

(No Model.)

F. A. WISWELL.
STRAND FORMER OR DIE.

No. 339,357.

Patented Apr. 6, 1886.

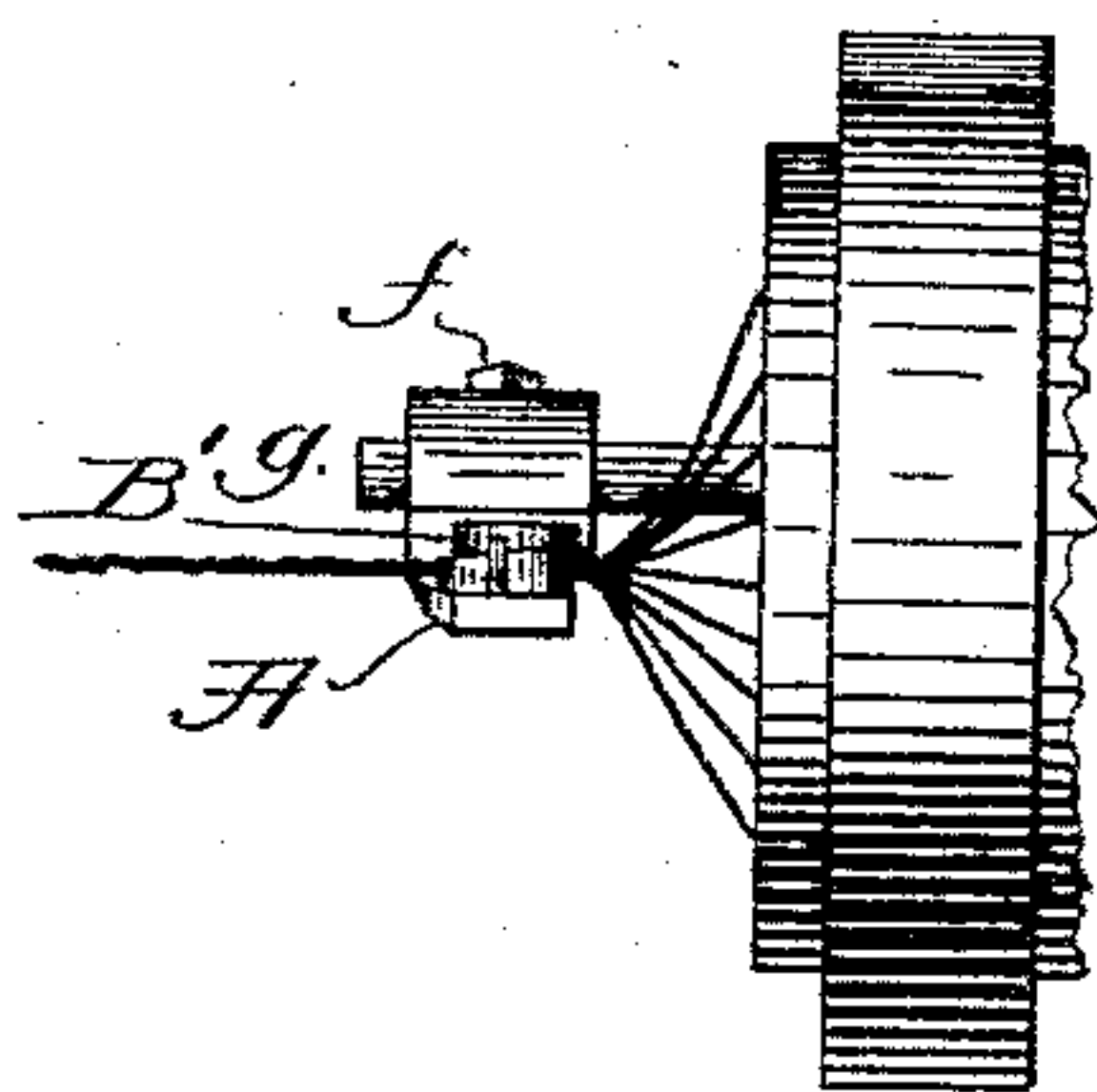


Fig. 4.

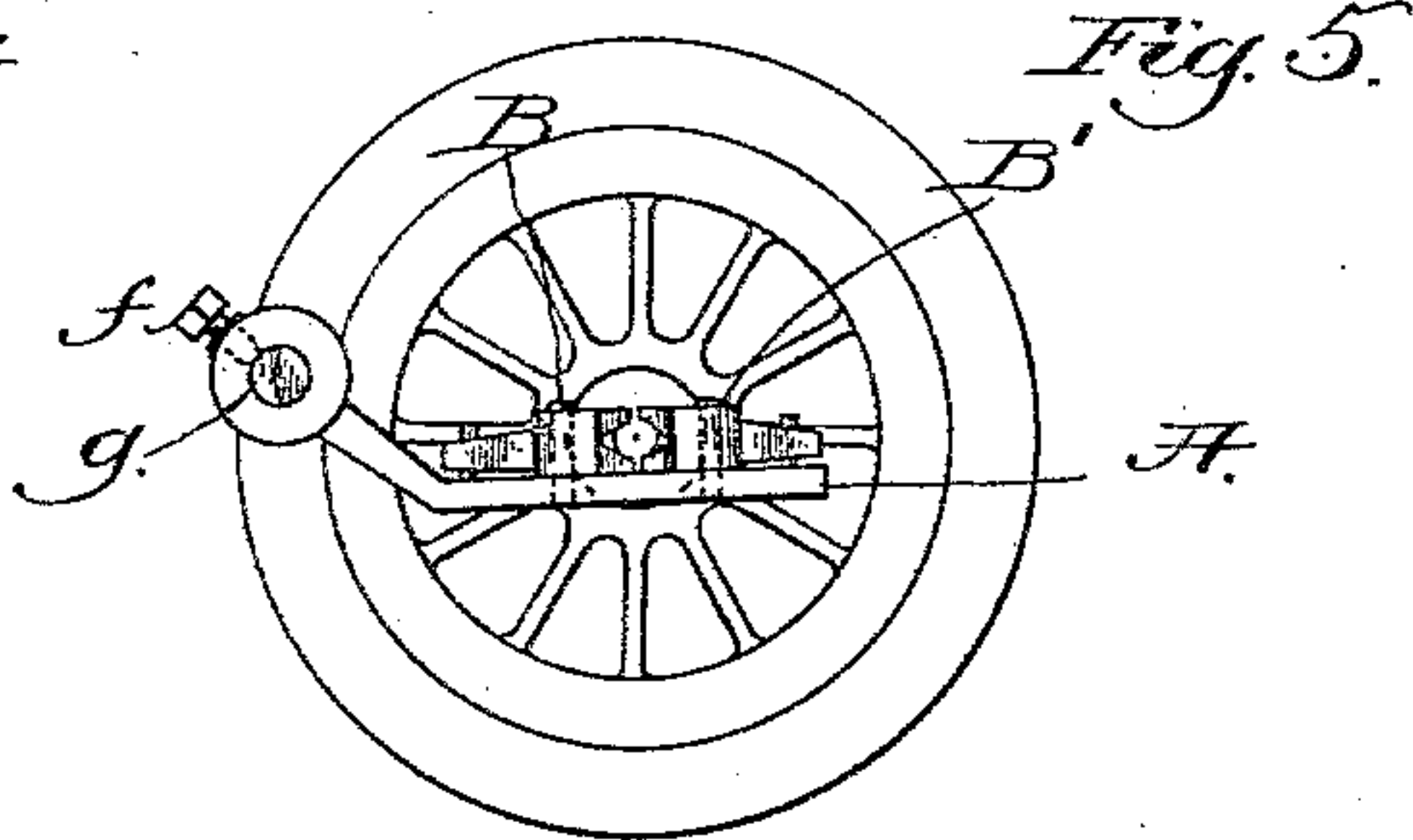


Fig. 5.

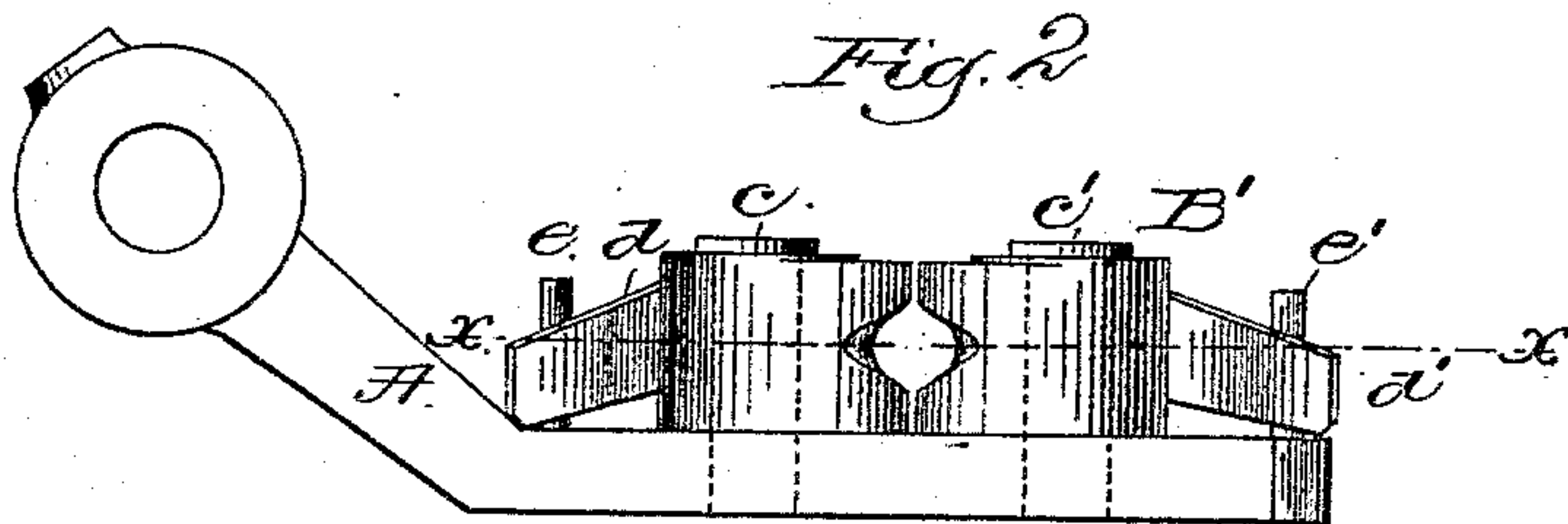


Fig. 2.

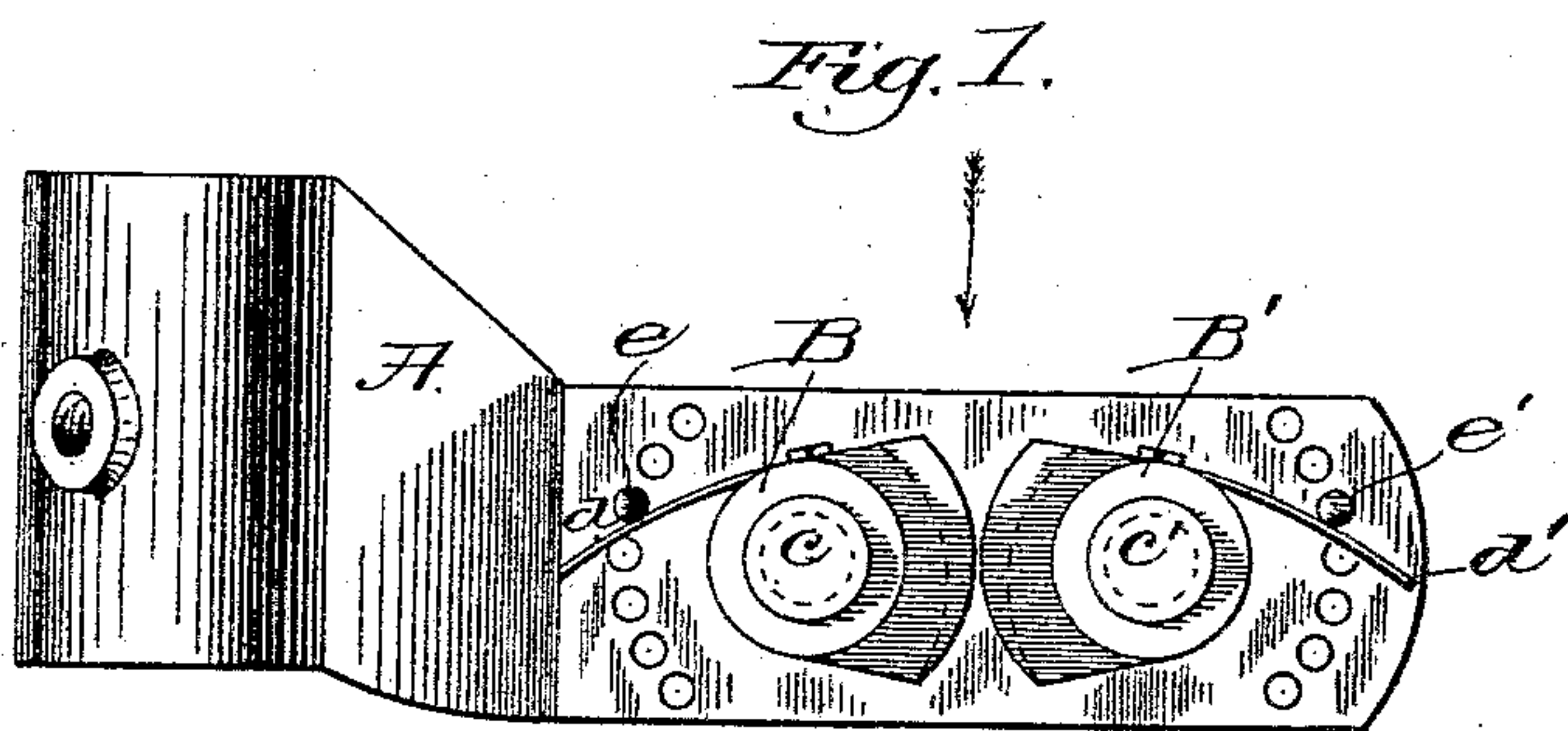


Fig. 1.

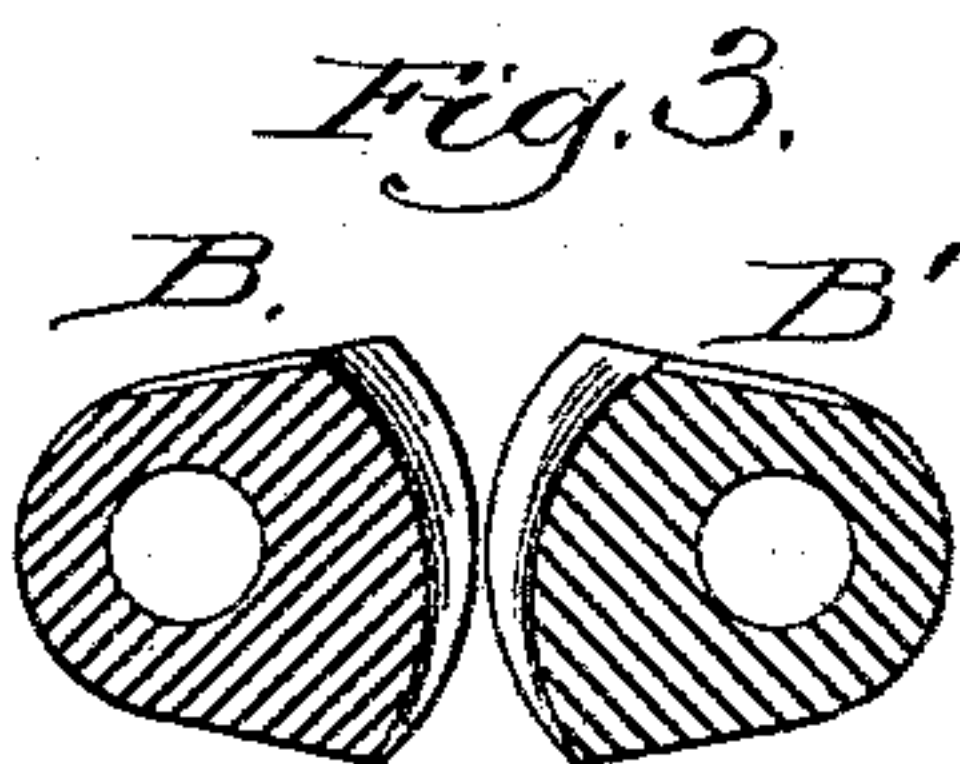


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

FREDERICK A. WISWELL, OF MONTREAL, QUEBEC, CANADA.

STRAND FORMER OR DIE.

SPECIFICATION forming part of Letters Patent No. 339,357, dated April 6, 1886.

Application filed August 30, 1884. Serial No. 141,808. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK ALONZO WISWELL, of the city of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Strand Formers or Dies used in the Manufacture of Wire Rope, of which the following is a specification.

The object to be attained is to so construct a pair of half-dies that they shall fit any size of strand from the largest capacity of the machine to which they are attached to the smallest, and thus obviate the necessity for a particular set of dies for each size of strand.

My invention consists in pivoting to a suitable base or frame a pair of quadrant-shaped dies having an increasing half-circle groove in each of their peripheries from their back to front edges in such manner that when their peripheries are contiguous and in the same relative though reverse position the two half-circle grooves will form a complete circle whose diameter will be determined by the position in which the quadrants may be retained.

My invention also consists in providing the front edges of the dies with springs projecting back of the pivotal points, where they may be retained at any desired point and thus adjust the said dies or strand-formers so that the half-circle grooves may be coincident in diameter and of the desired size.

Figure 1 represents a plan view of my improved strand-former and one form of holder. Fig. 2 is an elevation of the same; Fig. 3, a horizontal section of the dies on line *x x*, Fig. 2; Fig. 4, a side elevation of my strand-former, showing it as in use. Fig. 5 is a front elevation of a strand-spinning head, showing the relation of my strand-former therewith.

The die holder or frame A is of preferred construction, to which are pivoted by screws or studs *c c'* the quadrant-shaped blocks or dies B B', whose opposite or meeting faces form the arcs of circles which are concentric with the studs *c c'*. The faces of the blocks are each provided with a half-circle groove of increasing diameter and depth from one end to the other, as clearly shown in Fig. 3, thus provid-

ing, when the faces of the dies meet, a circular opening of greater or less diameter, according to the position in which the dies are retained by means of the springs to be presently mentioned.

The dies B B' are provided with the springs *d d'*, which project in opposite directions and govern the position of said dies by means of the engaging pins *e e'*, which are inserted in the desired one of a series of holes across the holder A to correspond with the arc or sweep described by the outer end of the spring *d* or *d'*.

The object to be attained by using the springs *d d'* is, first, to provide a yielding pressure on the strand at all times, and next to allow any imperfection or projection—such as a kink or splice in the wire—to rotate the strand formers or dies B B' in being drawn through said dies, which is accomplished by the yielding of the springs until the increasing grooves in the faces of the dies B B' has arrived at a point sufficiently large to permit the enlargement to pass, when the opening for the strand will be immediately contracted to the normal size of the strand, thus preventing the breakage of the dies or the holder, or even the strand itself, by reason of the greatly increased tension on the rope due to the crooked or uneven place in said strand.

I am aware that springs are sometimes used on half-dies or strand-formers, but these permit the enlargement only in one direction, away from each other, thus leaving a space between the dies, while by the use of the device herein shown the strand space or opening is always circular and always binds on every side or peripheral portion of the strand.

What I claim is—

1. The combination, with a holder, of a pair of oppositely-arranged movable dies pivoted to said holder and provided with partially circular contiguous faces, the face of each die having a semicircular groove of increasing diameter and depth from one end to the other, a pair of springs secured one to each die, and suitable known adjusting means to retain the springs in variable position and provide the dies with variable spring resist-

ance, substantially as and for the purpose set forth.

2. The combination, with a frame or holder provided with two series of holes and the
5 pins, of a pair of oppositely-arranged dies pivoted to the holder and provided with partially circular faces having the semicircular grooves of increasing diameter and depth from
end to end, and a pair of springs secured one
10 to each die, as and for the purpose specified.

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

FREDERICK A. WISWELL.

Witnesses:

W. H. PELLOW,

S. J. TAYLOR.