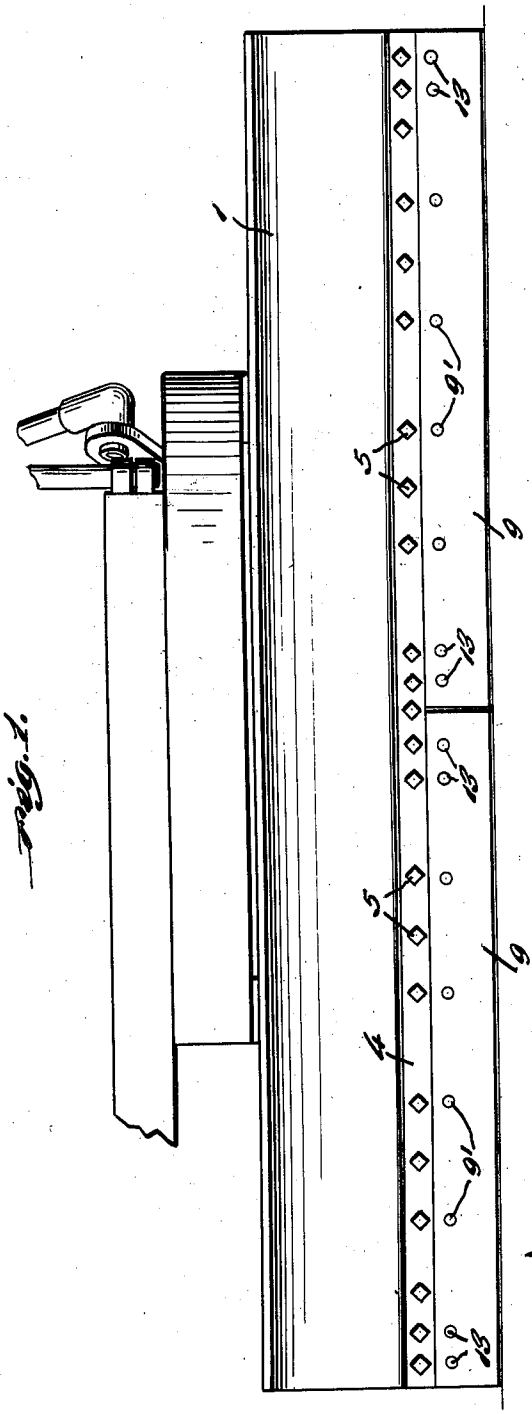
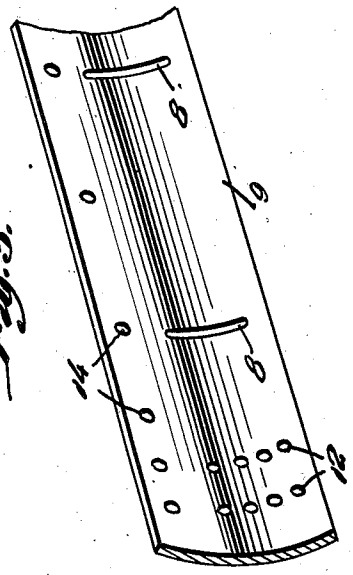
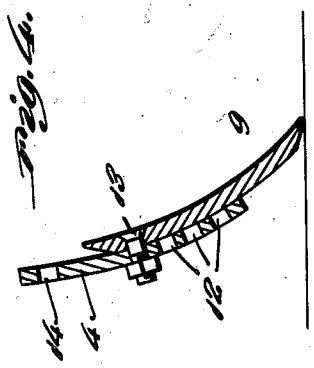
Feb. 9, 1943. A. B. CLINKSCALES, JR 2,310,396

GRADER BLADE

Filed April 10, 1942 2 Sheets-Sheet 1







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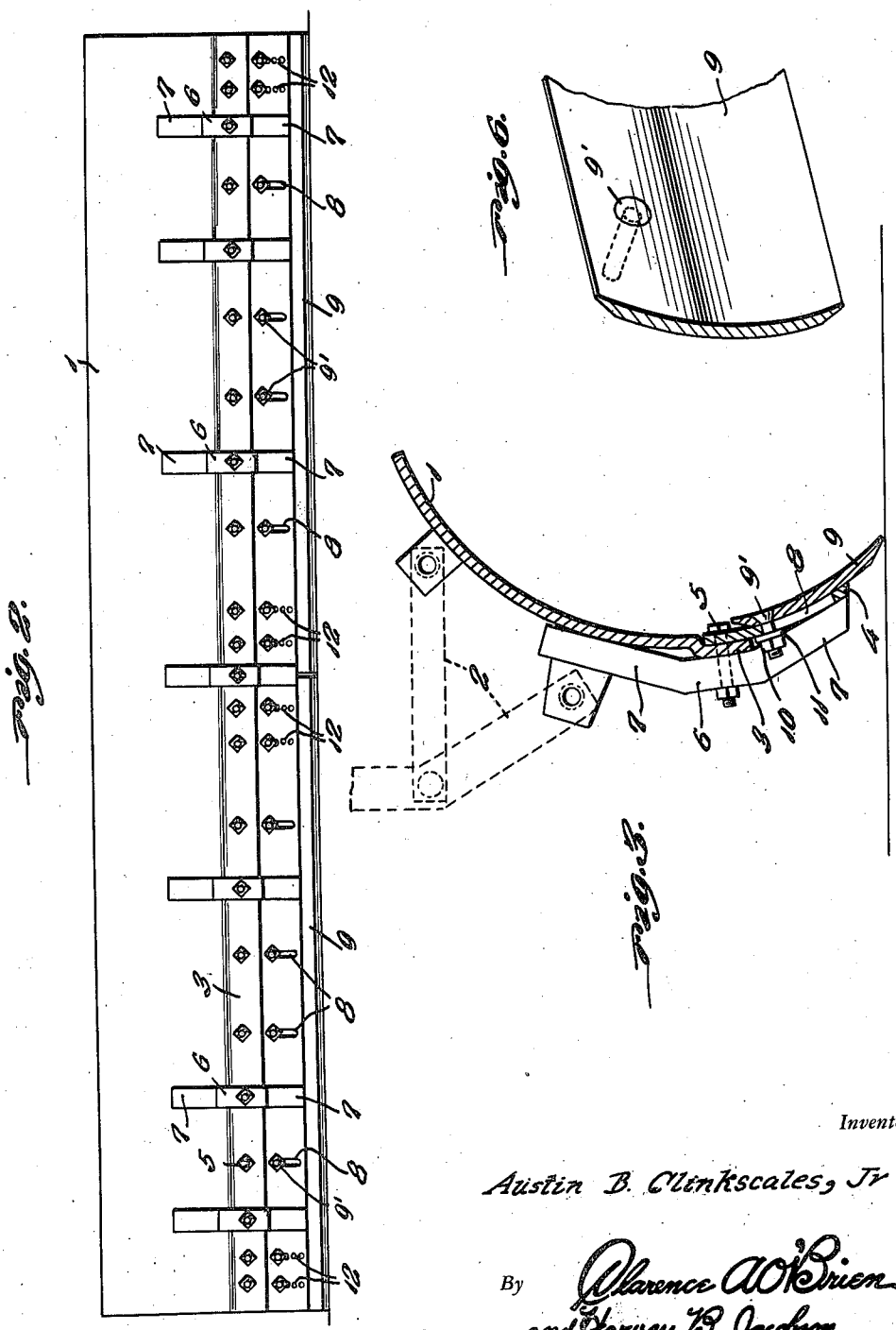
GRADER BLADE

Filed April 10, 1942 2 Sheets-Sheet 2



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2,310,396

UNITED STATES PATENT OFFICE

2,310,396

GRADER BLADE

Austin B. Clinkscales, Jr., Greenville, Miss.

Application April 10, 1942, Serial No. 438,483

2 Claims. (Cl. 37—143)

The present invention relates to new and useful improvements in grader blades for use particularly in road or highway maintenance, and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character comprising a novel construction and arrangement whereby the blades may be expeditiously and accurately adjusted on the moldboard as may be necessary to compensate for wear as it occurs, thus materially prolonging the life of said blades in addition to maintaining the efficiency thereof.

Other objects of the invention are to provide a grader blade of the aforementioned character which will be comparatively simple in construction, strong, durable, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in front elevation of a grader blade constructed in accordance with the present invention.

Figure 2 is a view in rear elevation thereof.

Figure 3 is a cross-sectional view.

Figure 4 is a cross-sectional view, illustrating one means of adjustably securing the blades on the attaching plate.

Figure 5 is a perspective view of an intermediate portion of the attaching plate.

Figure 6 is a perspective view of a portion of one of the blades.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a moldboard 1 of arcuate cross-section. The moldboard 1 is adapted to be mounted on the machine through the medium of suitable supports 2. As illustrated to advantage in Figure 3 of the drawings, the moldboard 1 includes a rearwardly offset, apertured lower marginal portion 3.

A metallic plate 4 of arcuate cross-section has its upper marginal portion firmly secured in the offset portion 3 of the moldboard 1 by bolts 5. Braces 6 are mounted on the back of the rearwardly offset portion 3 of the moldboard 1. Certain of the bolts 5 are comparatively long for securing the braces 6 in position. The braces 6 include angularly extending end portions 7 which are engaged with the back of the moldboard 1 and the plate 4.

The plate 4 depends from the moldboard 1 and has formed in its lower portion vertical slots 8. Blades 9, also of arcuate cross-section, are adjustably and removably mounted on the front of the plate 4 by means including countersunk bolts 9' which pass through the slots 8. Retaining nuts 10 are threaded on the bolts 9', washers 11 being provided between said nuts and the plate 4. The plate 4 is further provided with vertical series of staggered openings 12. Countersunk bolts 13 in the blades 9 are insertible selectively in the staggered openings 12 for positively securing said blades in adjusted position on the plate 4. Openings 14 in the upper marginal portion of the plate 4 are aligned with the apertures in the portion 3 of the moldboard 1 for the passage of the bolts 5.

It will thus be seen that the blades 9 are removably and adjustably but firmly secured in position for operation on the moldboard 1. Of course, to raise or lower the blades 9 on the plate 4, the bolts 13 must be withdrawn from the openings 12. The bolts 9' may then be adjusted in the slots 8 by loosening the nuts 10. The bolts 13 materially strengthen the connection between the blades 9 and the plate 4 when considerable wear has occurred on said blades and the bolts 9' are in the lower portions of the slots 8. The construction and arrangement is such that the blades 9 may be expeditiously interchanged on the plate 4.

It is believed that the many advantages of a grader blade constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A grader blade of the character described comprising a moldboard including a rearwardly offset lower marginal portion, a plate secured in said offset portion of the moldboard and depending therefrom, the lower portion of said plate having vertical slots therein and further having staggered vertical series of openings therein, blades mounted on the plate and depending therefrom, securing bolts on the blades operable in the slots, additional bolts on the blades engageable selectively in the openings, and retaining nuts threaded on the bolts and engaged with the plate, said bolts constituting means for ad-

justably and removably securing the blades in position on the plate.

2. A grader blade of the character described comprising a moldboard of arcuate cross-section, said moldboard including a rearwardly offset lower marginal portion, a plate, also of arcuate cross-section, mounted on said offset portion of the moldboard and depending therefrom, blades of arcuate cross-section removably and adjustably mounted on said plate, braces mounted on the back of said offset portion of the moldboard, and bolts securing the plate to said offset portion of the moldboard, certain of said bolts also securing the braces in position, said braces including angularly extending end portions engaged with the back of the moldboard and with the depending portion of the plate.

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