

O. E. Drown. Braiding Mach.

N^o 55,580.

Patented Jun. 12, 1866.

Fig. 1.

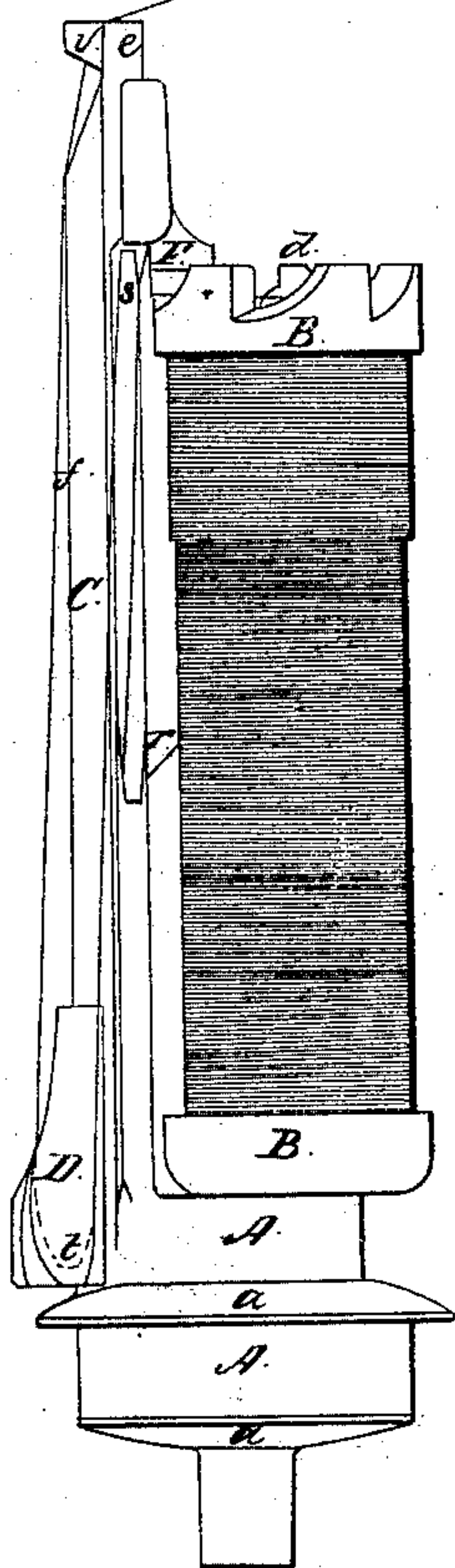


Fig. 2.

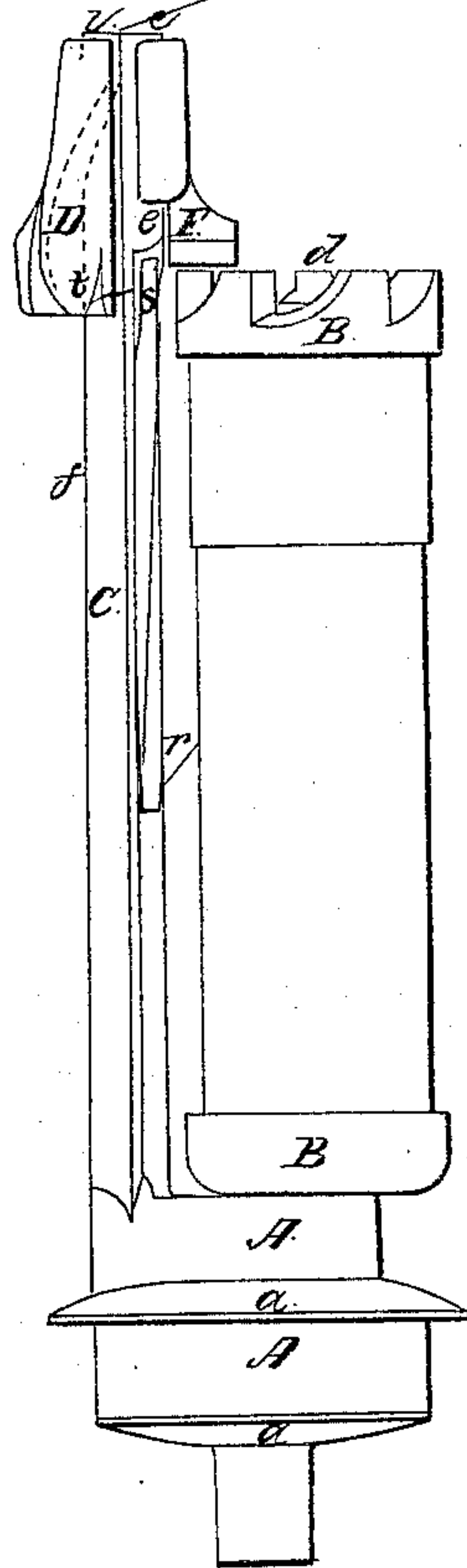


Fig. 3.

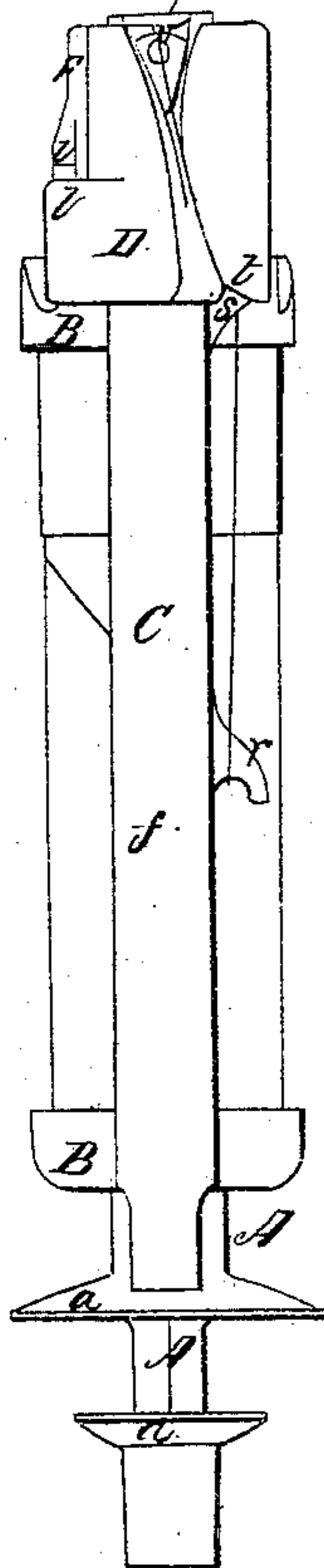


Fig. 4.

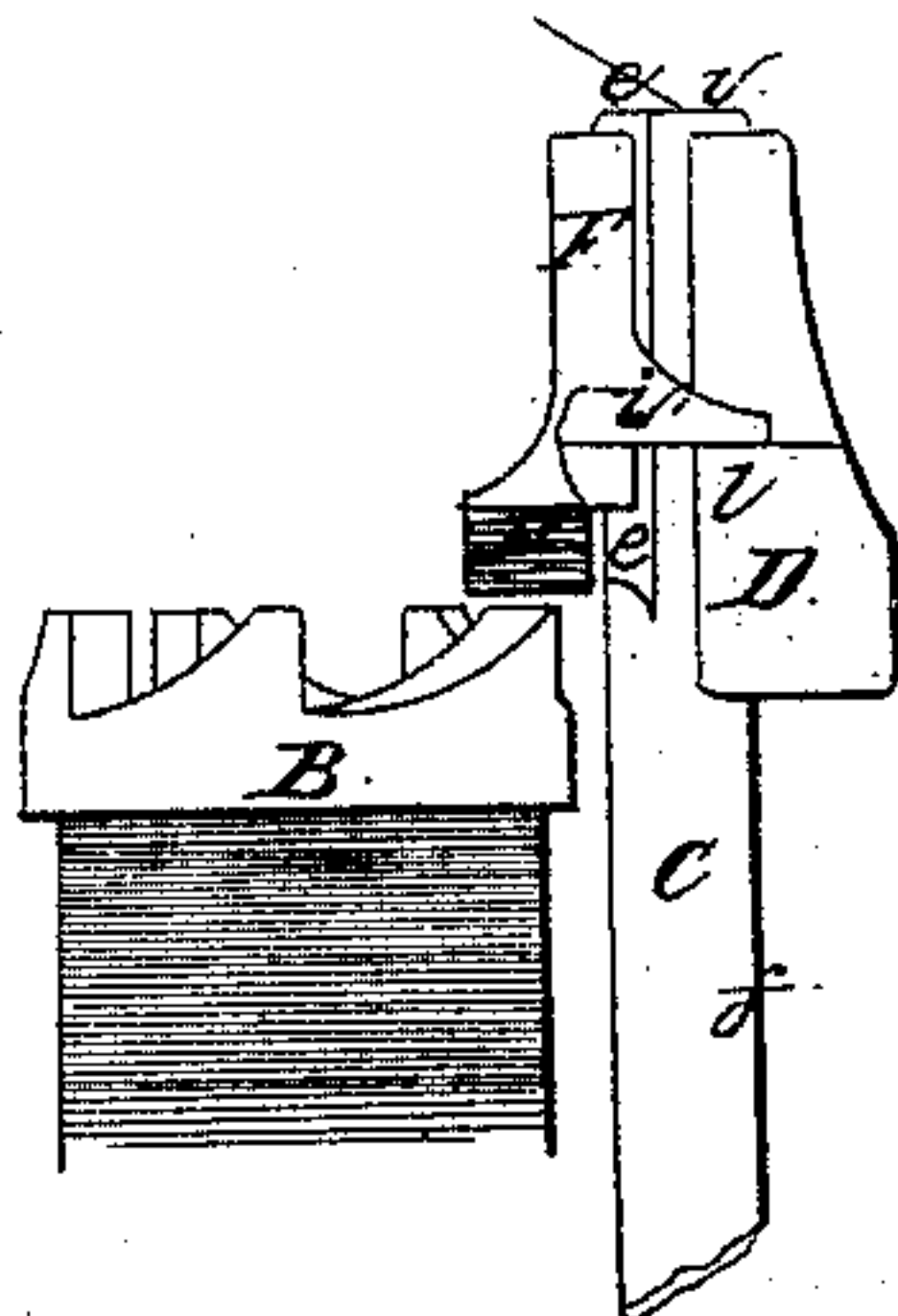
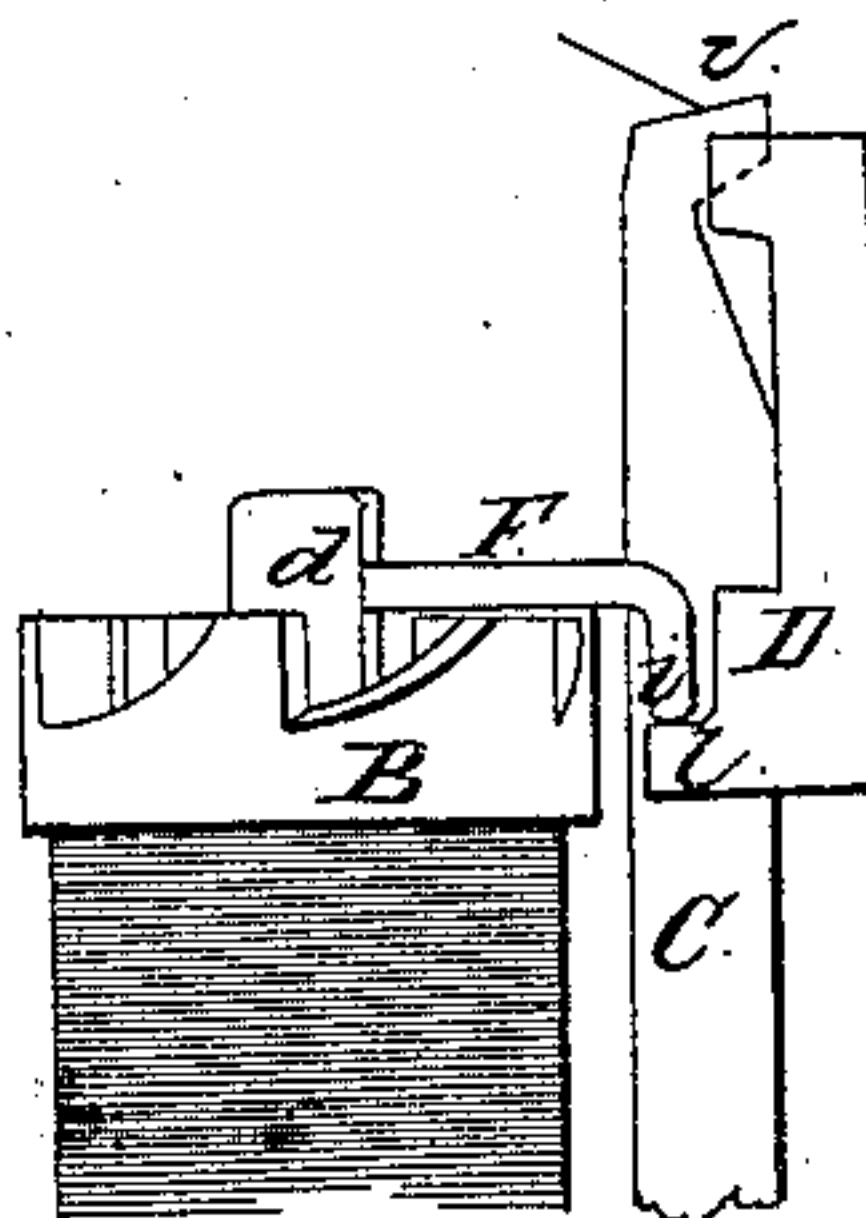


Fig. 5.



Witnesses:
Jesse A. Brownell
William Brownell

Inventor:
O. E. Drown

UNITED STATES PATENT OFFICE.

OTIS E. DROWN, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO DARIUS GOFF AND DARIUS L. GOFF, OF SAME PLACE.

IMPROVEMENT IN THE CARRIERS OF BRAIDING-MACHINES.

Specification forming part of Letters Patent No. 55,580, dated June 12, 1866.

To all whom it may concern:

Be it known that I, OTIS E. DROWN, of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in the Carriers of Braiding-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved carrier. Fig. 2 is a like view of the same with the tension-weight and pawl in the position for delivering the yarn from the bobbin. Fig. 3 is a front elevation of the carrier. Fig. 4 is an elevation of the reverse side of the weight and pawl from that of Fig. 2, and Fig. 5 is a like view of a modified construction of the same.

Similar letters of reference indicate corresponding parts in all the figures.

My improvement belongs to that class of braiding-machines which have a single serpentine race-plate for directing the movements of the carriers, and are otherwise so constructed as to braid aside from the center of such plate as an essential condition to the braiding of wide, flat braid; and the said improvement consists in the mode of constructing and arranging the tension-weight and the pawl that lets off the yarn from the bobbin, and the separate guides upon which said weight and pawl slide, as hereinafter described, so as to reduce the height of the guide-post, for the purpose of preventing the carrier from binding in the race-plate by the lateral strain produced by the tension of the yarn; and the said improvement further consists in the particular manner hereinafter described of reeving the yarn between the bobbin and the delivery yarn-guide at the top of the post to prevent unnecessary abrasion of the yarn, and for the sake of greater convenience and expedition in starting when an end or strand breaks.

The tension-weight D slides upon a dovetail guide, *f*, on the front side of the vertical guide-post C, and the said weight is constructed as short as possible, so that it may take up but little of the length of the guide, but is made broad and thick enough to make it sufficiently heavy for its purpose, and it is constructed with a groove, *t*, at the bottom on one side of

the guide-post and extending diagonally across the front to the middle of the top of the weight, as shown in Figs. 2 and 3, for the reception and passage of the yarn under and around the weight in order to lift it by the bight of the yarn from beneath and carry it to the extreme top of the guide-post, by means of which it will be seen that the remaining length of the guide-post may be exclusively employed for the traverse of the weight and be limited accordingly.

To facilitate this construction and arrangement the pawl F, instead of being placed on the same guide above the weight as in the construction patented by Clemons, November 16, 1858, is placed on a separate dovetail slide, *e*, at the rear of the top of the guide-post, as shown in Fig. 4, so that the upper portion of the weight may slide past the pawl until the shoulder *l* on the opposite side of the weight comes in contact with the projection *i* on the pawl and lifts it from the ratchet in the bobbin-head; or the pawl may be constructed, as shown in Fig. 5, with a shank at right angles to it, and the separate guide may be formed by making the bobbin-spindle *d* hollow for the said shank to slide in and slotted at the upper end for the pawl E to project from and across the bobbin-head to the shoulder *l* on the tension-weight, by which it is lifted to let off the yarn.

The several parts being thus constructed and arranged, the height of the guide-post C may be reduced to that of the ordinary carrier patented by Clemons, as above, while at the same time I am enabled to braid at an equal distance from the center, as upon the taller-carriers patented by J. B. Wood, (No. 41,045,) with this additional advantage, that by means of the shorter carrier its running speed may be increased one-third without the liability of breaking the yarns that exists in the taller-carrier mentioned, with, of course, a similar increase of the production of the machine over that of the taller-carriers and their necessarily slow speed.

The mode of reeving the yarn is effected by means of two hooks, *r* and *s*, at the side of the guide-post, one, *r*, being, as usual, situated near the middle of the bobbin, and the other near the highest point to which the bottom of the weight D ascends, and the peculiar con-

struction of the weight D, with a groove and a hook, *t*, on the same side of the guide-post for the bight of the yarn to pass under the weight, as before described.

By means of this construction and arrangement the reeving of the yarn is rendered more convenient and expeditious, as it may be readily carried under the hook *r* and over the hook *s*, and then under the hook *t*, to form the bight around the weight, and finally through the delivery-guide *v* at the top of the guide-post without removing the bobbin or other part of the carrier, and without any assisting implement, as is necessary in the carriers above referred to.

Having described my improvement, I wish it understood that I am aware that in the Clemons carrier above referred to the yarn is reeved under the tension-weight from a hole or guide through the guide-post, near the middle of the bobbin, to the delivery-guide at the top; but in this case the traverse of the weight is limited to the distance from the base of the carrier to the hole or guide through the guide-post, which must be near the middle of the bobbin, which traverse is wholly insufficient for braiding aside from the center, and can only be increased to the extent required by elevating the bobbin and the said yarn-guide at its middle above the base of the carrier, which so increases the length of carrier that its running speed has to be reduced to prevent the binding in the race-plate before mentioned and the consequent breaking of the yarn at frequent intervals.

I am also aware that the arrangement of the pawl or latch to slide on a separate guide is found in the carrier patented by J. B. Wood, and is not new; but I am not aware of its having been used combined with or adapted to any method of reeving the yarn under the weight, whereby advantage would be gained by a skillful shortening or shaping of the weight, which would result in shortening the carrier in the manner and with the beneficial results hereinbefore mentioned. I would not, therefore, be understood as claiming the separate arrangement of the pawl-guide independently of the combination herein set forth.

What I claim, and desire to secure by Letters Patent, is—

1. Combining the weight, constructed as described, to be lifted from the bottom by the surrounding bight of the yarn, with the pawl, constructed as described, to slide on a separate guide, and permitting the weight partially to pass it before being lifted to let off more yarn, substantially as described, for the purpose set forth.

2. The combination of the hooks or guides *r* and *s*, as described, with the tension-weight, constructed as described, with the groove or hook *t* on one side of the bottom thereof, for reeving the yarn, substantially in the manner described, for the purpose set forth.

OTIS E. DROWN.

Witnesses:

ISAAC A. BROWNELL,
WILLIAM BROWNELL.