12, 1919.

Application filed August 21, 1916. Serial No. 116,215.

To all whom it may concern:

Be it known that I, CHRISTOPHER T. CLARK, a citizen of the United States, residing at East Shore Park, in the county of Washington and State of Minnesota, have invented certain new and useful Improvements in Flat-Surface-Pressure Devices, of which the following is a specification.

One object of my invention is to provide a roller for use in squeezing out and compressing newly laid mastic floors or streets.

Another object of my invention is to provide a smooth surface to be applied to the material being worked, so that no joint lines will be printed on the surface.

Another object of my invention is to provide means for heating that portion of the roller adjacent to and pressing on the material that is being worked.

Another object of my invention is to provide a floor or street heating means that will maintain a given amount of heat on a particular section of the floor or street for a definite length of time while the heating means is moving.

With these and incidental objects in view the invention consists of certain novel features of construction and combination of parts, the essential elements of which are hereinafter described with reference to the drawing which accompanies and forms a part of this specification.

In the drawing Figure 1 is a side elevation of the preferred form of my improved device as exemplified in a caterpillar roller.

Fig. 2 is a plan view of the same.

Fig. 3 is a perspective view of a portion of a modified form of roller. Fig. 4 is a similar view of a second modification, and Fig. 5 is a section taken on the line "A A," Fig. 1.

Journalled in the frame 1, Fig. 1, main shafts 2 and 3, each carry three sprocket wheels 4, 5 and 6, as better shown in Fig. 5.

Chains 7 each connect with a pair of sprocket wheels, and each link of the sprocket chain carries flat surface pressure bars 8 extending across and supported by each of the three sprocket chains.

These bars are of such dimensions that they shoulder against each other where the chain is traveling between the sprocket wheels, and hence make the chain rigid in one direction, but flexible in the other direction where it follows around the sprocket wheel.

It is apparent, therefore, that if the chains carrying the bars 8 are suitably driven, the lower surface of all the bars on which the weight of the machine is being carried will be in one plane.

A belt 9, preferably of thin metal, is carried by rollers 10 at the back of the machine, rollers 11 at the front, roller 12 at the top of the machine, and suitable tension is established in the belt by the idle roller 13 carried by the spring 15, which is mounted at 16 to the frame of the machine and maintains a continuous upward pressure of the roller 13 against the belt.

A suitable motor 17 drives the shaft 2 through pinion 18, gear 19, pinion 20, gear 21, pinion 22, through the shaft 2 to which the sprocket wheels are keyed.

It is evident that the rotation of the motor will drive the roller either forward or backward, depending upon the direction of the rotation of the motor, the caterpillar chain laying a continuous track for itself on the endless belt, which is also laying a track for the caterpillar chain.

The result of this construction is that when the roller is in operation, the floor or street on which the machine is being used is subjected to proper pressure by a flat surface, and not merely by a line of contact as is the case in the ordinary type of roller.

Burner nozzles 23 connected by pipes 24 and 25 to the tank 26, provide means for continuously heating the bars 8 when the machine is in use, and by heating these bars in their upper as well as in the lower position, a substantially uniform heat is maintained at all times.

A steering roller 27 connected to the frame of the machine by the yoke members 28 and pivotally mounted at 29 to the yoke, provides means for steering the machine, either by riding on the machine and operating the handle 30, or throwing the handle 30 forwardly and walking in front or behind the machine.

As an alternate construction, I provide suitable bearings for rollers 31, Fig. 3, in the frame of the machine and pass over these rollers the endless belt 9, so that by placing the rollers sufficiently close together, I provide a substantially flat pressure surface by means of the belt.

I also sometimes employ instead of rollers 3, skids 32, which support the endless belt 9 longitudinally, and by placing these

skids close together obtain a substantially flat pressure surface by means of the belt.

In either of the modifications, I provide a pipe 33 with nozzles 34 for heating that portion of the roller directly applied to the floor or street.

While I have described my invention and illustrated it in one particular design, I do not wish it understood that I limit myself to this construction, as the application of my invention may be varied in many ways within the scope of the following claims.

Claims:

1. In a flat pressure surface device, the combination of a series of pressure bars, hinged connections for maintaining said pressure bars with their lower surfaces in one plane, in their lower position, and means associated therewith for heating said pressure bars.

2. In a flat surface pressure device, the combination of a series of traveling pressure bars interconnected together to form a pressure means, and an endless smooth faced belt associated therewith and traveling therewith below said pressure bars.

3. In a flat surface pressure device, the combination of a series of traveling pressure bars interconnected together to form a pressure means, an endless belt associated therewith and traveling therewith below said pressure bars, and means associated with said pressure bars for heating said bars.

4. In a flat surface pressure device, the combination of a pair of sprocket wheels, a frame carrying said sprocket wheels, a chain carried by said pair of sprocket wheels, a series of bars transversely mounted on said chain and carried thereby, said bars shouldering against each other, so as to form a flat rigid surface when traveling between said sprocket wheels, and a smooth surfaced endless belt associated with said chain and

traveling with said bars between the lower surface of said bars and the surface on which the pressure is being applied.

5. In a flat surface pressure device, the combination of a frame, a rear shaft and a forward shaft, two sprocket wheels on each of said shafts, a sprocket chain connecting each of the sprocket wheels on the rear shaft with a similar sprocket wheel on the forward shaft, a series of pressure bars mounted on similar links on each of said chains and extending transversely across each of said chains, means for driving one of said shafts, and means for heating said pressure bars.

6. In a flat surface pressure device, the combination of a frame, a rear shaft and a forward shaft, two sprocket wheels on each of said shafts, a sprocket chain connecting each of the sprocket wheels on the rear shaft with a similar sprocket wheel on the forward shaft, a series of pressure bars mounted on similar links on each of said chains and extending transversely across each of said chains, means for driving one of said shafts, means for heating said pressure bars, an endless belt associated with said pressure bars and traveling therewith between the lower surface of said bars and the surface to which pressure is being applied, and means for maintaining a constant tension in said endless belt.

7. In a flat surface pressure device the combination of pressure bars, hinged connections for maintaining said pressure bars with their lower surfaces in one plane in their lower position, forming a pressure surface of considerable length in the direction of travel, and means associated therewith for heating said pressure bars so as to maintain a heated surface against the surface to be treated for an appreciable length of time while the device is traveling.

CHRISTOPHER T. CLARK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."