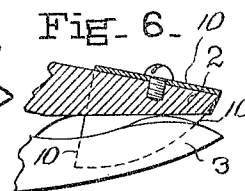
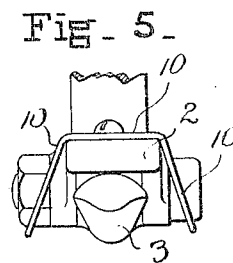
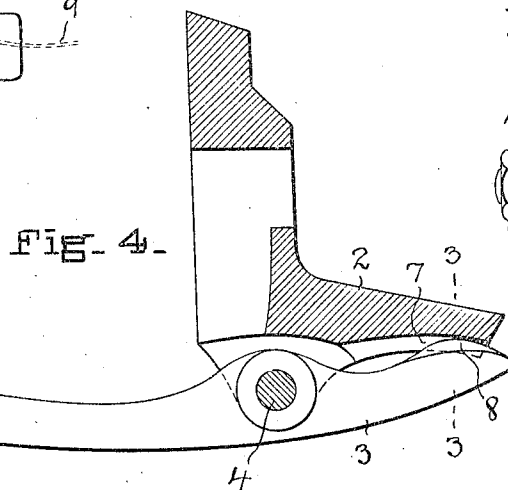
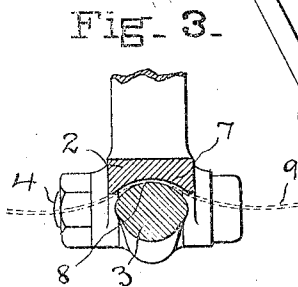
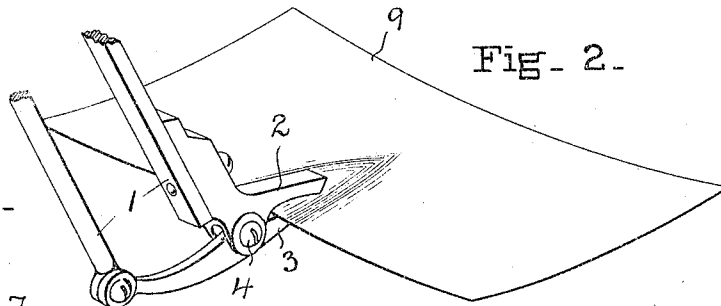
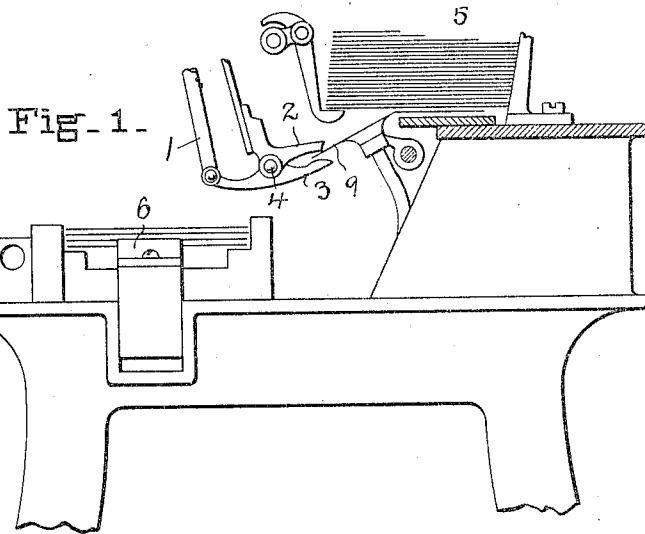


C. A. JUENGST.
GRIPPER.
APPLICATION FILED JULY 23, 1907.

1,029,130.

Patented June 11, 1912.



WITNESSES:

J. Clyde Ripley.
R. S. Stillman.

INVENTOR:

Charles A. Juengst

BY

W. W. Becken
ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES A. JUENGST, OF CROTON FALLS, NEW YORK.

GRIPPER.

1,029,130.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed July 23, 1907. Serial No. 385,213.

To all whom it may concern:

Be it known that I, CHARLES A. JUENGST, a citizen of the United States of America, and a resident of Croton Falls, Westchester county, New York, have invented certain new and useful Improvements in Grippers, of which the following is a specification.

The present invention relates to gripper mechanism of the character used to transport sheets or signatures in signature gathering machines, and in certain sheet delivering or handling mechanism for printing or other machines.

Thin sheets or signatures have a tendency to collapse when supported by a pair of gripper jaws without the aid of a supporting surface such as a cylinder or apron.

The object of this invention is to prevent sheets from collapsing when seized by a gripper mechanism.

To this end the invention comprises a gripper mechanism having means for preventing the sheet seized from collapsing.

In its more particular form the invention comprises means for temporarily stiffening the sheet seized. This is effected in the present instance by crimping the sheet in the act of seizing it. The precise means for effecting this may vary, but preferably consist in providing the opposed gripper jaws with complementary transversely concave and convex gripping surfaces.

In the accompanying drawings, the invention is shown in several concrete forms, one of which is preferred. It is evident, however, that changes may be made from the construction shown without departing from the legitimate and intended scope of the invention.

In the said drawings:—Figure 1 is a general view showing the invention applied to a signature gathering machine. Fig. 2 is a perspective view of the improved gripper mechanism in the act of seizing a sheet. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 4. Fig. 4 is a vertical longitudinal sectional view of the improved gripper mechanism. Fig. 5 is a front view of a gripper mechanism showing an alternate form. Fig. 6 is a vertical longitudinal sectional view of the parts shown in Fig. 5.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates the gripper mechanism com-

posed of the two gripper jaws 2 and 3 pivoted together at 4. Suitable means are provided for opening and closing the jaws and for oscillating the mechanism between the signature pile 5 and the carrier or gatherer 6. As these operating means form no part of the present invention and are well known, they will not be described.

The gripper jaws are provided with complementary concave and convex gripping surfaces 7 and 8. The concavity and convexity run transversely of the longitudinal axis of the jaws, and preferably the lower gripping surface is the convex one, while the upper is concave. These concavo-convex gripping surfaces are preferably so constructed as to give the sheet a crimp tapering in extent inwardly from the edge of the sheet, substantially in the manner shown in Fig. 2. This may be accomplished by causing the gripping surfaces of the jaws to taper in width from the inner part of the jaws outward toward the ends of such jaws.

When a sheet 9 is seized by the gripper mechanism it is crimped by the gripping surfaces as shown. This has the effect of shortening one side of the sheet with the result that it is temporarily stiffened thereby preventing the sheet from collapsing. It will be noted that the crimp in the sheet extends inward from the edge of the sheet only a short distance, it gradually tapering off and terminating short of the far edge of the sheet. It is essential that the crimp terminate short of the far edge of the sheet, in order that the far edge retain its true length and be held in stiffened condition. The shape of the crimp and the relative shortening of the gripped edge of the sheet are well illustrated in Fig. 2. By this means the sheet will be held substantially as shown in Fig. 2 and can be transported without collapsing, and will be deposited evenly on the gatherer without liability of the corners curling under.

Figs. 5 and 6, the upper jaw is provided with a curvilinearly tapering guard 10. This construction has the same effect as the construction disclosed in the other figures.

I claim:—

Gripper mechanism comprising a pair of cooperating jaws, one of said jaws having a concave gripping surface and the other

jaw having a cooperating convex gripping surface, the said concavo-convex gripping surfaces of the jaws tapering in width from the inner part of the jaws outward toward the end of the jaws whereby to crimp a signature or sheet gripped therebetween so as to temporarily stiffen the body of the sheet or signature, and means for moving the

gripper jaws to transport the signature or sheet held therein from one point to another. 10

Signed at New York city this 22 day of July 1907.

CHARLES A. JUENGST.

Witnesses:

GEO. A. MARSHALL,
AXEL V. BECKEN.