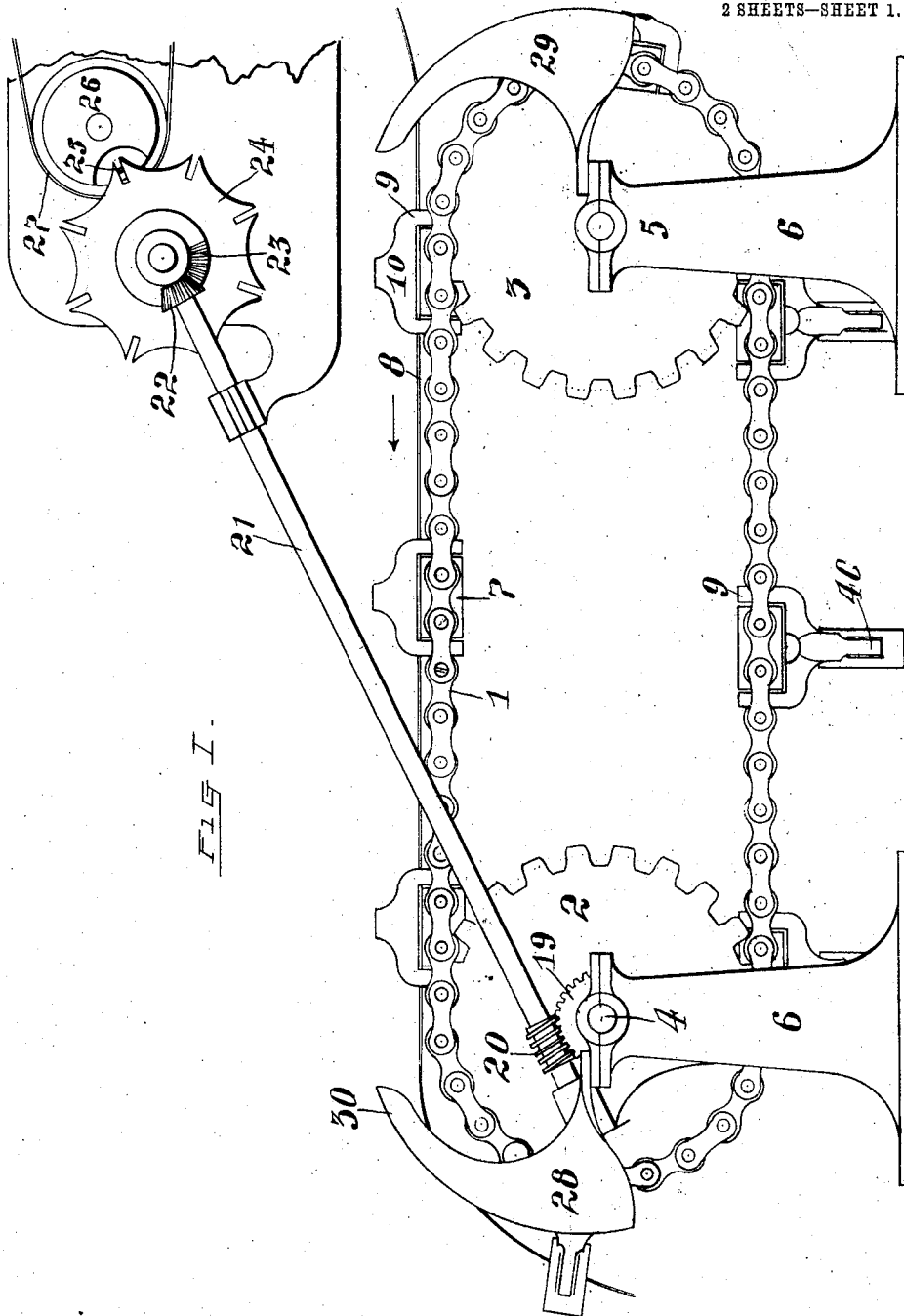


G. B. KELLY & F. L. WOOD.
 FEED MECHANISM FOR PERFORATING MACHINES.
 APPLICATION FILED OCT. 27, 1908.

947,495.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.



WITNESSES

C. S. Ashley
B. S. Daniels

INVENTORS

G. B. Kelly
F. L. Wood

BY

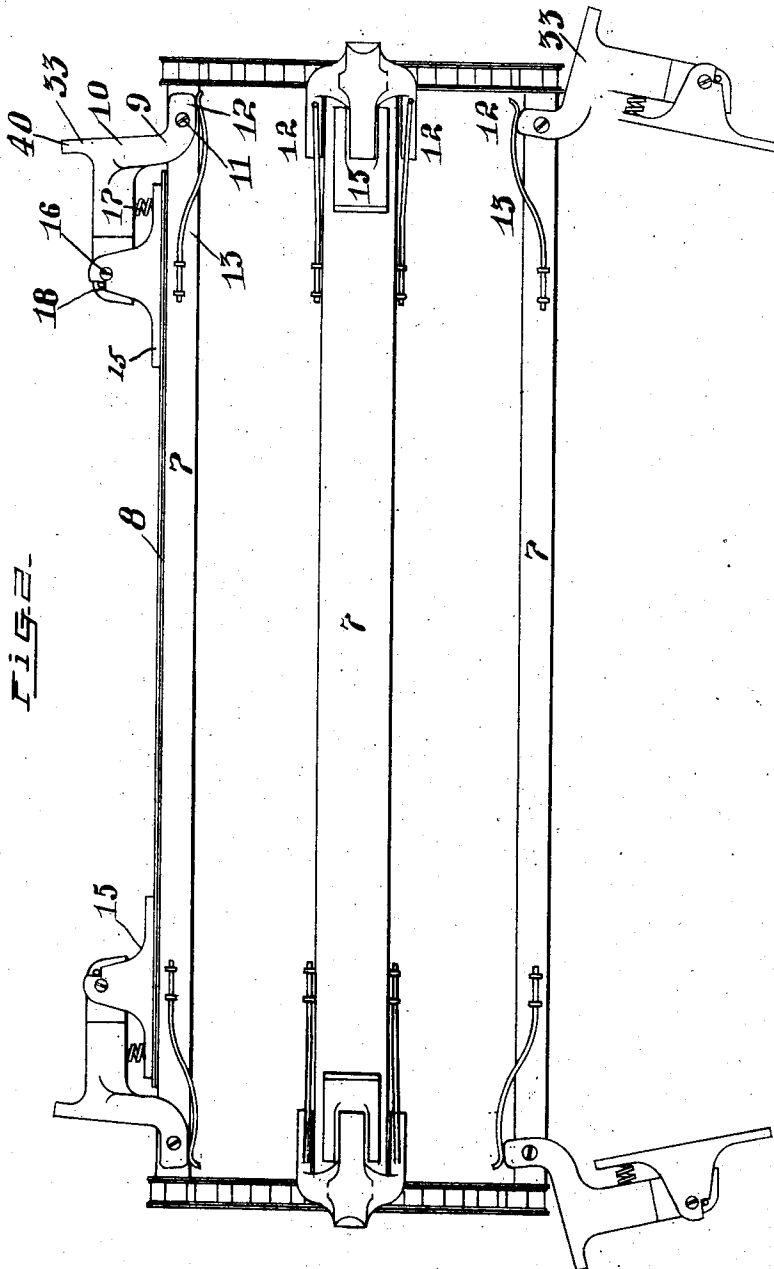
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UNITED STATES PATENT OFFICE.

GEORGE B. KELLY, OF JAMAICA PLAIN, AND FREDERICK L. WOOD, OF WORCESTER,
MASSACHUSETTS.

FEED MECHANISM FOR PERFORATING-MACHINES.

947,495.

Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed October 27, 1908. Serial No. 459,806.

To all whom it may concern:

Be it known that we, GEORGE B. KELLY and FREDERICK L. WOOD, citizens of the United States, and residents of Jamaica Plain, county of Suffolk, State of Massachusetts, and Worcester, in the county of Worcester and State of Massachusetts, respectively, have invented certain new and useful Improvements in Feed Mechanism for Perforating-Machines, of which the following is a specification.

This invention relates to a paper feed mechanism for perforating machines such for example as machines for making slotted music sheets.

The object of our invention is to provide a new and improved paper feed mechanism which is simple in construction, holds the paper firmly, securely and reliably, does not offer undue resistance and does not produce any undue friction.

In the accompanying drawings, in which like letters of reference indicate like parts in all the figures:—Figure 1 is a side view of our improved paper feed mechanism, parts being omitted and others broken away. Fig. 2 is a front end view of the same, parts being omitted.

Two endless chains 1, such as sprocket chains, are each passed over two sprocket wheels 2 and 3 mounted on the shafts 4 and 5 respectively, which shafts are mounted in suitable standards 6. Cross bars 7 are firmly secured at their ends to the links of the sprocket chains, the upper or outer faces of which bars 7 form the supports for the superimposed layers of paper 8 to be perforated. Each end of each bar 7 is embraced, adjacent to the point where it is attached to a chain by the forked end 9 of an angular clamping lever 10 pivoted to the bar at 11 and having extensions 12 forming cams on which the free ends of springs 13 bear, there being one spring attached to each side of each bar 7 so that one spring bears on the free end edge part of each cam part 12 of the forked part 9.

A clamping block 15 is pivoted at 16 to each lever 10 and a spring 17 is provided, of which one end bears on the clamping block 15 and the other on the lever 10. A stop pin 18 prevents the spring 17 from tilting the clamping block too far. At the top of Fig. 2, the clamping blocks 15 are in a position which they have when they hold the pa-

per on the bars 7 and at the bottom of Fig. 2, the clamping blocks are shown in the positions they have when they are swung down so as to hang freely. The shaft 4 of the sprocket wheel 2 carries a worm wheel 19 engaged by a worm 20 on a shaft 21 carrying at its upper end a beveled pinion 22 engaging a beveled cog wheel 23 mounted integral with a Geneva wheel 24 which is rotated step by step from a pin 25 projecting from a disk 26 driven by a belt 27 from a suitable motor. Adjacent to each sprocket wheel 2 and 3 are located the cams 28 and 29 which are secured on the standards 6. The chains, with their transverse bars travel in the direction indicated by the arrow and as the clamping devices arrive at the cams 28 the upper ends 30 of these cams, engaging the parts or projections 40 of the clamping levers 10, throw the clamping devices outward or into the position shown at the bottom of Fig. 2 so as to release the paper 8, in which position the clamping means are held by the springs 13 which now bear on the end edges of the cam parts of the forked ends of the levers 10. The clamping means are thus disengaged from the paper just when the bars 7 begin to leave the horizontal plane to pass around the wheels 2. The clamping means remain in these positions while passing between the bottom parts of the sprocket wheels 2 and 3 and as the chains rise the edges 33 of the levers 10 encounter the cam edges of the cams 29 whereby the clamping devices are swung into the position shown at the top of Fig. 2, and as they move off the upper ends of the cams 29, the blocks come in contact or drop upon the uppermost layer of paper and are held in this position by the springs 13 which now bear on the bottom edges of the forked parts of the lever 9 at points outside the pivots 11 and the pressure exerted by these springs on the clamping levers serves to press the clamping device upon the paper so as to hold all the several layers of paper securely in place on the bars so that the paper moves along with the bars. The springs 17 merely serve for the purpose of causing the clamping blocks to adjust themselves to give an exact and even pressure on the paper throughout the whole surface of this block. The spring 17, is much weaker than spring 13 and the spring 17 only adjusts the block 15 within the limits prescribed by the stop

pins 18, or in other words, the spring 17 merely keeps the clamping block in proper relation to the pivoted member and the clamping pressure of the block on the paper is produced by the spring 13. It will thus be seen that the entire feeding device consists of a single pair of chains and cross bars and clamping devices supported on the cross bars.

10 Having described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a paper feed mechanism, the combination with two endless chains, of sprocket wheels over which the chains pass, bars uniting the chains, clamping devices hinged to the bars at the ends thereof and cam for alternately lifting the clamping devices off the bars and applying them on the paper on the bars, substantially as set forth.

2. In a paper feed mechanism, the combination with two endless chains, of sprocket wheels over which the chains pass, bars uniting the chains, clamping devices hinged to the bars at the ends thereof and cams for alternately lifting the clamping devices off and applying them on the paper on the bars, and springs bearing on the clamping devices to hold them in place and to exert pressure on them, substantially as set forth.

3. In a paper feed mechanism, the combination with two endless chains, of sprocket wheels over which the chains pass, bars uniting the chains, clamping devices hinged to the bars at the ends thereof and cams for alternately moving the clamping devices from the bars and mount them to the bars, and springs attached to the bars and bearing on the clamping devices to hold them in place, and exert pressure on them, substantially as set forth.

4. In a paper feed mechanism, the combination with two endless chains, of wheels over which the chains pass, bars uniting the chains, a clamping device pivoted to each end of each bar and composed of a lever pivoted to the bar, and a clamping block pivoted to the lever, and cams at the

sprocket wheels for alternately raising and lowering the clamping devices, substantially as set forth.

5. In a paper feed mechanism, the combination with two endless chains, of wheels over which the chains pass, bars uniting the chains, a clamping device pivoted to each end of each bar and composed of a lever pivoted to the bar, a clamping block pivoted to said lever, a spring secured to the bar and bearing on the pivoted lever, and cams at the sprocket wheels for alternately raising and lowering the clamping devices, substantially as set forth.

6. In a paper feed mechanism, the combination with two endless chains, of wheels over which the chains pass, bars uniting the chains, a clamping device pivoted to each end of each bar and composed of a lever pivoted to the bar, and a clamping block pivoted to the said lever, a spring secured to the bar and bearing on that end of the lever opposite to the one to which the block is pivoted and means at the sprocket wheels for alternately raising and lowering the clamping devices, substantially as set forth.

7. In a paper feed mechanism, the combination with two endless chains, of sprocket wheels over which the chains pass, bars uniting the chains, a clamping device pivoted to each end of each bar and composed of a forked lever embracing the bar, a clamping block pivoted to the lever, a spring interposed between the pivoted lever and the clamping block, and a spring secured to the bar and bearing on the edges of the forked part of the lever, and cams at the sprocket wheels for alternately raising and lowering the clamping devices, substantially as set forth.

Signed this 21st day of September A. D. 1908.

GEORGE B. KELLY.
FREDERICK L. WOOD.

Witnesses:

GEORGE W. KAY,
OSCAR F. GUNZ.