

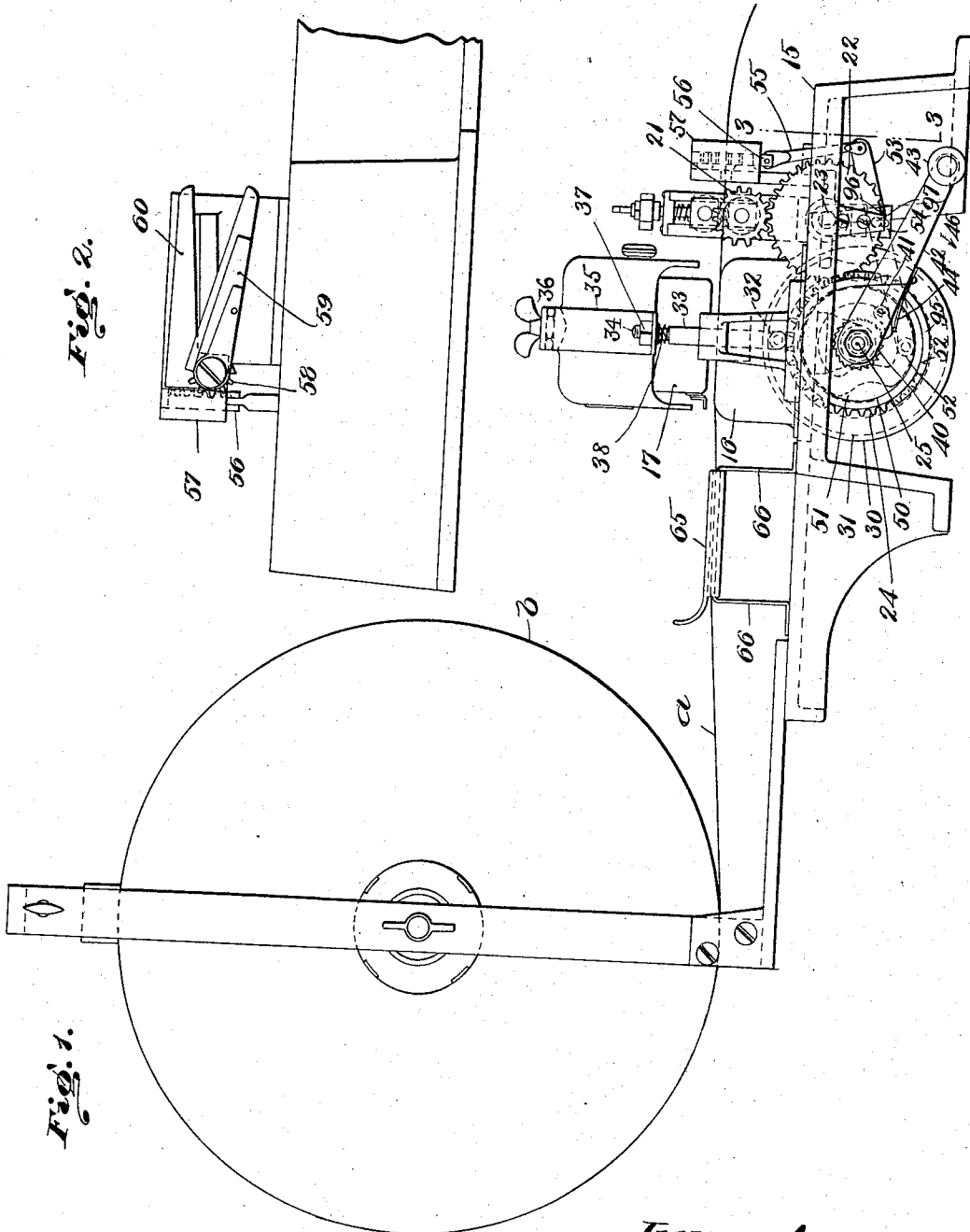
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APPLICATION FILED NOV. 1, 1915

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2 SHEETS—SHEET 1.

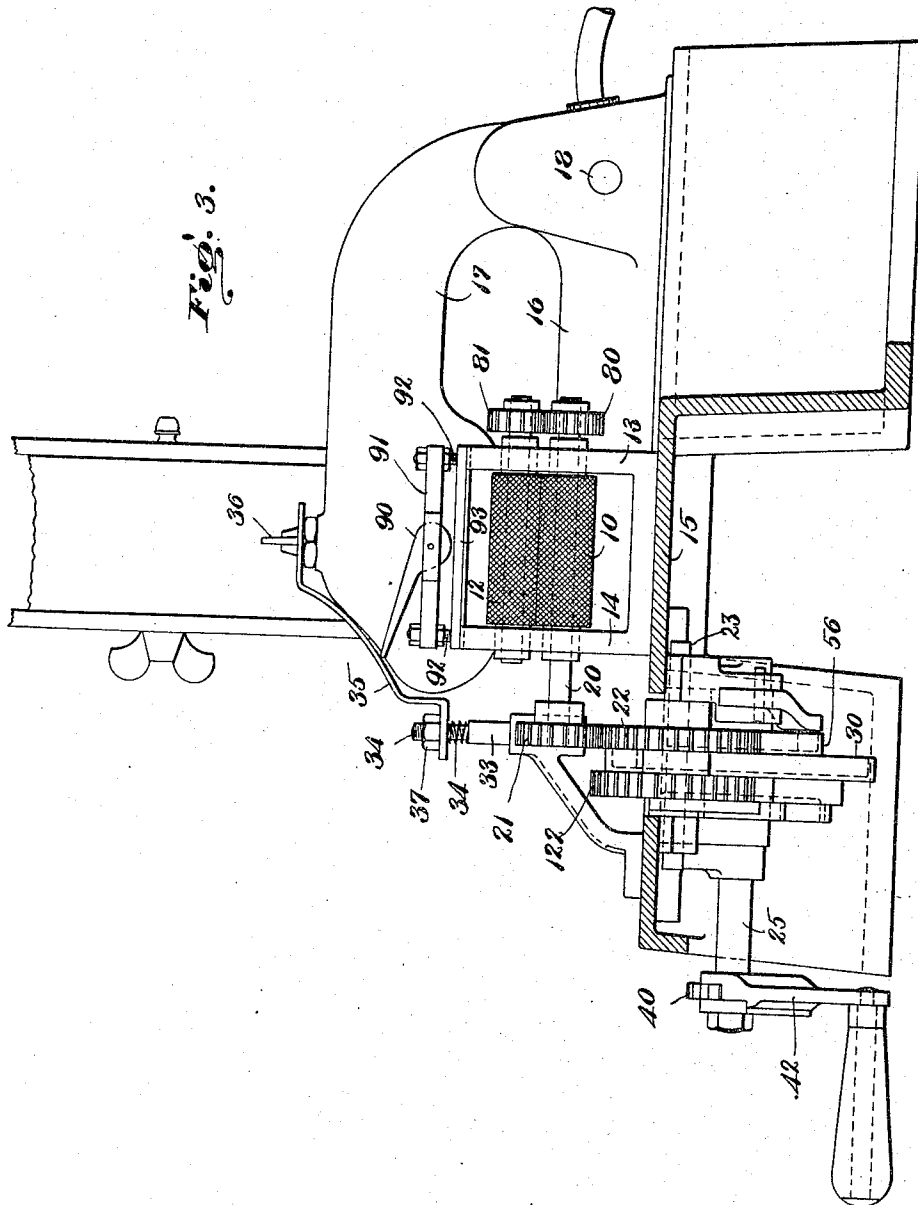
1,217,318.



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UNITED STATES PATENT OFFICE.

RUDOLPH KUNDERT, OF ROSLINDALE, MASSACHUSETTS.

MACHINE FOR MARKING CONTINUOUS STRIPS OF PAPER OR LIKE MATERIAL.

1,217,318.

Specification of Letters Patent.

Patented Feb. 27, 1917.

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To all whom it may concern:

Be it known that I, RUDOLPH KUNDERT, a citizen of the United States, and a resident of Roslindale, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Machines for Marking Continuous Strips of Paper or like Material, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to an apparatus for feeding a continuous strip of paper or like material, marking the strip at intervals, and preferably cutting the marked portions of the strip from the continuous strip.

The invention is especially adapted among other uses to be employed on railway systems for issuing to the patrons of the system printed transfer slips or tickets having thereon the time at which the transfer is issued.

The invention has for its object to provide an apparatus with which the transfer clerk or other operator may issue a substantially large number of transfers in a minimum time and with the least possible inconvenience.

To this end, the apparatus for the best results is provided with means for feeding a continuous strip of transfers, and with a time element for printing or otherwise marking upon the continuous strip at predetermined intervals thereon the time at which the transfer is issued, and a cutting mechanism to sever the individually marked transfers from the continuous strip of transfers, said elements being operatively connected with a common actuating device under the control of the transfer clerk or other operator.

These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of one form or construction of apparatus embodying this invention to enable it to be understood.

Fig. 2, a detail of the cutting mechanism, and

Fig. 3, a section and elevation of the machine shown in Fig. 1 looking toward the left, the section being taken on the line 3-3, Fig. 1.

Referring to the drawings, *a* represents a continuous strip of paper or other flexible

material, which is wound into the form of a roll *b*, from which it is unwound, as required, by means of feed rolls 10, 12, mounted in uprights 13, 14, erected upon a suitable base 15. Provision is made for marking the time on the strip *a* at suitable intervals thereon, and, for this purpose, a time stamp element is provided, which may be of any suitable or desired construction, and comprises in the present instance a stationary member 16, and a movable member 17, the latter being shown as pivoted at 18 (see Fig. 3) to the stationary member 16. Provision is made for periodically or intermittently operating the feed rolls 10, 12, and the time stamp, and to this end, the feed roll 10 has fast on its shaft 20, a pinion 21, which meshes with a gear 22 fast on a shaft 23 mounted in suitable bearings attached to the base 15, said shaft having a second gear 122, which is mutilated and meshes with a gear 24 on a shaft 25, which may be considered the main or driving shaft of the apparatus. The movable member 17 of the time stamp is operatively connected with the main shaft 25, and, in the present instance, the main shaft 25 has fast on it a disk 30 having in one face a path cam 31, into which extends a roller 32, carried by a rod 33 provided with a threaded upper portion 34, which is extended loosely through a hole in one end of a link or bar 35, which has its other end connected with the movable member 17 of the time stamp by the nut 36.

The link or bar 35 is connected with the rod 33 by a nut 37 and is yieldingly supported by a spring 38, which encircles the threaded upper portion 34 of the rod 33.

The cam 31 is suitably shaped to operate the movable member 17 of the time stamp and cause the latter to print the time upon the transfer strip *a*, at each revolution of the main shaft 25, and the gears 21, 22, 122, 24, are properly proportioned to cause a given length of the strip *a*, substantially equal to the length of a transfer ticket, to be fed forward at each revolution of the main shaft, so that by turning the main shaft a number of times, a number of transfers having the time of issue printed thereon, will be fed forward, which number of transfers is equal in the present instance to the number of times the main shaft 25 is turned.

Provision is made for turning the shaft 25 in one direction only, and to this end,

the said shaft has fast on it a ratchet wheel 40, which is engaged by a pawl 41 carried by a lever 42, loosely mounted on the main shaft 25 and provided with a handle 43. The pawl 41 is held in engagement with the ratchet wheel or disk 40 by a spring 44 attached to the lever 42.

By reference to Fig. 1, it will be seen that by turning the lever 42 clockwise or in the direction indicated by arrow 46, the ratchet disk 40 and the shaft 25 will be turned in the same direction, and that the lever 42 can be turned in the opposite direction without turning the shaft 25.

The portion of the strip *a*, which has had the time printed thereon, may be torn from the unstamped portion by hand if desired, but it is preferred to cut the time printed portions of the strip *a*, from the unstamped portion, and to cut a stamped portion at each revolution of the main shaft. To this end, the main shaft 25 has mounted on it a cam disk 50 having in one face a path cam 51, into which extends a roller 52 carried by one end of a lever 53, pivoted at 54 to the framework of the apparatus and having its other end connected by a link 55 with a rack bar 56 (see Fig. 2) movable in a frame 57 erected upon the base 15 and meshing with a segmental gear 58, attached to the movable knife 59 of a cutting mechanism, said knife coöperating with a stationary knife 60. The movable knife 59 is normally lowered as represented in Fig. 2, and the strip *a* is fed between the knives, and at the proper time, the cam 51 operates the movable knife 59 and causes it to cut a stamped portion of the strip *a* to form a stamped transfer ticket. It will thus be seen, that at each revolution of the main shaft 25, a predetermined length of the strip *a* equal in length to a transfer ticket or slip is fed forward, stamped with the time and cut off from the continuous strip.

An apparatus such as herein shown and described, is especially useful at a transfer office or station of a street railway system, as the transfer clerk or operator can issue a large number of substantially long or large transfers properly stamped with the time of issue, in a minimum time, which is especially advantageous in rush hours or when a considerable number of passengers are asking for transfers.

The continuous strip *a* may be guided to the time stamp and feed rolls by passing it through a hollow guide 65, which is supported by uprights 66 erected upon the base 15.

The feed rolls 10, 12, may be knurled as shown, and the roll 12 may be driven from the roll 10 by gears 80, 81, (see Fig. 3).

Provision is made for releasing the grip or bite of the feed rolls upon the transfer strip, which is accomplished as shown, by means of a cam lever 90 carried by a cross bar 91 attached to rods 92 extended up-

wardly from the bearing boxes of the upper roll 12. The cam on the lever 90 is designed to engage a cross bar 93 secured to the uprights 13, 14, and cause the upper roll 12 to be lifted away from the lower roll, and thereby allow the operator to move the transfer strip forward to properly adjust the same with relation to the ordinary printed matter on the transfer, so that the time may be stamped in a clear space.

While the time stamp is being operated by its cam, it is desirable to have the paper strip *a* stationary, and to this end the gearing connecting the feed rolls with the main shaft is constructed and arranged in a well-known manner for producing an intermittent feed of the paper strip.

To this end the gear 24 on the main shaft 25 is provided with an untoothed portion 95, which coöperates with an untoothed portion 96 on the gear 22, so that in the revolution of the main shaft, when the untoothed portion 95 meets the untoothed portion 96 on the gear 22, the rotation of the latter will be stopped and the feed of the paper strip will be stopped.

When, however, the gear 24 on the main shaft has traveled a certain distance sufficient to permit the stamping to take place on the now stationary paper strip, a suitable device on the gear 24 strikes an arm 97 on the intermediate gear 22 and turns the latter so as to bring its toothed portion again into mesh with the toothed portion of the main gear.

This intermittent gearing is of well-known construction and it has been deemed unnecessary to show it in detail.

In the present instance, I have shown one construction of apparatus embodying the invention, but it is not desired to limit the invention to the particular construction shown.

Claims:

1. In an apparatus of the character described, in combination, a time stamp provided with a movable member, feed rolls for feeding a continuous strip to the time stamp, a rotatable shaft, mechanism for connecting the feed rolls with said shaft, mechanism for connecting said shaft with the movable member of the time stamp to cause the latter to print the time on the continuous strip at intervals apart and to hold the said member stationary and away from its coöperating member while said strip is being fed by the feed rolls, a cutting mechanism to sever a stamped portion of the continuous strip, and means for connecting said cutting mechanism with said main shaft to be operated thereby.

2. In an apparatus of the character described, in combination, a time stamp provided with a movable member, feed rolls for feeding a continuous strip to the time stamp, a cutting mechanism to sever a

5 stamped portion of the continuous strip, a
 rotatable shaft, a cam on said shaft, means
 for connecting said cam with the movable
 member of the time stamp to effect move-
 10 ment of the said member toward and from
 a cooperating member and to hold the mov-
 able member stationary in a position away
 from said cooperating member, mutilated
 gearing connecting said shaft with said feed
 15 rolls, a second cam on said shaft, and means
 for connecting said second cam with said
 cutting mechanism.

3. In an apparatus of the character de-
 scribed, in combination, a time stamp pro-
 15 vided with a movable member, a rotatable
 shaft, a cam on said shaft, means for oper-
 atively connecting the movable member of
 said time stamp with said cam, feed rolls
 for feeding a continuous strip to said time
 20 stamp, and mutilated gearing for connecting
 said shaft with said feed rolls to effect an
 intermittent feed of the paper.

4. In an apparatus of the character de-
 scribed, in combination, a time stamp pro-
 25 vided with a movable member, a rotatable
 shaft, a cam on said shaft, means for con-
 necting said cam with the movable member
 of the time stamp to effect movement of the
 said member toward and from a cooperating
 30 ing member and to hold the movable mem-
 ber stationary in a position away from said
 cooperating member, feed rolls for feeding
 a continuous strip to the time stamp, and
 mutilated gearing connecting said feed rolls
 35 with said cam shaft to effect rotation of the
 feed rolls by said cam shaft while the mov-
 able member of the time stamp is stationary
 and to prevent rotation of the feed rolls
 while the movable member of the time stamp
 40 is engaged with said strip.

5. In an apparatus of the character de-

scribed, in combination, mechanism for
 marking a continuous strip provided with a
 member movable toward and from said strip,
 a rotatable shaft, mechanism for operatively
 45 connecting the movable member of the mark-
 ing mechanism with said shaft to move the
 said member into and out of engagement
 with said strip during a portion of a revolu-
 tion of said shaft and to hold said member
 50 stationary during another portion of said
 revolution, feed rolls to feed the continuous
 strip to said marking mechanism, mutilated
 gearing connecting said feed rolls with said
 shaft to effect an intermittent feed of the
 55 continuous strip, and means for rotating
 said shaft.

6. In an apparatus of the character de-
 scribed, in combination, mechanism for
 marking a continuous strip provided with a
 60 member movable toward and from said strip,
 a rotatable shaft, mechanism for operatively
 connecting the movable member of the mark-
 ing mechanism with said shaft to move the
 said member into and out of engagement
 65 with said strip during a portion of a revo-
 lution of said shaft, and to hold the said
 member stationary during another portion
 of said revolution, feed rolls to feed the con-
 tinuous strip to said marking mechanism,
 70 mutilated gearing connecting said feed rolls
 with said shaft to effect an intermittent feed
 of the continuous strip, a cutting mecha-
 nism to sever a marked portion of the con-
 tinuous strip, means for operatively connect-
 75 ing said cutting mechanism with said ro-
 tatable shaft, and means for rotating said
 shaft.

In testimony whereof, I have signed my
 name to this specification.

RUDOLPH KUNDERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
 Washington, D. C."