C. P. PRICE.

OIL DISTRIBUTER.

APPLICATION FILED APR. 5, 1915.

1,320,273.

Patented Oct. 28, 1919.

3 SHEETS—SHEET 1.

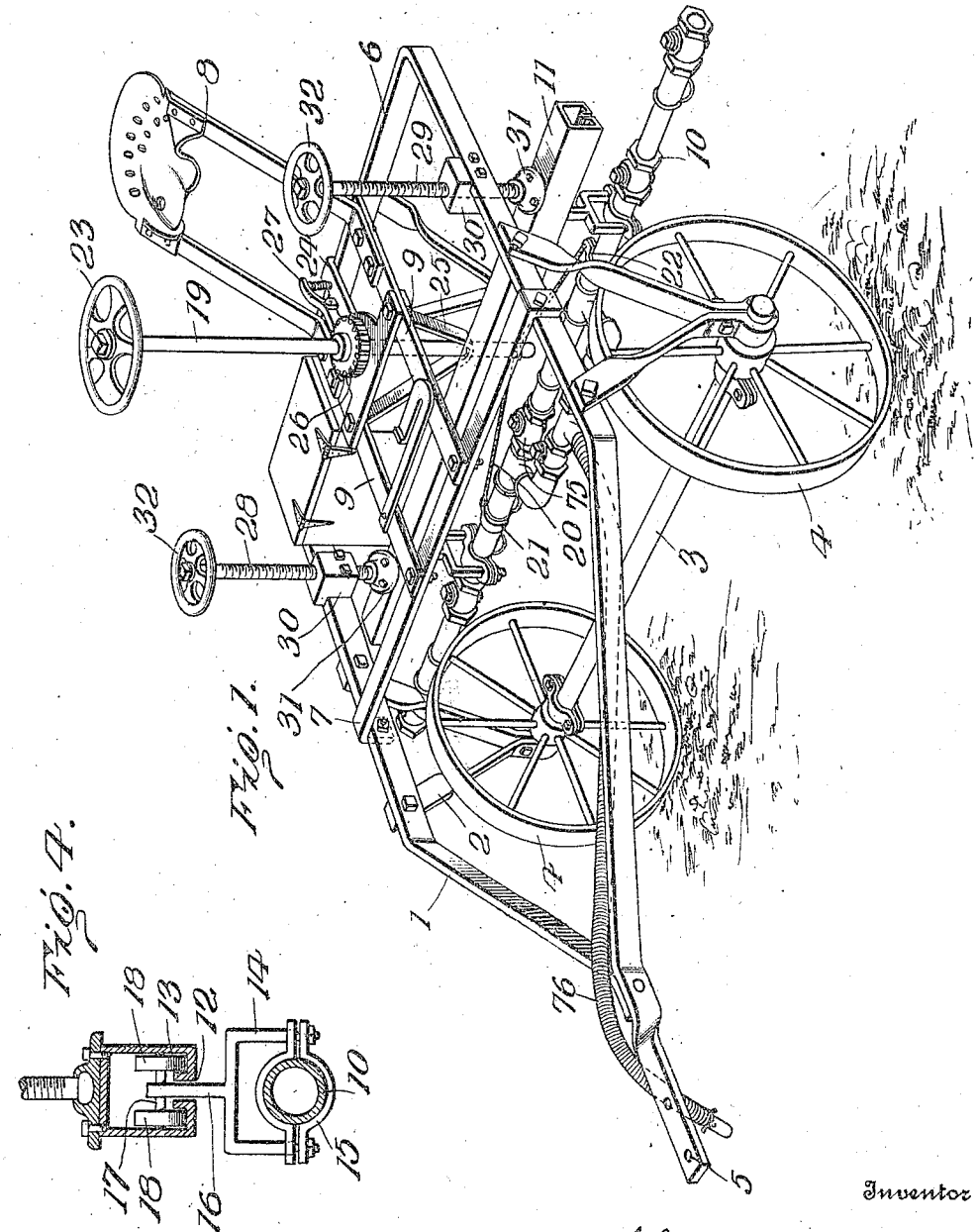


Fig. 1.

Fig. 4.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

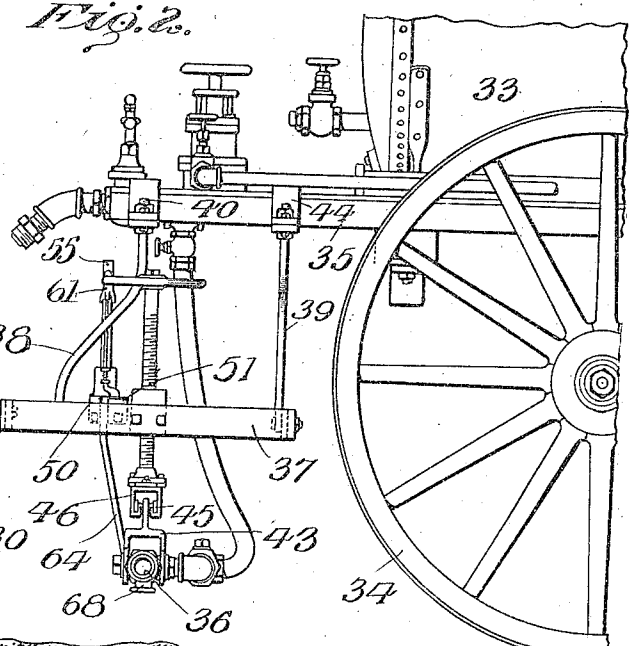


Fig. 10.

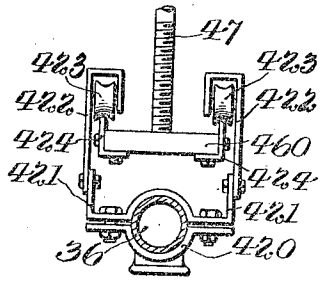
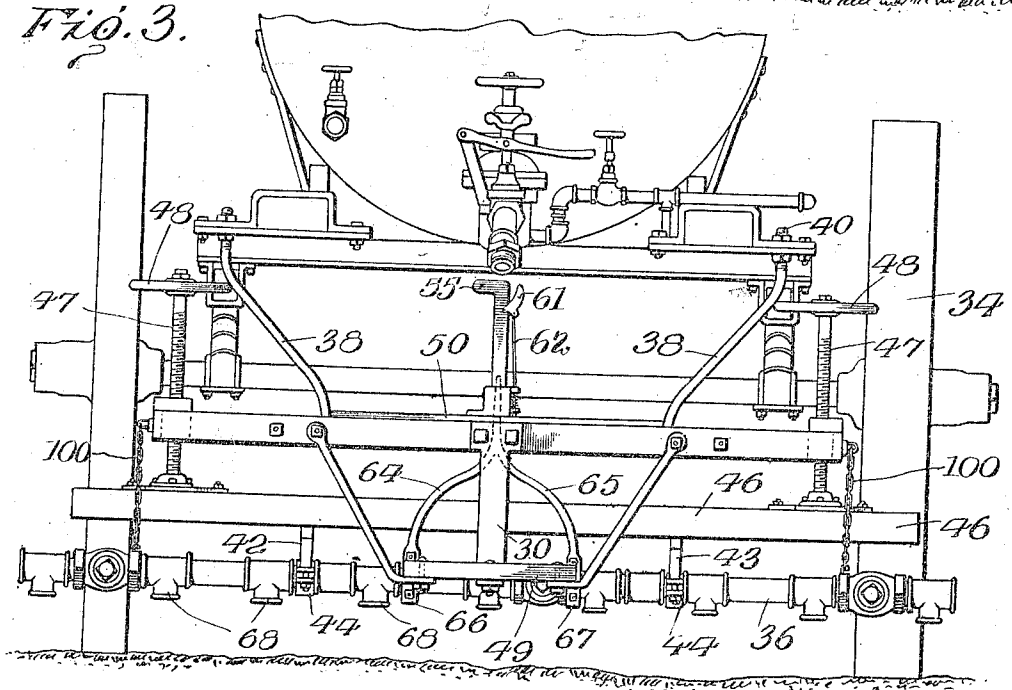


Fig. 3.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 5.

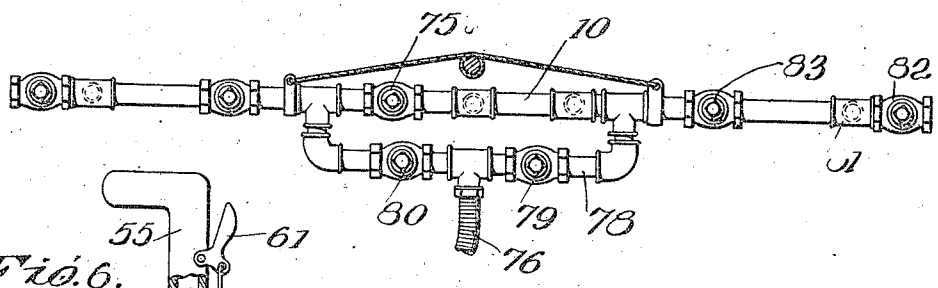


Fig. 6.

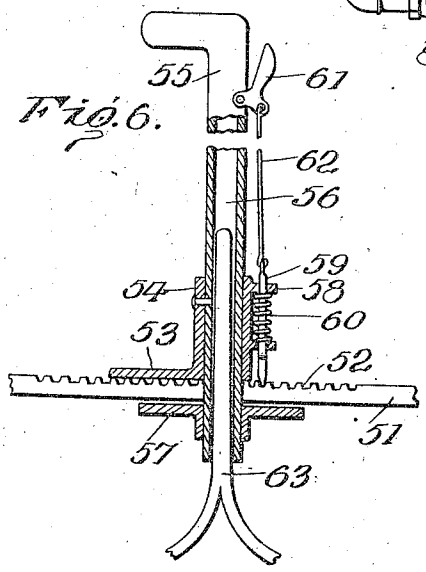


Fig. 7.

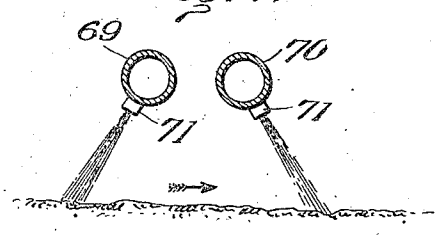


Fig. 8.

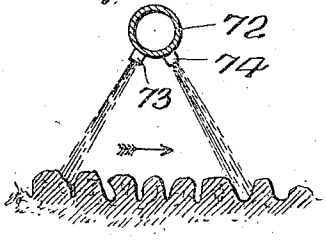
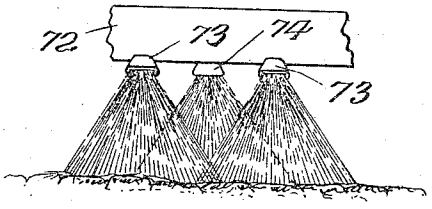


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES P. PRICE, OF BOSTON, MASSACHUSETTS.

OIL-DISTRIBUTER.

1,320,273. Specification of Letters Patent. Patented Oct. 28, 1919.

Application filed April 5, 1915. Serial No. 19,206.

To all whom it may concern:

Be it known that I, CHARLES P. PRICE, a citizen of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Oil-Distributers, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in oil distributers, whereby a road surface is coated with oil, liquid tar, or the like.

The object of the invention is to provide a distributer with a distributing pipe which may be readily shifted endwise as the road bed surface is being coated.

A further object of the invention is to provide a distributer of the above character wherein the distributing pipe may be raised and lowered bodily.

These and other objects will in part be obvious and will in part be hereinafter more fully disclosed.

In the drawings,—

Figure 1 is a perspective view showing a wheeled attachment for a tank wagon having my improvements applied thereto;

Fig. 2 is a side elevation, showing a modification of my improved distributer applied directly to a tank wagon;

Fig. 3 is a rear view of the same;

Fig. 4 is a detail sectional view through the track and the distributer pipe, showing the hanger for supporting the pipe;

Fig. 5 is a detail in section showing the distributer pipe in plan view;

Fig. 6 is a detail partly in section, showing the shifting lever used for shifting the distributer pipe;

Fig. 7 is a detail showing in section two distributer pipes with the nozzles set at different angles;

Fig. 8 is a detail in section showing a single distributer pipe having two nozzles set at right angles to each other;

Fig. 9 is a detail in side elevation, showing a portion of the distributer pipe and the staggering of the nozzles; and

Fig. 10 is an end view showing a modified form of supporting means for the distributer pipe.

The invention consists generally in providing a supporting means for the distributing pipe, whether said distributer pipe is carried by an attachment mounted on wheels, or whether said distributer pipe is mounted directly on a supporting frame carried by a tank wagon, whereby said distributer pipe may be moved endwise so as to cause the surface being coated to meet or overlap slightly a previously coated surface, or whereby said pipe may be shifted to regulate the surface being coated adjacent the curb. This distributer pipe is also so mounted that it may be raised or lowered bodily wherein the fan or cone-shaped sprays discharged from the separate nozzles may be caused to meet and cover the entire surface being coated.

In order that the distributer pipe may have the above movements, I have provided a supporting track and a distributer pipe is mounted in hangers which are provided with rollers adapted to run on said track. In one instance, a lever or rigid arm is connected to the distributer pipe for the purpose of shifting it endwise relative to the track and said lever is held in different positions by a pawl engagement with a locking rack on the track. In the other instance, the pipe is shifted endwise on the track by a rotating shaft which is connected by a flexible means with the pipe, and this shaft may be turned by hand and locked in any desired position. The track is supported on the frame by the aid of vertical shafts which are connected to the track adjacent each end thereof, and these shafts may be readily turned, so as to raise or lower the track.

The distributing pipe is made in sections and said pipe extends beyond the wheels of the support, for the pipe may be readily detached. This facilitates the moving of the distributing apparatus through crowded streets, and also enables the distributer pipe to be shortened or lengthened when desired. The distributer pipe is also provided with a valve or valves, so that sections of the pipe may be rendered ineffective if desired.

Referring more in detail to the drawings,

I have shown in Fig. 1 an attachment for a tank wagon which consists of a main frame 1 having brackets 2, 2, which carry a shaft 3 having supporting wheels 4, 4 for the attachment. The frame 1 is adapted to be secured at 5 to a pressure tank wagon or one that is provided with pumping devices to force liquid through distributers, so that it may be drawn in rear thereof.

The main frame 1 extends rearwardly of the brackets 2, 2, and is provided with cross bars 6 and 7. A seat 8 is mounted on suitable transverse plates 9, 9, which are attached to these cross bars. The distributer pipe 10 is located back of the supporting wheels 4, 4, and is parallel with the shaft 3. This distributer pipe is supported by a track 11. The track 11 is box-shaped with a slot 12 in the bottom, and the edges of the plate forming the slot 12 are turned up at 13. The distributer pipe is mounted in a hanger 14. This hanger is secured to a sectional collar 15, which is clamped to the pipe. Said hanger has a shank 16 which projects through the slot 12 and is secured to a cross shaft 17, carrying rollers 18 and 19 which are located within the track, and these rollers run on the bottom plates of the track. There is a hanger adjacent each end of the track. The distributer pipe is moved endwise on the track by a vertical shaft 19.

A cord 20 or the like is attached at one end to a collar 21 on the distributer pipe, and at the other end to a collar 22 also attached to the distributer pipe. This cord is wound around the shaft 19 and secured thereto in such a way that when the shaft 19 is rotated, one end of the cord is drawn toward the shaft, while the other end of the cord is released and permitted to move away from the shaft.

The shaft is provided with a hand wheel 23 at its upper end, and this hand wheel is adjacent the seat 8, so that the shaft may be readily rotated. The shaft is mounted in a bearing plate 24 carried by the transverse plates 9, 9, and a bracket 25 which is likewise carried by these plates. Directly above the plate 24 is a disk 26 having recesses formed therein adapted to receive a locking dog 27 which holds the shaft 19 from rotation in either direction when in engagement in said recesses.

The track 11 is supported by two vertical shafts 28 and 29. These shafts are mounted in bearing blocks 30 carried respectively by the side frames of the attachment. Each shaft at the lower end thereof has a universal connection with a supporting coupling 31 which is attached to the upper face of the track 11. Each shaft has a hand wheel 32.

From the above construction, it will be apparent that the supporting track may be raised at either end thereof by turning the supporting shaft therefor. These hand wheels 32 may be readily reached by the operator from the seat 8. This permits either end of the distributer pipe to be raised or lowered, so as to maintain the distributer pipe substantially parallel with the road bed surface being coated. It also permits the distributer pipe to be raised or lowered bodily, so that the fan-shaped sprays from the separate nozzles may be caused to meet or slightly overlap and thus coat the entire surface.

Then again by supporting the pipe so that it may be moved endwise through the turning of the shaft 19, said pipe may be shifted so that the surface being coated may be caused to join a previously coated surface. It is extremely difficult for a driver to guide or direct a tank wagon so that the surface being coated will join a previously coated surface. By my improvement, however, the operator riding on the attachment may shift the distributer pipe within certain limits, so as to cause these surfaces to properly join without unduly overlapping. This increases greatly the efficiency of the distributing apparatus, in that it results in a perfectly coated surface with little or no waste of the liquid being coated on the surface by unnecessarily overlapping a previously coated surface.

Before describing in detail the construction of the distributer pipe, I will describe the modified form of the invention disclosed in Figs. 2 and 3 of the drawings, wherein the structure is mounted directly on the tank wagon. The tank wagon, as shown in these figures, includes a tank 33 which is mounted on suitable wheels, the rear wheels being illustrated at 34. Projecting rearwardly from the tank is the supporting frame 35. The distributer pipe 36 is carried by an auxiliary frame 37, which is attached to the frame 35 by suitable rods 38 and 39. These rods are secured to brackets 40 and 41, respectively, which are mounted on the frame 35. The distributer pipe 36 is carried by hangers 42 and 43. These hangers are attached to sectional collars 44 and are supported by suitable rollers 45 which run in a box-shaped track 46. These hangers and the track are similar to the construction above described in connection with Fig. 1. Adjacent each end of the track 46 is a supporting shaft 47, which carries a hand wheel 48 which is within reach of the operator who stands on a step 49 carried by supporting brackets 50, which are attached to the auxiliary frame 37.

Extending longitudinally of the auxiliary frame are two spaced bars 50 and 51. One of these bars is provided with a rack 52.

Mounted to slide on the bars is a bracket 53. This bracket has a sleeve 54 projecting upwardly therefrom, in which is fixed a lever or handle 55. This lever or handle has a central recess 56 and the lower end of the lever extends below the bars 50 and 51. Suitable plates 57 are attached to the lower end of the lever and guide the same as it is moved along the supporting bars.

The sleeve 54 has spaced lugs 58, in which is mounted a locking dog 59 adapted to engage the rack 52. A spring 60 normally forces the dog into engagement with the rack. This serves to lock the lever 55 in various adjusted positions. The dog may be released by a hand grip 61 which is connected to the dog by a link 62.

Fixed to the distributer pipe is an arm 63. This arm projects upwardly into the recess 56 of the lever 55. The lower end of the arm is split to form a yoke, the members 64 and 65 of which are respectively secured to collars 66 and 67 attached to the distributer pipe. By releasing this lever, it will readily be seen that the distributer pipe may be shifted endwise and held in various shifted positions by the locking dog 59. By the construction wherein the arm 63 extends into the recess 56, the distributer may be raised or lowered vertically and this arm will merely move up and down in the lever. This forms a connection which permits the distributer to be bodily adjusted vertically without in any way disturbing the mechanism whereby the distributer is shifted endwise. Through the supporting shafts 47 and the lever 55, the distributer may be shifted and adjusted in the manner described in connection with Fig. 1.

The distributer pipe is provided with spaced nozzles 68. A single row or set of nozzles may be used and these nozzles are preferably spaced and shaped so that each discharges a fan-shaped spray, and by properly adjusting the distributer pipes, these sprays will meet or slightly overlap as they strike the surface to be coated.

In Fig. 7 of the drawings, I have shown a construction wherein two distributer pipes may be used as indicated at 69 and 70. Each pipe is provided with spray nozzles 71. The spray nozzles, however, of the pipe 69 are inclined rearwardly, while the spray nozzles of the pipe 70 are inclined in the opposite direction. By this arrangement of the nozzles, the sprays will strike the surface to be coated at an angle, and this facilitates the penetration of the liquid into the road surface as the liquid will be forced into the angularly disposed crevices.

In Figs. 8 and 9 of the drawings, I show a single distributer pipe 72 which has two series of nozzles 73 and 74. The nozzles in the different series are staggered relative to each other, as shown in these figures. Adjacent nozzles 73 throw fan-shaped sprays which meet or slightly overlap, but if these sprays do not overlap, then the spray from the nozzle 74 will cover completely the space between the sprays of the nozzles 73.

As shown in Fig. 5, the distributer pipe which may be used in either form of the invention is indicated at 10. A valve 75 may be used for closing either half of the pipe, so as to render it ineffective and to facilitate the cleaning of the pipe through the aid of steam pressure. The distributer pipe is fed from a flexible pipe 77 which may be attached in any suitable way to the tank and a valve adjacent the tank will control the flow of the liquid through the pipe 76. The pipe 76 is connected to a branch supply pipe 78 which is provided with valves 79 and 80, so that either half of the distributer pipe may be fed. This distributer pipe 10 consists of a central section at each end of which are removable sections 81. Each removable section has a valve 82 at the end thereof. The central section has a valve 83 at the end thereof. This central section ends substantially in line with the wheels of the tank wagon. The purpose of these end extensions is to permit the same to be removed when the tank is driven through a crowded street, or the end sections may be removed when it is not desired to use the same for coating the road surface.

In Fig. 3 of the drawings, I have shown chains 100 which may be used for connecting the distributer pipe to the supporting frame, so as to prevent endwise movement of the distributer pipe when the wagon is being drawn from one place to another.

In Fig. 10 of the drawings I have shown a slightly modified form of means for supporting the distributer pipe. In place of the U-shaped rail 46, I have provided a solid supporting rail 460, to which are secured the supporting and adjusting shafts 47. This supporting rail 460 extends some distance each side of the shaft 47, so as to give a broader lateral support for the distributer pipe, which is indicated at 36 in said figure. Said distributer pipe is mounted in a clamping bracket 420, which has upwardly extending arms 421. To each arm 421 is attached a supporting bracket 422 carrying a roller 423. These rollers 423 engage respectively the tracks 424 carried by the supporting rail 460. The manner of operating the distributing pipe and adjusting the same is precisely the same as shown in the other figures of the drawing.

It is obvious that minor changes in the details of construction and arrangement of parts may be made without departing from

the spirit of the invention as set forth in the appended claims.

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

1. An oil distributer including in combination, a distributer pipe for spraying the oil, a supporting frame, a track mounted on said frame, whereby the same may be adjusted vertically, hangers attached to said distributer pipe, and supporting means carried by the hangers for engaging the track, whereby said distributer pipe may be moved endwise at will during the coating operation.

2. An oil distributer including in combination, a distributer pipe for spraying the oil, a supporting frame, a track, a vertically arranged shaft adjacent each end of the track for supporting and for adjusting the same, hangers secured to said distributer pipe, supporting devices carried by said hangers and engaging said track, whereby said distributer pipe may be moved endwise on said track, and means connected to said distributer pipe for moving the same endwise and for holding the same in adjusted positions.

3. An oil distributer including in combination, a distributer pipe for spraying the oil, a supporting frame, a track, a vertically arranged shaft adjacent each end of the track for supporting and for adjusting the same, hangers secured to said distributer pipe, supporting devices carried by said hangers and engaging said track whereby said distributer pipe may be moved endwise on said track, and means connected to said distributer pipe for moving the same endwise and for holding the same in adjusted positions, said adjusting means including a hand lever carried by said frame and movable thereon, an arm rigidly attached to said distributer pipe and having a sliding engagement with said hand lever.

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

CHARLES P. PRICE.

Witnesses:
G. A. RUST,
F. P. MOONEY.