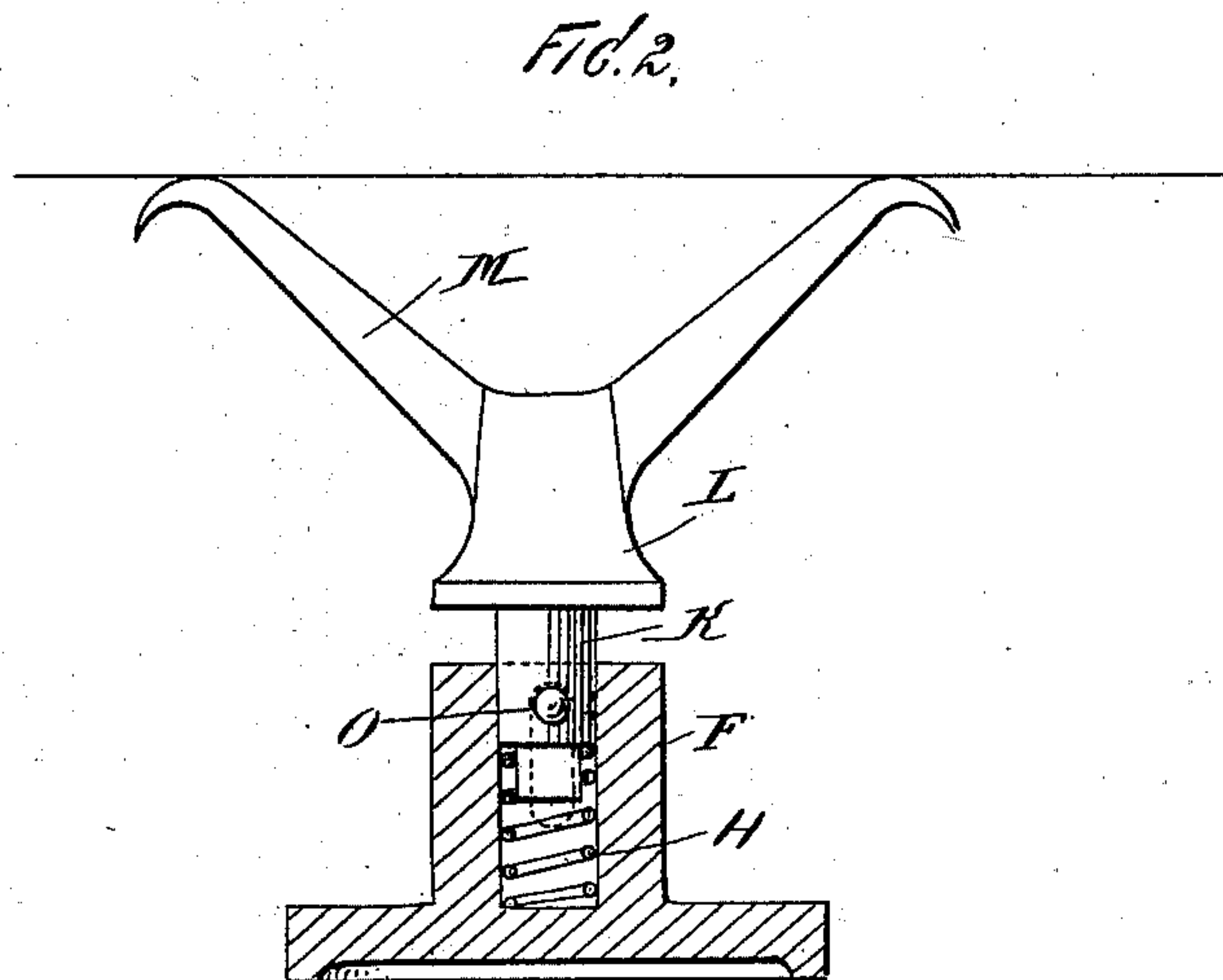
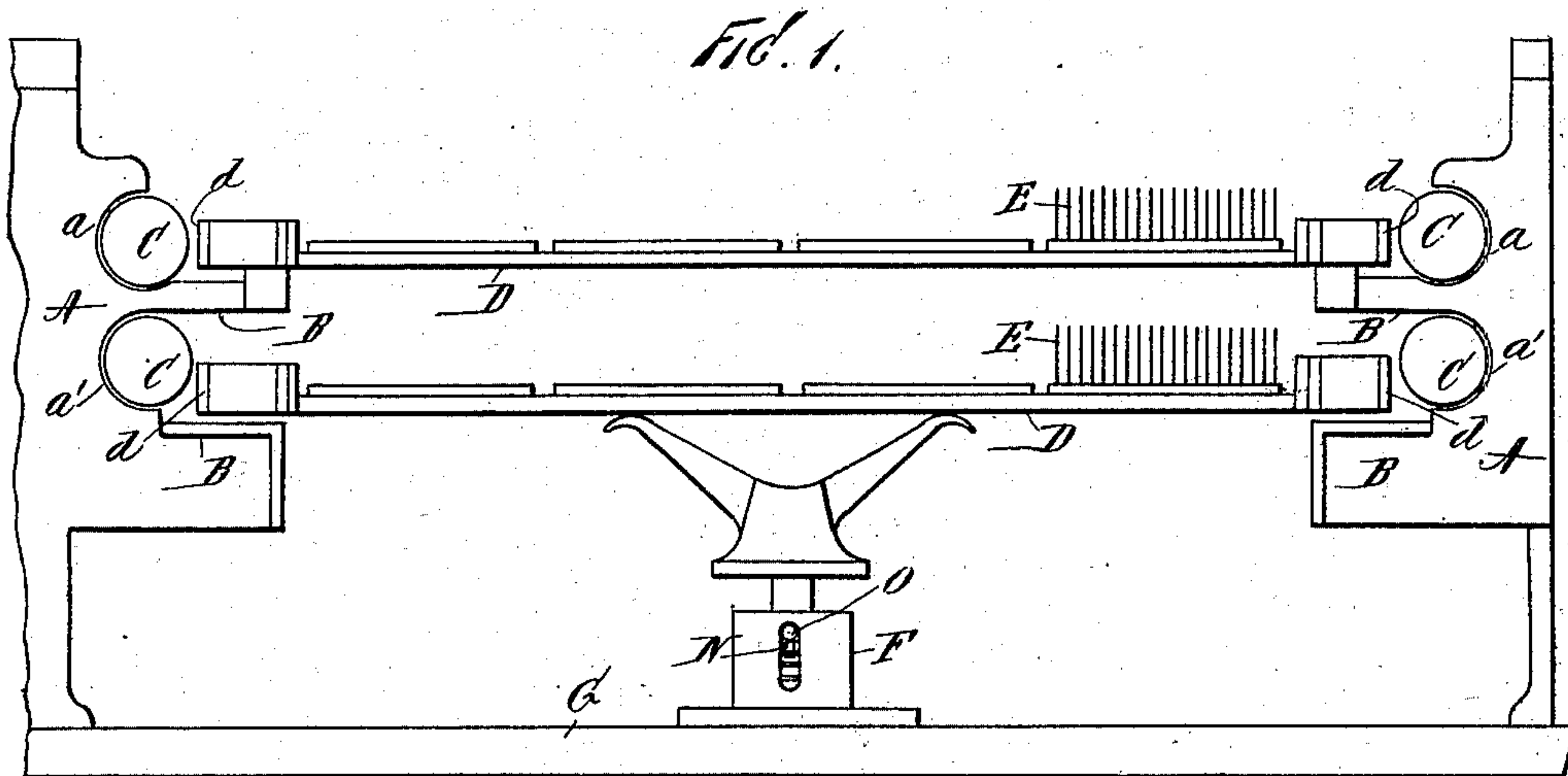


(No Model.)

D. A. DUGAN.
SUPPORT FOR GILL BARS.

No. 560,696.

Patented May 26, 1896.



WITNESSES:

C. W. Benjamin
L. M. Muller.

INVENTOR

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UNITED STATES PATENT OFFICE.

DANIEL A. DUGAN, OF BROOKLYN, NEW YORK.

SUPPORT FOR GILL-BARS.

SPECIFICATION forming part of Letters Patent No. 560,696, dated May 26, 1896.

Application filed August 6, 1895. Serial No. 558,361. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. DUGAN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Supports for Gill-Bars, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to supports for the gill-bars or "fallers" which are used in connection with the drawing and roving frames in machines for preparing flax, hemp, jute, and similar long-fibered substances for spinning and for what is known as "gill-spinning." In this class of machines the gill-bars or fallers are supported in frames composed of parallel bars or supports, and the gill-bars or fallers are arranged in separate planes, one above the other, and the bars or fallers of each plane are carried back and forth by means of screw-threaded shafts arranged in the sides of the supports, which operate in connection with the end of the bars or fallers to carry them forward and back, and this construction is well known and familiar to those skilled in the art to which this invention relates.

In the operation of the machine, as described, the gill-bars in the upper row or plane are carried forward by means of screw-threaded rods or bars, which are arranged adjacent to the ends thereof and which carry the bars forward by means of screw-threads formed thereon, and as each bar in the upper row or plane arrives at the front side of the machine it drops down into the second plane, the members of which are carried backward by similar screw-threaded rods, which operate in connection with the ends thereof, and as each of the gill-bars drops from the upper to the lower plane it strikes upon a solid steel support. These bars are from six to eight pounds in weight and are dropped at the rate of from two hundred to three hundred per minute, and the constant hammering and shaking thus produced loosens the gills and has a tendency to buckle, bend, or break the bars.

Heretofore, as above stated, the bars have been dropped upon a solid steel support; and

the object of this invention is to avoid the objections above specified by providing a yielding or spring-cushion support or receiver upon which the gill-bars may drop; and with this object in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, and in which—

Figure 1 represents a front view of a machine provided with my improvement, and Fig. 2 a sectional view of said improvement.

In the construction shown in the drawings, A designates the parallel supports for the gill-bars, in the adjacent sides of which are formed grooves or recesses *a* and *a'*, below each of which is formed a longitudinal flange or extension B, which serve as supports for and on which the gill-bars slide. Arranged in each of the recesses *a* and *a'* is a shaft C, the ends of which only are shown, and each of these shafts is screw-threaded, and the threads formed thereon are adapted to come in contact with the ends *d* of the gill-bars D, which are free to move back and forth on their supports B, and it will be understood that a plurality of these gill-bars D are arranged in each plane side by side, and it will also be understood that the view shown in Fig. 1 is a front view of the machine or a section thereof and that but one gill-bar of each plane or series is shown.

In the operation of the machine the bars of the upper plane are each carried forward and those of the lower plane are carried backward, and as each of the bars of the upper plane reaches the front of the machine it drops down into the lower plane, and the bars of the upper plane being continually carried forward and dropped and the bars of the lower plane are continually carried backward and raised at the rear end or back of the machine into the upper plane. All these features of construction are well understood and consequently need no further illustration and description, As the bars of the upper plane are dropped into the lower position they fall upon the rigid supports B, as hereinbefore stated, and these bars are all of considerable weight, each weighing from six to ten pounds, and this

constant hammering loosens the gills or hackles E and also has a tendency to break or bend the bars at the center. To avoid this, I provide a central spring support, rest, or receiver, consisting of a tubular base F, which is connected with the base G of the machine or a cross-bar connected therewith, and within the tubular base F is placed a spiral spring H, on which rests the shaft K of the receiver or support L, which is provided with side arms M, the upper ends of which are curved outwardly, as shown in Fig. 2, and are adapted to receive the bars as they fall from the upper to the lower plane in Fig. 1.

Formed in the side of the tubular base F is a vertical slot N, through which passes a pin O, which passes into or through the shaft K of the support L and which prevents the removal of said shaft from the tubular base, as will be readily understood. With this construction it will be seen that as each of the bars D drops from the upper into the lower position it strikes upon the yielding support, and the constant shaking and bending or breaking of the bar is prevented, as is also the loosening of the gills or hackles E.

The operation of the machine is also much smoother and more even and regular and the frequent stopping and repair made necessary by the breaking or bending of the bars and the loosening of the gills or hackles is avoided and consequently much time is saved, and I therefore accomplish the object of my invention by means of a device which is simple in construction and operation and which is also

comparatively inexpensive and which is perfectly adapted to accomplish the result for which it is intended.

It is evident that changes in the form and construction of my yielding support or receiver may be made without departing from the spirit of my invention, and I therefore reserve the right to make such alterations therein as fairly come within the scope of the invention.

Having fully described my invention, I claim and desire to secure by Letters Patent—

A support for gill-bars, consisting of a base provided with tubular central projection, in one side of which is formed a central longitudinal slot, a shaft carrying outwardly-curved arms secured within said tubular extension, said shaft carrying a pin to operate in said slot and limit the movement of the shaft, a spring within said tubular extension and operating upon the lower end of said shaft to force the same outwardly, said outwardly-curved arms being adapted to receive the gill-bars as they fall from the upper to the lower tier, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of July, 1895.

DANIEL A. DUGAN.

Witnesses:

L. M. MULLER,
A. M. CUSACK.