

O. C. L. HIRSCH.
CUTTING MACHINE.

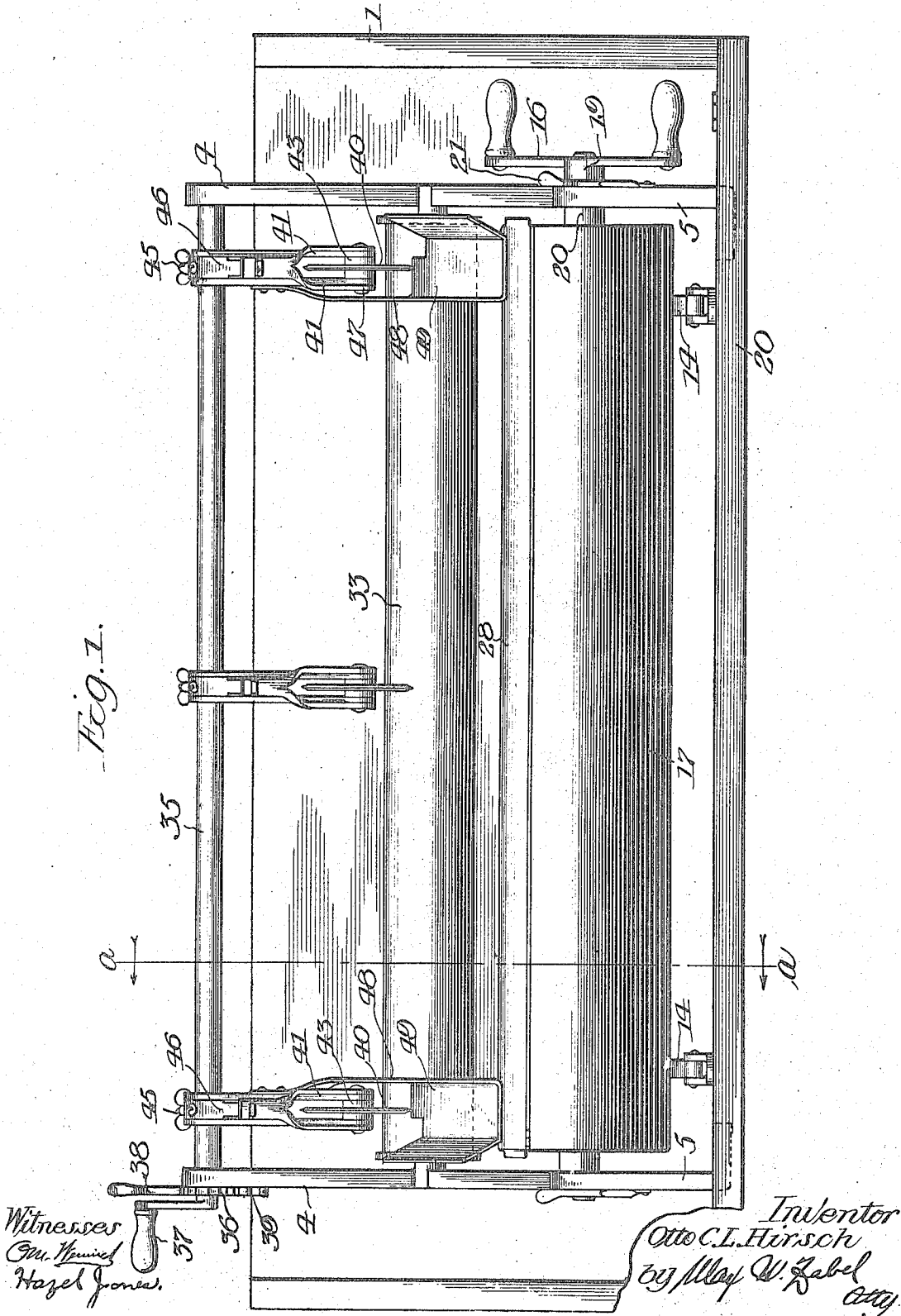
APPLICATION FILED SEPT. 25, 1911. RENEWED SEPT. 11, 1914.

1,133,142.

Patented Mar. 23, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



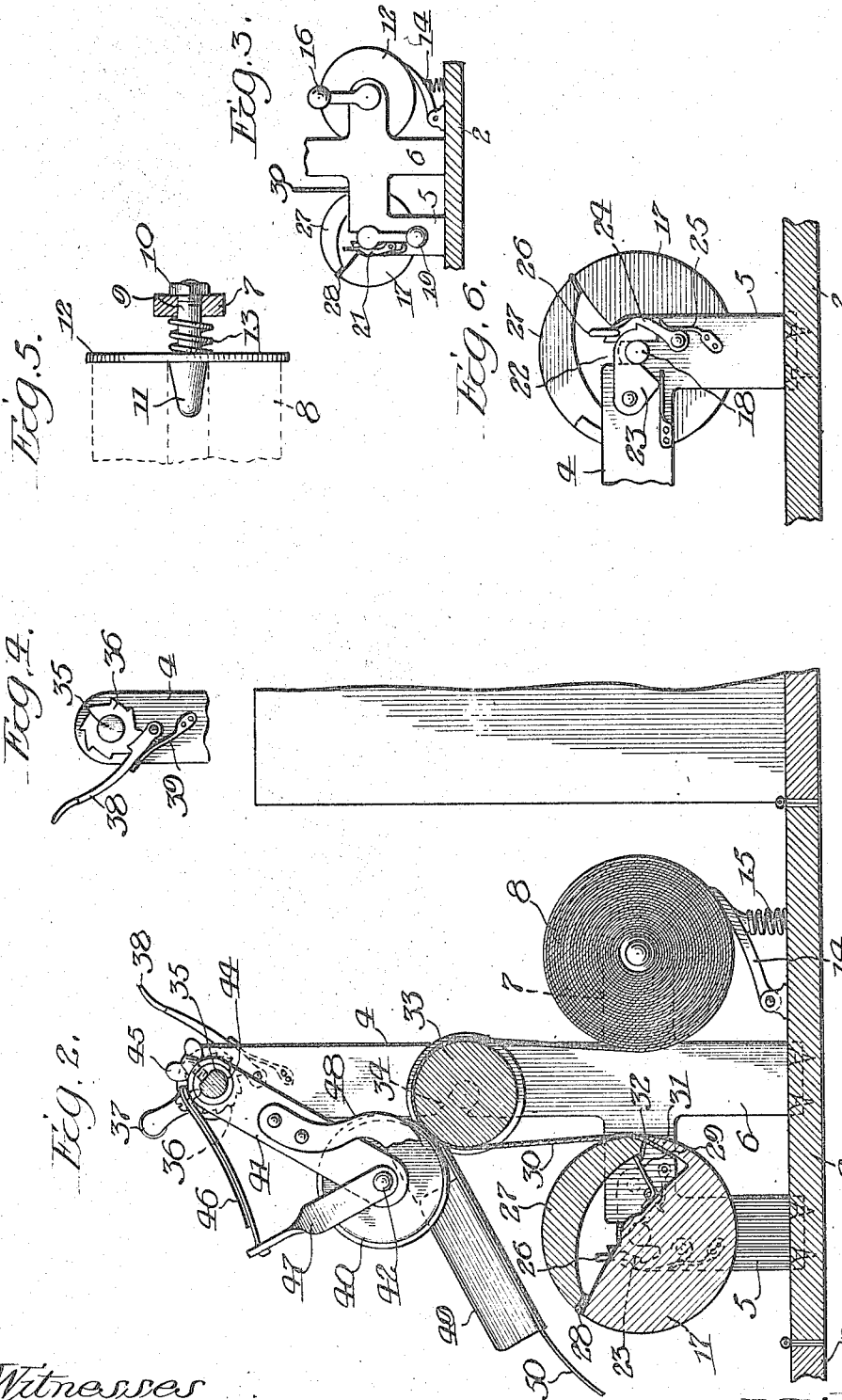
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Witnesses
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UNITED STATES PATENT OFFICE.

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CUTTING-MACHINE.

1,133,142.

Specification of Letters Patent.

Patented Mar. 23, 1915.

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To all whom it may concern:

Be it known that I, OTTO C. L. HIRSCH, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Cutting Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to paper cutting machines and is more particularly of service in connection with the cutting of strips of paper or similar material from rolls of said material.

My invention contemplates the provision of a plurality of cutting devices suitably adjustable to cooperate with suitable rolls whereby to perform the object above set forth.

My invention also includes novel features of construction of especial importance in connection with apparatus of this general character. However, I will explain my invention more in detail by reference to the accompanying drawing illustrating one form of a device embodying my invention, in which:

Figure 1 is a front view of said device; Fig. 2 is a sectional view on lines *a-a* of Fig. 1; Fig. 3 is a partial side view indicating certain operating mechanism, and Figs. 4, 5 and 6 are details of construction.

Referring more particularly to Fig. 1, I have arranged my machine so that it may be placed within a box 1 having a side 2 and lid 3. The device is mounted on the side portion 2 of the box which thereby constitutes a base plate for the device. On this base plate 2 I mount two end frames 4, 4, which end frames have two legs 5 and 6, which legs 5 and 6 are held in the base plate 2 by means of screws as illustrated in Fig. 2. A bracket 7 extends from each of the frames 4 and is designed to receive a roll of paper or similar material 8. In Fig. 5 I have shown more in detail the manner of holding the roll 8 in place. The arm 7 is provided with an aperture through which extends the bolt 9. The bolt has at one extremity a nut 10 and at the opposite extremity a head 11. A disk 12 is carried by the bolt 9 and when the paper is to be introduced it is placed against the disk 12 which thereby moves toward the right (Fig.

5) to permit the paper roll 8 to be put in place. A spring 13 normally holds the disk 12 and the head 11 toward the left (Fig. 5). Brakes 14 are suitably pivoted on the base plate 2 and pressed upwardly against the roll 8 by spiral springs 15. The structure of Fig. 5 is used only at the left hand end of Fig. 1, whereas the right hand end is provided with a handle 16 so that the roller 8 may be rotated directly by means of this handle 16 if so desired, this handle 16 being integrally associated with the plate against which the roller 8 presses at the right hand extremity of Fig. 1. A take up roll 17 is also provided having at one extremity a projecting shaft 18 and at the opposite extremity a handle 19. The shaft extension 20 of the handle 19 is carried within a groove provided in the right hand frame 4 (Fig. 1) and is there rotatably held in place by the spring catch 21. The other shaft extremity 18 of the take up roll 17 is held in a groove 22 of its arm 4 by a plate 23. A catch 24 controlled by a spring 25 holds the plate 23 in place normally and a fingerhold permits removal of the plate 23 so that the take up roll may be taken out. This take up roll has a trap door 27 which is mounted to the remainder of the roll by a hinge 28. A pivotally mounted arm 29 normally in the position shown in Fig. 2 normally prevents further inward movement of the trap door 27. When, however, it is desired to fasten a strip of paper within the take up roll the arm 29 is swung around its pivot in a counterclockwise direction so that the door 27 may be moved toward the center, whereupon the strip 30 is inserted between the edge 31 of the roll 17 and the trap door 27 is again moved outwardly against the edge 31. The arm 21 is then swung clockwise until it engages the pin 32, in which position it remains suitably clamping the paper between the door 27 and the extension 31. The handle 16 need not be used except when it is desired to rewind the paper back on the roll 8.

An idler roll 33 is provided mounted in grooves 34 of the side frames 4. The strip of paper 30 rolls over this idler roll 33. Now when the handle 19 is operated, the strip of paper 30 is rolled over the roll 33 and unrolled from the roll 8. Should it be desired to reroll the strip of paper, then handle 16 is used. The vertical extensions of the arms 4 carry a shaft 35, which shaft is

rotatably mounted in the frames 4, but which shaft has a flattened portion throughout its length between the frames 4 as shown more clearly in the sectional view of Fig. 2.

5 This shaft carries a ratchet wheel 36 and may be rotated by means of a handle 37. A spring catch 38 controlled by the spring 39 normally holds the ratchet wheel 36 into whatever position it is rotated by the handle

10 37. When the catch 38 however is released, the shaft may be rotated in the opposite direction as will be readily apparent. I have mounted upon the shaft 35 three suitable frameworks each carrying knives 40, 40, 40.

15 These frameworks consist of the arms 41 held in place by means of the headed shaft 42 so as to carry between them the knife 40, which knife is mounted on a hub 43. The free ends of the arms 41 are loosely mounted on the shaft 35. Between the arms 41 and on the shaft 35 is mounted a sleeve 44 carrying a wing screw 45, which sleeve is independent of the arms 41. The sleeve carries suitable springs 46 which press against

25 a bifurcated arm 47, which bifurcated ends are also held by the headed shaft 42. The knife 40 impinges against the roll 43 and when it is desired to exert pressure by the knife 40 against the roll, then the shaft 35 is rotated contrainclockwise (Fig. 2) and is held in its rotated position by means of the wheel 36 and pawl 38. It will thus be seen that the position of the cutters can be adjusted longitudinally of the shaft and the

35 cutter framework then fastened in place by use of the spring screw 45, whereafter the shaft 35 may be rotated to get the required spring pressure against said cutter. The arm 44 also carries an extension 48 which carries

40 a guideway or chute 49 for the strip of paper 50 that is being cut from the strip 30 by the knife or knives 40. The guides can be removed if desired or swung out of place so that the severed strip may also be rolled on the take-up roll. As the wing screws 45

45 may be loosened, it is apparent that the knives 40 may be placed in any desired position on the shaft 35 so as to cut strips of any desirable width and so as to make it

50 possible to cut a plurality of strips if desired.

From what has been thus set forth, it is thought the operation of my improved machine will be entirely clear.

55 While I have herein described one machine as embodying various features of my invention, I do not of course limit myself to this specific structure, but

Having thus described one form of car-

rying out my invention, what I claim as new 60 and desire to secure by Letters Patent is:

1. A machine of the character described having means for holding a roll of ribbon-like material, a take up roll, means for re-winding said material, rotatable cutting 65 means for cutting a strip from said material and a chute for guiding the severed strip, said chute having side walls to confine the longitudinal displacement of said strip.

2. A machine of the character described 70 having means for holding a roller of ribbon-like material, a take up roll, means for re-winding said material, an idler roll over which said material is carried, rotatable cutting means cooperating with said idler roll 75 to cut a strip from said material and a chute for guiding the severed strip, said chute having side walls to confine the longitudinal displacement of said strip.

3. A machine of the character described 80 having means for holding a roll of ribbon-like material, a take-up roll, means for re-winding said material, a plurality of cutting means to cut a plurality of strips from said material and a plurality of chutes to 85 guide the severed strips, said chute having side walls to confine the longitudinal displacement of said strip.

4. A machine of the character described 90 having means for mounting a roll of ribbon-like material, a take up roll, rotatable cutting means for severing a strip of said material longitudinally thereof, a rotatable shaft carrying said cutting means, means 95 for rotating said shaft to adjust the pressure of said cutting means against said material and a flat leaf spring interposed between said shaft and said cutting means, said means including a ratchet wheel and a rotatable spring pressed pawl. 100

5. In a machine of the character described a take up roll having a portion of its outer shell pivotally mounted to the remaining 105 portion of the roll, whereby material may be clamped between these two sections of the roll, and means whereby this pivoted section may be swung inwardly to release said clamp portion to permit removal of the material from the said roll longitudinally thereof. 110

In witness whereof, I hereunto subscribe my name this 2nd day of September, A. D., 1911.

OTTO C. L. HIRSCH.

Witnesses:

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HAZEL JONES.