

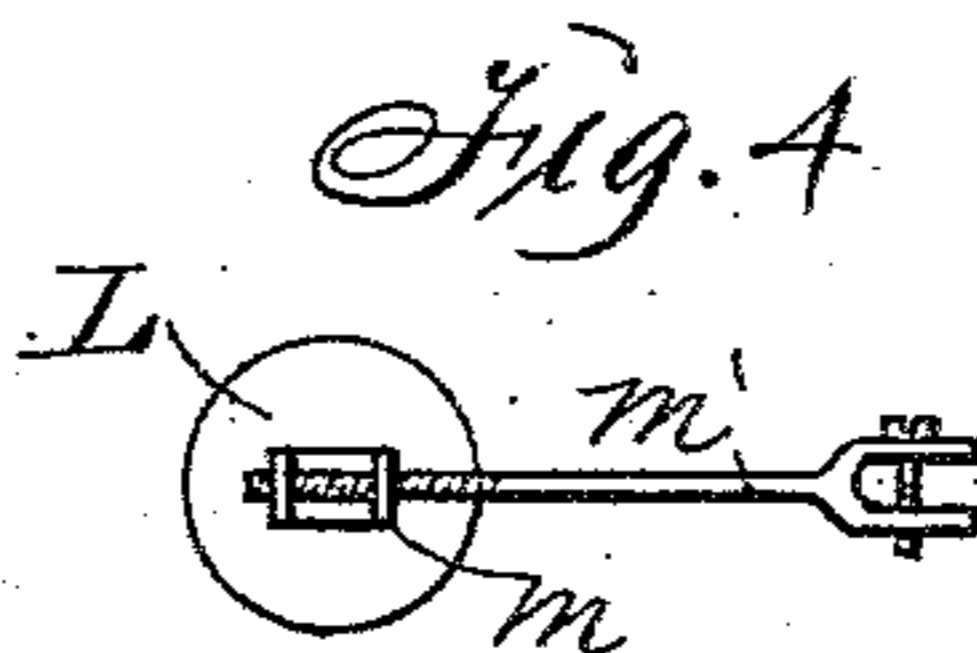
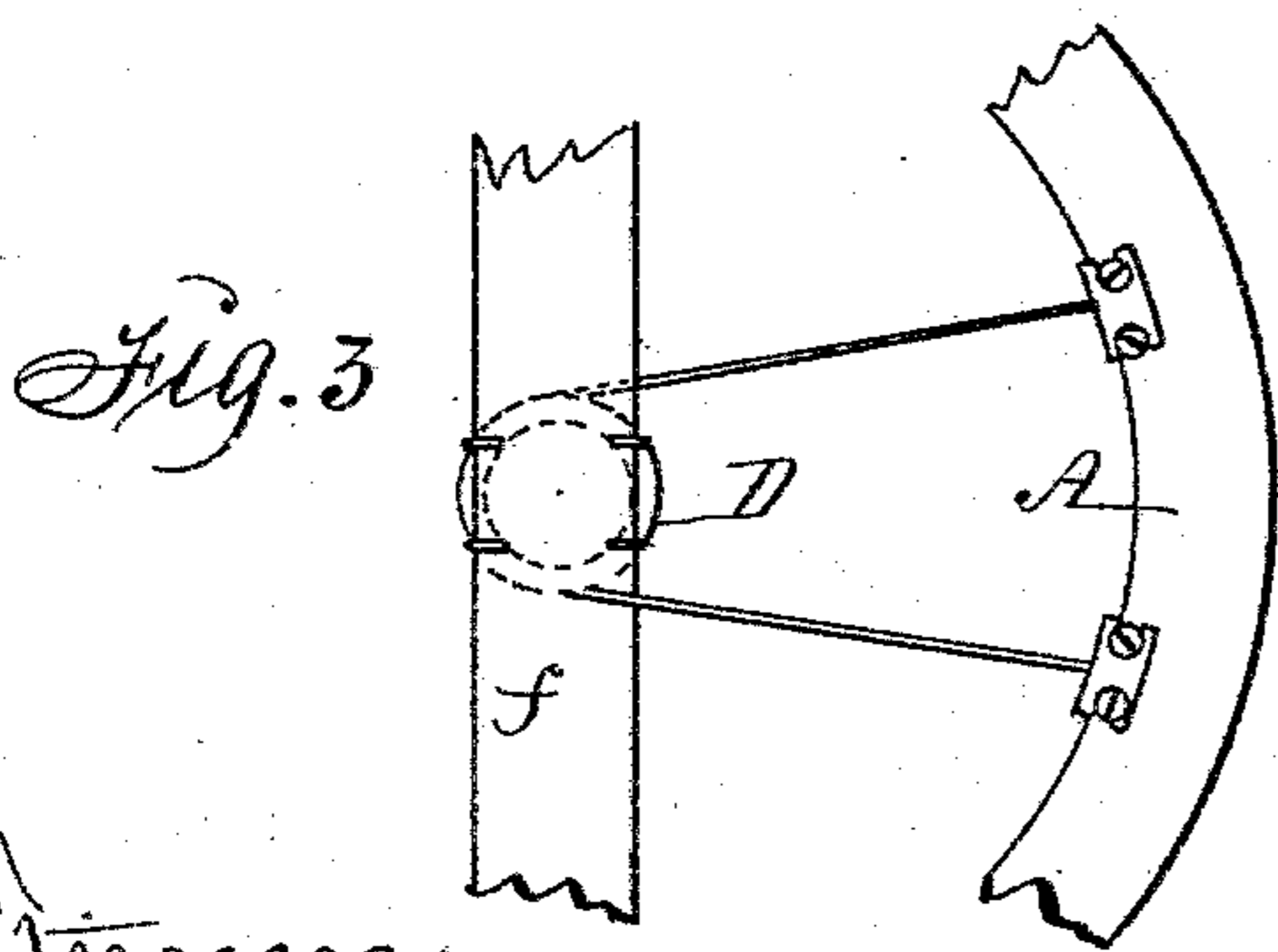
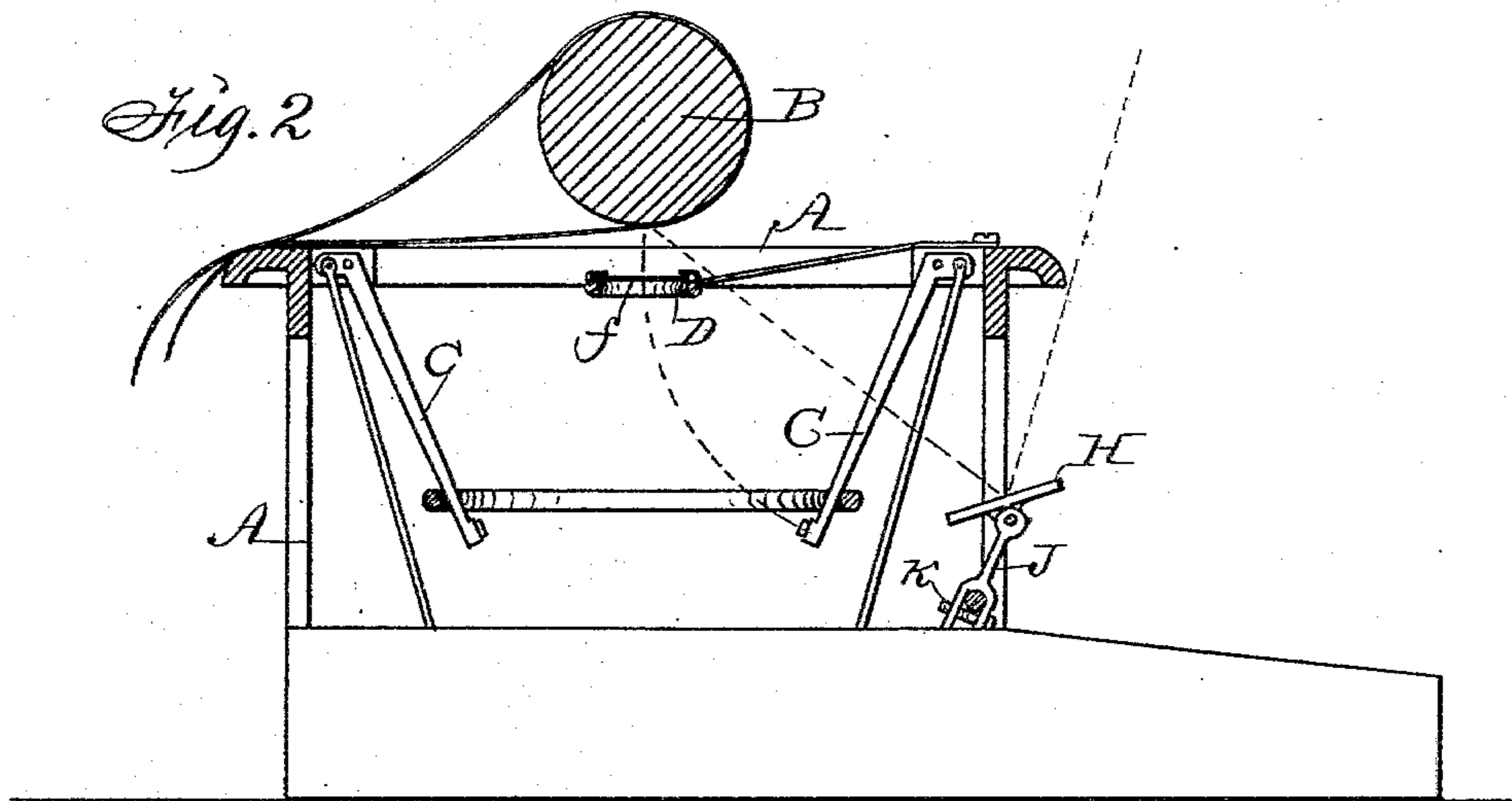
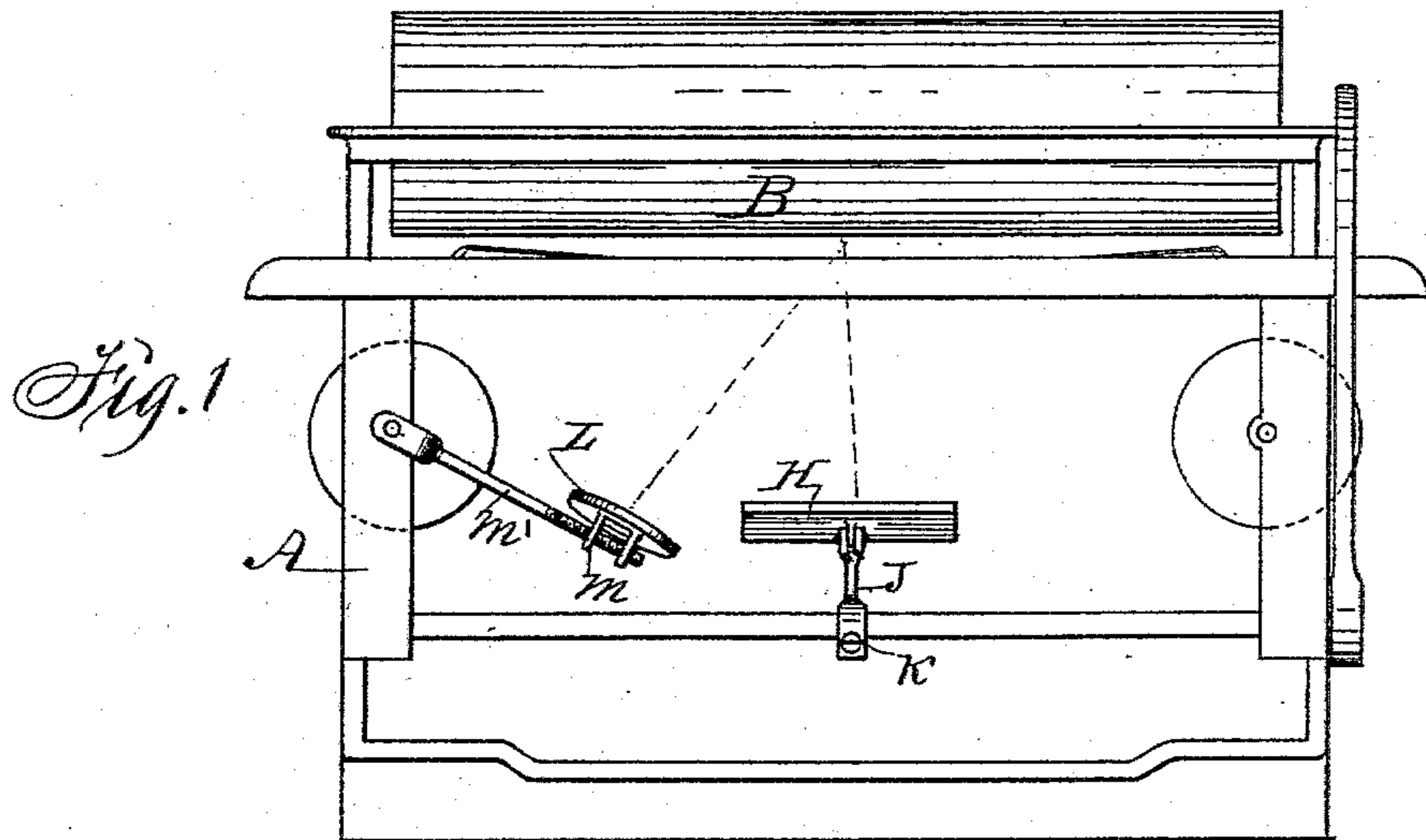
(No Model.)

E. K. FAILOR.

SCRIPTOSCOPE FOR TYPE WRITING MACHINES.

No. 490,189.

Patented Jan. 17, 1893.



Witnesses:
M. P. Smith
R. H. Orwig.

Inventor:
Ezra K. Failor,
By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

EZRA K. FAILOR, OF DES MOINES, IOWA, ASSIGNOR OF ONE-HALF TO
GEORGE R. SANDERSON, OF SAME PLACE.

SCRIPTOSCOPE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 490,189, dated January 17, 1893.

Application filed September 24, 1889. Serial No. 324,967. (No model.)

To all whom it may concern:

Be it known that I, EZRA K. FAILOR, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have
5 invented an Improved Scriptoscope for Type-Writing Machines, of which the following is a specification.

My invention consists in the construction of an automatic ribbon-governing device a mirror and a reflector-holder and the arrangement and combination thereof with the platen, ribbon and types of a writing or printing machine, as hereinafter set forth pointed out in my claims and illustrated in the accompanying drawings in which;
15

Figure 1 is a front view of a type-writing machine showing a mirror and a reflector attached to the frame. Fig. 2 is a transverse vertical sectional view of parts of the machine and the same attachments in position relative to the roller or platen that carries the paper as required for practical use; Fig. 3 is a top view of the ribbon-governing device showing it connected with a portion of the machine
20 frame and a piece of the ribbon as required in practical use; Fig. 4 is a view of the reflector-holding device.

A represents the frame of a machine that may vary in form as desired to support different kinds of type-writing and matrix-making mechanisms.
30

B is a cylindrical platen of common form that is moved longitudinally from right to left and vice versa, by means of a carriage.

C is one of a series of type-arms suspended in the frame in such a manner that the types carried on their ends will strike at a common center to make successive impressions in lines on the paper, or other substances carried upon the movable platen.
40

D is an automatic ribbon-governing device in the form of a ring suspended by one or more elastic bearers fixed to the frame A in such a manner that hooks projecting inward from the ring will retain the inking ribbon *f* in a plane at some space below the under surface of the platen while the type-arms are at rest, but will allow the type-arms to lift it up as they are swung upward so that
50 the ribbon will come in contact with the paper as the types are successively pressed upon

the ribbon, the paper and platen as required to make impressions and to formulate words and sentences that will be retained upon the paper; and as the pressure upon the key or
55 finger-piece, by means of which the types are swung upward, is relaxed or removed the ribbon holding device and ribbon will jointly descend to the plane from which they were elevated and in so doing allow the rays of incidence to fall upon the mirror to picture the letters printed on the under and invisible side of the paper on the platen so that it will be reflected by the mirror to the eyes of the operator so that the operator can see every letter
60 and word on the paper as soon as printed.

H is a plain mirror in a frame that has a hinged connection with a rod J, or other suitable device that is fastened to the frame A in such a manner that the mirror can be moved
70 longitudinally and also inclined at any angle desired as may be required to direct the reflected rays to the vision of the operator. It can be readily fastened to the rod, by means of a set-screw K, when it is properly adjusted
75 to allow the rays of light that descend from the printed letters on the paper to the mirror to be at proper angles with the eyes of the operator as required to be reflected and made visible to the operator instantly after the letters are successively printed. By using a concave mirror in place of a plain one the letters will be enlarged to the vision of the operator.
80

L is a concave reflector hinged to the sleeve *m* that is fitted to be moved on a stem *m'* that
85 has a bifurcated end adapting it to be placed astride some part of the machine frame and clamped fast by means of a set screw in such a manner that the reflector can be raised and lowered, rotated and set at any angle desired
90 for the purpose of focusing light on the letters and words printed on the paper and to aid in making them plainly visible in the mirror H.

I am aware mirrors and ribbon-moving
95 devices have been combined with type-writers in various ways; but my manner of arranging and combining mirrors and an automatic ribbon-governing device with the frame of a machine is novel and greatly advantageous in accomplishing the results contemplated in the use of a scriptoscope.
100

I claim as my invention:

1. An automatic ribbon-governing device for type writers comprising a ring having hooks projecting inward to overlap the edges of a ribbon and spring wires to fix the ring and adapted to be fixed to the frame of a type writer to extend horizontally and to retain the ring and ribbon normally in a plane below the under surface of the platen and a mirror attached to the frame to operate in the manner set forth.
2. An automatic ribbon-governing device consisting of a ring having hooks projecting inward and elastic bearers fixed to the ring

and to the frame of a type-writer to extend horizontally, a reflector-holder consisting of a sleeve having a reflector hinged thereto and a stem fitted in the sleeve and adapted to be fastened at its free end to the frame of a type writer, and a mirror hinged to a rod adapted to be detachably fixed to a part of the frame of the type writer arranged and combined to operate in the manner set forth for the purposes stated.

EZRA K. FAILOR.

Witnesses:

GEO. R. SANDERSON,
THOMAS G. ORWIG.