

(No Model.)

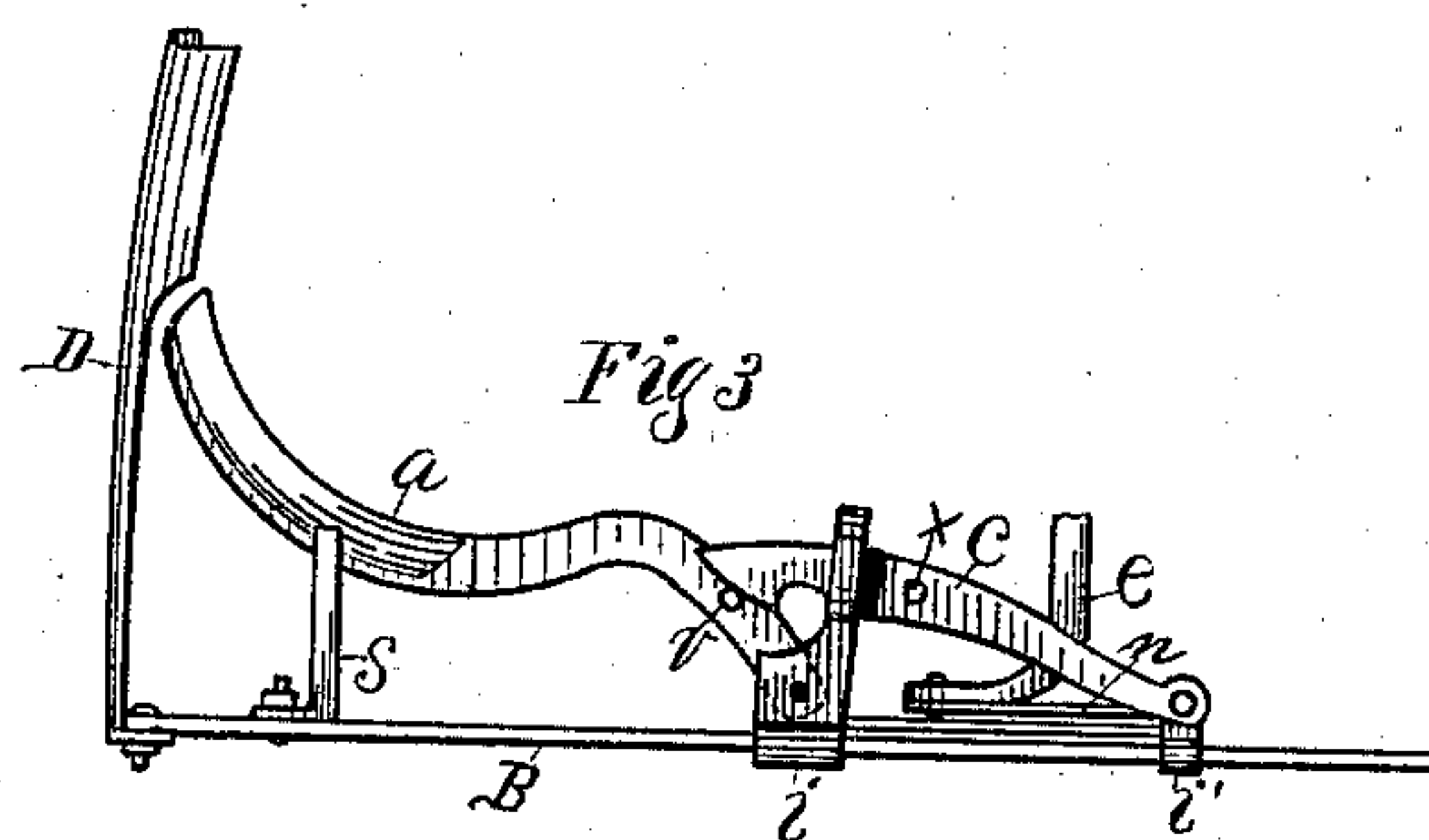
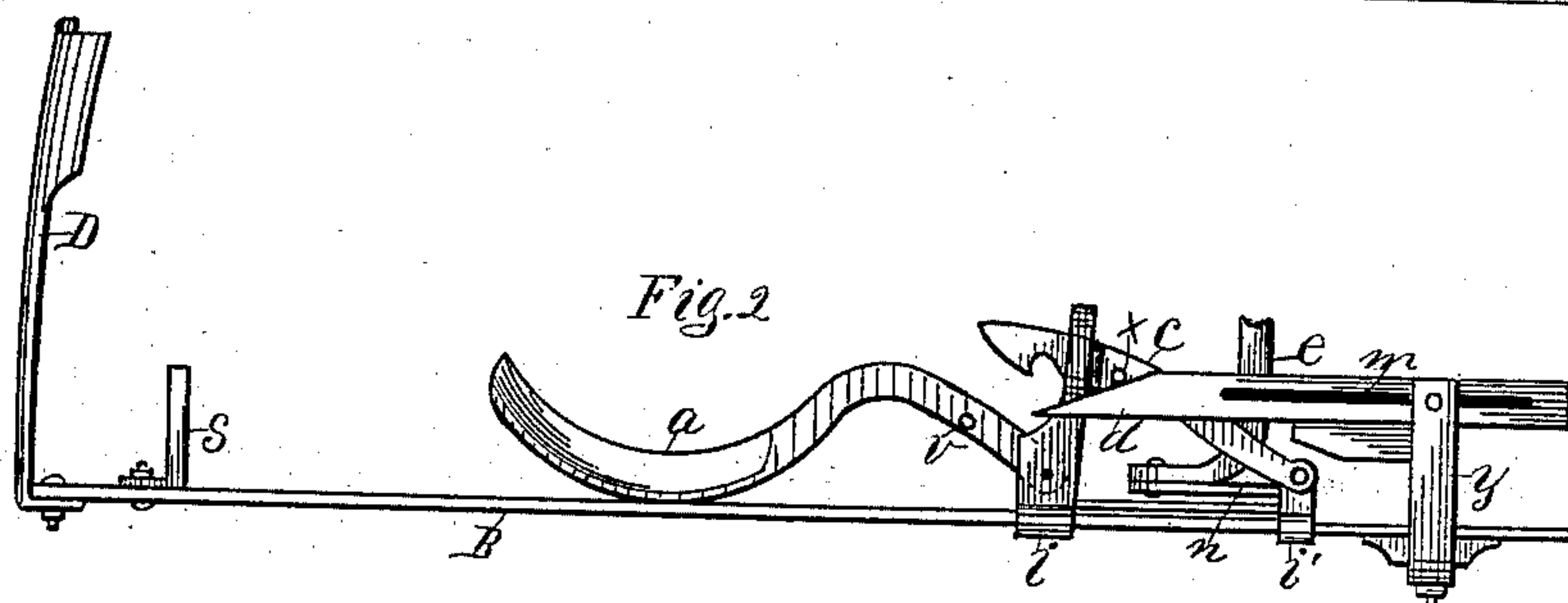
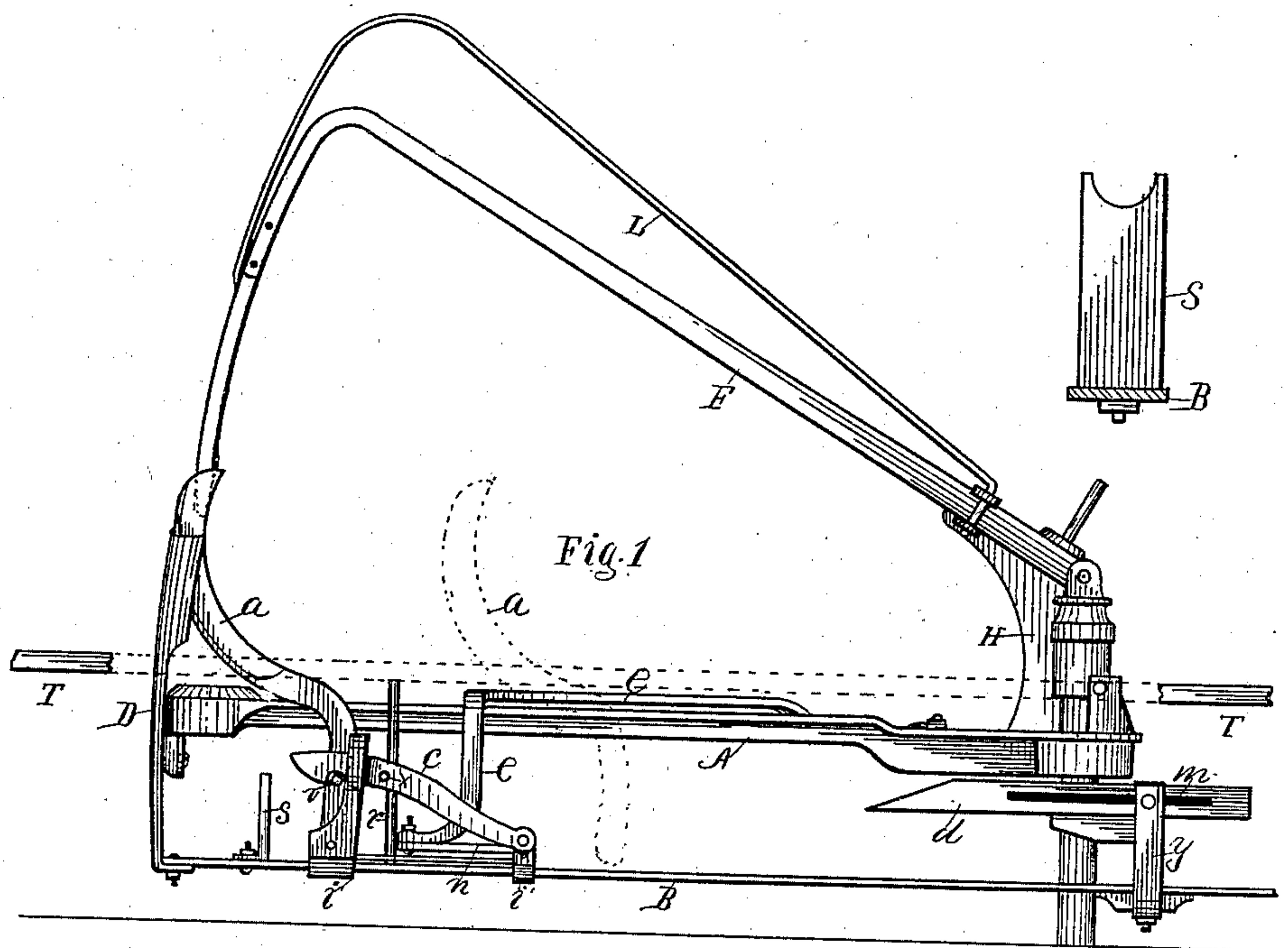
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W. H. KNAPP.

BUNDLE DIVIDER FOR GRAIN BINDERS.

No. 268,028.

Patented Nov. 28, 1882.



Attest.

John C. Perkins.

Geoff Miller

Inventor.

William H. Knapp.
By Lucius C. West

Atty-

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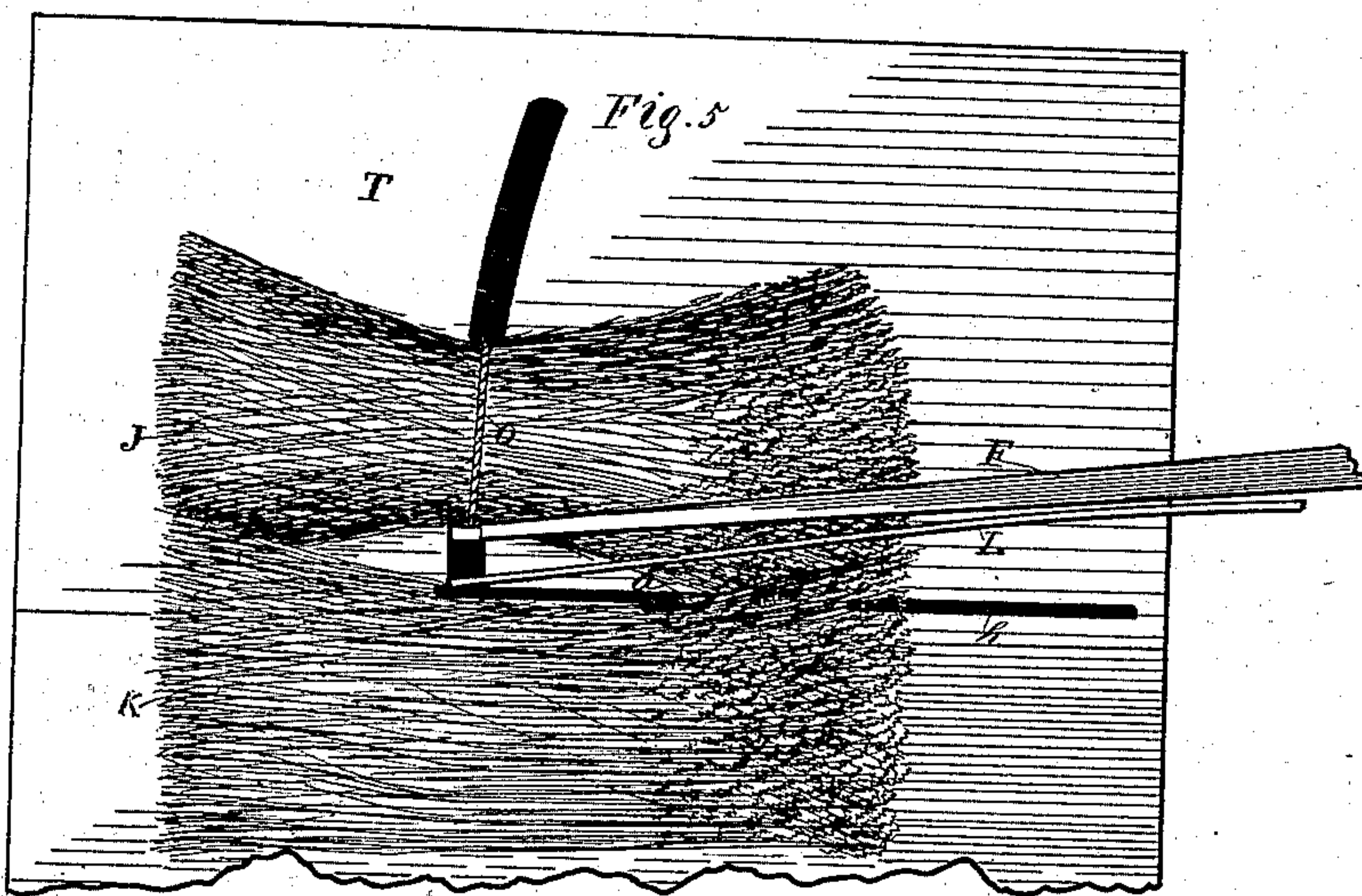
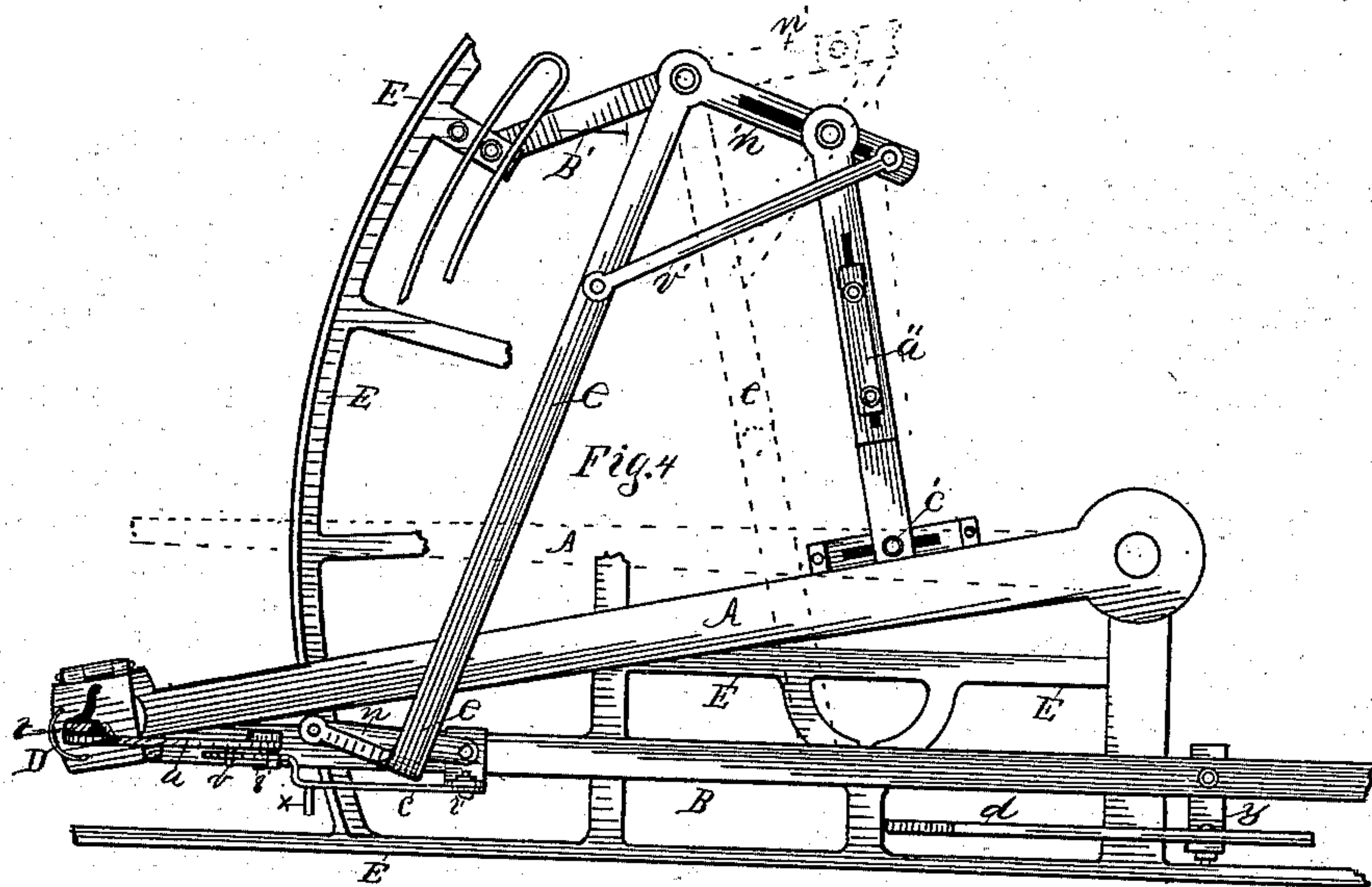
W. H. KNAPP.

2 Sheets—Sheet 2.

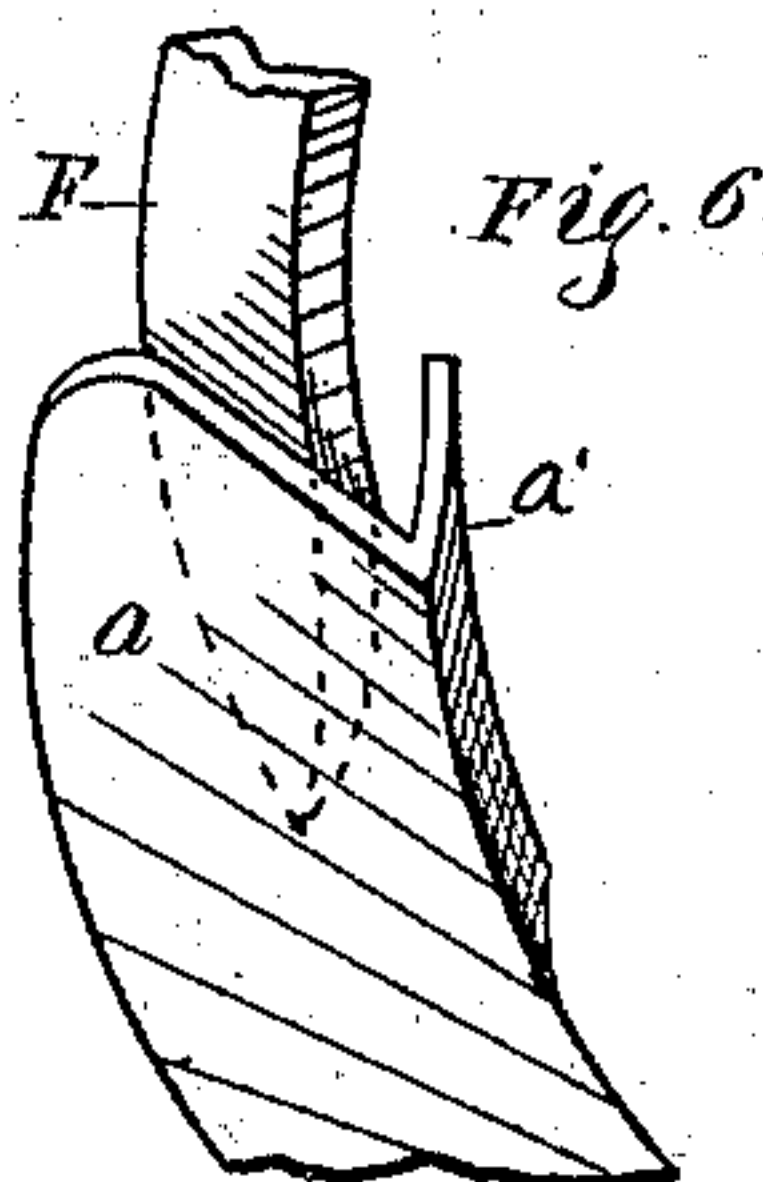
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UNITED STATES PATENT OFFICE.

WILLIAM H. KNAPP, OF GALESBURG, MICHIGAN.

BUNDLE-DIVIDER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 268,028, dated November 28, 1882.

Application filed July 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. KNAPP, a citizen of the United States, residing at Galesburg, county of Kalamazoo, State of Michigan, have invented a new and useful Bundle-Divider for Grain-Binders, of which the following is a specification.

My invention consists in a blade or bar so constructed and connected with other mechanism that it may be thrust through the grain and drawn through the same lengthwise thereto, in a manner to divide the gavel being bound from the supply of grain.

In the drawings forming a part of this specification, Figure 1 is a side view, showing the relation of the grain-dividing device with the needle-bar; Fig. 2, a side view before the operation commences; Fig. 3, same during a certain stage of the operation; Fig. 4, a top view of parts shown in Fig. 1, with the table and binder-arm removed; Fig. 5, a top view showing the dividing-blade separating a forming gavel from the grain-supply; and Fig. 6 is a modification of the form of the blade.

F is a needle-bar, hinged and pivoted at the rear end in a manner to swing laterally and play vertically in the usual manner. A is a bar beneath, located under table T. The forward end of this bar carries the tying device and receives the needle-bar in the operation of tying the band, said bar having the same capacity to swing laterally as the needle-bar F. With these well-known parts of a grain-binder I associate a track or way, B, and a carriage adapted to travel back and forth on said way. This carriage is provided with the dividing-blade *a* and lock-lever *c*, said lever being pivoted to supports *i i*. Said supports grapple the way B in a manner to form recesses, in which the way is located. Blade *a* may be provided with a flange, *a'*, as in Fig. 6, for the purpose of holding the grain away when the end of the needle-bar F descends alongside of said blade. The carriage, with its blade *a*, may be carried back and forth on way B by any suitable mechanism. The arrangement I have adopted consists in a bar, *e*, one end of which is pivoted to the carriage by means of the pivoted connecting-bar *n*. The other end of bar *e* is pivoted to some suitable support, and has a right-angled extension, *n'*, to which

is pivoted bar *a''*, said bar *a''* being pivoted to bar A. Bars *n'*, *a''*, and A are slotted, as shown in Fig. 4, for the purpose of adjustment in length and position in conformity with any variation of parts and in governing the movement of the carriage.

When the machine is set in motion the needle-bar F swings toward the place where the grain is being supplied, and at the same time the carriage, with the dividing-blade, starts from the location *n'*, Fig. 2, toward the left hand, or toward the point of the needle-bar, which movement will be readily understood by referring to Fig. 4. The blade *a* is at the time beneath table T, under slot *h*, Fig. 5. When said blade comes in contact with standard S, Fig. 3, it commences to rise, and as it comes in contact with guard D it continues to rise until hook-bar *c* catches over projection *v*, which locks the dividing-blade in an upright position through the slot *h* and through the grain. The needle-bar F now descends close beside the blade *a*, throwing the cord *o* around that portion of the grain which is to form the gavel J, and swings away from the grain-supply, carrying the gavel with it. L is a bar, used in certain machines, which holds the supply of grain K back until another gavel is to be formed. The blade *a* now moves through the grain toward the right hand in Fig 5, thoroughly separating the heads of the forming gavel from the other grain. When the projection *x* of lock-lever *c* engages the incline of bar *d* said lever is raised, unlocking the blade after the grain is divided, and allowing it to fall down through slot *h* again to the position in Fig. 2. Bar *d* has a slot, *m*, through which it is bolted to the support *y*. By means of this slot bar *d* may be so adjusted that the blade will not be unlocked until desired, changes being necessary in grain of varying lengths.

It will appear obvious that many plans may be adopted to cause blade *a* to perform its several functions, and in varying styles of grain-binders many changes from the plan shown will be necessary; hence I do not limit the scope of my claims to the peculiar combination shown.

What I claim is—

1. In a grain-binder, a blade adapted to be

thrust in the grain which is being supplied for forming the gavels, and to be carried lengthwise through said grain by suitable means to separate the forming gavel from the grain-supply, substantially as set forth.

2. The combination, with the binding mechanism of a grain-reaper, of a carriage provided with a dividing-blade, a carriage-way, and means for moving said carriage back and forth, for thrusting the blade through the grain, and for locking and unlocking it, all substantially as specified.

3. In a grain-binder, a dividing-blade, combined with means for carrying it forward in a horizontal position, for thrusting it up through the grain, and for carrying it back in an upright position through said grain, all substantially as described.

4. The needle-bar and the lower bar having the same lateral swing, in combination with the carriage having the dividing-blade, the carriage-way, and the bars pivotally connected with said carriage and lower bar, all substantially as described and shown.

5. In a grain-binder, the carriage-way, the carriage provided with the pivoted blade and locking-lever, having the projections shown, the beveled bar for unlocking the blade, and the standard and guard for throwing the blade to an upright position, all in combination, substantially as set forth.

WILLIAM H. KNAPP.

Witnesses:

JOHN C. PERKINS,
G. W. MILLER.