

Dec. 25, 1962

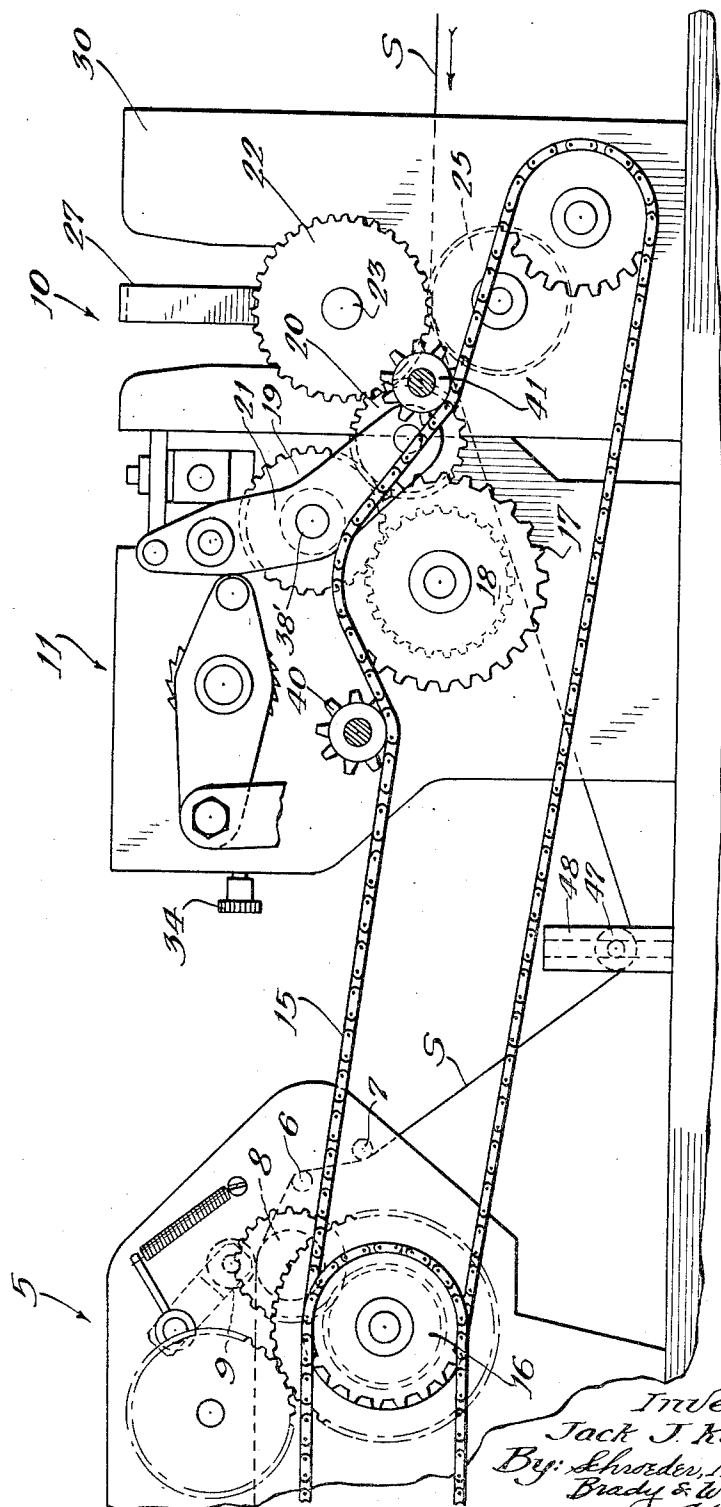
J. J. KESSLER
BURSTER IMPRINTER

3,070,009

Filed Feb. 6, 1957

3 Sheets-Sheet 1

FIG. 1



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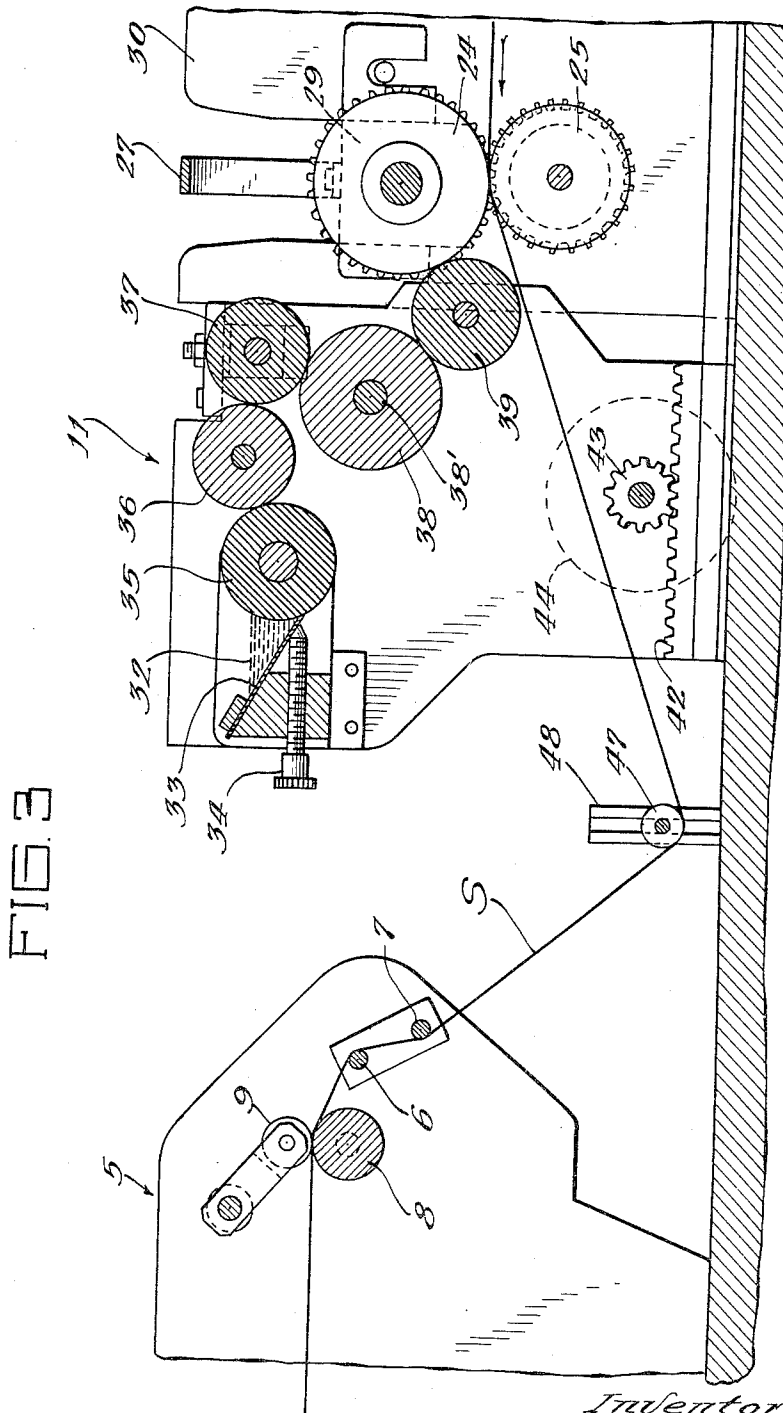
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3 Sheets-Sheet 2



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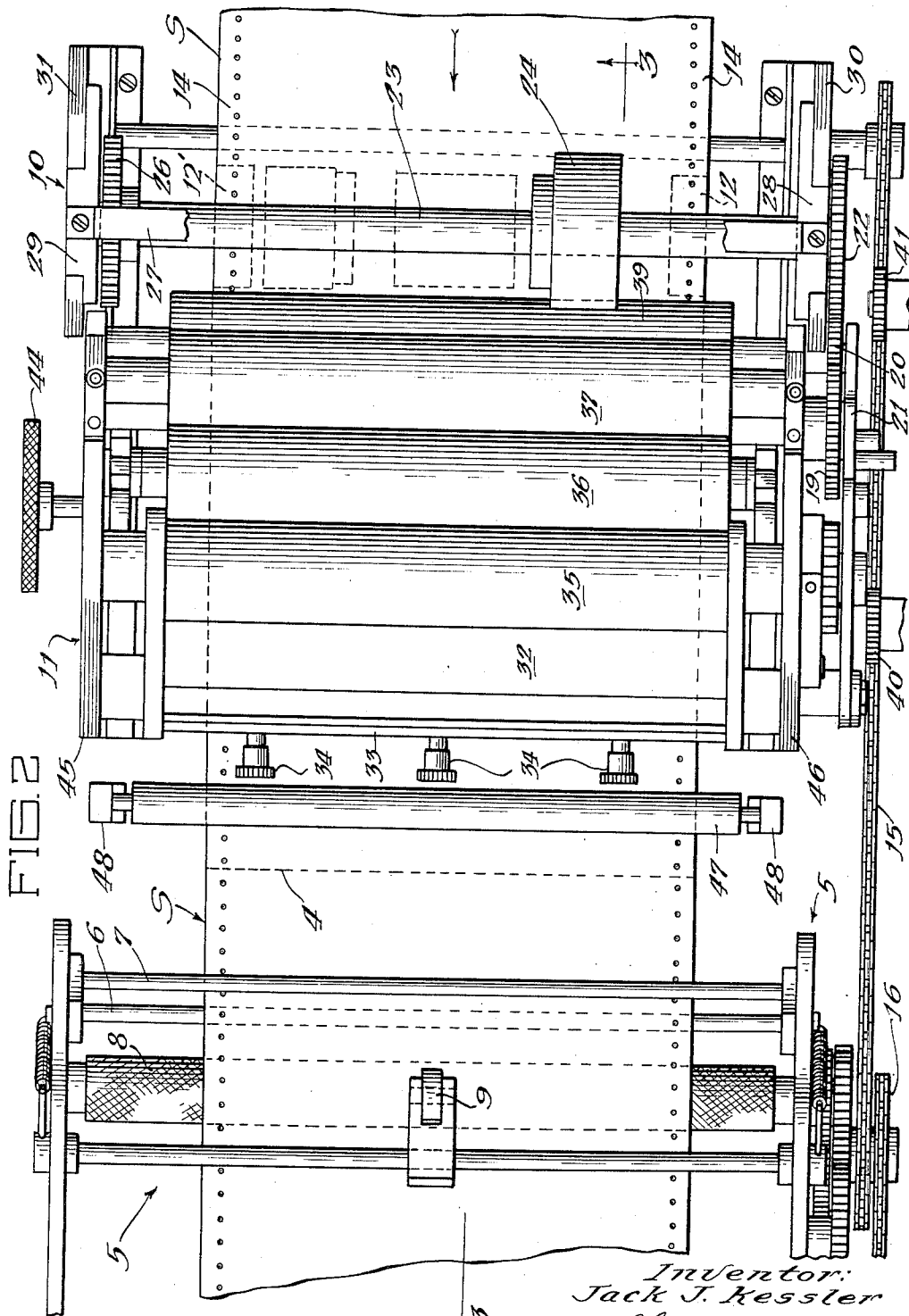
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3 Sheets-Sheet 3



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BURSTER IMPRINTER

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2 Claims. (Cl. 101-227)

This invention relates to an imprinter for a continuous form stationery burster.

In many business offices, continuous form stationery is used for many operations. After some typing or other work is done on the forms, there generally remains some imprinting to be done just prior to bursting the strips into individual form lengths. In the past, a very simple imprinting roll and impression roll have been placed on a bursting machine to do this work. There have been serious limitations on the operation of such imprinters. The jerking of the paper in the bursting machine allows the imprinting to be done only when the paper is quiescent. This limits the location on the paper to a very short distance.

The present invention provides an imprinter which greatly enhances the usefulness of such apparatus and avoids the limitations mentioned above. It is, therefore, the principal object of this invention to provide a new and improved imprinter for continuous form stationery bursters.

Another object is to provide an imprinter of the character described capable of printing in any location on the form length.

A further object is to provide an imprinter which may be used to print continuously upon the continuous forms being sent through a bursting machine.

Other objects, features, and advantages of the present invention will be apparent from the following description of a preferred embodiment, in which:

FIGURE 1 is a side elevational view partially diagrammatic and showing the physical relation of an imprinter and burster as well as the drive mechanism;

FIGURE 2 is a fragmentary top plan view of the structure illustrated in FIGURE 1; and

FIGURE 3 is a view similar to FIGURE 1 showing particularly the rolls of inking and imprinting mechanism.

The particular stationery with which the present imprinting apparatus may be used is best illustrated in FIGURE 2 wherein a continuous strip of stationery is provided with cross lines of weakening such as 4, so that the strip may be divided in a bursting machine into individual form lengths. The bursting machine generally employs a pair of front coacting rolls which feed the paper forwardly to a faster running pair of rear rolls which grip the leading edge of the strip and burst it from the strip along the line of weakening. Such a bursting machine is shown in part at 5 and includes guide rods 6 and 7 as well as a feed-in roll 8 with a spring biased idler 9 thereagainst for feeding the stationery into the burster. Reference is made to O'Connell Patent 2,344,720 for the particular form of the bursting mechanism and its operation.

In front of the bursting machine is placed an imprinting mechanism 10 supplied by an inking mechanism 11 with ink for the imprinting roll. As will be noted in FIGURE 2, the stationery is led over a pair of pin wheel feed members 12 and 12', which maintain the stationery in registry by engaging in the perforate feed bands 14 at either margin of the stationery. The drive to the pin wheel feeds is such that the speed of the paper through the imprinting stage is in timed relation to the speed of the paper in the bursting section. This drive is more clearly illustrated in FIGURE 1 wherein a continuous chain 15 obtaining its drive from a sprocket 16 on the

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bursting machine passes over a sprocket 17 on the inking mechanism from which all of the inking rolls and imprinting rolls are driven. The specific drive includes a gear 18 on the same shaft as the sprocket 17 and the drive is through gear 19, about which a supplemental gear 20 is rockable by the bell crank 21 to mesh with the gear 22 directly on the shaft 23 of the imprinting roll 24. The impression roll 25 cooperating with the imprinting roll is driven by a gear 26 at the opposite end of the imprinting roll shaft so that the timed relation is always present.

The imprinting roll 24 is intended to be replaced readily by a different size of imprinting roll, and in order to accomplish this a handle 27 is attached to slide members 28 and 29 at opposite ends of the imprinting unit so notched as to slide into the frame members 30 and 31. A different size of imprinting roll will have a different size of gear 22, which may require the bell crank to be rotated in order to bring the driving gears into mesh.

Referring particularly to FIGURE 3, an inking mechanism 11 is provided so that the imprinting can be continuous and quite extensive over the face of the stationery. Thus, a pool 32 of ink is provided with a sloping bottom 33 with adjusting pins 34 thereon in the usual way so as to control the ink placed on the surface of the fountain roller 35. The ink is transferred by ductor 36 to the ink roller 37 and thence from the vibrator roll 38 to the form roller 39 so as to deliver it to the imprinting cylinder. The gear 18 from which the drive is obtained is in mesh with gear 19 directly on the shaft 38' of the vibrator roll and provides therefrom the drive for all of the ink rollers. Thus, a timed relation with the time of the burster is maintained.

Since the size of the imprinting cylinder may be changed, the location of the inking mechanism may also have to be shifted between the stationery imprinting mechanism 10 and the bursting mechanism 5. For this purpose, idler sprockets 40 and 41 are carried with the inking mechanism which is mounted upon a rack 42 movable by pinion 43 when the handle 44 is turned. The drive relationship is always maintained even though the inking mechanism may then travel toward or away from the imprinting station. As will be noted in FIGURE 2, the side members 45 and 46 of the inking mechanism may slide within the side members 30 and 31 of the imprinting unit.

In order that the imprinting may occur continuously, the effect of the bursting resulting in jerking and moving of the stationery is damped out; there must be no movement of the stationery at the imprinting roll and complete control of the registration is relied upon by the pin wheel feed. To dampen out all effect of the burster, a dancer roll 47 mounted in the vertical guide 48 maintains a downward loop in the paper which absorbs all jerking of the paper by vertical movement of the dancer. It is known that bursting machines jerk the paper to provide tearing at cross lines of weakening therein and after a form is burst from the continuous web, it is fed forwardly faster than the web. Whenever the effect of bursting passes in a shock to the web just ahead of the imprinter, the dancer roll will move in its support to maintain the paper web between it and the imprinter taut thus dampening out any shock, and preventing any sliding of the paper relative to the imprinter.

The present invention provides a relatively inexpensive imprinting mechanism which can operate continuously and in any location on continuous form stationery. The drive is obtained from the bursting machine so that no additional power source is required, and in effect two operations may be accomplished as one.

The foregoing detailed description is given for clear-

ness of understanding only and no unnecessary limitations should be understood therefrom as modification will be obvious to those skilled in the art.

I claim:

1. Imprinting apparatus for use with a continuous stationery strip with spaced cross lines of weakening fed into a bursting machine to obtain generally continuous imprinting, while performing bursting operations upon the strip, comprising: a bursting machine frame, spaced coating pairs of bursting rolls mounted upon said frame for gripping said stationery strip to burst the same sequentially at said cross lines of weakening, said bursting machine frame having means thereon for supporting a pair of coating printing rolls positioned to receive said strip of stationery in imprinting relation with the rolls in advance of said bursting rolls; positive feed control means including pin wheels for feeding the stationery strip to the imprinting rolls, said feed pin wheels controlling advance of the stationery through the imprinting rolls; a dancer roll beyond the imprinting rolls and a support for said dancer permitting movement thereof by the stationery strip passing in contact with the dancer roll, said dancer being positioned to maintain a shock absorbing loop in the stationery strip between the imprinting rolls and bursting machine bursting rolls so that said feed control means may advance the stationery to the imprinting rolls free of shock from bursting operations upon the strip.

2. Apparatus for printing continuous form stationery

simultaneously with bursting the stationery into form lengths, comprising: a frame; coating pairs of spaced bursting rolls mounted on said frame for gripping said stationery to perform bursting operations thereon; a printing mechanism mounted on the frame in advance of said bursting rolls and including coating imprinting and impression rolls; positive feed means maintaining the stationery in alignment with the printing mechanism and for advancing the stationery toward said bursting rolls; drive means connecting and driving the printing mechanism, positive feed means and bursting rolls in timed relation; an idler roll support between said printing mechanism and said bursting rolls; and an idler roll bodily movable mounted in said support, said stationery passing below said idler roll and supporting the weight of said roll whereby to maintain a loop in said stationery between the printing and bursting mechanism for preventing shock of the latter on the stationery from interfering with printing at the former as desired.

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