

United States Patent

[11] 3,534,790

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[45]	Patented	Oct. 20, 1970
[73]	Assignee	Masonic Corporation a corporation of Delaware

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[54] **FRONT OPENING EDGER WITH REPLACEABLE SAW GUIDES**
5 Claims, 5 Drawing Figs.

[52] U.S. Cl..... 143/55,
143/159

[51] Int. Cl. B27b 5/06

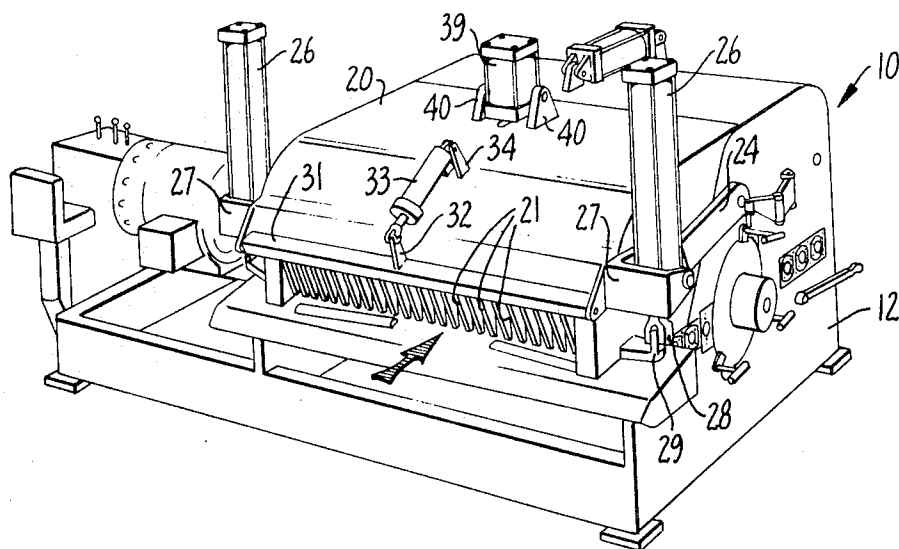
[50] **Field of Search**..... 143/159,
159—3, 37, 55

[56] **References Cited**

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1,108,586 8/1914 **Kleinegger** 143/159(3)UX

ABSTRACT: An edger machine having a plurality of circular saws mounted upon a common saw arbor in a support frame, an improved housing and mounting assembly including a cover pivotally mounted to said frame and movable between a first position that shields the leading edges of said saws and a second position that provides open access thereto, means for pivotally actuating said cover between said first and second positions, a plurality of kickback fingers mounted to said cover with means for simultaneously engaging and moving said fingers to positions of retraction while said cover occupies said first position; and a press roll rotatably mounted on the forward side of said saws with means for elevating said press roll both together with said cover and separately therefrom while said cover occupies said first position.



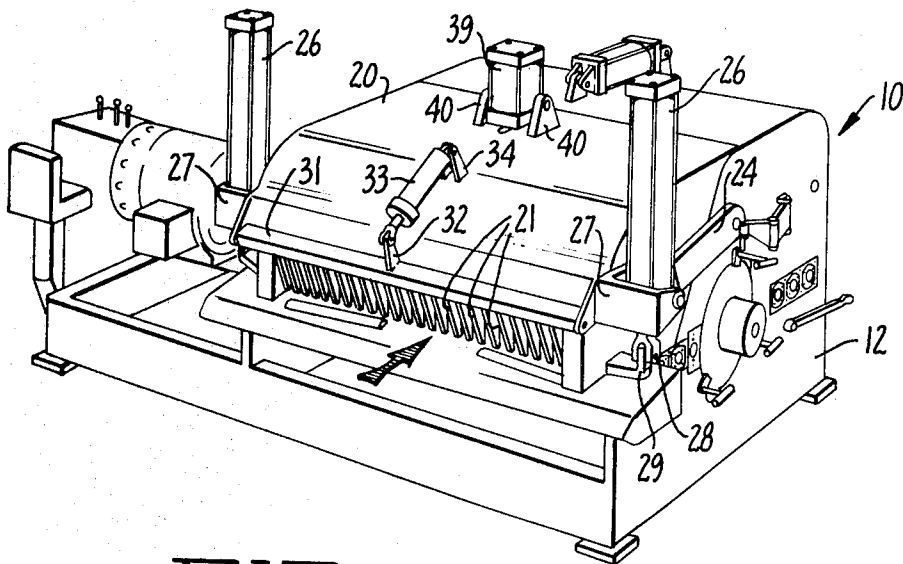


FIG. 1.

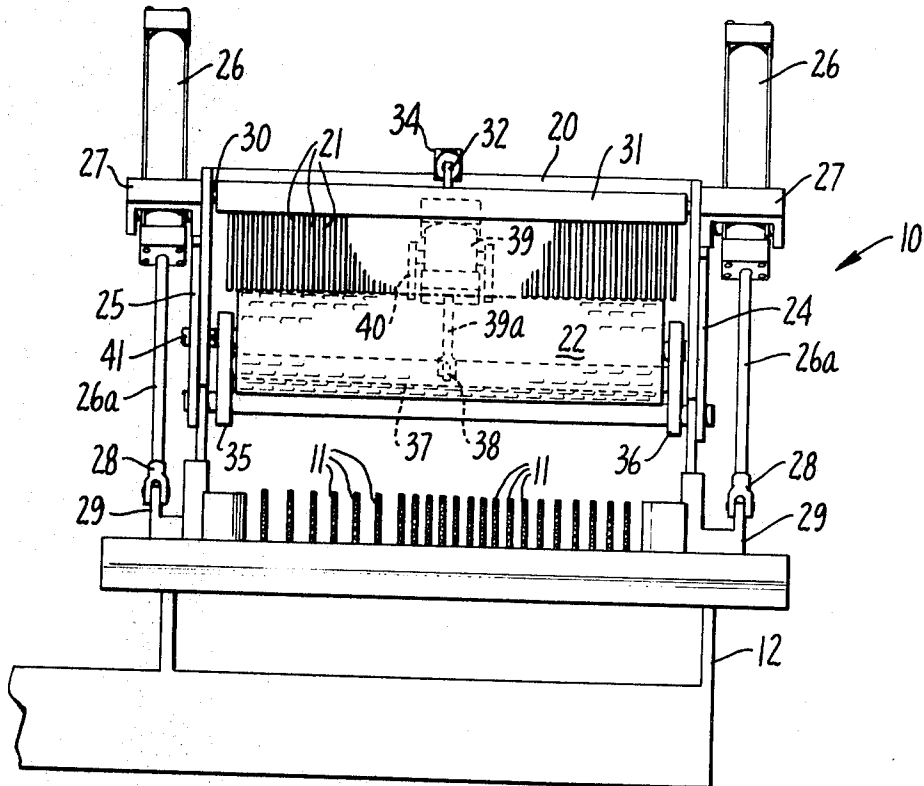


FIG. 2.

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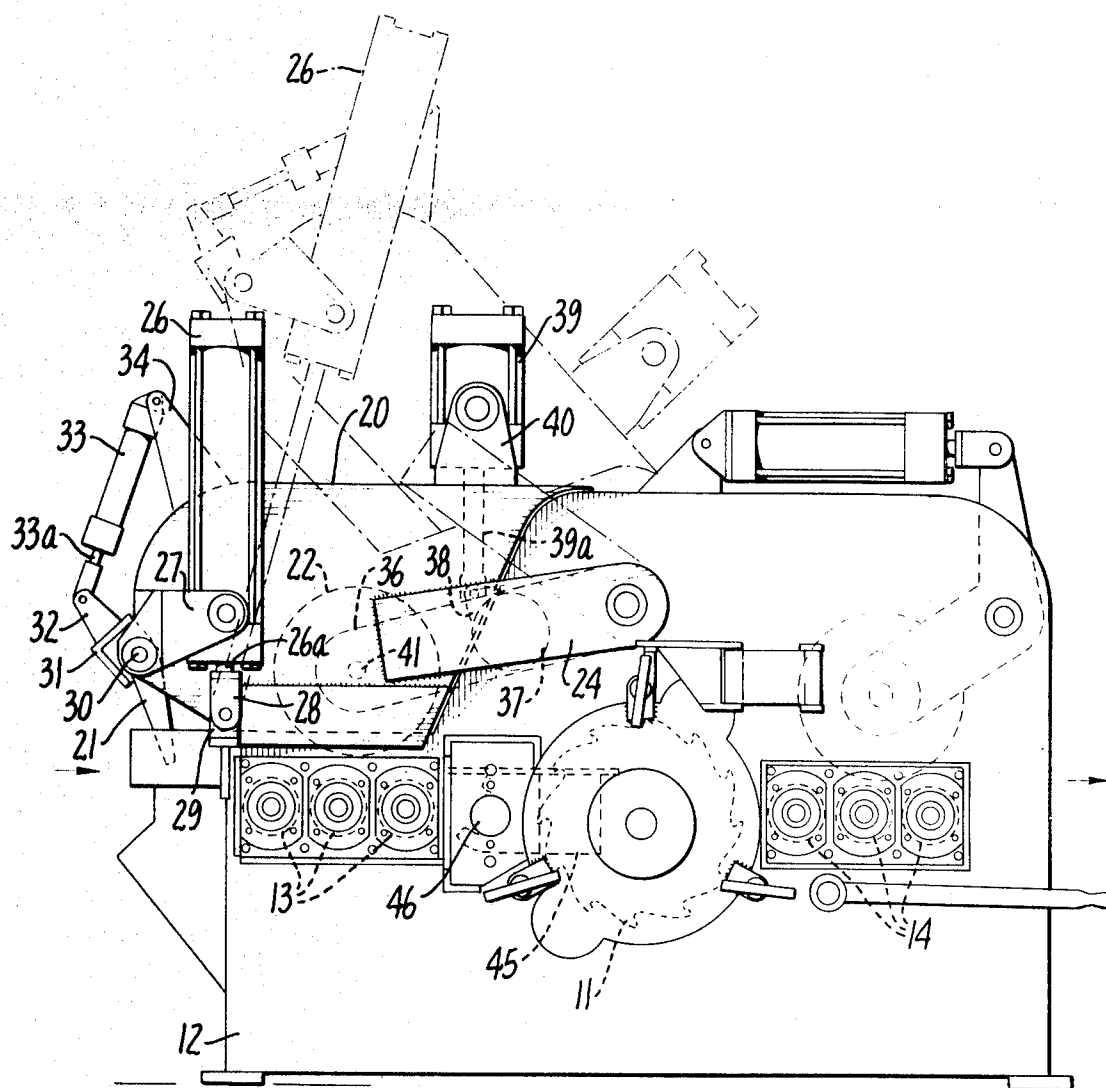


FIG. 3.

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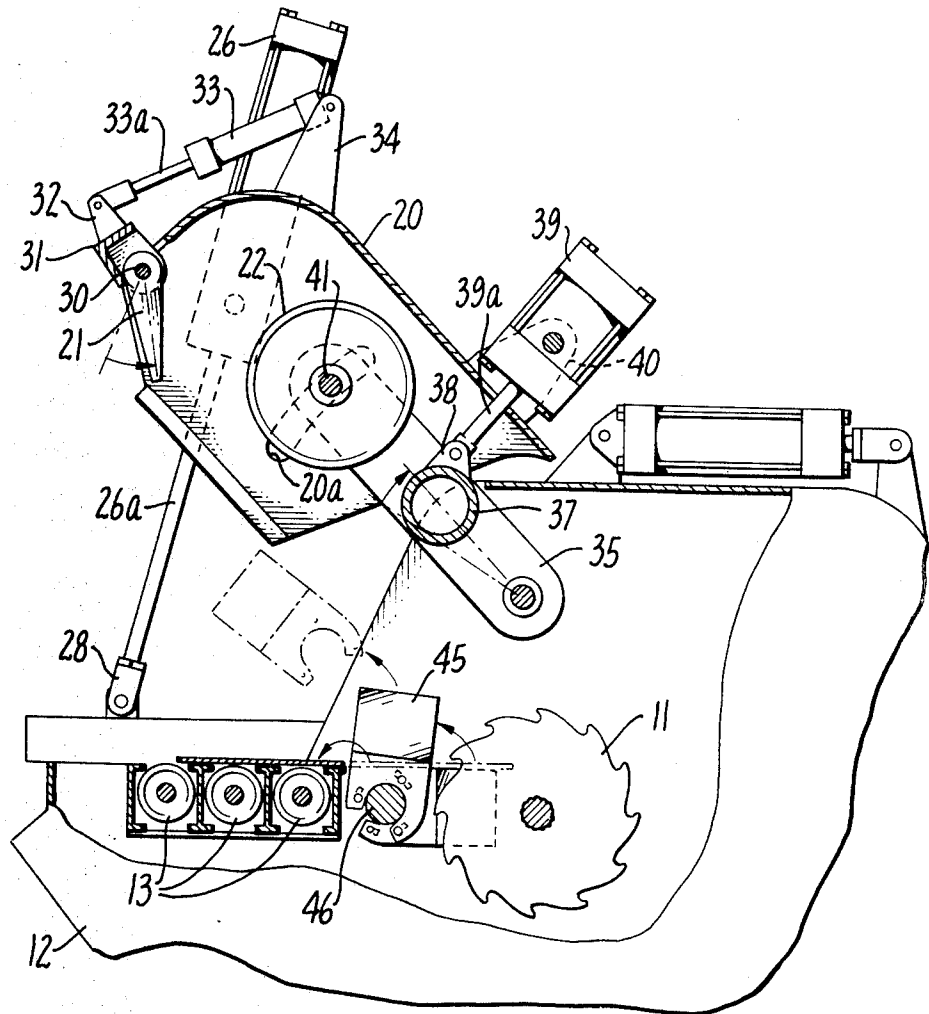


FIG. 4.

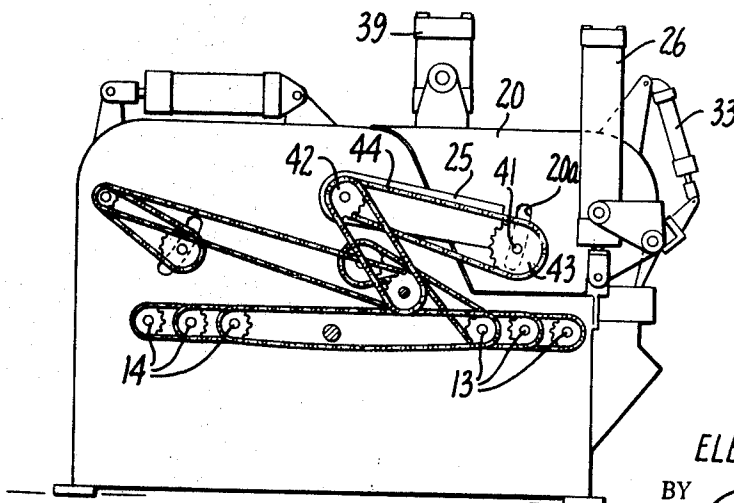


FIG. 5

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FRONT OPENING EDGER WITH REPLACEABLE SAW GUIDES

This invention relates generally to the construction of an edger machine having a plurality of circular saws mounted upon a common saw arbor. The invention is particularly adapted for use in an edger machine having saw guides interdigitated with the circular saws and disposed in guiding relation thereto.

Conventional edger machines are normally equipped with kickback fingers and a press roll, each disposed on the forward side of a plurality of circular saws. Such devices, as well as the circular saws of the machine, are normally covered with a housing that shields the work area on the forward sides of the saws. In addition, these machines are provided with means for actuating the kickback fingers to allow reverse movement of cants or pieces and means for elevating or lowering the press roll into engagement with the pieces as they are fed into the battery of saws. The use of saw guides on the leading side of the saws is also becoming a common practice, particularly in connection with the invention described in U.S. Pat. No. 3,285,302.

This invention is particularly directed to the problem which has been experienced in changing the saw blades and saw guides of conventional machines. Inasmuch as the use of kickback fingers and a press roll on the forward sides of the saws is standard equipment required for most, if not all, edger machines, and since safety standards also require that this particular area of the machine be covered, conventional machine constructions make it difficult to change saw blades and saw guides when necessary. It is, therefore, a principal object of the present invention to provide an edger machine having all the capabilities of the conventional machine but yet one which includes a movable cover to provide open access into the area of the saws and saw guides.

Another object of this invention is to provide an improved edger machine of the kind described including a plurality of kickback fingers and a press roll that may be raised and lowered with a movable cover to provide open access to the region of the saws and yet separately actuated while the cover shields the work area.

Another object is to provide an edger machine of the kind described including a pair of hydraulic cylinders for actuating a movable cover, each cylinder being mounted to said cover by a trundle and having a piston rod pivotally connected to a frame of the machine.

Another object of the invention is to provide an edger machine of the kind described including a kickback finger assembly comprised of a plurality of fingers, each finger pivotally mounted to the movable cover, an elongate bar extending above a front access opening of the machine on the forward side of said cover, and a cylinder mounted to said cover and connected to said bar for retracting each of the kickback fingers while said cover is positioned to shield the work area.

Another object is to provide an improved edger machine of the kind described and having a press roll rotatably supported upon and between a pair of laterally spaced arms pivotally mounted to a frame of the machine, and a cylinder mounted to said cover and connected to said laterally spaced arms for pivoting the supported press roll relative to both said frame and cover.

Other objects of this invention will become apparent in view of the following detailed description.

In the drawings forming a part of this application and in which like parts are identified by like reference numerals throughout the same:

FIG. 1 is a perspective view of an edger machine constructed in a preferred manner contemplated by this invention;

FIG. 2 is a front elevation of a portion of the machine having its movable cover elevated to provide open access to a plurality of circular saws;

FIG. 3 is a side elevation of the machine and further illustrating with broken lines an alternate position of the movable cover and supported devices;

FIG. 4 is an essentially vertical center section of a portion of the machine illustrating the manner in which the movable cover may be pivotally positioned to provide access to replace any one of the saw guides; and

FIG. 5 is a side elevation of the machine illustrating the side opposite to that shown in FIG. 3.

Referring to the drawings, there is shown a preferred embodiment of an edger machine 10 comprising a plurality of circular saws 11 mounted upon a rotatable arbor and supported from a frame 12. As with conventional machines of this type, edger 10 also comprises a plurality of feed rolls 13 for moving cants or flitches into the battery of saws 11 and a plurality of rolls 14 for transporting the cut pieces from the work area.

This invention more particularly involves providing a movable cover 20 to support a plurality of kickback fingers 21 and a press roll 22 that may be raised and lowered with the movable cover to provide open access into the region of the saws and yet separately actuated while the cover shields the work area. Cover 20 is pivoted from frame 12 upon a pair of laterally spaced and parallel arms 24 and 25, a pair of hydraulic cylinders 26 being mounted on opposite sides of cover 20 by a trundle 27, each cylinder having a piston rod 26a that carries a yoke 28 pivotally connected to an ear 29 mounted to frame 12.

Kickback fingers 21 are pivotally supported from cover 20 upon a transverse shaft 30, said shaft being disposed directly above the opening through which the cants or pieces are fed into the machine. Shaft 30 also pivotally supports an elongate member or angle bar 31 having an upstanding ear 32 pivotally connected to the piston rod 33a of a cylinder 33 pivotally mounted between a pair of upstanding ears 34 attached to the upper surface of cover 20.

In view of FIGS. 3 and 4, in particular, it should be readily apparent that operation of cylinder 33 (as to extend rod 33a) pivots angle bar 31 about shaft 30. In doing so, the lower edge of angle bar 31 is brought into contact with kickback fingers 21, thereby pivoting them backward around shaft 30 as best shown in FIG. 4. Gravity alone maintains the fingers against the lower edge of bar 31.

Press roll 22 is rotatably supported upon a pair of laterally spaced arms 35 and 36, each arm being pivotally supported upon the same axis as arms 24 and 25. Arms 35 and 36 are also interconnected by a tubular pipe 37 that supports an ear 38 pivotally connected to the piston rod 39a of a cylinder 39. This cylinder is mounted between a pair of ears 40 attached to cover 20.

Roll 22 is rotatably supported between arms 35 and 36 upon a drive shaft 41 which extends through an arcuate slot 20a formed in one side of cover 20. This arrangement allows press roll 22 to be rotated by a chain drive disposed outside of cover 20 while also allowing the cover with press roll to be pivoted on the mounting axis of arms 35 and 36. The chain drive includes a pair of gears 42 and 43 and a chain 44, as shown in FIG. 5. Gear 42 is mounted coaxially with the pivot axis of arms 24, 25 and 35, 36. Thus, press roll 22 may be operatively driven by the chain drive for each of its supported positions.

In operation, it will be seen that cover 20, together with kickback fingers 21 and press roll 22, may be raised or lowered by cylinders 26. Cover 20, in its lowermost position, houses a plurality of saw guides 45 as well as saws 11 and press roll 22. Saw guides 45 are normally supported in guiding relation to the saws, each saw guide being interdigitated with a pair of saws. In the particular arrangement shown, best illustrated in FIG. 4, saw guides 45 are pivotally mounted upon a support arbor 46. However, when and as the wear surfaces of the saw guides become worn, each saw guide may be pivoted from between saws and lifted from support arbor 46 in the manner indicated in FIG. 4. The removal and replacement of saw guides in this fashion is greatly facilitated by pivoting cover 20 into its raised position by actuating cylinders 26.

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Such operation simultaneously withdraws the plurality of kickback fingers 21 and press roll 22, and yet no disconnection need be made with respect to either the kickback fingers or the press roll. It will be further apparent that each of these devices may be independently operated for normal operation to retract the kickback fingers and elevate the press roll while cover 20 is in its lowermost position shielding the work area.

Although a preferred embodiment of the invention has been illustrated and described, various modifications and changes may be made without departing from the spirit of the invention or the scope of the attached claims, and each of such modifications and changes is contemplated.

I claim:

1. In an edger machine having a plurality of circular saws mounted upon a common saw arbor and a support frame, a cover pivotally mounted to said frame and movable between a first position that shields the leading edges of said saws and a second position that provides open access thereto, means for pivotally actuating said cover between said first and second positions, a plurality of kickback fingers pivotally mounted from said cover, means for simultaneously engaging and moving said kickback fingers to positions of retraction while said cover occupies said first position, a press roll rotatably mounted in the cover on the forward side of said saws, and means for elevating said press roll while said cover occupies said first position.

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2. The edger machine of claim 1, said means for actuating said cover comprising a pair of hydraulic cylinders, each cylinder being mounted to said cover by a trundle and having a piston rod pivotally connected to said frame.

3. The edger machine of claim 1, said means for moving said kickback fingers comprising an elongate bar extending above the front access opening of said machine on the forward side of said cover and pivotally mounted thereto, and a cylinder mounted to said cover and having a piston rod connected to said bar.

4. The edger machine of claim 1, and further comprising a plurality of saw guides pivotally mounted upon said frame on the leading side of said saws, said guides being interdigitated with said saws, said cover extending over both said saw guides and saws in said first position but providing an open access to each in said second position.

5. The edger machine of claim 1, said press roll being rotatably supported upon and between a pair of laterally spaced arms pivotally mounted to said support frame, said means for elevating said press roll comprising a cylinder mounted to said cover and having a piston rod connected to said laterally spaced arms, said cylinder being adapted for pivoting said arms and the supported press roll relative to said frame and cover.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,534,790 Dated October 20, 1970

Inventor(s) Elbridge W. Thrasher

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In the cover sheet, [73], "Masonic Corporation" should read -- Masonite Corporation --; [56], "3,323,525 6/1967 Pease ----143/37X" should read -- 3,323,565 6/1967 Pease ----143/37X --. Column 1, line 74, "elecated" should read -- elevated --. Column 2, line 22, "shileds the for area" should read -- shields the work area --.

Signed and sealed this 27th day of April 1971.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents