Our invention relates to a take-off mechanism for wire cutting machines.

The object of this invention is to provide, in connection with steel wool machines, take-off means for taking off the unused wire from the machine and cutting it up into equal and definite lengths, and for this purpose there is provided a series of drums or rollers through which the wire passes for the purpose of stretching or straightening the wire, and also for the purpose of having the wire cut into determined lengths.

It is also an object of this invention to provide a common means for driving all of the drums and rollers used in connection with this wire cutting machine.

These and other advantages will appear from the description taken in connection with the drawings.

Referring to the drawings:

Figure 1 is a detail side elevation of the take-off and cutting mechanism cutting the wire in sections.

Figure 2 is an end elevation thereof.

Figure 3 is an enlarged section of the cut-off mechanism.

The wire to be operated on 20, passes between the take-off friction rolls 21 and 22, which are geared together by the gears 23 and 24. These gears are driven by the belt 25, actuated by the motor 26. These gears and take-off drums are mounted in spaced frame members 27, which are connected together by the shafts 28 and 29. In these frame members the upper shaft 29 is slidable mounted in the blocks 30 and 31 and pressed downwardly by the springs 31 in order to accommodate for the inequalities of the size of the wire, and to provide slipping or clutch mechanism so that the pull on the wire may not exceed a predetermined amount.

The wire end 21 is passed between a similar pair of gear-connected take-off drums, the rolls 32 and 33 geared together by the gears 34 and 35 and supported in uprights 36. The upper roller 32 has a similar spring mechanism 30 and 31 as the upper roller of the other pair of take-off rollers. The four rollers are geared together with respect to the intermediate pinion 37, carried on the frame member 38. The two spaced frame members 39 are connected by horizontal frame members 39 and 40. The relation between the rollers or drums and the gears is such that the gears serve as a guide for the wire passing between the rollers. By this means the wire cannot leave the rollers at one end. It is a particular advantage of this structure that the rollers or rolls 32 and 33 are provided with a sliding cutting knife 41, which travels along the edge of a cutting block 42 and projects into a slot 43, such block and slot being contained in a lower roller 33. This provides for chopping off the wire in lengths of given size.

We desire to comprehend within our invention such modifications as may be clearly embraced within our claims and the scope of our invention.

This application is a division of our application, Serial No. 264,412, filed March 24, 1928.

Having thus fully described our invention, what we claim is new and desire to secure by Letters Patent, is:

1. In a wire cutting machine, wire take-off means, superimposed wire engaging take-off drums, gear means on one side of said drums to gear said drums together and acting in part as guides for said means to drive said gears, yielding means for accommodating the inequalities of the wire and the relative position of said drums, interconnected cut-off drums synchronously driven with the take-off drums, and cut-off means associated therewith for cutting off said wire after it has been taken off at intervals.

2. In a wire cutting machine, wire take-off means, superimposed wire engaging take-off drums, gear means on one side of said drums to gear said drums together, means to drive said gears, yielding means for accommodating the inequalities of the wire and the relative position of said drums, interconnected cut-off drums synchronously driven with the
take-off drums, and cut-off means associated therewith for cutting off said wire after it has been taken off at intervals, said cut-off means consisting of a cut-off block and slot in one of said drums and a cut-off knife adapted to engage with the slot of said block and project into the slot of the adjacent drum thereby cutting the wire as it passes over said block and slot and beneath said knife.

3. In a take-off mechanism, a plurality of pairs of wire engaging take-off drums, intermeshing gears on the drums of each pair acting in part as guides for said wire, and common means for operating said drums.

4. In a take-off mechanism, a plurality of pairs of wire engaging take-off drums, intermeshing gears on the drums of each pair acting in part as guides for said wire, one drum of one pair of drums having a cutting block in its periphery, and a slot to one side of the cutting block and the other drum of said pair of drums having a cutting knife in its periphery to engage one side of said cutting block and project in said slot.

In testimony whereof, we affix our signatures.

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