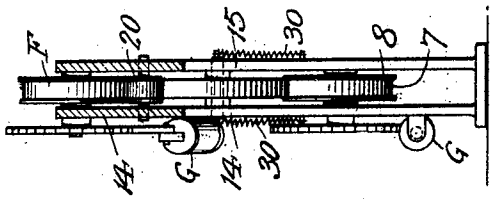
May 12, 1931. E. WEINHEIM 1,805,122

SYNCHRONOUSLY POSITIVE FEED

Filed March 27, 1928

Fig. 2.



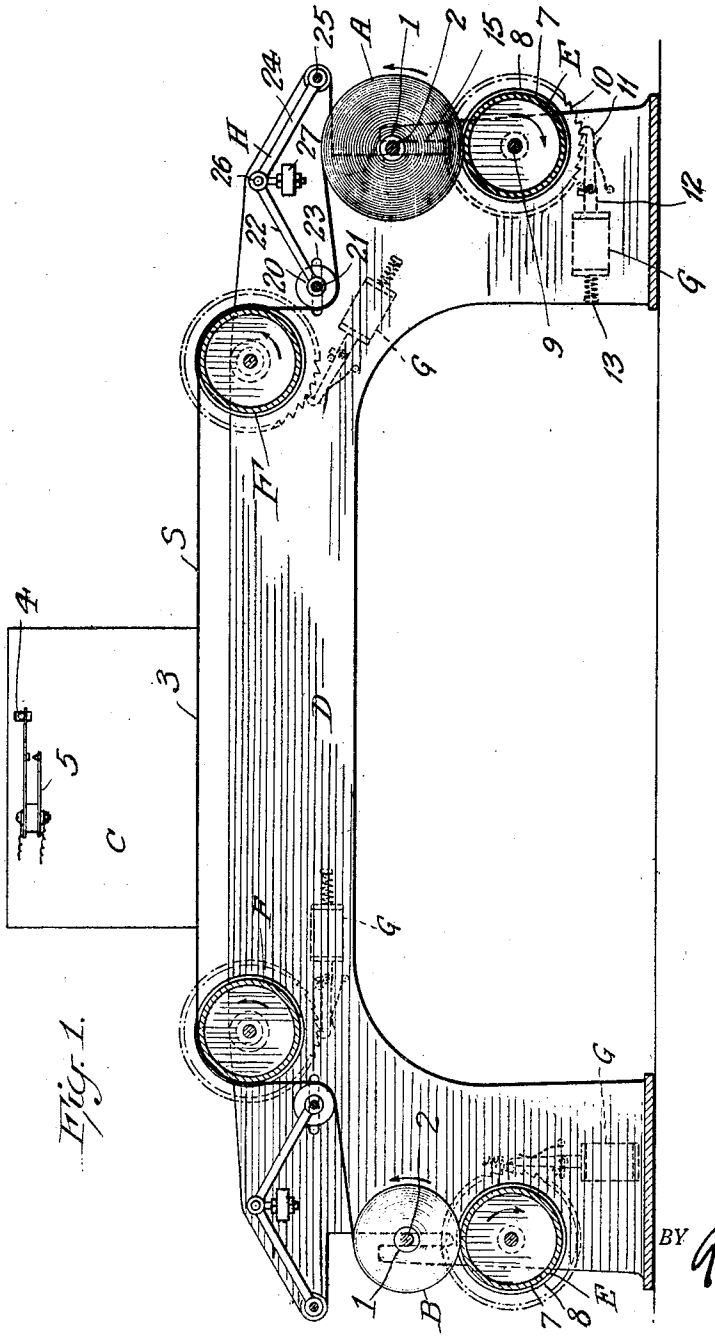


Fig. 1.

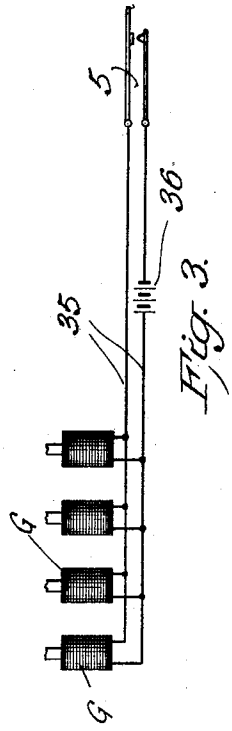


Fig. 3.

INVENTOR.
EMIL WEINHEIM.
BY Leonard Day
ATTORNEY.

Patented May 12, 1931

1,805,122

UNITED STATES PATENT OFFICE

EMIL WEINHEIM, OF NEW YORK, N. Y.

SYNCHRONOUSLY POSITIVE FEED

Application filed March 27, 1928. Serial No. 265,208.

This invention relates to mechanism for effecting the movement of a strip throughout its entirety in response to a plurality of propelling urges applied to said strip simultaneously at various localities along its length end preferably so applied as to effect a movement of the entire strip without causing the transmission of any substantial amount of power through the tensile strength of the strip itself. The invention relates to strips broadly as far as the strip itself is concerned but applies more particularly to the means and manner in which a controllable movement of the strip is effected. Strips to which the invention is applicable are the paper strips used in telegraphic printing machines, stock tickers and also to the strips of fabric adapted to be operated upon in the manufacture of substitute leather and the like.

The above and further objects of the invention will be pointed out more in detail in the following claim which are directed to the illustrative embodiment of my invention, shown in the accompanying drawings which form a part hereof, and described in the following specification solely for the purpose of illustration and not limitation.

In the drawings, Figure 1 is a diagrammatic side elevation of one form of my apparatus, adapted particularly for use in propelling the paper strip of a stock ticker; Figure 2 is an end elevation of the apparatus shown in Figure 1; and Figure 3 is a circuit diagram of the controlling electric circuit.

An unwinding roll A of the strip S to be operated upon serves in the apparatus illustrated as the source of supply for the strip. It may be an ordinary roll of so-called ticker tape about a hub 1, adapted to rotate on a spindle 2. A smiliar winding roll B is also provided and may be associated with its hub 1, and spindle 2. In the apparatus illustrated, these rolls A and B represent the terminals of the stretch of strip S, the intermediate portion 3 of which is to be operated upon in any suitable manner as by any well-known printing mechanism C, which mechanism includes some part 4, operated synchronously with the desired periods of rest for the strip S. The part 4 may be the actuating armature of the printing mechanism C, or a pin attached thereto, or in fact, any suitable moving part of the apparatus C. Under the actuating control of this part 4, is a circuit closer 5, of any suitable construction.

Suitably journalled in a frame D and suitably spaced along the strip S are a plurality of cylindrical propellers E and F. The propellers E are associated with the unwinding and winding rolls A and B and may comprise a cylindrical friction surface 7, adapted to rotate in direct engagement with the periphery of one of the rolls, A or B. If desired, flanges 8 may be provided to aid in maintaining engagement between the propeller and the periphery of the roll. Each propeller is journalled by its axle 9 in the frame D. Fixed to the axle is a ratchet 10, adapted releasably to be engaged by a pawl 11. Each pawl 11 is power operated by power unit G, here shown in the form of a solenoid, the core 12 of which is normally urged outwardly by a compression spring 13.

Slotted guideways 14 and 15 restrain the spindle 2 of the unwinding and winding rolls and tend to maintain parallelism between this spindle 2 and the axle 9 of the cylindrical propeller, while at the same time permitting an approach or separation between the spindle and the axle, as may be required to accommodate the increasing or decreasing diameter of these rolls due to the winding or unwinding of the strip.

The intermediate propellers F are similar in construction and in operation to the propellers E. If desired, take up or tensioning means H may be located at any desired locality along the strip S for the purpose of creating a tension in the strip. In the illustrative embodiment each take up or tensioning means comprises an idler roller 20, with its axle 21, fixed in the end of a toggle arm 22 and at the same time guided against vertical movement in the guiding slot 23. The second toggle arm 24 is journalled to the frame at 25 and the elbow or knuckle 26 is downwardly urged by a pendant weight 27. One convenient locality for the location of this tensioning means H, is between the un-

winding roll E and the first propeller F, beyond the unwinding roll, and another similarly for the winding roll. If desired, suitable means, such as springs 30, may be employed to increase the engaging pressure between the unwinding and winding rolls and their propellers.

As indicated in the circuit diagram of Figure 3, the various power units G, may be connected in parallel across the power leads 35, which include the source of electrical energy 36 and the circuit closer 5, previously described as being actuated in accordance with the periods of rest and movement desired for the strip S.

What I claim and desire to secure by United States Letters Patent, is:

In combination in a machine for propelling a strip intermittently measured distances, an unwinding roll for said strip; a winding roll for said strip; several rotary propellers adapted frictionally to engage said strip one at the locality of said unwinding roll, one at the locality of said winding roll and one or more at localities intermediate said winding and unwinding rolls; an intermittent actuator; power means controlled by said actuator for simultaneously imparting an increment of rotation to each of said rotary propellers; and a resilient take-up for said strip comprising a deflector of substantial mass adapted to engage and deflect said strip from its tangential path between two of said rotary propellers.

In witness whereof, I have signed this application this 16th day of March, 1928.

EMIL WEINHEIM.