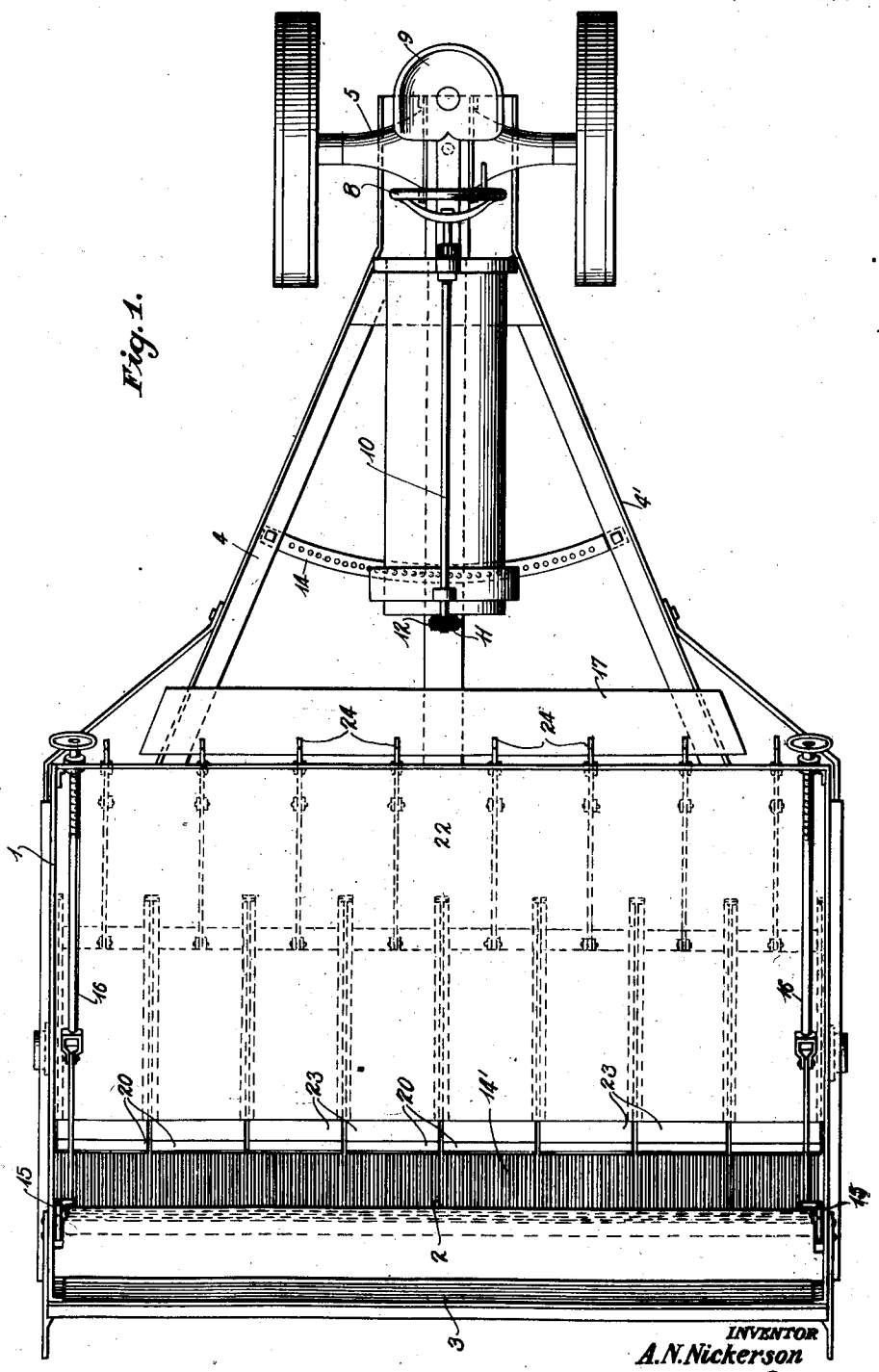
Feb. 19, 1929. 1,702,666

A. N. NICKERSON

ROAD SPREADING MACHINE

Filed Oct. 11, 1927 3 Sheets-Sheet 1

Fig. 1.



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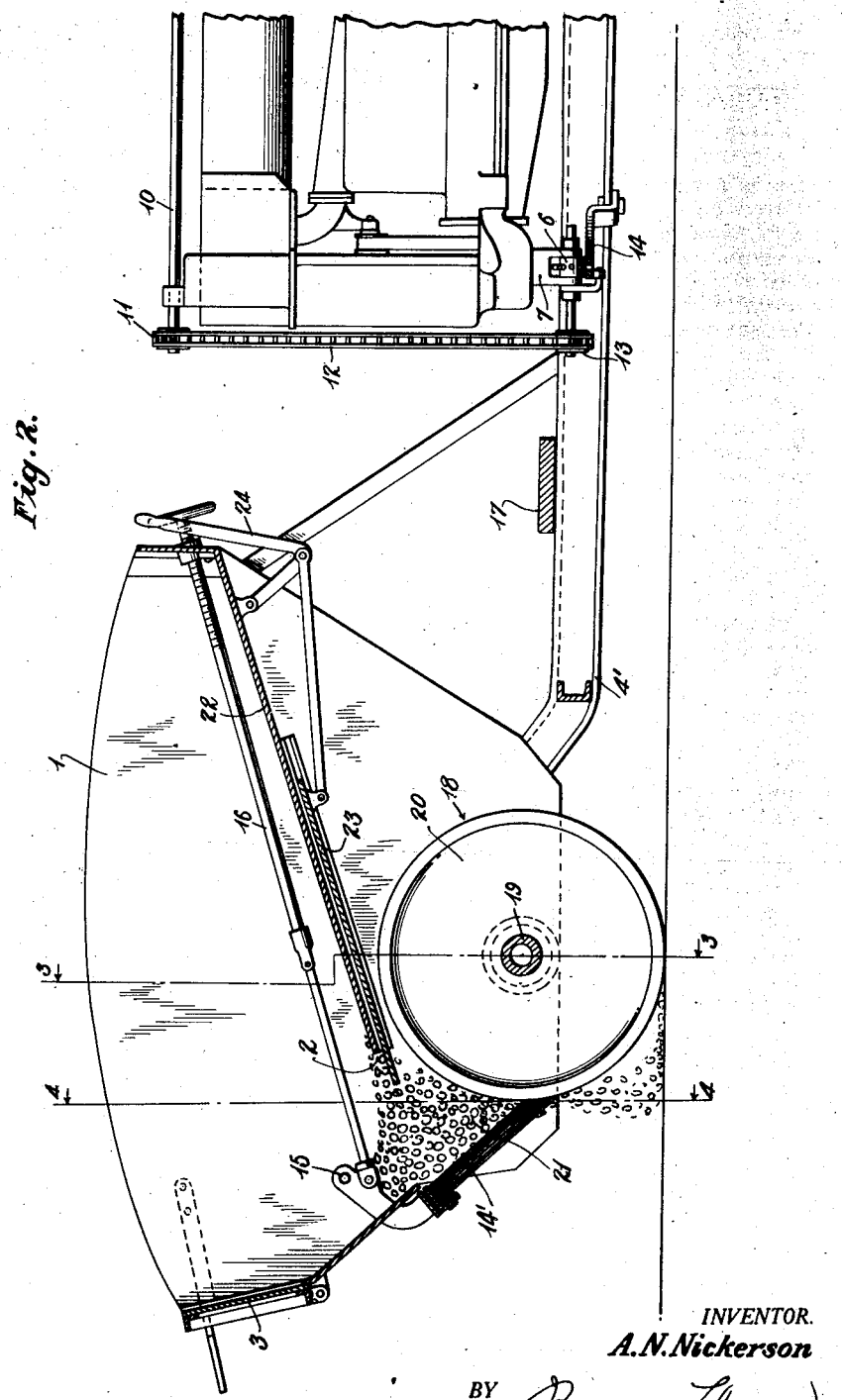
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Fig. 2.



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Fig. 4.

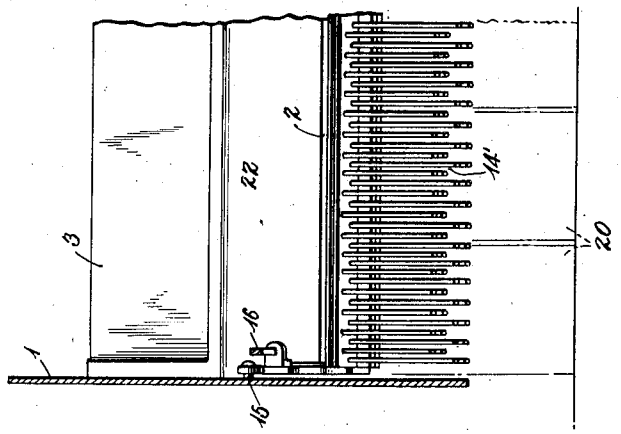
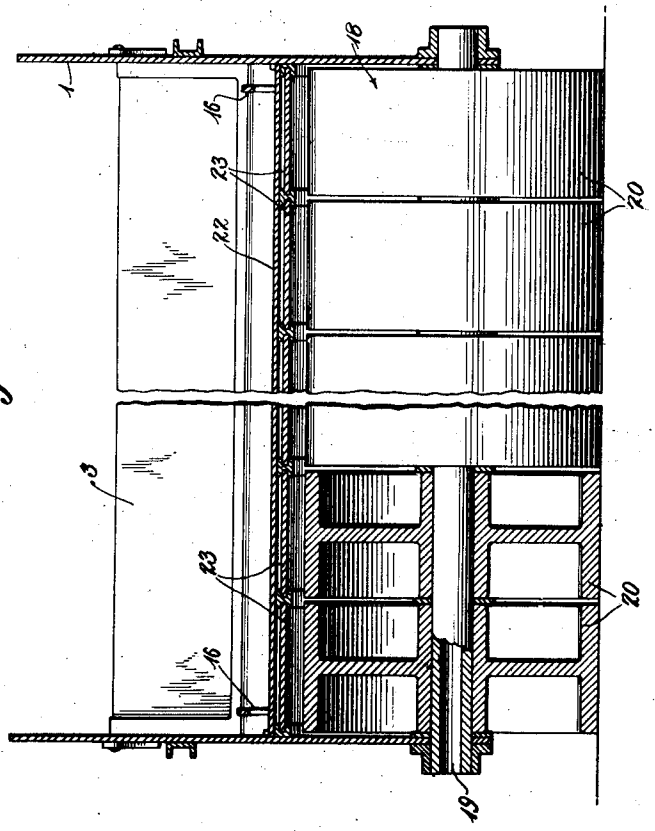


Fig. 3.



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Patented Feb. 19, 1929. 1,702,666

UNITED STATES PATENT OFFICE.

ALMA N. NICKERSON, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HIGHWAY SERVICE, INCORPORATED, OF NEW BEDFORD, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

ROAD SPREADING MACHINE.

Application filed October 11, 1927. Serial No. 225,575.

This invention relates to road spreading machines adapted to supply minerals to roads automatically, thus overcoming the hand procedure conventionally employed.

The primary object of the invention is to provide a machine of the character specified with means for selectively varying the size or thickness of the coating of minerals applied to the road or the width of the spread or both.

More specifically the invention comprehends a receptacle provided with a transverse opening in its lower end which is provided with a heavy cast iron roll performing the dual function of feeding the minerals from the hopper and of rolling the material spread upon the road.

There are numerous other objects of the invention which will be perfectly apparent to those skilled in the art from a reading of the following specification and in conjunction with the drawings attached hereto and forming a part hereof in which—

Figure 1 is a top view of the machine,

Figure 2 is a view partly in section,

Figure 3 is a detail view of the combined feeding roller and tamper, and

Figure 4 is a detail view taken on line 4—4 of Figure 2.

Referring now specifically to the drawings, 1 represents a hopper provided with sloping walls and with a transversely arranged discharge opening 2. This hopper is preferably provided with a movable door 3 for loading the sand, peastone or other minerals or surfacing material. Extending rearwardly from the hopper are convergingly disposed side frame members 3 and 4, the rearward extremities of which are pivotally secured to the rear axle of the tractor 5. This tractor may be of any improved type such as the well known "Fordson". The front wheels of the tractor are removed and a pinion 6 attached thereto by means of the bracket 7 secured to the front of the tractor. The spreader includes a steering mechanism whereby the relative angular positions of the tractor and spreader hopper may be changed irrespective of whether the machine is in a state of motion or not. This is particularly valuable in operations where close handling is necessary to secure spreading with a minimum of ease and in places ordinarily inaccessible. This steering mechanism may be readily attached to the tractor and comprises a hand wheel 8 located in proximity to the operator's seat 9. The rotation of the wheel causes a corresponding rotation of the shaft 10 and the sprocket wheel 11 thereby rotating the sprocket chain 12 and the lower sprocket wheel 13, causing a rotation of the pinion 6 aforesaid. This pinion meshes with an arcuate rack 14 disposed between the side sills 3 and 4. It is thought that this steering mechanism need not be explained with greater particularity herein. The hopper is provided with a pivoted angularly disposed brush 14 pivoted as at 15 to the hopper. This brush may be moved to different positions by means of the control 16 located in proximity to the operator's platform 17 as clearly shown in Figure 2.

It is very important that the granular material be discharged at a point very close to the roadway to prevent uneven distribution occasioned by winds or the like. To this end I support the hopper by a heavy roller 18 supported by the axle 19 to the sides of the hopper. This roller consists of a plurality of sections 20 to allow differential rotation when turning corners. The roller is located within the recess 2 and serves the dual function of feeding the granular material from the hopper and of rolling or tamping the spread on the tarred surface of the roadway. The brush 14 is composed of any suitable material such as wire, ratan or the like and its inclined disposition forms, in conjunction with the cast iron roll, a substantially V-shaped pocket 21 for the reception of minerals, which is highly advantageous in this art. The brush may be adjusted with respect to the roll to thereby vary the thickness of the spread according to the necessities of the occasion. Surmounting the roller 18 I provide an inclined wall 22 which serves the function of preventing a substantial amount of the granular material from weighing against the roll which would render it very difficult to effect rotation thereof. Secured to the under side of this wall 22 of the hopper are a plurality of independent slides or shutters 23 selectively operable by hand levers 24 within reach of the operator stationed on the platform 17. By virtue of these shutters the width of the spread may be varied. For in-

stance, if is desirable to "dress up" the shoulders of a road the machine may be operated so that the minerals will be discharged at that predetermined point only. This arrangement also permits the spreading of material of any widths when treating tarred surfaces, thus insuring that there will be no improper point of overlap between the tarred surface and the spread minerals. Moreover the roller 18, consisting of a multiplicity of sections 20, extends the full width of the hopper, thus obviating the necessity of providing special means for taking care of the space ordinarily provided by hoppers of the type employing wheels.

It will be apparent that the heavy cast iron roller 18 in addition to serving as a feeding device for the minerals further acts to roll the minerals after they have been spread, thereby eliminating the necessity of providing a separate implement for this purpose.

The subject matter of the adjustable brushes and shutters is not specifically claimed herein as this forms a part of an invention claimed in another case filed simultaneously herewith. The present case is predicated upon the subject matter relating to the heavy cast iron rollers serving the dual function of spreading the granular material and tamping or rolling the spread on the roadway.

Having thus described my invention, what I claim is:

1. A road spreading machine comprising a hopper provided with a transverse opening, of a combined feeding roller and tamping roller located within proximity of said opening and adapted to feed surfacing materials therefrom and roll the same on the roadway.

2. A road spreading machine for supplying minerals to roadways comprising a hopper provided with an opening in the lower portion thereof, a feed roll located within said opening and extending substantially the full width of the machine, means for variably adjusting the size of the spread discharged by said feed roller, said feed roller being adapted to roll or tamp the spread on the roadway.

3. A road spreading machine comprising a hopper having a discharge opening therein, a feed roller located within said opening and supported to the side walls of the hopper by a transversely arranged axle, said feed roller consisting of a plurality of independent sections extending the full width of the discharge opening provided by the hopper and adapted upon rotation to cause the discharge of the minerals from the hopper and to pack the spread upon the roadway.

4. A road spreading machine comprising a hopper having a discharge opening, a heavy combined feed roller and packing roller located within said discharge opening and adapted to feed granular material therefrom as a film on the roadway, said hopper having an inclined wall overhanging the roller to thereby take the weight of the granular materials within the confines of the hopper from the roller, and means for selectively adjusting the size of the spread and the width thereof.

5. A road spreading machine comprising a hopper provided with a transverse opening, of a combined feeding roller and tamping roller located in proximity to said opening but slightly to the rear thereof, means for preventing a substantial amount of the weight of the granular material within the confines of the hopper from interfering with the free rotation of the combined feeding and tamping roller, the roller serving the dual function of feeding minerals from the hopper through the opening and of thereafter tamping the same on the roadway.

In testimony whereof I affix my signature.

ALMA N. NICKERSON.