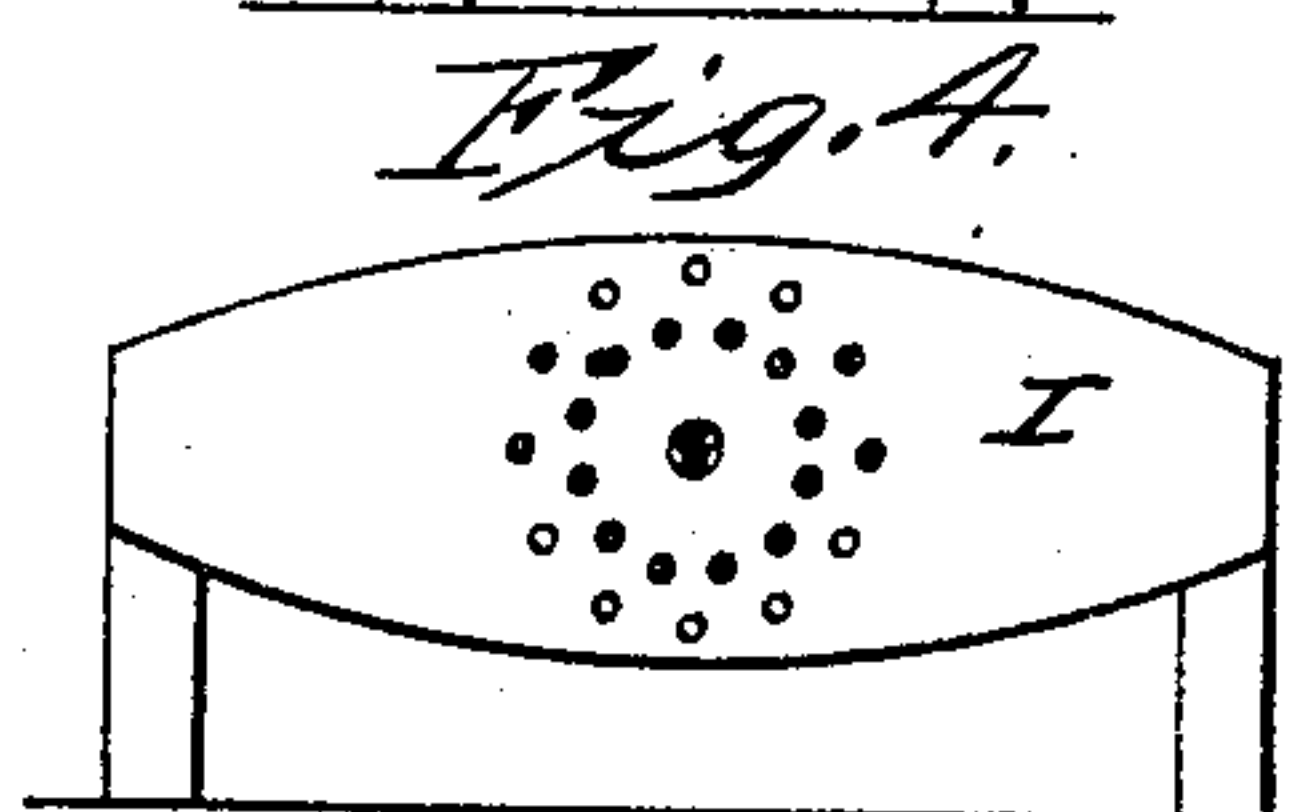
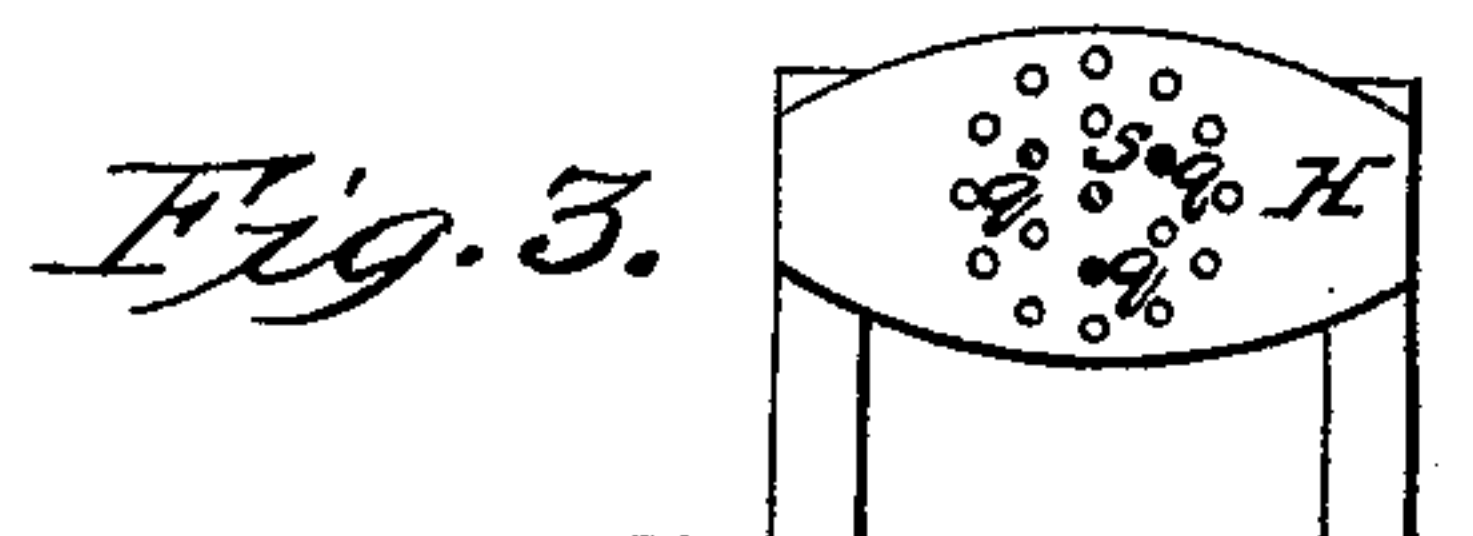
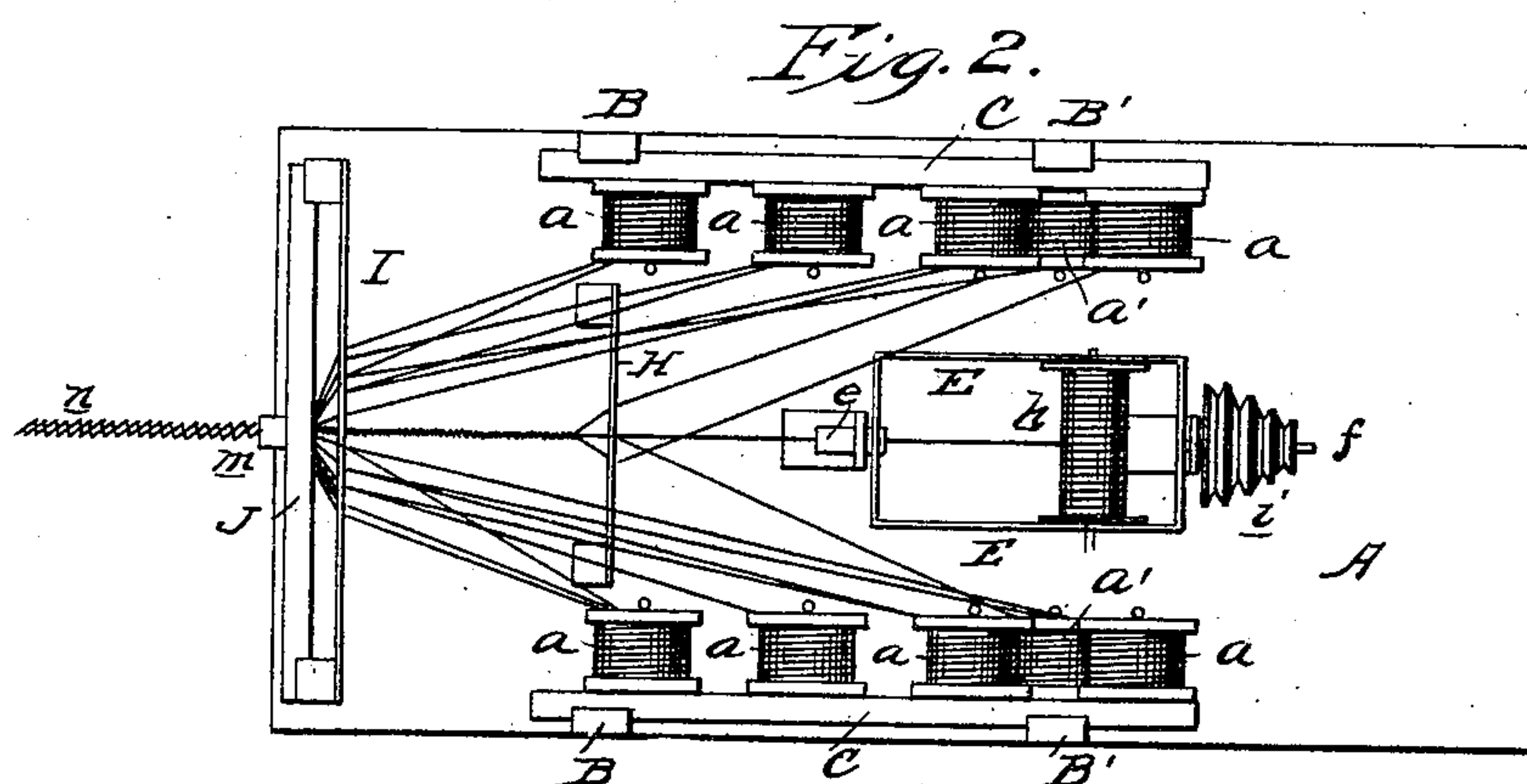
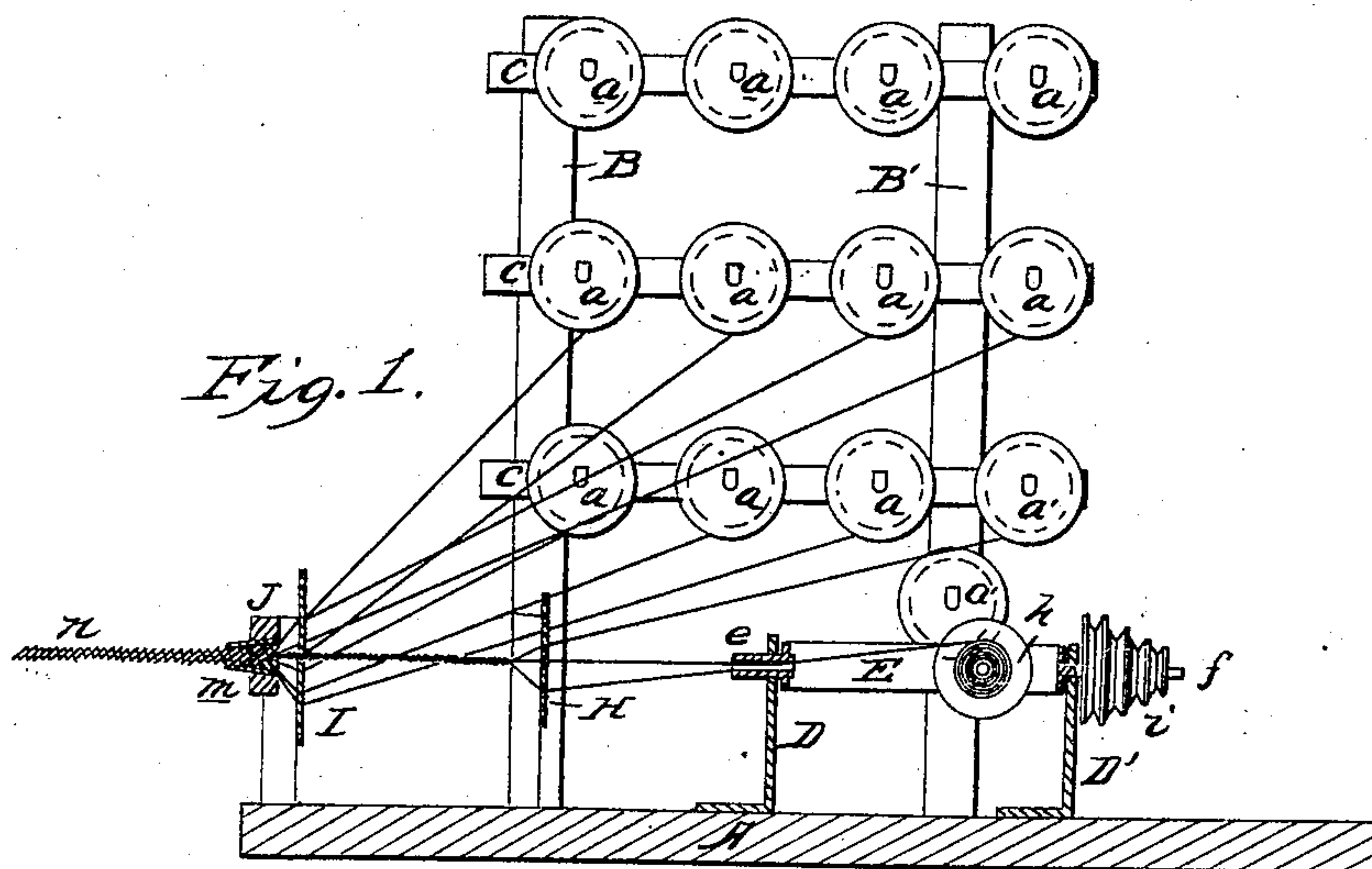


J. RINEK.  
MACHINE FOR MAKING HEMP AND WIRE ROPE COMBINED.  
No. 23,785.                      Patented Apr. 26, 1859



Witnesses:  
B. H. MANN  
John Temple

Inventor  
Jacob Rinek



# UNITED STATES PATENT OFFICE.

JACOB RINEK, OF EASTON, PENNSYLVANIA.

## MACHINE FOR LAYING HEMP AROUND WIRE IN MAKING ROPE.

Specification of Letters Patent No. 23,785, dated April 26, 1859.

*To all whom it may concern:*

Be it known that I, JACOB RINEK, of Easton, Northampton county, Pennsylvania, have invented a new and useful Improvement in Machinery for Making Hemp and Wire Rope Combined; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to improvements in machinery for twisting strands of hemp around annealed wire, so as to form a rope of great strength in proportion to its size; and my invention consists in a revolving yoke, having a hollow spindle and a bobbin containing wire, in combination with certain perforated plates and a system of bobbins, some containing strands of hemp, the whole being arranged substantially in the manner described hereinafter, and forming a simple and effective machine for accomplishing the above manufacture.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms a part of this specification; Figure 1 is a sectional view, illustrating my improvement in machinery for making hemp and wire rope combined. Fig. 2, a sectional plan. Figs. 3 and 4, detached views of the plates for guiding the strands.

Similar letters refer to similar parts throughout the several views.

On the foundation A of the machine are erected two frames, each frame consisting of the two uprights B and B', connected together by any suitable number of slats C. On each frame is hung a system of bobbins *a a*, containing the strands for forming the rope. On the foundation and between the two bobbin frames, are secured the two standards D and D'. In the former turns the front spindle *e*, and in the latter the rear spindle *f* of the yoke E, in the opposite sides of which turn the journals of the roller or bobbin *h*, containing the supply of wire for forming the core of the rope. The yoke with its bobbin may be caused to turn by a band passing over any of the grooves of the pulley *i*, which is secured to the spindle *f* of the yoke. The front spindle *e* of the latter is hollow, so that the wire can pass freely through it. On the foundation A are also erected two plates H and I, situated a short distance apart from each other, and in advance of the plate I is a stationary

crossbar J, having a short tube *m*, at the inner end of which the whole of the strands are concentrated, and in which the twisting of the strands together, caused by the turning of the body of the rope, takes place. Two or more of the lower spools, lettered *a', a'*, of each frame contain tarred strands, and these tarred strands pass through orifices *q q* in the plate H, the annealed wire from the bobbin *h* passing through the central orifice of the same plate. It will thus be seen, that the core of the rope, consisting of the wire surrounded by the tarred strands, is completed before it reaches the plate I through a central opening, in which the core passes, the untarred strands passing through surrounding openings in the same plate, after passing which, and as they enter the tube *m* on the bar J, they are lapped or twisted around the core, the whole becoming one compact strand, two, three or more of which may be twisted together, so as to form the desired rope.

It is necessary that the wire should be surrounded by strands of tarred hemp, in order that (when the rope becomes wet) it may be protected from the moisture. The revolving of the yoke E is also necessary, in order that the wire may remain whole and untwisted as the rope is turned. Without this provision the rope would be submitted to so constant a torsion, that its fibers would become disintegrated, and its purpose, namely the strengthening of the rope, frustrated.

I lay no claim to perforated plates for guiding the strands and maintaining them apart, nor do I claim any one or more of the above described parts separately, and independent of the others. But

I claim and desire to secure by Letters Patent:—

The revolving yoke E, with its hollow spindle *e*, and one or more rollers *h*, arranged on and turning in the yoke as set forth when the said yoke and its appendages are combined with and arranged in respect to the two sets of bobbins *a, a*, containing the strands of hemp, the perforated guide plates I, and J, and tube *m*, substantially as herein set forth.

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

JACOB RINEK.

Witnesses:

B. F. ARNDT,  
JOHN SEMPLE.