

No. 649,060.

Patented May 8, 1900.

A. KREIDLER.  
WIRE COVERING MACHINE.

(Application filed Feb. 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

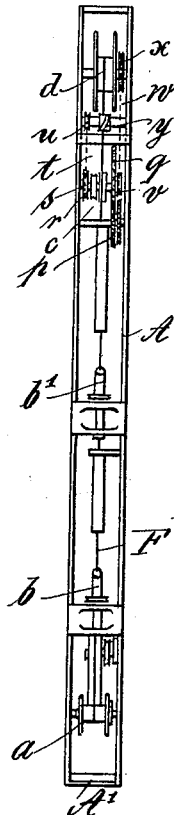
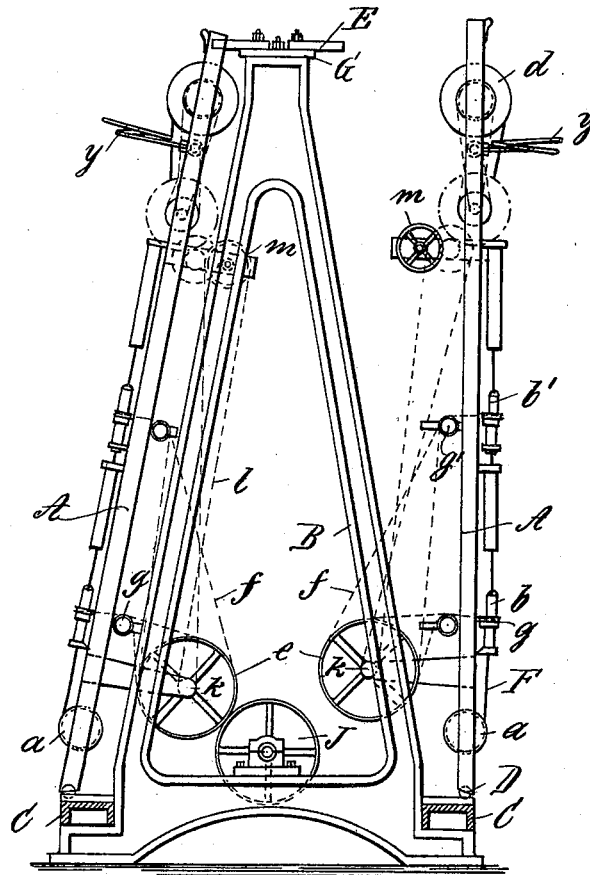


Fig. 2.



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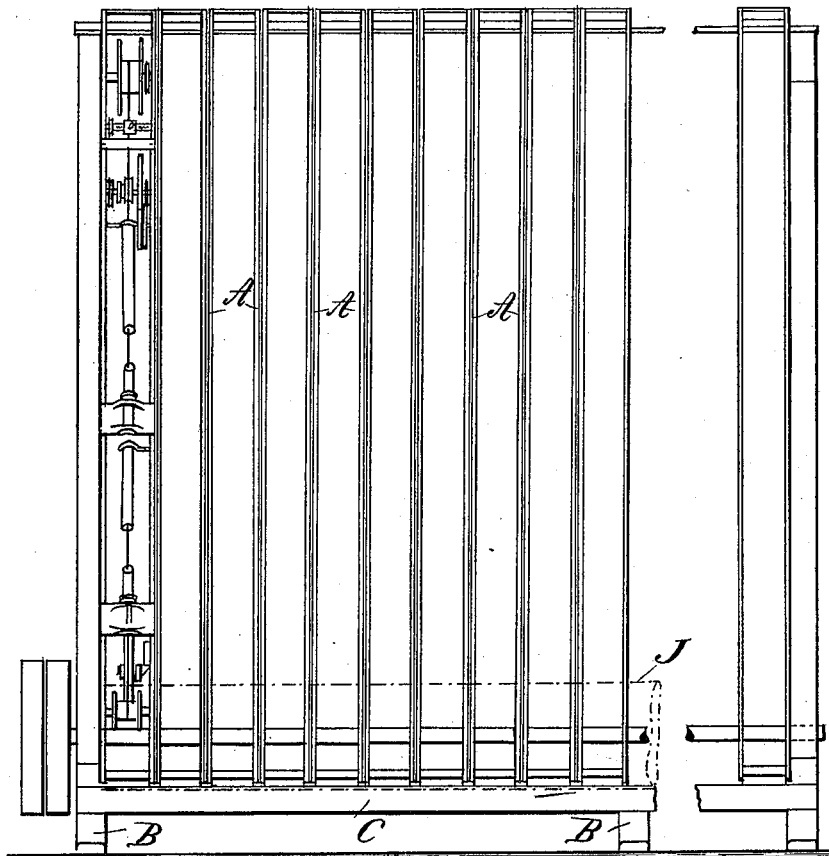
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2 Sheets—Sheet 2.

*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

ANTON KREIDLER, OF STUTTGART, GERMANY.

## WIRE-COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 649,060, dated May 8, 1900.

Application filed February 8, 1899. Serial No. 704,901. (No model.)

*To all whom it may concern:*

Be it known that I, ANTON KREIDLER, manufacturer, residing at Stuttgart, in the Kingdom of Württemberg, Germany, have invented  
5 new and useful Improvements in Wire-Covering Machines, (for which I have applied for Letters Patent in Germany, K. 17,033 $\frac{1}{2}$ , of September 10, 1898, and in England, No. 208, of January 4, 1899,) of which the following is  
10 a specification.

This invention relates to machines for covering wire with yarn and the like by winding, in which a gang or multiple sets of winding or covering mechanisms are employed. Attempts  
15 have been made to render these "sets" independent of each other by arranging them in such manner as to be able to stop them independently, and this has generally been effected by automatically stopping each set on  
20 the breaking of a thread; but this has necessitated complicated mechanism, and, moreover, it was difficult to provide the particular set in question with a new thread or to piece up the broken thread with a new thread while  
25 the adjacent sets were still in work without stopping the machine altogether.

This invention has for its object to obviate this disadvantage by so arranging the mechanism as to render such sets independent and  
30 enable their operation to be separately stopped and a broken thread to be easily pieced up while the adjacent sets are still running and without stopping the driving mechanism, the operation of removing a set being effected by  
35 swinging it forward, as on a pivot, so as to temporarily disconnect it from the driving mechanism. To enable this to be done, it is necessary to make each set complete in itself with all its appurtenances, which has the further  
40 advantage that the sets are thereby made interchangeable—that is to say, each is capable of being removed and at once replaced by another already prepared outside the machine in readiness for work—and this may be  
45 done before piecing up the breakage or repairing the defect which necessitates the exchange. Such facility for exchange and independence of the sets enables any change of work to be made on part only of a machine  
50 in response to a sudden demand necessitating the throwing out of gear of some of the sets in work without interfering with the re-

mainder of the work on the machine, or the whole of the sets may be so exchanged, if necessary, and the new work proceeded with until the job is finished. Moreover, the progress  
55 of the work of the various sets of covering mechanism may be so timed that they may be exchanged in rotation, so that a single attendant only will suffice to superintend the  
60 whole machine, whereas in the machines as heretofore used this could not be conveniently done, since it was only when the whole machine was at a standstill that the necessary  
65 quiet and safety for the service of the individual sets could be insured. The machine is therefore much easier to supervise and occupies much less space than other machines of the same capacity now used.

According to this invention the several sets  
70 of covering mechanism are separately mounted in narrow auxiliary frames arranged side by side in the same plane, the frames being pivotally and removably supported by their  
75 lower ends resting in half-round bearings in cross-bars at opposite sides of the main frame, against which the auxiliary frames rest in a  
rearwardly-inclined position. The covering mechanisms of all the sets are actuated by a  
80 driving mechanism common to all, consisting of a friction-drum extending the whole length of the main frame, with which the sets of mechanism are in frictional driving contact at  
85 both sides of the main frame, so that by tilting any one forward through a small angle it will be thrown out of gear or may be removed and exchanged. Each auxiliary frame contains the usual covering mechanism, the naked  
wire being drawn from a spool through tubular  
90 spool-carrying spindles, over a draft-roller, through a winder-guide, onto the winding-roller.

In the accompanying drawings, Figure 1 represents a front view of a single set; Fig. 2, an end view of the machine, and Fig. 3 a  
95 front view of same.

The main frame of the machine consists of the end standards B, braced by the bottom bars C and the top bar G, on which are carried racks E for supporting the auxiliary  
100 frames A laterally. The driving-cylinder J runs through the whole length of the machine and constitutes what I term the "main driving means." Each set or auxiliary frame A

rests by its bottom cross-bar A' in semicircular bearings in the bottom bar C (see Fig. 2) and leans at a slight backward inclination, its upper end being engaged by a rack E, attached to the top plate.

In Fig. 3 the auxiliary frames A are shown as placed close together in the main frame; but although all are similarly fitted only the auxiliary frame on the extreme left is represented as fitted with all its appurtenances, which comprise the usual winding mechanism. The naked wire runs from the spool *a* through the spindles *b* and *b'*, over the draft-roller *c*, through the traversing guide *y*, to the winding-roller *d*. The spindles *b* and *b'* are driven through the endless cord *f*, running over guide-pulleys *g* and *g'* from the friction-wheel *e*, which is driven by frictional contact with the driving-cylinder J. The draft-roller *c* is driven by the cord *l* and driving-gear *k m* and the train of cog-wheels *n p q*, motion being imparted from the shaft of wheel *e*. The winding-roller *d* is driven in the usual manner by means of driving-gear *v x* and a coöperating cord *w*, and the guide *y* for the wire receives traversing motion through the cord driving-gear *s u* and a coöperating cord or belt *t*.

On the right side of Fig. 2 one of the frames A is shown as disconnected from the driving-cylinder J.

It will be evident that the sets are entirely independent of each other, so that both the kind of material to be employed as well as the speed at which the wire is drawn off and the number of windings or turns of each set can be altered at will. This machine is specially suitable for light work and for all kinds of covering material, such as textiles, and also for india-rubber, paper, and the like.

Now what I claim, and desire to secure by Letters Patent, is the following:

1. In a wire-covering machine, the combination of a main frame, a movable auxiliary frame, winding and covering mechanism carried thereby and means for carrying the material operated upon and the take-off mechanism therefor upon the auxiliary frame.

2. In a wire-covering machine, the combination of a main frame, a plurality of sepa-

rate independently-movable auxiliary frames, independent winding and covering mechanism carried by each of said auxiliary frames and means for carrying the material operated upon and the take-off mechanism therefor upon each of the auxiliary frames.

3. In a wire-covering machine, the combination of a main frame, a plurality of separate auxiliary frames movable with relation to the main frame, independent winding and covering mechanism carried by each of said auxiliary frames, means for carrying the material operated upon and the take-off mechanism therefor upon each of said auxiliary frames and a single main universal driving means carried by the main frame, which is adapted to coöperate with the individual driving mechanism carried upon each of the auxiliary frames to operate the movable parts thereof, whereby when any auxiliary frame is in one position its respective driving mechanism will be operated and when said auxiliary frame is in another position, its driving mechanism will be disconnected and thrown out of operation.

4. In a wire-covering machine, the combination of a main frame, a plurality of separate auxiliary interchangeable frames independently movable and removable from the main frame, independent winding and covering mechanism carried by each of said auxiliary frames, means for carrying the material operated upon and the take-off mechanism therefor upon each of said auxiliary frames and main driving means carried by the main frame, said main driving means coöperating with the winding and covering mechanism carried upon each of the auxiliary frames to operate the movable parts thereof, whereby any auxiliary frame may be removed and replaced without affecting the operation of the other parts of the machine.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANTON KREIDLER.

Witnesses:

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N. WAGNER.