

No. 827,082.

PATENTED JULY 31, 1906.

J. P. COSTELLO.
SHUTTLE FOR LOOMS.
APPLICATION FILED JUNE 28, 1905.

FIG. 1.

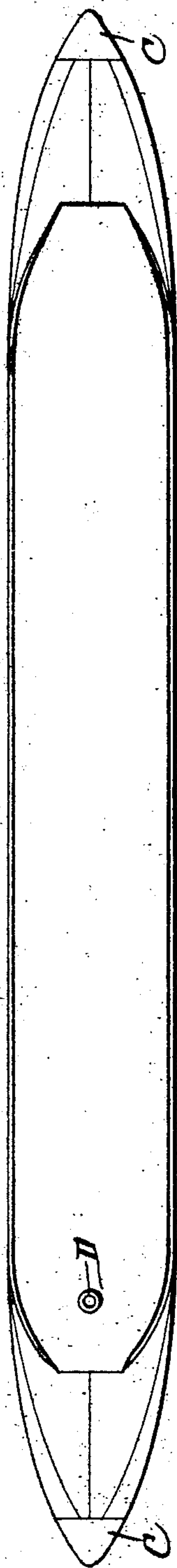


FIG. 2.

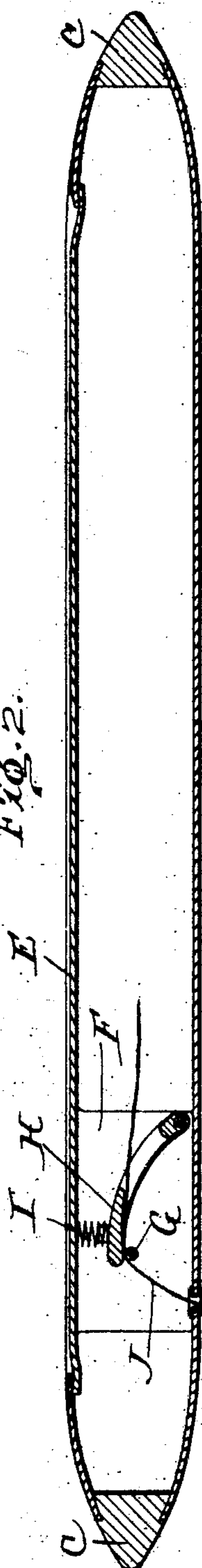


FIG. 3.

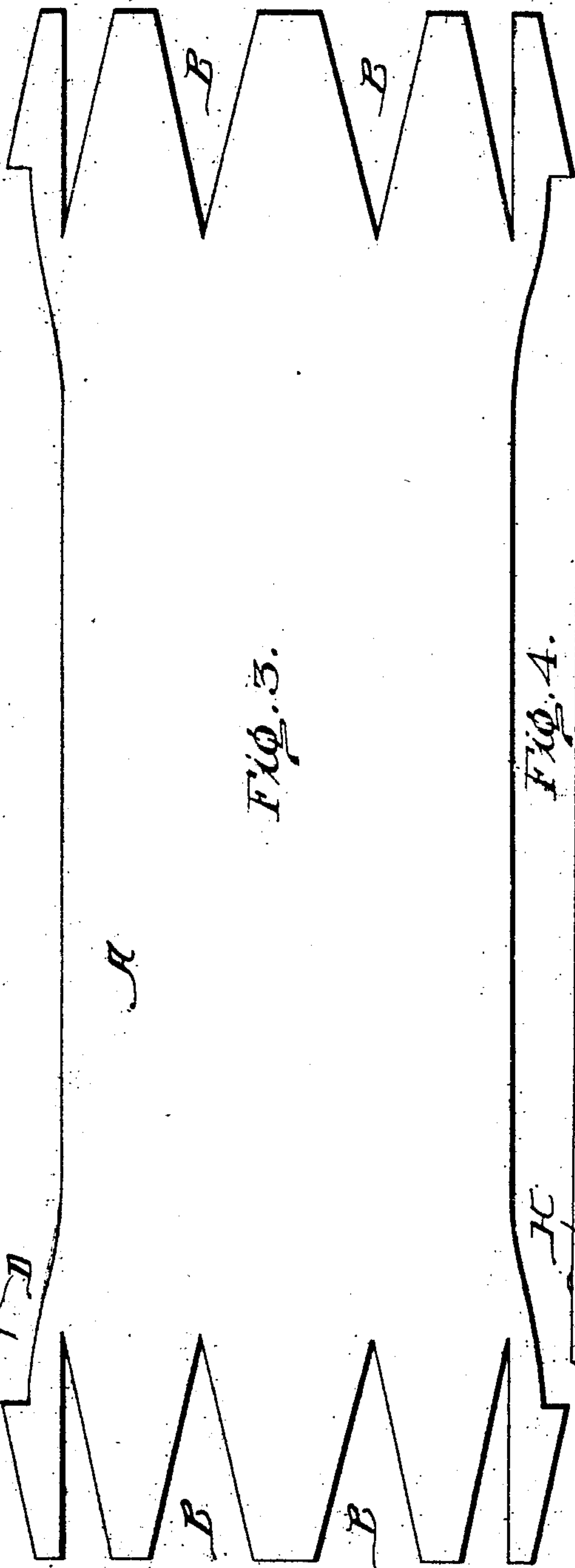
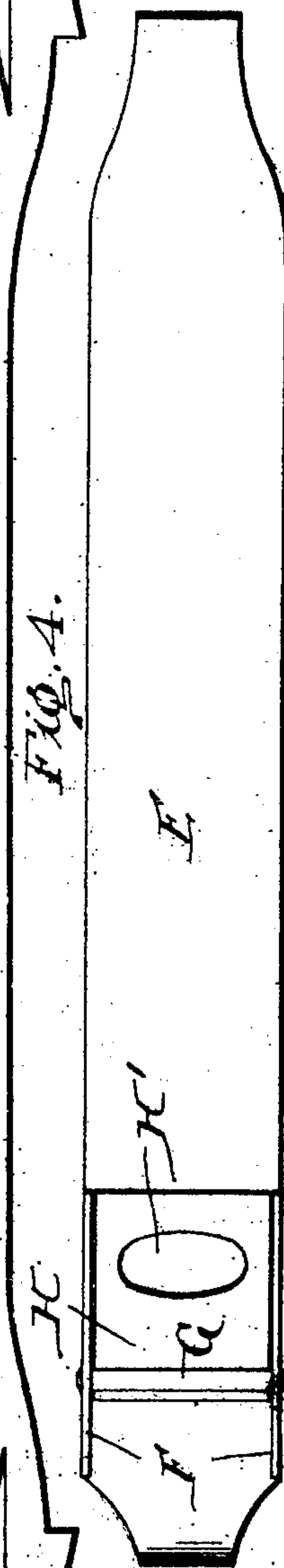


FIG. 4.



WITNESSES

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SHUTTLE FOR LOOMS.

No. 827,082.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH P. COSTELLO, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Shuttles for Looms, of which the following is a specification.

My invention relates to a new and useful improvement in shuttles for looms, and has for its object to provide a shuttle which instead of being made of wood is made of sheet metal, which will allow an increased-size bobbin to be held within and at the same time will prolong the life of the shuttle.

Another object of my invention is to provide an improved tension device which will be secured to the shuttle-covering strip instead of to the body of the shuttle itself.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of my improved shuttle; Fig. 2, a longitudinal section through the shuttle with the covering-strip attached thereto; Fig. 3, a plan view of the blank from which the shuttle is made; Fig. 4, an under side plan view of the covering-strip with the tension device attached thereto.

Shuttles as now made consist of a block of wood hollowed out with a metal tip or point inserted at each end. These wooden shuttles may be reinforced underneath with metallic rounding strips to prolong the life of the shuttle; but the life of a wooden shuttle is necessarily very limited on account of the wearing away of the wood and the splintering of the same, and besides the cost of manufacturing a wooden shuttle would be much more than a metal shuttle, for the wood shuttle must be reinforced with cross-pins and runners to prolong its life.

My invention consists in taking a sheet of

metal and forming it into a blank, as represented at A in Fig. 3, the ends of the blank being notched, as represented at B, and the portions upon each side of the notches being so formed that when the metal blank is bent up in a trough shape, so as to form the body of the shuttle, these notched ends may be all brought together and curved around a form, so that each end of the shuttle will be cylindrical in shape, tapering toward a point, but all the ends are brought together and brazed. Solid metallic cone-shaped points C are inserted at the ends around which the metal is bent, and the separate edges of the metallic blank at the ends are brazed or otherwise secured together, and at the same time the solid metallic points C are also brazed or otherwise secured within the same. Thus it will be seen that a shuttle can be made of sheet metal with an outside contour the same as the wooden shuttle, and as the walls of this shuttle will be extremely thin compared with the walls of the wooden shuttle a much larger bobbin or cop can be inserted therein, and thus the shuttle can be used much longer than the wooden shuttle before inserting a new bobbin.

I do not wish to be limited in any way to the slotting or notching of the ends of the blank to form the desired shape of the shuttle, for the blank can be so cut as to form whatever shape is most desirable for the particular loom in which the shuttle is designed to be used; but it would always be preferable to have the ends of the shuttle cylindrical and not open at the top, the same as the body of the shuttle, as this will give increased strength at the ends and also facilitate the insertion of the covering-strip.

D is the eyelet formed through the bottom of the shuttle through which the thread passes to the weave. In all shuttles it is necessary to have a tension device through which the thread passes before passing through the eyelet D, and in the ordinary shuttles now used this tension device is located in the body of the shuttle and pivoted therein. While in use this tension device is apt to become clogged from the fiber shed by the thread as it passes through the tension device, and in order to clean the device it must be removed from the shuttle, and there-

fore removable pivot-pins are provided running through the body of the shuttle, which in time become loosened by repeated removals and are apt to work out while the shuttle is operating.

In my device instead of pivoting the covering-strip to the body of the shuttle I make it separate, as represented at E, each end being inserted underneath the overhanging inclosed ends of the shuttle-body, and depending from this covering-strip at one end are two ears F, which extend downward and rest upon the bottom of the shuttle, and extending between these two ears is a rod or roller G, against which the tension-lever H presses by means of the spring I and interposed between the covering-strip and the pressure-lever H, said pressure-lever being also pivoted between the two ears F. The thread J passes from the bobbin through an opening H' in the lever H and passes in between the rod or roller G and the end of the presser-lever H. In inserting the covering-strip it is only necessary to pass the end of the covering-strip which is nearest the tension device underneath the overhanging end of the body and then press downward upon the other end of the covering-strip. The ears F, resting upon the bottom of the body of the shuttle will form a fulcrum, and therefore it will be necessary to spring the longer end of the covering-strip downward, and when it is underneath or below the lower surface of the other end of the shuttle it is slid forward slightly until this end is directly underneath the overhang, and thus the covering-strip is held in position, as shown in Fig. 2.

In order to remove the covering-strip, it is only necessary to slide the same backward slightly until the end is disengaged from the

overhanging portion and it will then spring up and can be easily removed.

Having thus fully described my invention, what I claim as new and useful is—

1. A shuttle formed of sheet metal bent upward in the desired shape, the ends of the shuttle being cylindrical and tapering and reinforced at each end with a solid point, that portion of the shuttle between the cylindrical ends being trough shape and open at the top, a covering-strip adapted to cover the open portion of the shuttle when the same is in use, said covering-strip adapted to fit between the sides of the shuttle, each end of the covering-strip extending underneath the overhanging cylindrical portions at the ends, and a tension device depending from the covering-strip and secured thereto, as specified.

2. A shuttle formed of sheet metal bent in the desired shape, overhanging portions formed at each end of the shuttle, a covering-strip adapted to fit in between the sides of the shuttle, the ends of the covering-strip adapted to extend underneath the overhanging portions, ears extending downward from the covering-strip near one end thereof and resting upon the bottom of the shuttle in such a manner as to form a fulcrum and cause the other end of the strip to have a tendency to spring upward, a rod extending between the two ears, a tension-lever resting upon said rod, a spring for forcing said tension against the rod, as and for the purpose specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOSEPH P. COSTELLO.

Witnesses:

MATILDA R. McCracken,
GEORGE H. McCracken.