

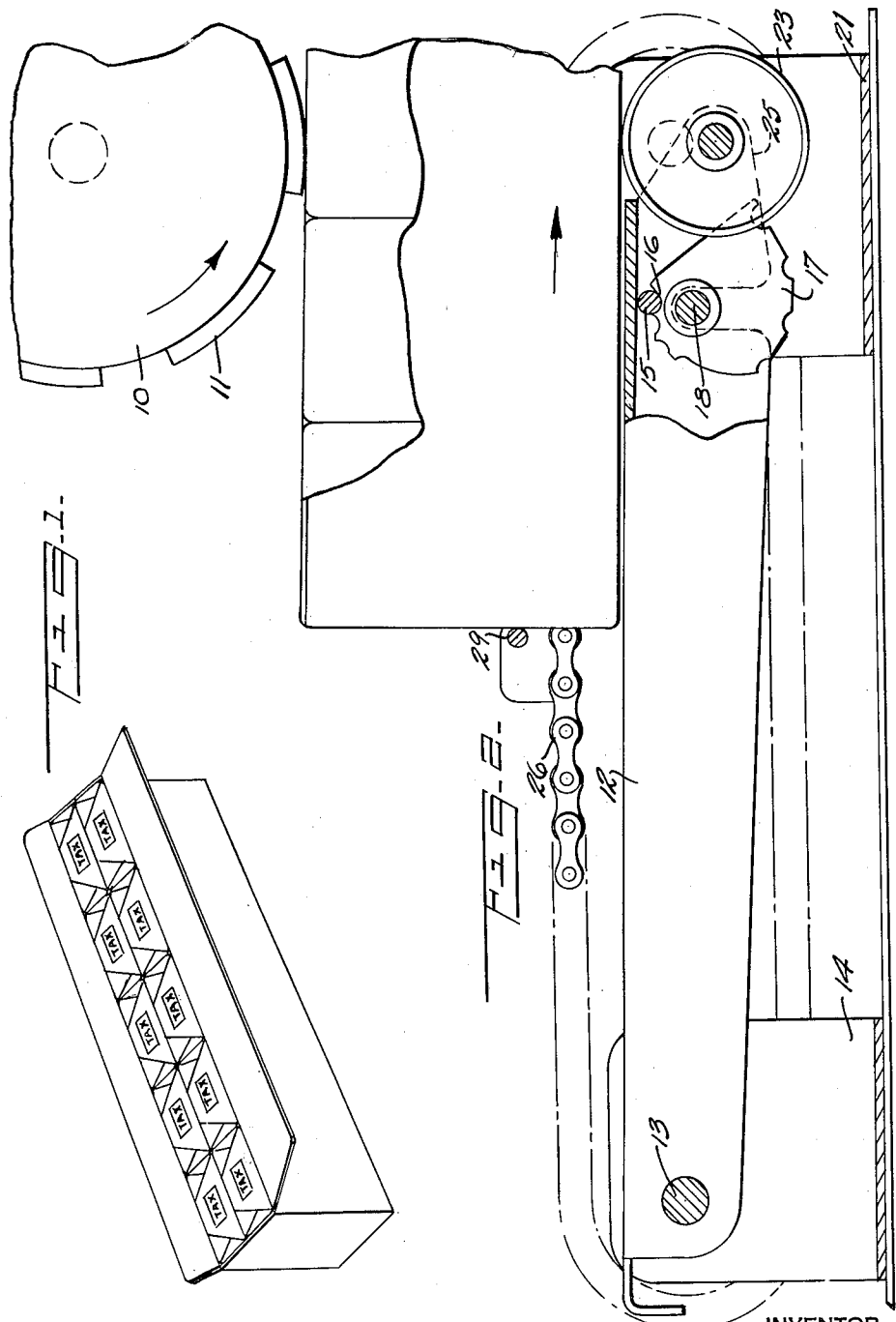
March 11, 1952

A. BURCKHARDT
PACKAGE PRINTING DEVICE

2,588,480

Filed April 21, 1945

2 SHEETS—SHEET 1



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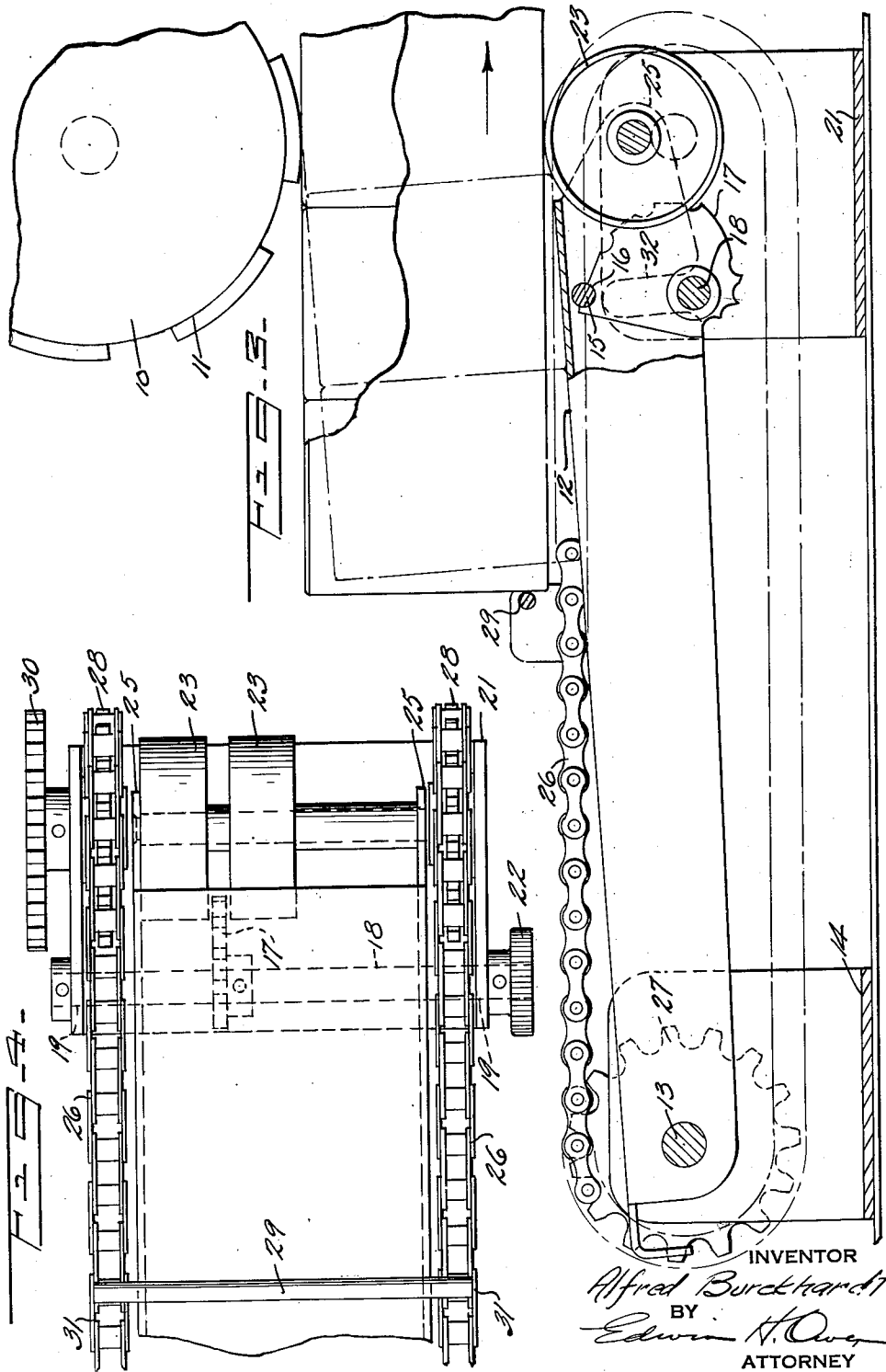
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2 SHEETS—SHEET 2



UNITED STATES PATENT OFFICE

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PACKAGE PRINTING DEVICE

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2 Claims. (Cl. 101—37)

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This invention relates to a machine for printing tax stamp impressions on the top ends of packages of cigarettes while contained within their packing cartons and more particularly to an adjustable platform which provides for varying heights of packages.

In moving a carton across the supporting platform, it is desirable that substantial support be provided for the article printed at a point directly opposite the point of printing. In the device of this invention, a platform is pivoted at one end and a carton backing roller is supported at the other end with its peripheral surface above the platform surface and directly under the line of printing. By this arrangement the platform is adapted to be adjusted about its pivotal end, and although the angle of the platform surface will change with each adjustment, the roller support will remain in constant contact with the carton opposite the point of printing.

It is the object of this invention therefore, to provide an adjustable platform for a cigarette tax printing machine, wherein the platform is adapted to pivot about one end and whereby the support of a carton containing packages of cigarettes is effected by a roller mounted at the opposite end of the platform at a position directly under the printing die, to thereby compensate for any angle of platform adjustment.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that various changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

A preferred embodiment of the invention is illustrated in the accompanying drawings, wherein;

Fig. 1 is a perspective view of a carton of cigarettes with the top open and showing each package therein with a tax stamp printed on the top surface thereof;

Fig. 2 is a front elevational view showing a carton during movement along the platform while the tops of the packages are being imprinted with the tax stamp;

Fig. 3 is a view similar to Fig. 2 showing the platform adjusted to a position which provides for the printing of packages of a different height than the packages shown in Fig. 2; and,

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Fig. 4 is a fragmentary plan view of the right half of Fig. 3.

In general, the device used for printing the tax stamp impressions is similar to that shown in Patent 2,090,919, and hence only such parts will be shown and described herein, as apply to the present invention.

A printing cylinder 10 has ten printing dies 11 positioned therearound in such manner as to contact the upper surface of each of ten packages of cigarettes, while said packages are contained within their original container such as shown in Fig. 1. A carton supporting platform 12 has one end pivotally mounted upon a shaft 13, which shaft is carried by a support or bracket 14. The opposite end of said platform has a rod 15 secured between the downwardly disposed side walls thereof, which rod is adapted to rest within one of several grooves 16 of an adjustable cam member 17. Cam member 17 is fixed to a shaft 18, which shaft is carried within bearings 19—19 of a support member 21. By means of a knob 22, fixed to said shaft 18, the cam member 17 is adapted to be rocked, thus altering the position of the rod 15 within a selected one of the several grooves 16, to effect adjustment of the platform to one of several different elevations.

A roller structure, comprising two roller members 23—23, is rotatably mounted upon a shaft 24 supported at the extreme end of the platform 12 within wings 25—25 extending from the side walls of said platform. The roller members 23—23 are spaced apart to provide clearance for the cam member 17, but otherwise could be formed as a single roller. Said roller structure 23 is mounted so that the peripheral surface thereof extends above the surface of the platform 12 and is normally positioned directly beneath the point of printing. By arranging the roller structure 23 in this manner, the carton will ride thereover instead of along the surface of the platform. Besides supplying an anti-friction support for the carton, the said roller 23 also provides backing for the carton during the printing operation at a point directly opposite the point of printing.

When the platform is adjusted to either of the extreme positions shown in Figs. 2 and 3, the center line of the roller 23 is in direct center alignment with the printing cylinder 10. Due to the long radius from the pivot provided by the shaft 13, the center of the roller 23 moves in a substantially vertical line when intermediate adjustments are made.

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A conveyor drive is provided for the purpose of advancing the carton in timed relation to the rotating printing cylinder during the printing of tax stamps. Said drive comprises a pair of sprocket chains 26 carried by sprocket gears 27—28, the gears 28 being driven through a gear 30 from the printing cylinder drive, not indicated in the drawing. By means of a bridging rod 29, supported above the chain surface between plates 31—31, the package is adapted to be engaged when the chain moves in a forwardly direction as shown in either Fig. 2 or 3.

When the platform is in the elevated position shown in Fig. 3, for the printing of standard size packages of cigarettes, the rod 29 engages the end of the carton at a point near the bottom thereof, and when the higher carton, such as used for king size packages of cigarettes are printed, the rod 29 will engage the end of the carton at a higher position.

A slot 32 is provided within each side wall of the platform 12 to clear the shaft 18 during adjustment of the platform.

Having described the invention, what is claimed is:

1. In a tax stamp imprinting machine for group printing on packages of cigarettes while contained within their packing cartons, the combination with a multiple die printing cylinder, of a carton supporting platform, a stationary support having one end of the platform pivotally mounted thereon the other end of the platform being free, an adjustable support on said stationary support engaged with the free end of the platform for effecting raising or lowering thereof relative to the printing cylinder to accommodate packages varying in height, a carton engaging roller supported by the platform at the free end thereof to be adjusted therewith, said roller being located beneath the point of printing of the printing cylinder and having the upper peripheral surface thereof extending slightly above the plane of the platform surface, means to convey cartons along the platform and over the roller, said roller providing a surface about which the carton may pivot while passing through a printing position between the

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printing cylinder and roller, whereby each package in the carton will be effectively supported by said roller during printing in all positions of adjustment of said platform.

2. In a tax stamp imprinting machine for group printing on packages of cigarettes while contained within their packing cartons, the combination with a multiple die printing cylinder, of a carton supporting platform, a stationary support having one end of the platform pivotally mounted thereon the other end of the platform being free, an adjustable support on said stationary support including a manually adjustable cam engaged with the free end of the platform for effecting raising or lowering thereof relative to the printing cylinder to accommodate packages varying in height, a carton engaging roller supported by the platform at the free end thereof to be adjusted therewith, said roller being located beneath the point of printing of the printing cylinder and having the upper peripheral surface thereof extending slightly above the plane of the platform surface, means to convey cartons along the platform and over the roller, said roller providing a surface about which the carton may pivot while passing through a printing position between the printing cylinder and roller, whereby each package in the carton will be effectively supported by said roller during printing in all positions of adjustment of said platform.

ALFRED BURCKHARDT.

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