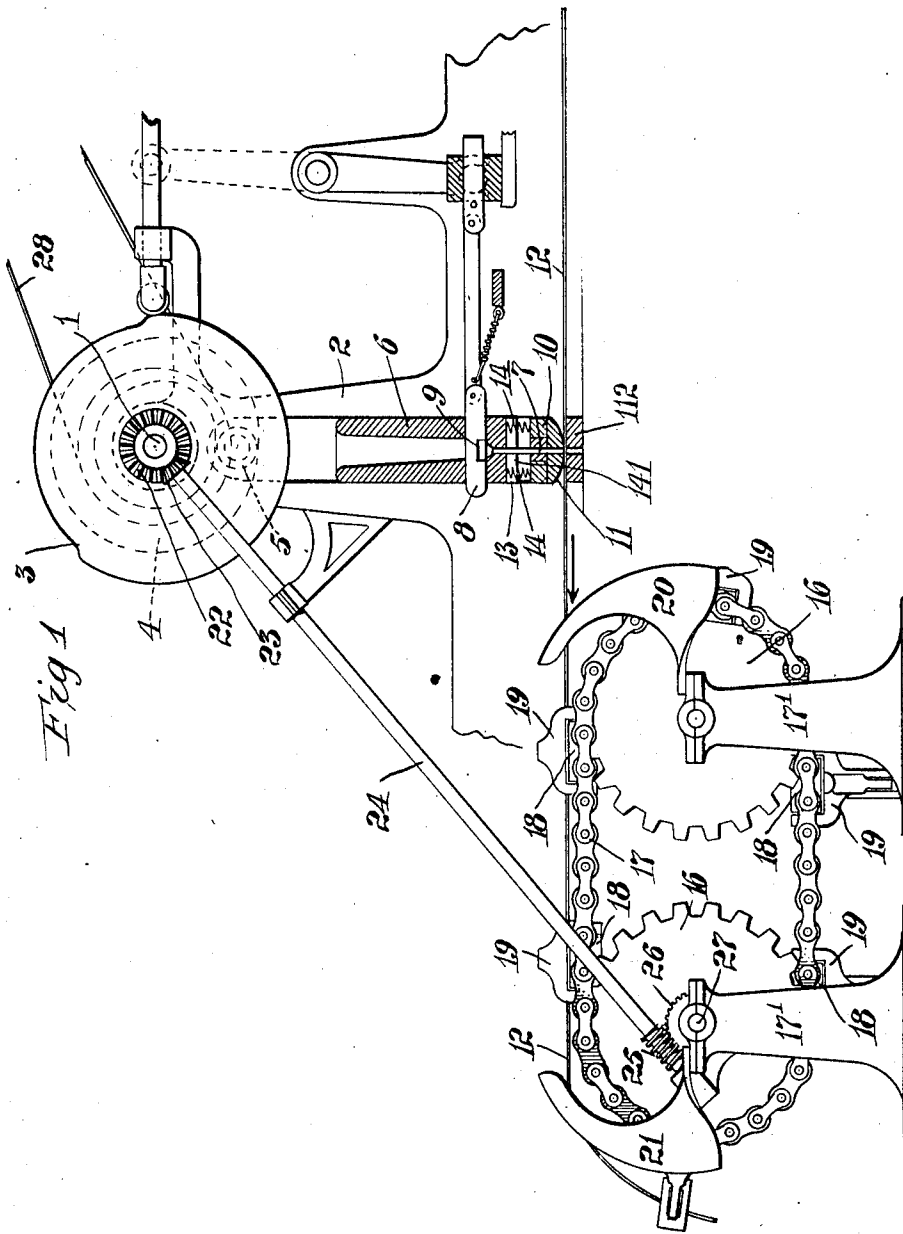


G. B. KELLY.
MACHINE FOR MAKING PERFORATED MUSIC SHEETS.
APPLICATION FILED AUG. 1, 1911.

1,021,049.

Patented Mar. 26, 1912.
2 SHEETS—SHEET 1.



Attest:
Comstock
Payson and Richardson

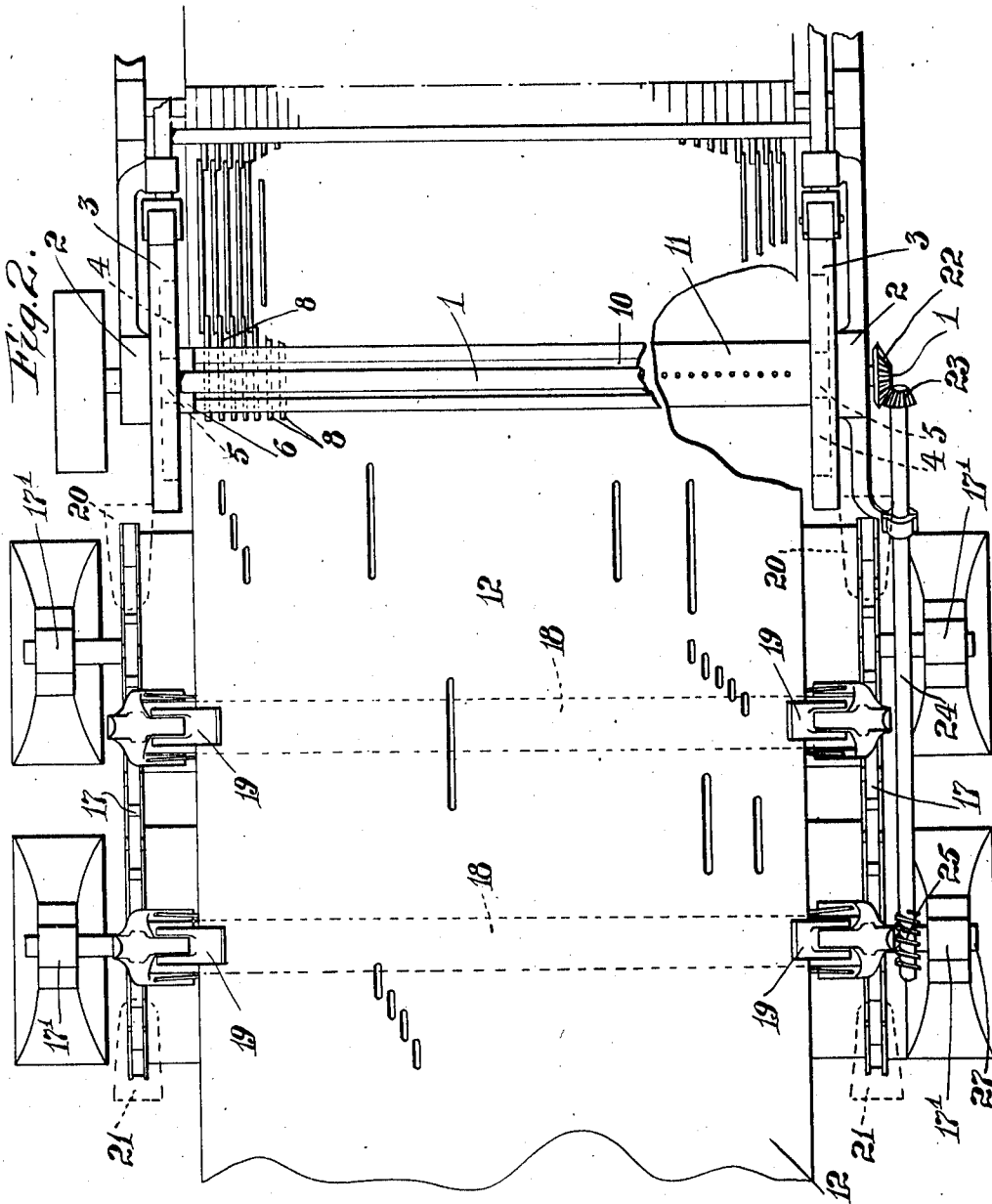
G. B. Kelly Inventor:
by *Oleant Perry* his Atty.

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Attest:
Raymond Richardson
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G. B. Kelly Inventor:
by *Oscar F. Truitt* his Atty

UNITED STATES PATENT OFFICE.

GEORGE B. KELLY, OF JAMAICA PLAIN, MASSACHUSETTS.

MACHINE FOR MAKING PERFORATED MUSIC-SHEETS.

1,021,049.

Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed August 1, 1911. Serial No. 641,725.

To all whom it may concern:

Be it known that I, GEORGE B. KELLY, a citizen of the United States, and a resident of Jamaica Plain, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Making Perforated Music-Sheets, of which the following is a specification.

This invention relates to new and useful improvements in machines for making perforated music sheets and the object of my invention is to provide a new and improved machine of this kind, which is simple in construction, compact, rapid and reliable in operation, and permits of perforating a number of sheets at the same time with absolute accuracy.

In the accompanying drawings in which like letters of reference indicate like parts in all the figures: Figure 1 is a side view of my improved perforating machine, parts being broken away and others shown in section. Fig. 2 is a plan view of the same, parts being broken away.

The main driving shaft 1 is mounted in suitable standards 2 of the frame in the machine and this shaft carries cam disks 3, each having a cam groove 4 in which rollers 5 travel and these rollers are mounted on a vertically reciprocating punch head, which is suitably guided on the standards and carries loosely at its lower end a series of punches 7 above the upper end of each of which there is mounted, in the punch head 6, a bar 8 which can be adjusted horizontally and is provided in its bottom edge with a notch 9 above each punch. When the adjustable bar 8 of any punch 7 is so located that the notch 9 of this bar is above the punch the punch will not be forced down when the punch head descends, but if by suitable mechanism the adjustable sliding bar 8 of any one punch 7 is so adjusted that a solid portion of the bottom edge of the said adjustable bar 8 is above the said punch 7, the punch will be forced down when the punch head descends. The means, for adjusting the adjustable bar 8 are controlled by a pattern or master sheet having the same arrangements of slots or holes as are desired for the sheets being perforated. Such mechanism for adjusting the adjustable bars 8 forms no part of the present invention and as it is well known and may be of any suit-

able construction it need not be further illustrated or described.

The lower ends of the punches 7 are guided to move vertically in a presser head 10, the underside of which is rounded as shown at 11 and rests upon the superimposed sheets of paper 12 to be perforated. The ends of the presser head are mounted in vertical recesses 13 in the inner side of the frame from which the standards 2 project upward so as to hold this presser head absolutely true against any lateral displacement. The presser head can move upward slightly to permit the superimposed sheets of paper 12 to pass and is pressed down upon the paper by springs 14 interposed between the top of the presser head at the ends and a bracket 141 in said recesses 13. These springs serve to press the presser head 10 upon the layers of paper 12 with pressure sufficient to hold the several superimposed sheets of paper firmly in contact, while they are being punched, but not with so great a pressure as to interfere in any way with the former movements of the sheets 12 while they are being punched or fed idly. A die plate 112 is located beneath the presser head 10. The perforated sheets pass from the punching device to a feed or paper conveying mechanism, which consists of endless chains 17 passed around sprocket wheels 16 mounted in standards 17¹ which chains are united by slats 18 upon which the paper rests and upon which slats the paper is firmly held by spring clamps 19 which are thrown down upon the paper by cams 20 at the entering end of the feed mechanism and are thrown off the paper by cams 21 at the discharge end of the paper feed mechanism. On the shaft 1 a bevel cog wheel 22 is mounted which engages a bevel pinion 23 on the upper end of the inclined shaft 24 suitably mounted in brackets on the standards 2 and 17¹ and this shaft at this lower end carries a worm 25 which engages a worm wheel 26 on the shaft 27 of one sprocket wheel 16.

The shaft 1 is rotated from any suitable source of power as indicated by a belt 28. As the shaft 1 revolves the punches are forced through the paper whenever the corresponding slides or adjustable bars 8 are shifted in the manner previously described. At the same time, by means of the mechanism shown, the feed mechanism is operated

and the paper is fed forward in the direction indicated by the arrow constantly and uniformly as distinguished from a step by step movement at the time when punches
5 are passing through the paper, as well as during the time in which blank or solid portions of the paper are left between the succeeding note slots.

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

1. In a machine for making perforated music sheets, the combination with a vertically reciprocating punch head, means for
15 operating the same, punches in said head, and a die plate, of means for drawing the paper constantly and without interruption between the punches and die, a presser head above the die and between the punch head

and die, and means for continuously pressing said presser head upon the paper on the die, substantially as set forth. 20

2. In a machine for making perforated music sheets, the combination with a vertically reciprocating punch head, means for
25 operating the same, punches in said head, and a die plate, of means for drawing the paper constantly and without interruption between the punches and die, a presser head above the die and between the punch head
30 and die, and springs acting upon said presser head to press the same continuously downward and upon the paper on the die, substantially as set forth.

GEORGE B. KELLY.

Witnesses:

GEO. BELLU,
A. McDONNELL.