

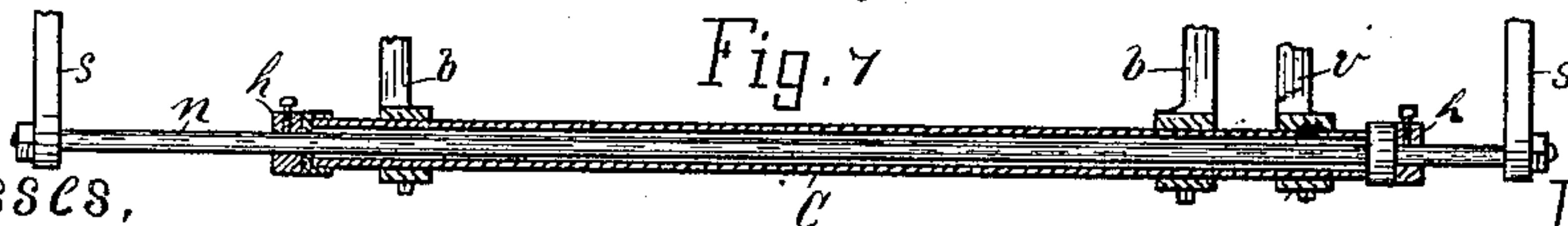
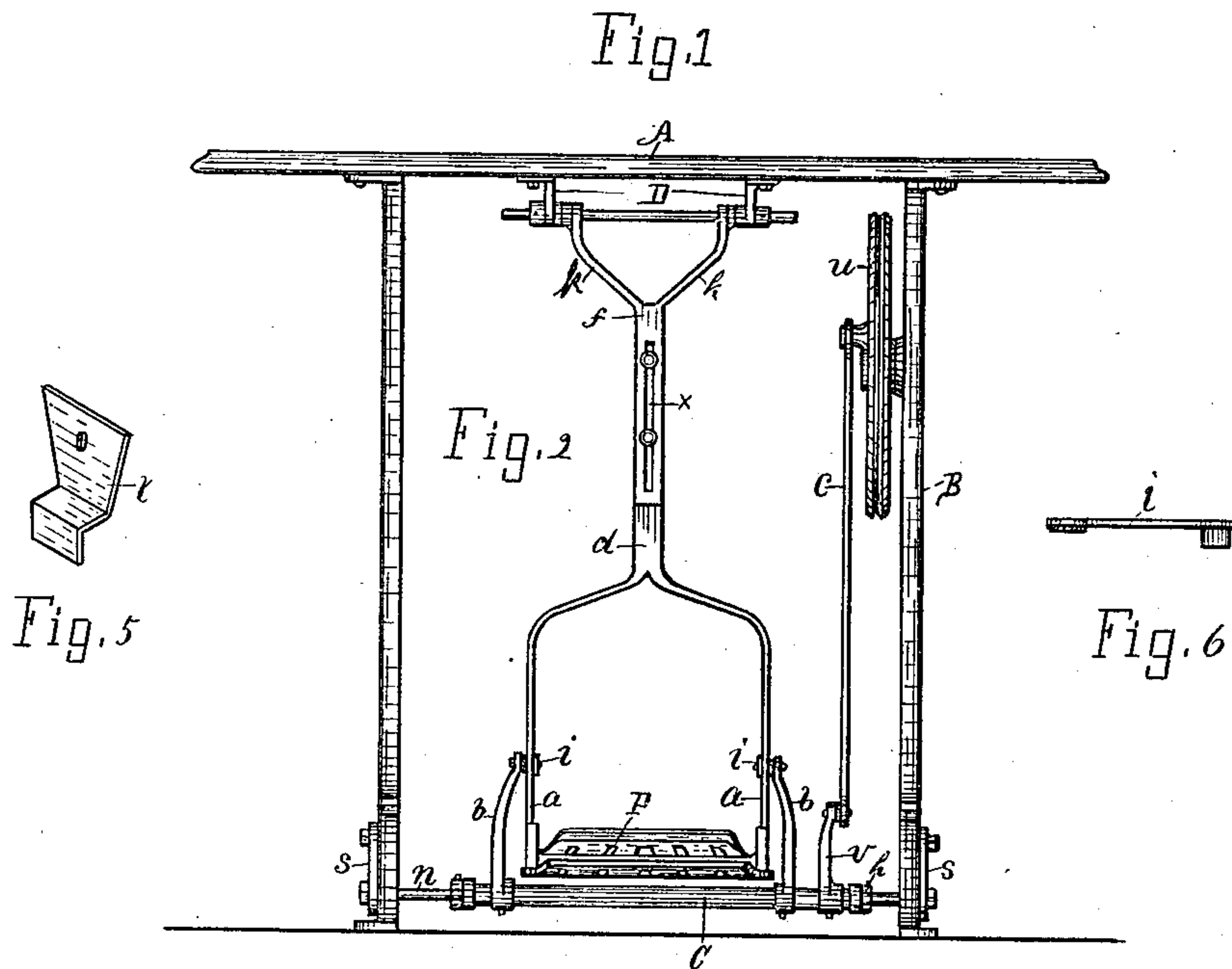
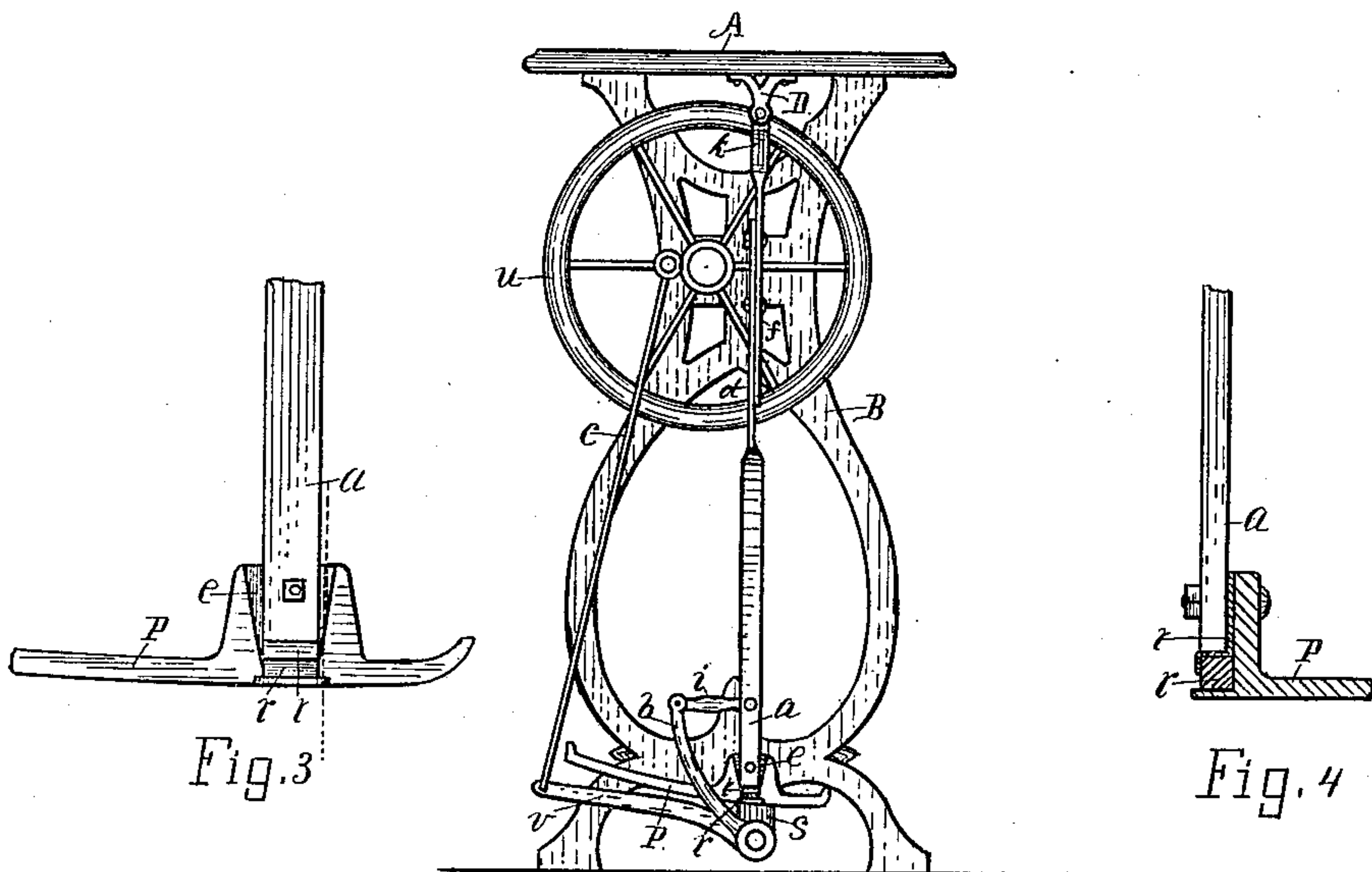
(No Model.)

W. E. SLEIGHT & G. J. BREMER.

TREADLE.

No. 371,385.

Patented Oct. 11, 1887.



Witnesses,
John C. Perkins
Henry S. M. Howard

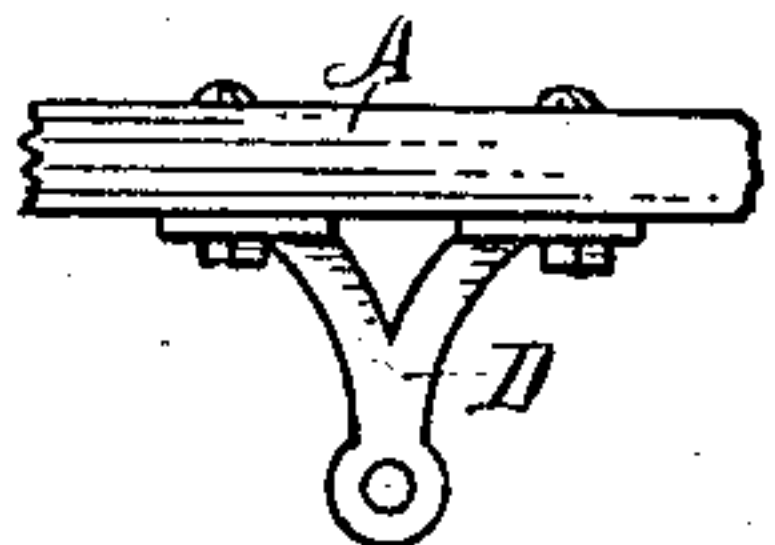


Fig. 8

Inventor.
Wm E Sleight, Godfrey J. Bremer
By Lewis C. West
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM E. SLEIGHT AND GODFREY J. BREMER, OF KALAMAZOO,
MICHIGAN.

TREADLE.

SPECIFICATION forming part of Letters Patent No. 371,385, dated October 11, 1887.

Application filed January 20, 1887. Serial No. 224,875. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM E. SLEIGHT and GODFREY J. BREMER, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Treadle for Sewing-Machines, &c., of which the following is a specification.

This invention relates to swinging treadles for operating foot-power machines; and it has for its object the improved construction below described and claimed, designed especially for use on sewing-machines, but applicable to other foot-power machines.

In the drawings forming a part of this specification, Figure 1 is an end elevation of a sewing-machine table, showing our invention attached, one of the table legs being removed, and looking from a point at the left of Fig. 2; Fig. 2, a front elevation; Fig. 3, lettered details enlarged from Fig. 1; Fig. 4, a section on the dotted line in Fig. 3; Fig. 5, a lettered detail in Figs. 3 and 4 in perspective; Fig. 6, a plan of the part *i* in Fig. 1; Fig. 7, enlarged broken lettered details from Fig. 2, parts being in vertical section; and Fig. 8 is a detail from Fig. 1, enlarged.

Referring to the letters marked on the drawings, A is the table-top, and B the legs. The treadle may be mounted upon the ordinary rod, *n*, in its normal position, (higher than here shown,) or in the lower position in Fig. 2, preferably the latter. *s s* are pendent bars bolted to the legs at the lower arch, and the ends of the rod *n* are attached to the lower end of said bars *s s*. By this means the treadle is nearer the floor and the feet of the operator need not swing so high; but this is a matter of choice.

The treadle is suspended from the table-top by means of the swinging pendulum or hanger *f d*. This hanger is pivotally attached at the upper end, as at D, or by other suitable means. It is preferably made forked at both ends, as at *k a*. The lower branches, *a*, are pivotally attached to the treadle P at *e*, so that the treadle will rock with the feet in conformity with the slight movement of the ankle-joints as the operator seated in front of the machine swings the treadle forward and back. During this action the hip-joints of the operator are

at rest, there being no exercise of the legs required, except in the knee-joints and below. By referring to Fig. 3 it will be seen that the rocking of the treadle is limited by means of the slot at *e*, having the inclined sides converging toward the bottom. The branches *a a* of the hanger are pivoted in said recess. At *t* is a metal chair, Figs. 4, 5, receiving the end of the arms *a a*, and beneath this chair is a rubber cushion, *v*. The pivots of the arms *a* pass through an elongated hole in the chair, Fig. 5, by which means the chair rests on the rubber, thus imparting an elastic action to the rocking of the treadle. The toe and heel of the feet thus always touch the treadle and exert a full leverage pressure thereon.

The hanger may be in two lapped parts, *f d*, slotted where they lap and held by adjusting-bolts, Fig. 2, so as to lengthen and shorten it for varying heights of machines, or it may be made solid.

On the rod *n* is a hollow collar, C, held in place by the keyed collars *h*, so as to rock on the rod *n*. Projecting laterally and upwardly from the collar C are levers *b b*, attached to the collar and adapted to swing when the collar rocks. The upper ends of these levers *b* are pivoted to the connecting-bars *i*, which bars are in turn pivoted to the arms *a* of the swinging hanger. The object of the long collar C will thus be seen—viz., so that we can couple both arms of the hanger to a bearing which is common to both levers *b* and the lever *v*. This lever *v* projects from the collar, and its free end is pivotally attached to the connecting-rod *c* of the crank on pulley-wheel *u*.

A brief review of the operation is as follows: The operator, with a natural swing outward and back of the legs from the knees down, swings the treadle and hanger with comfort and but little effort and without danger to health. This swings the levers *b*, which action rocks the collar C—that is, causes the collar to partially rotate first one way and then the other on the rod—and the rocking of this collar swings the lever *v*, imparting a reciprocating motion to connecting-rod *c*.

Having thus described our invention, what we claim is—

1. The combination of a machine-table, a

swinging hangers suspended therefrom, a treadle pivoted to the lower end of the hanger in a manner to rock, a horizontal collar beneath the treadle adapted to partially rotate one way and back, levers projecting therefrom and being jointly attached to each side of the hanger, and a lever projecting from said collar and pivotally attached to the connecting-rod of the crank-wheel, substantially as set forth.

2. The combination of the vertically-adjustable suspended swinging hanger, the treadle suspended by the hanger, the rocking collar, levers projecting therefrom and jointly attached to both sides of the hanger, and the lever pivotally attached to the connecting-rod of the crank-wheel, substantially as set forth.

3. The combination of the swinging hanger, and means for operatively attaching it to the connecting-rod of the crank-wheel, with the treadle provided with the rubber-cushioned recesses in which the ends of the hanger-arms are pivoted, substantially as set forth.

In testimony of the foregoing we have hereunto subscribed our names in presence of two witnesses.

WM. E. SLEIGHT.
GODFREY J. BREMER.

Witnesses:

HENRY G. M. HOWARD,
STEPHEN D. O'BRIEN.